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BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

ORANGE GROVE POWER PLANT **POST CERTIFICATION AMENDMENT**	DOCKET NO. 08-AFC-4C

ORANGE GROVE ENERGY, L.P.'S PETITION FOR POST CERTIFICATION AMENDMENT TO ADDRESS WATER TRUCK COMPLAINTS

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May 19, 2014

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

ORANGE GROVE POWER PLANT **POST CERTIFICATION AMENDMENT**	DOCKET NO. 08-AFC-4C

ORANGE GROVE ENERGY, L.P.'S PETITION FOR POST CERTIFICATION AMENDMENT TO ADDRESS WATER TRUCK COMPLAINTS

Orange Grove Energy, L.P. (OGE) requests a post certification amendment to the Final Commission Decision on the Orange Grove Power Plant[1] ("Final Decision") to address water truck complaints from neighbors near the water supply location. Also, recent fires in southern California have threatened OGE's water pickup station and the truck route when the California Independent System Operator (CAISO) called the Orange Grove Power Plant (the "Project") under an Exceptional Dispatch order to run at full capacity. OGE proposes to supply water to the Project from a nearby San Diego Gas & Electric Company (SDG&E) well to avoid trucking water to the Project. OGE proposes to offset the water use from the new source by funding a recycled water project with the Vallecitos Water District. OGE files this request with the California Energy Commission ("Commission") pursuant to Title 20 California Code of Regulations Section 1769(a).

Although the water truck delivery method has supplied water to the Project, the neighbors living near the water supply pick up station have expressed concerns about the impacts from the trucks driving nearby. Their concerns have focused on emissions, noise, dust, traffic, and wear and tear on the roadways. The only way to resolve the concerns of the neighbors is to find a new water supply for the Project. When the Commission issued the Final Decision, the concerns of the neighbors had not yet been presented to OGE, Commission Staff or the Commission.

Furthermore, the recent fires in southern California threatened Fallbrook Public Utility District's water treatment plant, the water pickup station and the truck supply route. At this same

[1] Final Commission Decision issued in proceeding number 08-AFC-4 (CEC-800-2009-003-CMF, April 2009).

time CAISO called the Project to full load under an Exceptional Dispatch. The Project ran low on water and had to scramble for an adequate supply. The proposed new water supply well is located close the Project posing fewer water supply interruption issues. OGE would keep the truck supply option as a backup to increase water supply reliability for the Project.

Enclosed with this Petition is an environmental analysis of OGE's proposal in the *Support for Petition to Address Water Truck Complaints by Using an Alternate Water Source* ("Support Document"). The Support Document contains a description of all of the following:

- A short summary of the complaints received by the Commission, SDG&E and the Fallbrook Public Utility District from neighbors near the current water supply location,
- A description of the proposal to modify the Project's water source,
- An analysis of the potential environmental impacts from the construction of the pipeline, installation of a new well pump and production of water from the well during operation,
- As applicable in each subject area a discussion of the impacts of the alternate water source on the public, nearby property owners and the parties in the proceeding,
- A description of the water mitigation project with the Vallecitos Water District,
- A list of the Conditions of Certification contained in the Final Decision that will be followed to avoid impacts to biological resources during construction of the water supply pipeline, and
- A redline strikeout of proposed changes to the Conditions of Certification.

Construction and operation of the alternate water supply does not create nonconformance with applicable laws, ordinances, regulations and standards (LORS). The Support Document demonstrates how the project complies with applicable LORS. In the area of air quality the impacts from construction are insignificant because the area of disturbance is limited, the pieces of construction equipment required are few, and the time to complete construction is very short. During operation the pump will be run off electricity producing no emissions at the pump. Regarding water the alternate water supply is offset by funding to support installation of new pumps for the Vallecitos Water District. The new pump will allow Vallecitos to create

additional recycled water and displace potable water use by at least 150 acre feet per year. The water offset is intended to mitigate for the proposed use of well water at the Project. The new water supply is necessary because the existing recycled water trucking program has become environmentally undesirable. Therefore, the proposed water supply complies with the Commission's policies on water use at power plants. The water supply pipeline will cross two drainages where the Project will avoid impacts from construction of this pipeline by boring under these drainages. The Project will provide the information needed for a streambed alteration agreement to ensure compliance with LORS for these crossings. Construction storm water discharge will be addressed through the State General Permit for storm water discharges from construction sites. Regarding biological resources the Support Document describes the way in which it will use the construction Conditions of Certification to protect biological resources and keep the Project in compliance with LORS that ensure protection of listed species. The construction of the alternative water supply and operation with the alternative water supply is designed to comply with applicable LORS.

Finally, OGE request the Commission grant this Petition and allow the Project to construct and use the alternate water supply to address the concerns of neighbors near the water supply pick up station and improve the reliability of the Project's water supply.

DATED: May 19, 2014 DAY CARTER MURPHY LLP

By: */s/ Jane E. Luckhardt*
Jane Luckhardt

Support for Petition To Address Water Truck Complaints By Using An Alternate Water Source

Orange Grove Power Plant

California Energy Commission Docket No. 08-AFC-4C

May 2014

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1.0 INTRODUCTION

This document provides supporting information for Orange Grove Energy, L.P.'s *Petition For Post Certification Amendment to Address Water Truck Complaints* (Petition). The Petition is being submitted to the California Energy Commission (CEC) to address concerns about water truck traffic through permitting of an alternate water supply. On April 8, 2009, the California Energy Commission (CEC) adopted an Order authorizing Orange Grove Energy, L.P. (OGE) to construct and operate the Orange Grove Power Plant (OGPP) in unincorporated San Diego County, California. The power plant is permitted to use fresh water and recycled water that is purchased under contract from Fallbrook Public Utilities District (FPUD) and trucked to the power plant site. No other water source is currently permitted. There is no piped water supply to the power plant site. Residents along the water truck route have expressed concerns about the impacts of the truck traffic including dust, noise, emissions and wear and tear on the roads. These residents have raised their concerns in complaints to the CEC, the FPUD, and San Diego Gas & Electric Company (SDG&E), and OGE.

The Petition requests approval from the CEC to address the concerns of these residents by using water from an existing well located near the power plant site so that routine trucking of water to the site can be eliminated. The proposed use of well water for OGPP operations would eliminate routine water truck traffic that has been the subject of complaints and reduce environmental impacts of power plant operation related to water trucking.

The action proposed under the Petition includes the installation of a new pump in an existing nearby well owned by SDG&E identified as SDG&E Well No. 2, installing a 3- to 4-inch diameter pipeline to convey water to the power plant, and use of water from the well for power plant operations. Work required for the improvements would occur in previously disturbed areas so there would be no new ground disturbance. The primary environmental impacts of the proposed action would be limited to those associated with the use of ground water, which would be mitigated with the implementation of offset measures. With approval of the Petition for use of well water, trucking of water to the site from the existing permitted sources would be used only for back-up.

The action proposed under the Petition would not affect the ability of OGPP to comply with laws, ordinances, regulations or standards, and would not affect any third parties involved in the OGPP licensing proceedings. Approval of the actions proposed under the Petition would provide the following public benefits:

- Issues that have been expressed in complaints would be alleviated.
- Fuel-burning emissions from water truck traffic would be substantially reduced or eliminated, since water trucking would only occur if needed for back-up supply.
- OGPP consumption of non-renewable resources would be reduced by reduction or elimination of water truck fuel consumption, reduced water truck maintenance needs.
- Routine truck traffic on public roads would be reduced.

- The proposed measures to offset OGPP's fresh water use would result in a net increase in available potable water supply.

- Approval of the Petition would increase the reliability of the OGPP, which is used by the California Independent System Operator to support stability of the electric grid. The well water source would be more reliable than the existing trucked water supply and the existing supply would be maintained as a back-up for additional reliability. The importance of a backup water supply has been exemplified since the May 14, 2014 breakout of a firestorm in San Diego County presenting a serious threat to the FPUD water treatment facility and disrupting OGPP's ability to run water trucks. Fire or other major disruption at the FPUD facility could interrupt the water supply longer than the OGPP could operate with its onsite water storage tanks.

The following sections describe relevant existing OGPP operations and facilities, and the OGPP information and environmental impacts that would change compared to descriptions in the record of CEC proceedings for the Final Commission Decision:

- 2.0 Existing Operations and Facilities
- 3.0 Proposed Amendment
- 4.0 Environmental Information:
  - 4.1 Introduction
  - 4.2 Air Quality
  - 4.3 Geologic Hazards and Resources
  - 4.4 Agriculture and Soils
  - 4.5 Water Resources
  - 4.6 Biological Resources
  - 4.7 Cultural Resources
  - 4.8 Paleontological Resources
  - 4.9 Land Use
  - 4.10 Socioeconomics
  - 4.11 Traffic and Transportation
  - 4.12 Noise Control
  - 4.13 Visual Resources

- 4.14 Waste Management
- 4.15 Hazardous Materials Handling
- 4.16 Public Health
- 4.17 Worker Safety
- 4.18 Transmission Line Safety and Nuisance

- 5.0 Modifications to Conditions of Certification

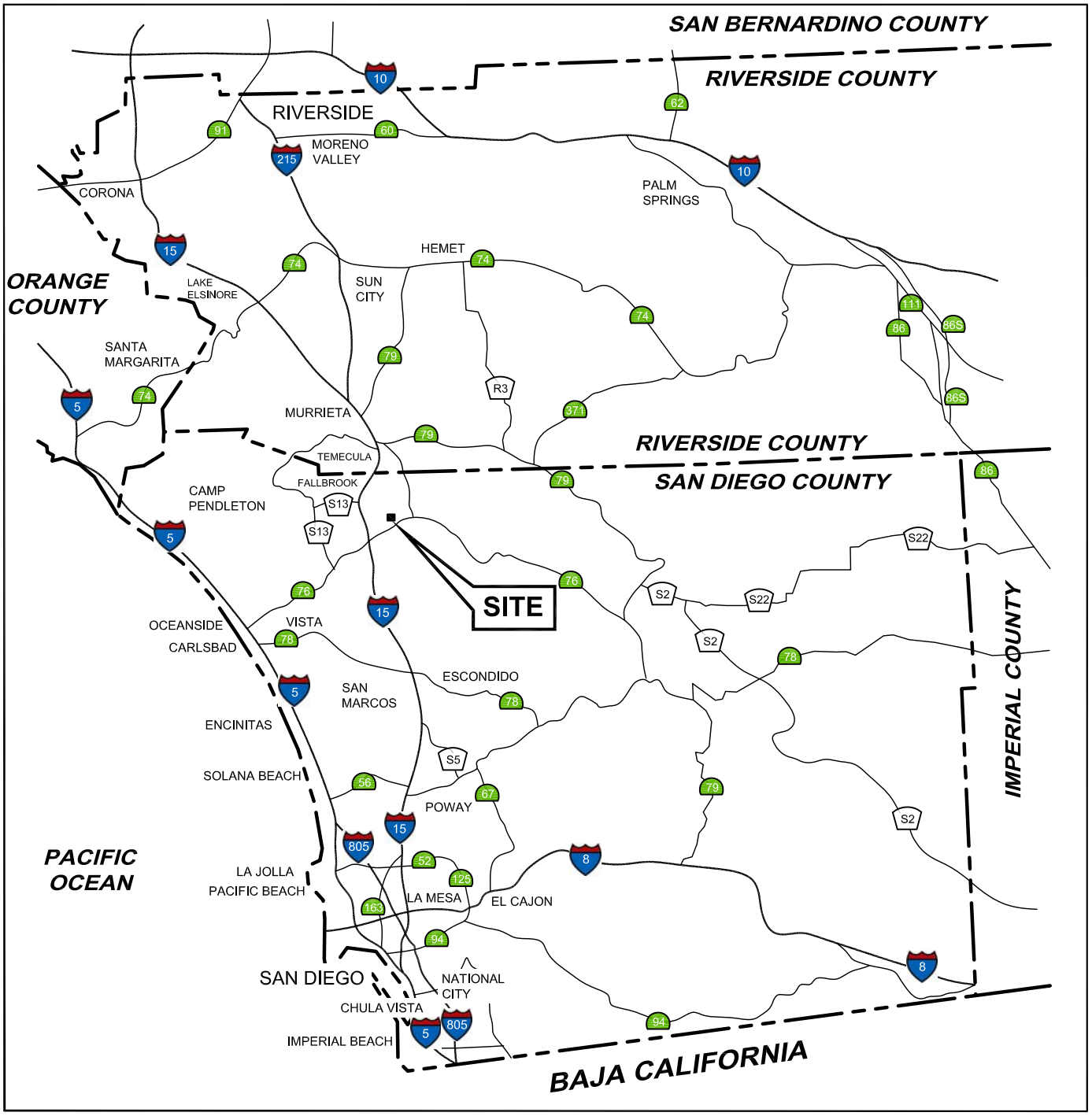
2.0 EXISTING OPERATIONS AND FACILITIES

The OGPP is located approximately two miles west of Pala, California, (see Figure 2.1, Site Location Map) and operates under a 25-year tolling agreement with electric power output provided to SDG&E's local electric grid. The plant consists of two simple-cycle natural gas fired General Electric LM6000 PC spray-intercooled (SPRINT) combustion turbine generators and ancillary facilities located on a leased 8.5 acre site within an approximately 40-acre parcel owned by SDG&E (see Figure 2.2, Site Plan). The existing OGPP layout is shown in Appendix A. Emissions from the turbines are controlled with water injection and selective catalytic reduction (SCR) for oxides of nitrogen (NO_x), and an oxidation catalyst for carbon monoxide. The plant does not discharge any wastewater except sanitary waste discharged to an onsite septic system.

The plant utilizes bottled water for drinking and hand washing. All other water is provided by FPUD and trucked to the site. Water from FPUD is used for evaporative cooling, demineralizer feed for the SPRINT and NO_x control systems, toilets, wash down, landscape irrigation, and fire water reserve.

The OGPP obtains recycled water from a truck load-out located at the FPUD wastewater treatment facility located in Fallbrook, California, approximately 15.6 road miles west of the power plant site (see Figure 2.3, Water Locations). Water hauling currently occurs with two dedicated OGPP water trucks and additional truck capacity is contracted when needed. The OGPP does not exceed the limit of two water truck deliveries per hour imposed by Condition of Certification TRANS-4 in the OGPP Final Commission Decision. To date, water hauling for OGPP has occurred with no accidents or major incidents. Complaints regarding OGPP water truck traffic began to be received by FPUD and SDG&E in 2012, and since that time complaints have continued to be expressed to these entities as well as to OGE and the CEC. Three complaints received by OGPP involved driving conditions and were resolved with driver reprimands or other instruction to reinforce safe and courteous driving practices (see OGE compliance submittals to CEC identified as Compliance Log Nos. 2012-19, 2013-14, and 2013-20). All known remaining complaints are related to an unresolved issue of water truck impacts on a neighborhood off Alturas Road adjacent to the FPUD recycled water pickup station. These complaints have focused on water truck traffic related dust, noise, emissions and wear and tear on the roads and have been received by OGE, SDG&E, FPUD, and the CEC. Complaints to OGE and SDG&E are documented in OGE compliance submittals to CEC identified as Compliance Log Nos. 2012-09, 2013-02, 2013-08, 2013-11, 2013-12. These complaints are unresolved since the complainant has indicated that there is no satisfactory solution other than reducing or eliminating the water truck traffic at the FPUD water treatment facility. With approval of the Petition, routine water truck traffic would no longer occur so these complaints from the adjacent neighborhood would be resolved.

The OGPP is also permitted to obtain potable water from FPUD, from a truck load-out location approximately 9.0 road miles northwest of the power plant site (refer to Figure 2.3).



TRC	PROJECT: 192592	SITE LOCATION MAP
	FACILITY: ORANGE GROVE ENERGY PROJECT SAN DIEGO COUNTY, CALIFORNIA	FIGURE 2.1

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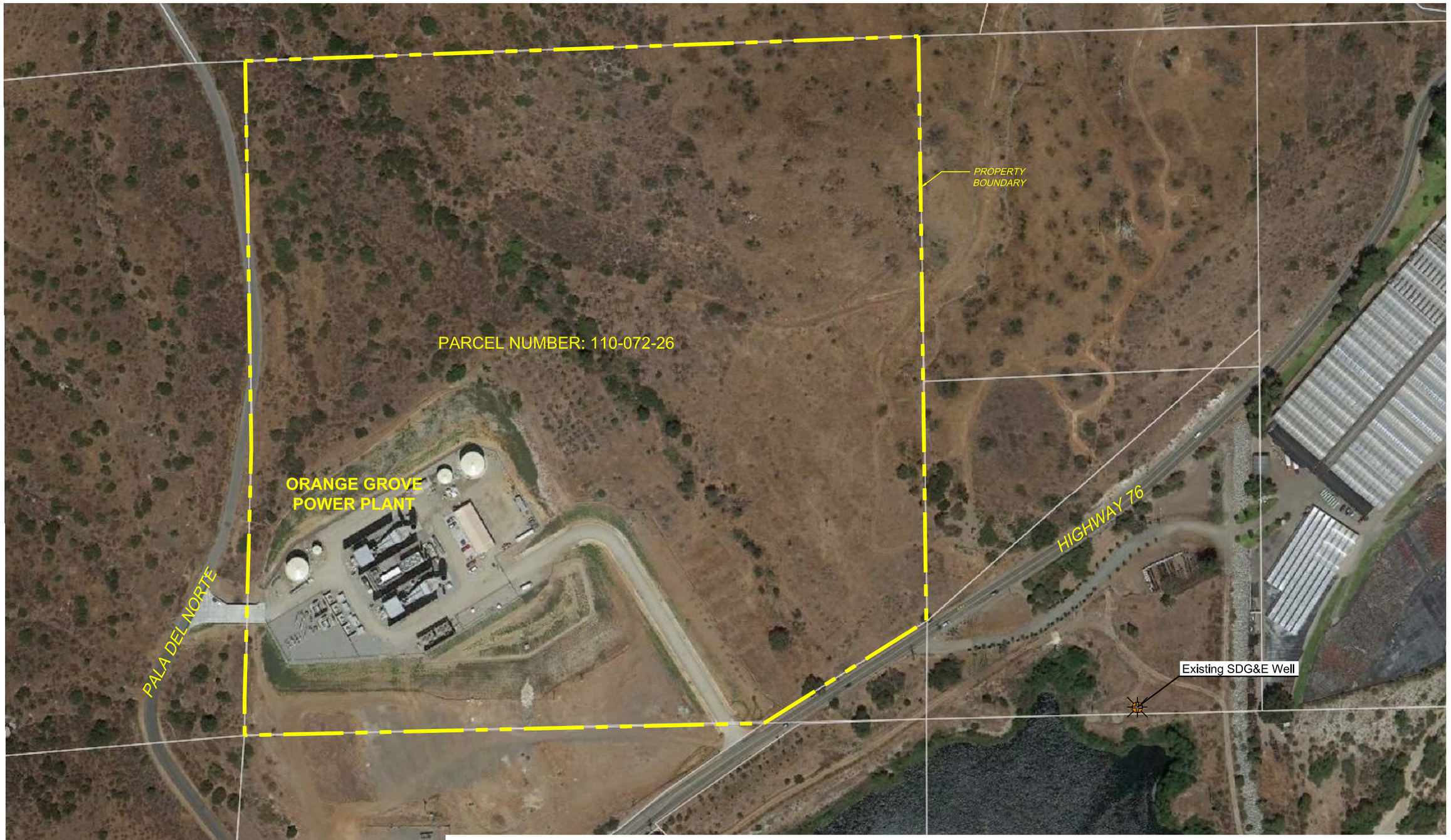


NOTE:

Modified from a map provided by Google Earth Professional, dated 8/23/2010.

SCALE (FEET)

0 200

PROJECT: 192592

FACILITY:

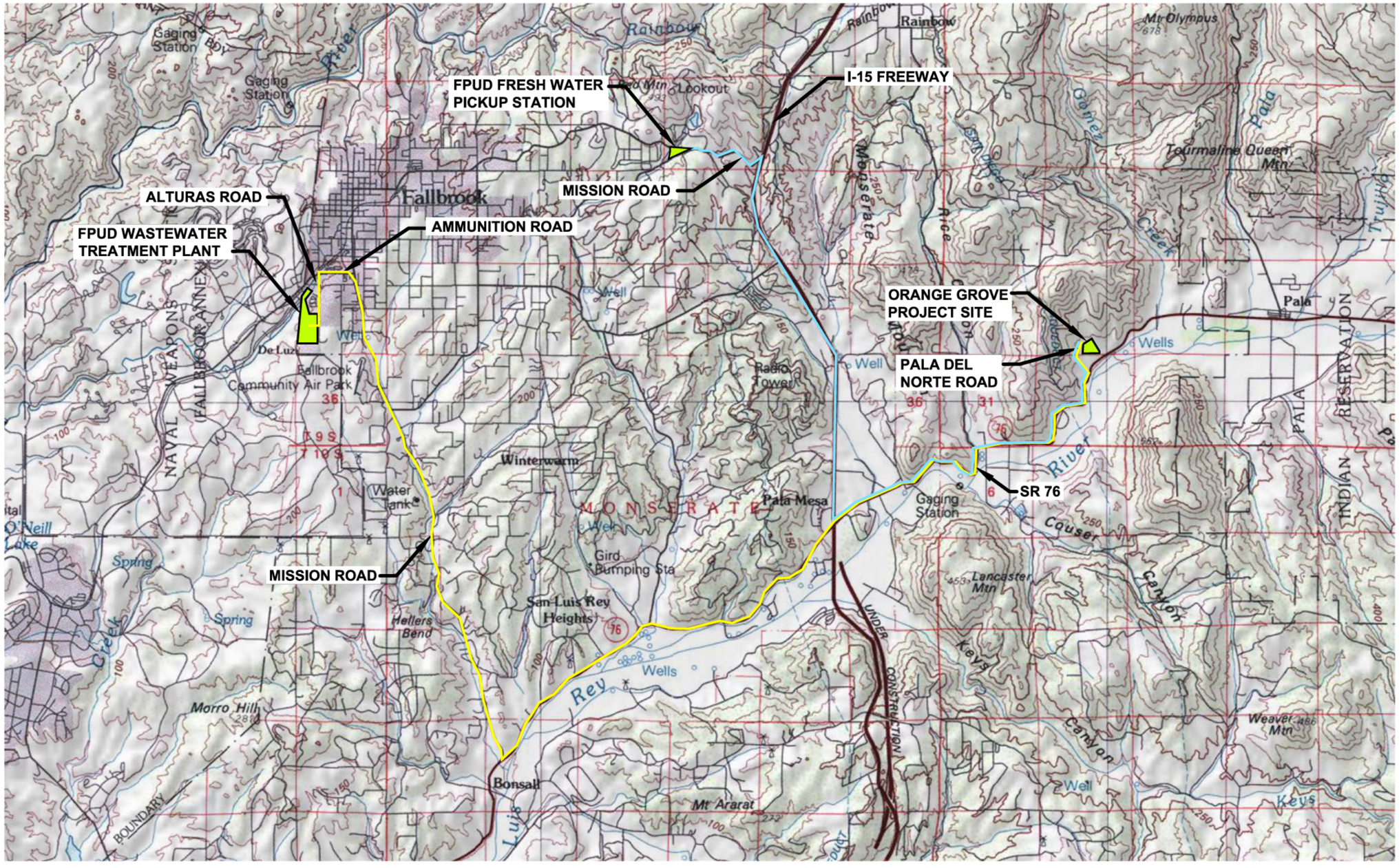
ORANGE GROVE ENERGY PROJECT
35435 EAST PALA DEL NORTE ROAD
PALA, CALIFORNIA

SITE PLAN

FIGURE 2.2

LEGEND

- RECYCLED WATER HAUL ROUTE
- FRESH WATER HAUL ROUTE



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SOURCE:

United States Geological Survey
7.5 Minute Topographic Map, 2000:
Morro Hill, Bonsall, Temecula,
and Fallbrook Quadrangles

0 1 1/2 3 MILES

TRC

PROJECT: 125158

FACILITY:

ORANGE GROVE PROJECT
SAN DIEGO COUNTY, CALIFORNIA

FPUD WATER PICKUP LOCATIONS AND WATER HAUL ROUTES

FIGURE 2.3

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Condition of Certification SOIL & WATER-10 in the OGPP Final Commission Decision (April 2009) requires OGPP to obtain water from FPUD in volumes not to exceed 62 acre-feet per year (AFY) of potable water and 38.7 AFY of recycled water, unless other volumes are approved by the CEC's Compliance Project Manager. The water use limits identified in SOIL & WATER-10 are derived from the Design Case maximum operating conditions identified in the Application for Certification (AFC) as shown in Tables 2.1a and b.

Table 2-1a: Plant Operations Fresh Water Requirements (from June 2008 AFC)

SERVICE	AVERAGE USE RATE (1)	INSTANTANEOUS USE RATE (2)	ANNUAL USE(3)
Design Case (4)			
Demineralizer Systems treated water used for SPRINT Power Augmentation/ NO_x Control	41.6 gpm (raw water)	114.0 gpm (raw water)	67.2 AFY
Sanitary and wash down (Intermittent)	0.15 gpm (raw water)	--	0.24 AFY
Landscape Drip (Intermittent)	1.4 gpm (raw water)	--	2.3 AFY
Recovered Tower Blowdown – RO Concentrate recycled to Raw Water System (Shown as negative value)	-4.7 gpm	-13.0 gpm	-7.7 AFY
Total	**38.5 gpm (raw water)**	**101 gpm**	**62.0 AFY**
Expected Use Case (5)			
Demineralizer Systems treated water used for SPRINT Power Augmentation/ NO_x Control	13.0 gpm (raw water)	114.0 gpm (raw water)	21.0 AFY
Sanitary and wash down (Intermittent)	0.15 gpm (raw water)		0.24 AFY
Landscape Drip (Intermittent)	1.4 gpm (raw water)	--	2.3 AFY
Recovered Tower Blowdown – RO Concentrate recycled to Raw Water System (Shown as negative value)	-1.5 gpm	-13.0 gpm	-2.4 AFY
Total	**--**	**101 gpm (raw water)**	**21.1AFY**

(1) Annual Use converted to gallons per minute. (Instantaneous Rate X 3200 operating hours / 8760 hours)
(2) Instantaneous use rate with ongoing operations at the summer design condition.
(3) Annual use based on 3,200 hours of two CTGs operations at the summer design condition.
(4) Design Case based on both units operating at full load at summer design condition.
(5) Expected Use Case based on both units operating at full load at summer design condition for a total of 1000 hours of annual plant operation of two CTGs, concurrent with operation of the truck-mounted demineralizer system.

Table 2-1b: Plant Operations Recycled Water Requirements (from June 2008 AFC)

SERVICE	AVERAGE USE RATE (1)	INSTANTANEOUS USE RATE (2)	ANNUAL USE(3)
Design Case (4)			
Air Inlet Chiller Cooling System	38.0 gpm (raw water)	104.0 gpm (raw water)	61.3 AFY
Recovered Waste Water from Tower Blowdown and Inlet Air Chilling Coils – RO Permeate recycled to Cooling System (Shown as negative)	-14.0 gpm	-38.3 gpm	-22.6 AFY
Total	**24.0 gpm**	**65.7 gpm**	**38.7 AFY**
Expected Use Case (5)			
Air Inlet Chiller Cooling System	11.8 gpm	104.0 gpm	19.2 AFY
Recovered Waste Water from Tower Blowdown and Inlet Air Chilling Coils – RO Permeate recycled to Cooling System (Shown as negative)	-4.4 gpm	-38.3 gpm	-7.1 AFY
Total	**7.4 gpm**	**65.7 gpm (raw water)**	**12.1 AFY**

(1) Annual Use converted to gallons per minute. (Instantaneous Rate X 3200 operating hours / 8760 hours)
(2) Instantaneous use rate with ongoing operations at the summer design condition.
(3) Annual use based on 3,200 hours of two CTGs operations at the summer design condition.
(4) Design Case based on both units operating at full load at summer design condition.
(5) Expected Use Case based on both units operating at full load at summer design condition for a total of 1000 hours of annual plant operation of two CTGs, concurrent with operation of the truck-mounted demineralizer system.

Water storage infrastructure at OGPP includes a 414,000 gallon reclaim water storage tank, a 535,000 gallon raw water/fire protection water storage tank, a 100,000 gallon demineralized water storage tank; and a 10,000 gallon wastewater storage tank. Demineralized water is generated onsite using trailer mounted reverse osmosis water treatment units.

3.0 PROPOSED AMENDMENT

OGE proposes to maintain the existing permitted FPUD water supply as a back-up source only and use water from the existing nearby SDG&E Well No. 2 as the OGPP's primary source of water, with fresh water use offset.

3.1 PROPOSED WATER SUPPLY

The existing SDG&E Well No. 2 is located on the south side of State Route 76 (SR-76) near the OGPP site as shown in Figure 3.1, Existing SDG&E Well and Proposed Pipeline Installation

Route Map. The well was constructed in 1995 with 12-inch in diameter steel casing installed in alluvial deposits to its total depth of 75 feet. The maximum yield was estimated at 500 gallons per minute (gpm) based on a four hour pumping test following construction. The well was last used to irrigate orchards that occupied the OGPP site and surround land, and to irrigate plants for habitat reestablishment surrounding the Pala Substation following SDG&E's construction of that facility. The well completion report and a report on a recent down-hole survey of the well are provided in Appendix B. In follow-up to the down-hole survey, the well was cleaned with a well development rig and sampled. Results of water quality sampling are shown in Table 3-1, Water Quality Data.

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Orange Grove Project

Proposed Water Pipeline Location

Figure 3.1

New Pipeline Installation (SDG&E Property)

New Pipeline Installation (SDG&E Easement)

Date: 4/23/2014

0 300 600 900 Feet

N

TRC

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Table 3-1: Water Quality Data

PARAMETER (UNITS)	CONCENTRATION
Cations	
Calcium (mg/L)	127
Magnesium (mg/L)	41.8
Sodium (mg/L)	103
Potassium (mg/L)	5.69
Anions	
Bicarbonate as CaCO3 (mg/L)	265
Carbonate as CaCO3 (mg/L)	ND
Chloride (mg/L)	140
Sulfate (mg/L)	200
Nitrite as N (mg/L)	ND*
Nitrate as N (mg/L)	0.97
Fluoride (mg/L)	0.20
Metals	
Aluminum (mg/L)	1.58
Antimony (mg/L)	ND
Arsenic (mg/L)	0.004
Barium (mg/L)	0.188
Beryllium (mg/L)	ND
Cadmium (mg/L)	ND
Copper (mg/L)	0.004
Chromium (mg/L)	0.003
Chromium, Hexavalent	ND
Iron (mg/L)	26.9
Lead (mg/L)	0.002
Manganese (mg/L)	1.23
Mercury (*u*g/L)	ND
Nickel (mg/L)	0.007
Selenium (mg/L)	ND

Table 3-1: Water Quality Data (Continued)

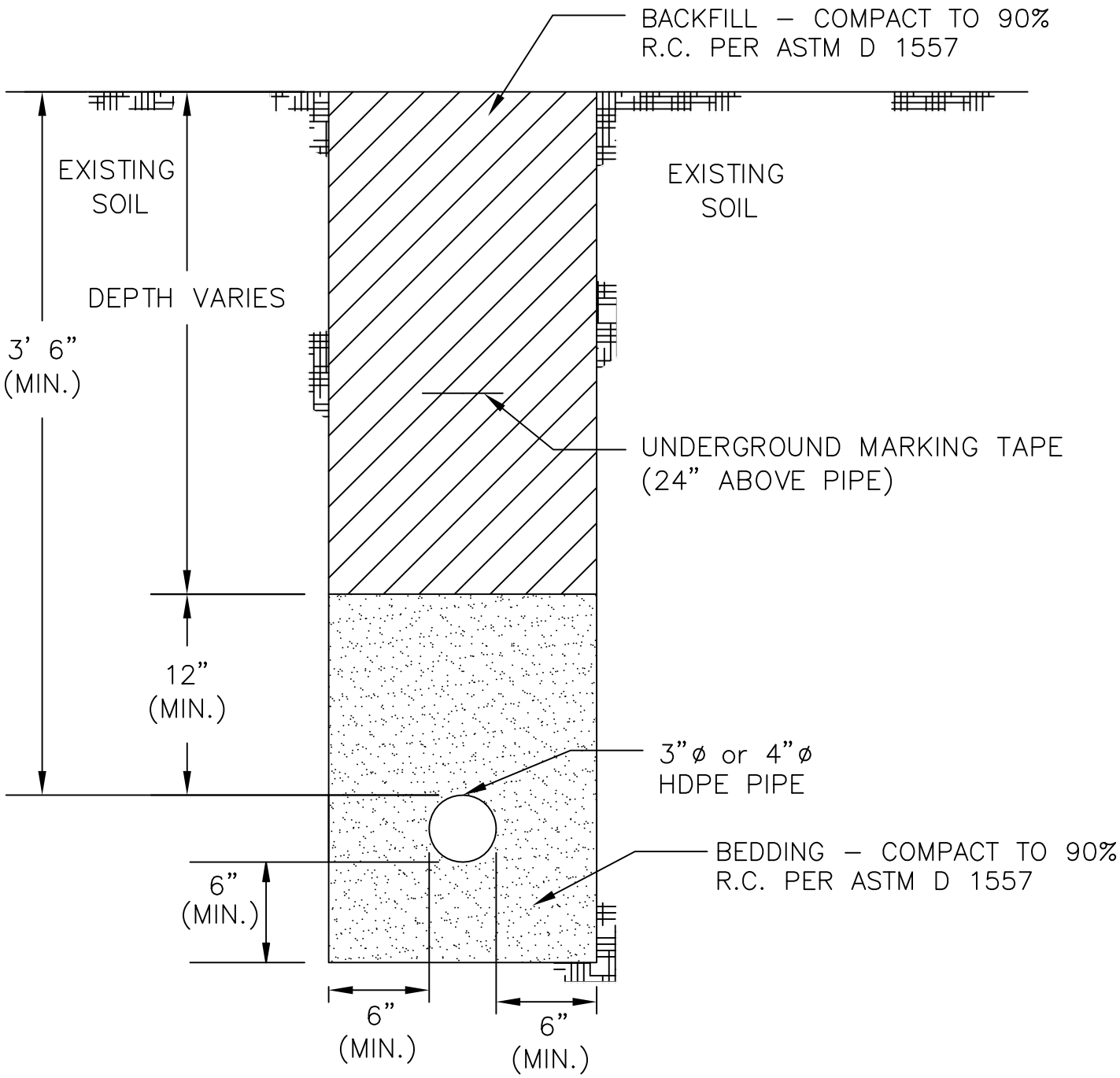
PARAMETER (UNITS)	CONCENTRATION
Silver	ND
Thallium (mg/L)	ND
Zinc (mg/L)	0.272
General	
Specific Conductance (umhos/cm)	1,200
Total Dissolved Solids (mg/L)	900
Total Alkalinity as CaCO3	265
Total Hardness as CaCO3 (mg/L)	440
pH (SU)	6.73
* ND = Not Detected	

There is an existing pipeline associated with the SDG&E well that was used to pipe water to the north side of SR-76. Beyond the north side of SR-76, the pipeline has been removed. The existing pipeline is constructed of 6-inch and 8-inch diameter carbon steel and non-metallic material and is located within an SDG&E easement. Figure 3.1 shows the portion of the proposed pipeline that would be within the easement and the portion that would be within SDG&E property. A preliminary piping isometric diagram is provided in Appendix C.

A new electric powered vertical turbine well pump would be installed in the existing well. 480 Volt power exists at the well location and would be connected to the pump. A preliminary one-line diagram is provided in Appendix D. A 3- or 4-inch diameter underground high density polyethylene (HDPE) pipe would be installed a distance of approximately 2,750 feet from the new well pump to the 414,000 gallon reclaim water storage tank at the OGPP. The new well pump would be controlled by a wireless control system from the existing OGPP control room. The well pump and water pipeline would be sized to pump water to the recycled water storage tank at a maximum rate of approximately 160 gpm.

North of SR-76, the pipeline would be within the OGPP emergency access road bed and within graded areas of the OGPP facility. The pipeline would be installed at the edge of the roadbed. Beneath and south of SR-76, the pipeline would be routed to follow the existing pipeline route. Except for the crossing of SR-76, the underground pipeline installation would consist of excavation of a trench typically less than 2 feet wide and less than five feet deep, placement of compacted bedding material and pipe at the bottom of the trench, and backfilling and compacting the trench using excavated material. A typical cross-section is provided in Figure 3.2, Typical Pipeline Installation.

Horizontal directional drilling or jack and bore horizontal drilling may be needed to install the water pipeline under SR-76 without disruption to traffic. A boring pit and a receiving pit would



NOT TO SCALE

TRC	PROJECT: 192592 FACILITY: ORANGE GROVE ENERGY PROJECT SAN DIEGO COUNTY, CALIFORNIA	**TYPICAL PIPELINE INSTALLATION** **FIGURE 3.2**

be needed on respective ends of the horizontally drilled segment. SDG&E would obtain an Encroachment Permit from Caltrans for the segment of water pipeline within the SR-76 right-of-way (ROW) and the pipeline within the ROW would be constructed to meet Caltrans specifications. The boring and receiving pits would be outside the Caltrans ROW; lane closures are not anticipated.

As an alternative to horizontal boring, OGE is conducting further work to determine if it is feasible to use the existing water pipeline as a sleeve for installation of the proposed HDPE pipeline. If determined feasible, this would reduce installation efforts and disturbance by eliminating horizontal boring equipment and boring and receiving pits.

Installation work would utilize existing roads and is anticipated to take approximately one month to complete. Construction disturbance would be less than 16 feet wide and the total disturbed area would be approximately 1.0 acre. Disturbed ground surfaces would be stabilized and returned to existing conditions as part of construction.

The well will remain the property of SDG&E. The pump and pipeline would be owned and operated by OGE. South of SR-76, the water pipeline would be within an easement granted to SDG&E (Appendix E). Facilities would occur on the land parcels identified in Table 3-2.

Table 3-2: Affected Parcels and Land Owners

PARCEL	OWNER	COMMENTS
110-072-26	SDG&E	Pipeline would occur within the existing OGPP 8.5 acre lease site and the access road lease area.
110-370-01	SDG&E	Pipeline would occur within the existing OGPP access road lease area.
110-072-27	Pala Band of Mission Indians	Private land owned by the Tribe (not Sovereign). Pipeline would occur within an existing easement held by SDG&E.
110-072-31		
110-037-05		

3.2 PROPOSED WATER USE OFFSET

The OGPP is currently permitted to use up to 38.7 AFY of recycled water and 62 AFY of fresh water. The 38.7 AFY of recycled water permitted by the Final Commission Decision is the amount of water required for the air inlet chiller cooling system for the maximum design operating condition. In addition, Condition of Certification Soil & Water-13 in the Final Commission Decision requires OGPP to offset 6.1 AFY per year of fresh water used to account for SPRINT usage. Accordingly, OGE proposes that water used from the SDG&E well be offset based on the amount used for inlet chiller cooling plus 6.1 AFY. OGPP proposes to use water

from the SDG&E well up to the current permitted limit of 100.7 AFY if needed for power plant operations. While the actual water use for the power plant has been much less, there could be occasions in the future when the maximum currently permitted water use limit could be needed. Appendix F provides a spread sheet detailing OGPP's monthly and annual water use history. A summary of OGPP's water use history is provided in Table 3-3.

Table 3-3: Orange Grove Power Plant Water Use History

YEAR	AVERAGE USE	TOTAL USE
2011	5,354 gpd	6 AFY
2012	33,751 gpd	38 AFY
2013	17,236 gpd	19 AFY
2011-2013 Average	**18,780 gpd**	**21 AFY**

To offset water use from the SDG&E well, OGE proposes to enter into an agreement (Water Offset Agreement) with the Vallecitos Water District (VWD) to provide financial assistance that VWD needs to move forward with a project that would replace potable water currently being delivered to VWD customers with recycled water. OGE would provide financial assistance needed to move forward with installation of new pumps that would increase the capacity of VWD's existing Lift Station #1. Lift Station #1 is a "scalping" lift station that takes sanitary wastewater that would otherwise be discharged to the ocean following treatment at the Encina wastewater treatment plant, and instead redirects it to the VWD's Meadowlark Treatment Plant. The proposed installation of new pumps at the lift station would increase the capacity of Lift Station #1 by 0.4 million gallons per day directing more sanitary wastewater to the Meadowlark Water Reclamation Facility to produce recycled water. The recycled water would be sold to existing VWD customers in place of potable water currently being sold to those customers for landscape irrigation and other non-potable demands. The Carlsbad and Oceanside Municipal Water Districts are two existing VWD customers that could utilize more recycled water in lieu of potable water currently being delivered if more recycled water is made available. The VWD has indicated that the proposed Water Offset Agreement improvements are expected to be capable of replacing 150 AFY of current potable water sales with recycled water during the first year of operation, increasing to 250 AFY within 3 to 5 years. The VWD has indicated that without OGE financial assistance under the Water Offset Agreement, the improvements to Lift Station #1 would be highly unlikely to proceed at this time.

Granting the Petition could, under maximum design operating conditions, result in up to 44.8 AFY of well water being permitted for use by OGPP in lieu of currently permitted recycled water (i.e., 38.7 AFY for the air inlet chiller cooling + 6.1 AFY pursuant to Condition of Certification Soil & Water-13 = 44.8 AFY). The OGE funding contemplated by the Water Offset Agreement would allow VWD Lift Station #1 improvements to move forward that would be expected to replace 150 AFY of current potable water sales with recycled water during the first year, increasing to 250 AFY within 3 to 5 years. Because existing potable water sales would be replaced with the recycled water, the net result is an equivalent increase in available potable water supply. Therefore, with incorporation of the Water Offset Agreement, the proposed use of well water would have a beneficial effect on regional fresh water supply.

The VWD has determined that the work contemplated by the Water Offset Agreement would be considered a maintenance project that would be exempt from the California Environmental Quality Act (CEQA).

A Letter of Intent between OGE and VWD is provided in Appendix G.

3.3 REQUIRED PERMITS AND APPROVALS

The proposed action would or may require the following permits outside the jurisdiction of CEC:

- An Encroachment Permit from Caltrans would be required for construction and operation of the water pipeline beneath the SR-76 ROW.

- A National Pollutant Discharge Elimination System (NPDES) permit would be required for discharges of storm water from disturbed areas during construction, and following construction until disturbed surfaces are stabilized. As further described in Section 4.5, permit registration documents would be submitted to the RWQCB to obtain coverage under the State General Permit for storm water discharges from construction sites.

The pipeline would cross two normally dry drainages further described in Section 4.6. The pipeline would be installed beneath the bed of the drainages by horizontal boring. If not for the exclusive authority of the CEC, a Streambed Alteration Notification would need to be filed with California Department of Fish and Wildlife (CDFW) for horizontal boring beneath the two dry drainages. Based on the notification, CDFW would determine whether they would require a Streambed Alteration Agreement under Fish and Game Code Section 1600 et seq. (see Section 4.6).

In addition, if not for the exclusive authority of the CEC, a grading permit would be required from San Diego County.

No other permits or approvals are anticipated to be required.

4.0 ENVIRONMENTAL INFORMATION

4.1 INTRODUCTION

Except for minor short term environmental impacts due to well pump and pipeline installation, approval of the Petition would not adversely affect any environmental resource. There would be environmental benefits in the areas of water resources, traffic, noise, air quality and non-renewable resource preservation. Each of these would be a benefit to the public and nearby property owners. The only potential adverse effect to nearby property owners that has been identified is the potential to affect yields of other wells in the basin and evaluations in this Chapter demonstrate that this affect would not be significant. The following subsections identify the changes in environmental effects that would occur compared to the environmental effects analyzed in the record for the Final Commission Decision. Table 4.1-1 provides a summary of changes in environmental effects.

Table 4.1-1: Summary of Environmental Effects

RESOURCE	SUMMARY OF CHANGE
Air Quality	• Less than significant short term adverse effect from construction emissions • Beneficial long-term effect from reduced water truck fuel burning emissions
Geologic Hazards and Resources	No change
Agriculture and Soils	• No change in effect on agriculture • Temporary disturbance to 0.4 acres* of soil for pipeline installation • No change in long-term impact
Water Resources	• Water from the Pala basin would be used for OGPP operations. • Net beneficial effect to regional fresh water supply with proposed offset of fresh water use
Biological Resources	• Construction disturbance would have a less than significant short term adverse impact with proposed mitigation. • No change in long-term impact
Cultural Resources	No change
Paleontological Resources	No change
Land Use	No change
Socioeconomics	No change
Traffic and Transportation	• Less than significant short term adverse effect from construction traffic • Beneficial long-term effect from reduced water truck traffic
Noise Control	• Less than significant short term adverse effect from construction noise • Beneficial long-term effect of reducing noise near FPUD where complaints have originated from water truck traffic
Visual Resources	No change
Waste Management	• Minor one-time waste generation during construction • No long term effect other than negligible benefits of reduced equipment maintenance from less water truck hauling
Hazardous Materials Handling	No change
Public Health	Beneficial effect of reduced water truck emissions
Worker Safety	No change
* Soil disturbance would occur adjacent to and south of SR-76. North of SR-76, disturbance would occur primarily on engineered surfaces (i.e.., plant roads and cut/fill pad).	

4.2 AIR QUALITY

Installation of the new pump at the SDG&E well and the pipeline from the well to the OGPP would require construction equipment and workers to complete the work. The installation would result in fuel burning emissions and fugitive dust from construction equipment and vehicles.

San Diego Air Pollution Control District (APCD) does not provide quantitative thresholds for determining CEQA significance for emissions from construction projects. However, the APCD does specify Air Quality Impact Analysis (AQIA) trigger levels applicable to stationary sources (APCD Rules 20.2 and 20.3). If these incremental levels for stationary sources are exceeded, an AQIA must be performed for a new or modified stationary source. Although these trigger levels do not apply to mobile sources, construction or land development, for comparative purposes the levels can be used to evaluate the increased emissions that could be discharged from proposed development projects (County of San Diego, 2007). The AQIA trigger levels are provided in Table 4.2-1.

Table 4.2-1: APCD Air Quality Impact Analysis Trigger Levels

Air Contaminant	Emission Rate		
	(lb/hr)	(lb/day)	(tons/yr)
Particulate Matter (PM_{10})	--	100	15
Oxides of Nitrogen (NO_x)	25	250	40
Oxides of Sulfur (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	--	3.2	0.6

The typical construction crew is estimated to be approximately five persons with potentially up to approximately ten persons for a peak activity day (e.g., if horizontal boring, trenching and pump installation occur simultaneously), Installation of the well pump and pipeline is expected to occur over a period of approximately one month. Construction equipment required would include: a backhoe for trenching and pipeline installation; a well maintenance rig to install the pump and shaft; a water truck; and a horizontal drill rig.

The installation work would be required to control fugitive dust in accordance with APCD Rule 55. Considering the small size of the equipment and worker fleet described above and APCD Rule 55 requirements for fugitive dust control, emissions are expected to be far below all AQIA trigger levels. Therefore, the short term impact of emissions from installation work would be less than significant. Following installation of the well pump and pipeline, the proposed amendment action would not result in new emissions to air.

With approval of the Petition, trucking of water from FPUD would occur only as a back-up water supply for use if needed. The elimination of routine water truck traffic would provide long-term air quality and greenhouse gas reduction benefits through reduced water truck fuel burning emissions.

4.3 GEOLOGIC HAZARDS AND RESOURCES

There are no geologic hazards or geologic resource issues associated with the proposed amendment action. The SDG&E well is located in the Pala Basin, the whole of which is identified as a Mineral Resource Zone 2 (MRZ-2) area for aggregate resources (Miller, 1996; County of San Diego, 2011). The well is adjacent to a pit-lake from a former aggregate mine that was operated by H. G. Fenton Material Company. While the well is located on land that has geologic material suitable for use as aggregate, no additional aggregate mining is planned and it is not anticipated that such mining would be feasible any more due to the environmental sensitivity of the area. Furthermore, the well and pipeline are located within an existing easement granted for that purpose. Therefore, it is not expected that use of the well could have any effect on mineral resources.

4.4 AGRICULTURE AND SOILS

There are no lands designated as Prime Farmland, Farmland of Statewide Importance or Unique Farmland in the vicinity of OGPP (California Department of Conservation, 2014), and no agriculture occurs on affected lands. North of SR-76, the pipeline would be at the edge of the OGPP emergency access road where there would be no effect on native soils. South of SR-76, lands are disturbed and reclaimed from former aggregate mining activities. Disruption to any native soil horizon that may remain in place where the water pipeline would be installed south of SR-76 would be limited to a narrow trench for burial of the pipeline, with soils backfilled to grade so that effects on soils would be negligible.

4.5 WATER RESOURCES

The OGPP and SDG&E Well No. 2 are located in the Pala Basin of the San Luis Rey River drainage. The Pala Basin is an alluvial filled basin approximately eight miles long and 0.5 mile wide on average. The alluvial thickness ranges from zero where rock outcrops on the edges of the valley to at least 244 feet thick and averages 150 feet thick near the axis of the basin. The alluvium in the Pala Basin is comprises a very permeable unconfined aquifer composed of dominantly medium to coarse grained sand and gravel. The average hydraulic conductivity is 80 feet per day and average storativity is 12 percent. The gross groundwater storage of the Pala Basin is 50,000 acre-feet and the safe basin yield has been conservatively estimated at 2,500 AFY (NBS Lowry, 1995).

Recharge to the Pala Basin occurs by infiltration of precipitation and subsurface flow from the Pauma Basin to the east. Discharge occurs from surface and ground water outflow to the Bonsall Basin to the west, evapotranspiration and groundwater pumping. The mean yield for wells in the Pala Basin is 300 gpm. Pala Basin is used for agriculture and livestock and rural residential water supply. The basin also provides water for the Pala reservation including the Pala Casino and associated hotel. A number of former water uses in the Basin have been identified that have been eliminated in recent decades including retirement of large agricultural operations that previously occupied the current Gregory Canyon Landfill Property, and aggregate mining operations previously in the Basin that have been discontinued. An evaluation of water use in the basin was conducted in 2009 for the proposed Gregory Canyon Landfill and concluded that ground water levels in the basin have remained relatively constant, the basin is not over-drafted, and ground water demand in the basin has decreased in recent years (see Appendix H.1).

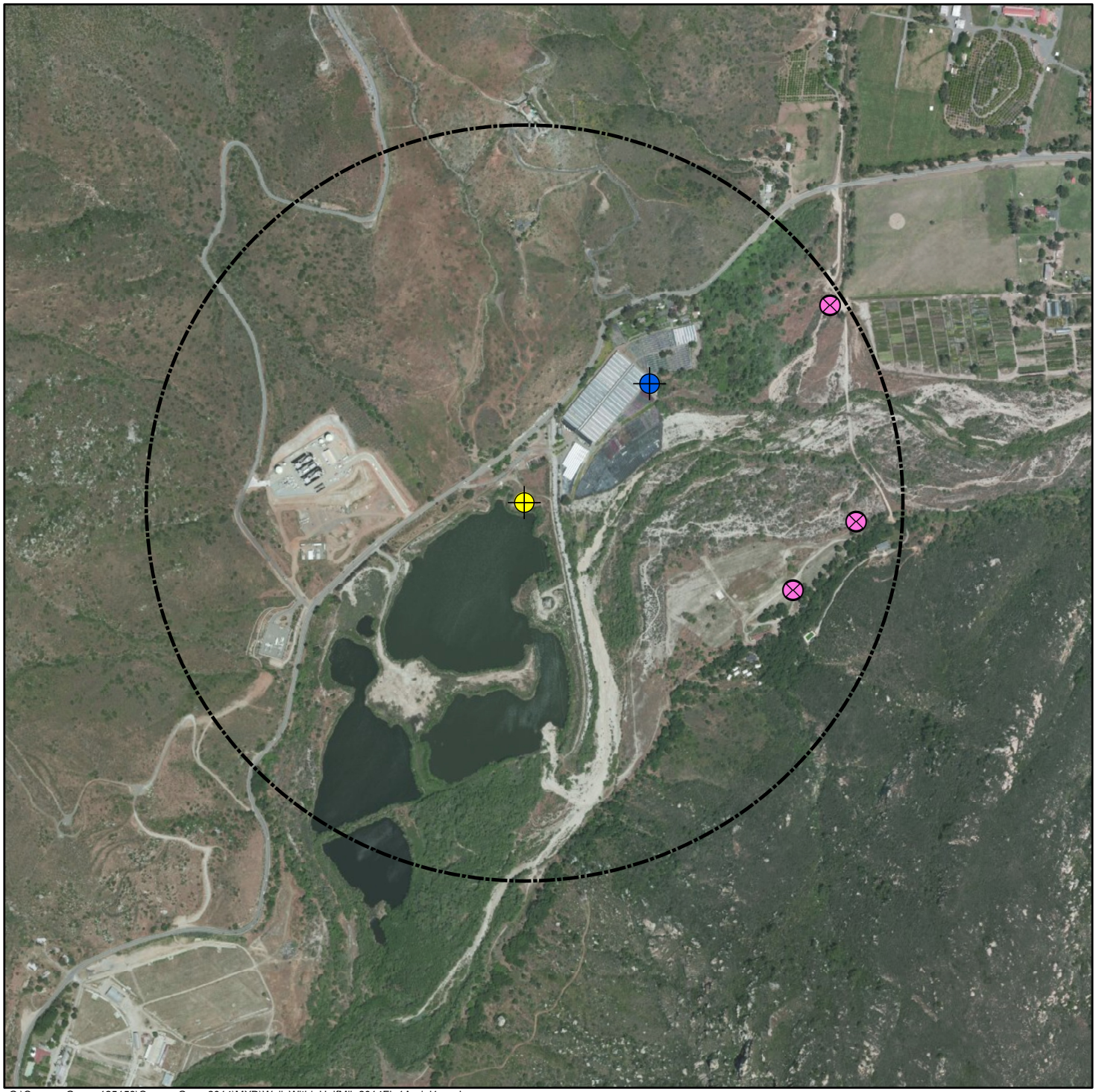
The depth to ground water in the SDG&E well is approximately 25 feet. The vegetation in the area is disturbed grassland (see Section 4.6). Ground water is too deep to support vegetation. Therefore localized drawdown near the SDG&E well would not affect vegetation. No measureable impact on the mine pit lake level is expected and, therefore, downstream flow from the lakes that supports riparian vegetation would not measurably change.

The SDG&E well is located near the north shoreline of a series of lakes that occupy approximately 70 acres of former aggregate mine pits that extend downgradient from the well approximately 3,000 feet. The presence of the open lake close to the SDG&E well would mute any drawdown effect of the proposed ground water use since the lake recharges from a large area resulting in a constant head water level close to the well. Therefore, the cone of depression around the SDG&E well from the proposed use would be localized and would not affect other ground water users. The locations of wells within one-half mile of the SDG&E well are shown in Figure 4.5.1, Wells Within One-Half Mile. The closest well is located 1,200 feet to the northeast. Appendix H.2 provides calculations showing that drawdown at the closest well would be less than one foot and water level in the lakes would not be measurably affected.

As described in Section 3.3, an NPDES permit would be required for discharges of storm water from the installation work area during well pump and pipeline installation and following installation until disturbed surfaces are stabilized. Permit registration documents would be submitted to the RWQCB to obtain coverage under the State General Permit for storm water discharges from construction sites (NPDES No. CAS000002, *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (State Water Resources Control Board Order 2010-0014-DWQ). Permit registration documents would include a Notice of Intent to comply with the General Permit and a Storm Water Pollution Prevention Plan (SWPPP). Pursuant to requirements of the General Permit, the SWPPP would identify best management practices (BMPs) to be implemented to prevent storm water pollution. Compliance with the General Permit and BMPs would be required until disturbed surfaces are stabilized and a Notice of Termination is filed with and accepted by the RWQCB. Implementation of BMPs and compliance with prohibitions, limitations and standards of the General Permit would ensure that impacts to surface water quality from installation activities would be less than significant.

4.6 BIOLOGICAL RESOURCES

A Biological Resources Assessment for the area surrounding the well and pipeline is provided in Appendix I. Figure 4.6.1, Vegetation Communities and Land Cover Map, shows the Biological Resources Assessment field survey boundary and the habitats identified. Table 4.6-1, Summary of Vegetation Communities Affected, summarizes the vegetation communities that would be affected by installation of the well pump and pipeline.



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Orange Grove Project

Wells within One-Half Mile

Figure 4.5.1

- Existing SDG&E Well
- Zalinda Farms Alluvial Well
- Other Alluvial Well
- One-Half Mile Radius

Date: 4/23/2014

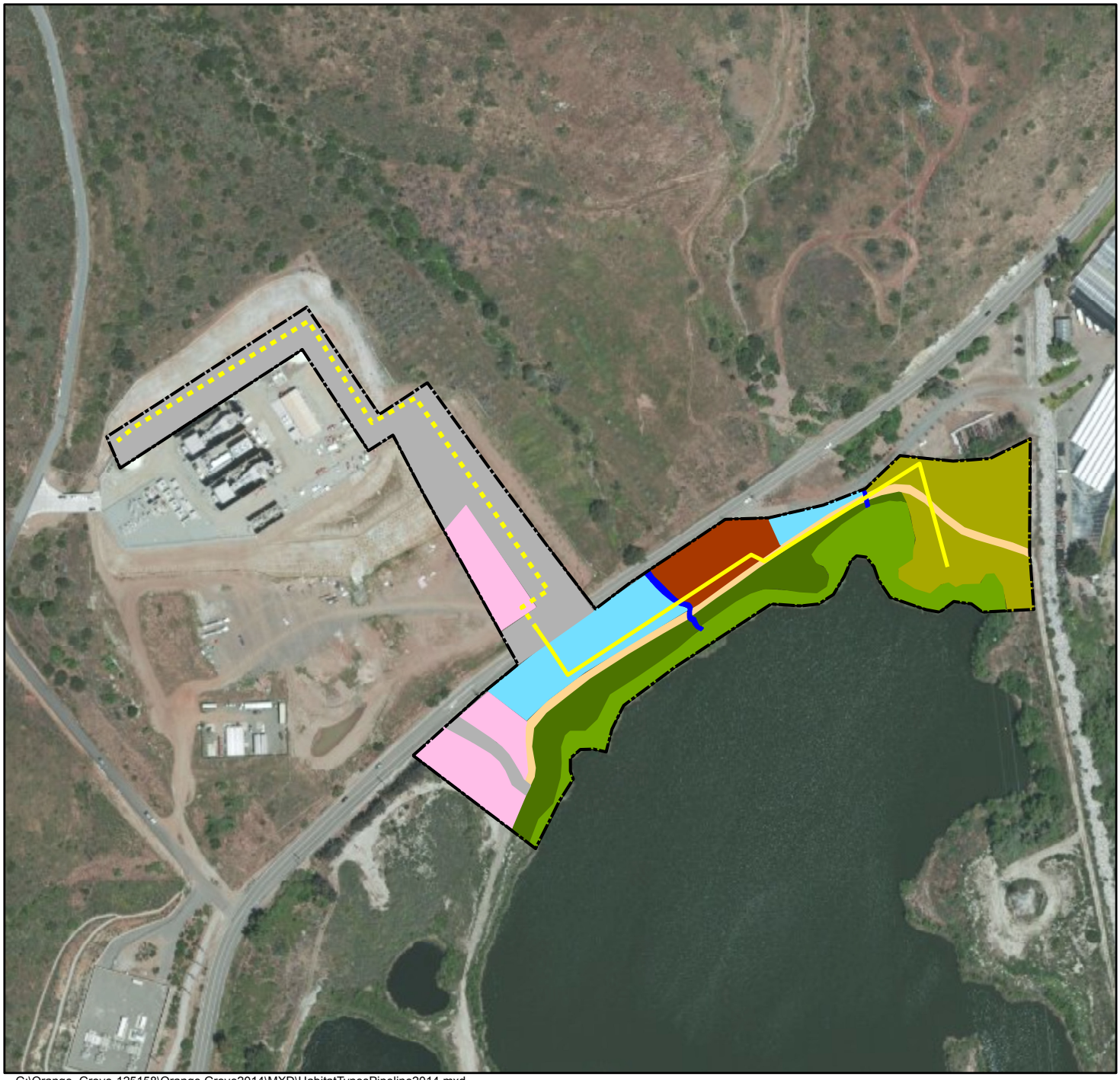
1 in = 1,000 feet

0 1,000 2,000 Feet

N

TRC

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



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Orange Grove Project

Vegetation Communities and Land Cover Map

Figure 4.6.1

- Boundary of Field Survey
- Developed
- Disturbed
- Ephemeral Drainage
- Irrigated Landscape
- Disturbed Non-Native Grassland/Oak Woodland
- Dirt Road
- Disturbed Non-Native Grassland
- Coastal Sage Scrub
- Riparian

- New Pipeline Installation (SDG&E Property)
- New Pipeline Installation (SDG&E Easement)

0 300 600 900 Feet

Date: 4/23/2014

N

TRC

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Table 4.6-1: Summary of Vegetation Communities Affected

VEGETATION TYPE	DISTURBANCE FOOTAGE	DISTURBANCE ACREAGE*
Developed	1430	0.53
Disturbed	70	0.02
Ephemeral Drainage	40	0.02
Irrigated Landscape	360	0.14
Disturbed Non-Native Grassland/Oak Woodland	240	0.09
Dirt Road	300	0.11
Disturbed Non-Native Grassland	310	0.11
TOTAL	**2750**	**1.02**
* Calculated based on 2750 linear feet with disturbance 16 feet wide.		

Disturbed non-native grassland/oak woodland within the survey boundary is comprised of non-native grasses and herbaceous broadleaf species with small clusters of mature coast live oaks. This vegetation community has an underground irrigation system and is periodically mowed and maintained. Anticipated disturbances and impacts within this community would be short term. No oak trees would be removed as part of project implementation. Pre-project conditions would be restored following construction.

Two small ephemeral drainages flow from north to south across the survey area and connect to the existing mine pit pond located along the southern edge of the survey area. The installation of the pipeline across these features would be performed by horizontal boring beneath the drainages so that they are not impacted.

Based on field observations and literature review, the coastal sage scrub near the water pipeline route provides marginal habitat for coast horned lizard, orange throat whiptail, and red-diamond rattlesnake, none of which are protected by the federal or state Endangered Species Act and none of which were observed during the January 15, 2014 field survey. Since this habitat type is located downslope from the proposed well pump and pipeline installation disturbance areas and would not be impacted by the installation work, these species are not expected to be affected.

The onsite grasslands, coastal sage scrub, and/or riparian habitats provide marginal habitat for arroyo toad, burrowing owl, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and yellow-breasted chat. None of these species was observed during the January 15, 2014 field survey.

To ensure the protection of arroyo toad and nesting birds the OGE Final Commission Decision Conditions of Certification would be followed for installation work. A summary of each Condition of Certification for protection of these resources, along with additional recommended measures for the burrowing owl and native oak tree protection are listed below. Please refer to the Final Commission Decision for the full text related to each Condition of Certification.

BIO-4: The project owner shall implement a Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities during construction and operation are informed about the sensitive biological resources associated with the project area.

BIO-6: Construction workers shall implement best management practices during all construction activities to avoid impacts to protected species and their habitat during construction.

BIO-7.1: To avoid impacts to arroyo toad, no vegetation removal or surface disturbing activities shall occur within 100 feet of riparian habitat between March 1 and August 31. Toad exclusion fencing shall be installed to prevent arroyo toad access to areas subject to traffic activities within 100 feet of riparian habitat between March 1 and August 31.

BIO-7.2: To avoid impacts to least Bell's vireo, southwestern willow flycatcher, and other sensitive species inhabiting riparian habitat along the San Luis Rey River no construction activities shall occur within 100 feet of riparian habitat from March 1 through September 15.

BIO-7.3: Preconstruction nest surveys shall be conducted if construction activities will occur within 300 feet of riparian habitat from March 15 through September 15. If an active nest of a least Bell's vireo, southwestern willow flycatcher, or other sensitive riparian bird species is located within 300 feet of a construction area, then a temporary visual screen and sound curtain shall be used during construction, as needed to achieve a noise level of 60 dB or less at the active nest location.

BIO-7.4: The Designated Biologist shall be present for all work occurring within 300 feet of riparian habitat from March 1 through September 15.

BIO-7.5: To avoid impacts to coastal California gnatcatcher, preconstruction nest surveys shall be conducted if construction activities will occur within 500 feet of coastal sage scrub habitat from February 15 through August 31. If an active nest of a coastal California gnatcatchers is identified within 500 feet of a construction area, then construction shall not occur within 500 feet of the nest location(s) until the Designated Biologist determines the nestlings have fledged and dispersed, unless alternative mitigation measures to allow construction within the 500-foot buffer are approved in writing by CDFW, USFWS, and San Diego County Department of Public Works.

BIO-8: Pre-construction nest surveys shall be conducted if construction activities will occur within 500 feet of coastal sage scrub habitat from February 15 through August 31, or within 300 feet of riparian habitat from March 15 through September 15. The Designated Biologist shall perform the surveys and implement mitigation as required by BIO-8.

BIO-9: At least two weeks prior to construction activities and vegetation clearing, the Designated Biologist shall identify and flag biologically sensitive areas that are to be protected as Environmentally Sensitive Areas (ESAs) during construction. Orange construction fencing shall be installed around these flagged ESAs wherever work is proposed within 50 feet of these sensitive features. If any bore pit excavations are dug into a soil or rock surface, the bore pit excavations shall be located at least 20 feet from boundary of jurisdictional waters of the State.

New Mitigation Measure for Burrowing Owl: Although burrowing owls were not observed during the field survey, the survey area contains limited nesting and foraging habitat for the species. For this reason, it is recommended that a burrowing owl survey be conducted no more than 30 days prior to the onset of project-related disturbance activities. Burrowing owls can be present during all times of the year in California, so this survey is recommended regardless of the time grading activities occur. If active owl burrows are located during the pre-activity survey, it is recommended that a 250-foot buffer zone be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. In the case of occupied burrows without active nesting, active burrows after the young have fledged, or if disturbances commence after the breeding season (typically February 1-August 31), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. The USFWS and CDFW shall be consulted for current guidelines and methods for passive relocation of any owls found on the site and mitigation for their relocation.

New Mitigation Measure for Impacts to Native Oak Trees: In the event the final pipeline alignment encroaches upon the dripline of any native oak tree, trenching within such driplines shall be monitored by an International Society of Arboricultural Certified Arborist. The Arborist shall approve excavation equipment and methods within the dripline, perform any necessary root pruning, and recommend other tree preservation measures if needed to ensure tree health is not jeopardized. For example, the Arborist may require excavation within all or portions of the driplines to be performed using hand tools, vacuum truck, or other methods to limit the amount of impact to the tree root system. Heavy equipment such as backhoes or mechanic trenchers can cause significant root damage and the arborist shall be instructed by the owner to prohibit the use of such equipment where it would otherwise be likely to adversely impact tree health.

By implementing the above-mentioned Conditions of Certification, which were established by the OGE Final Commission Decision, along with the additional recommended measures for burrowing owl and oak tree protection, project-related impacts to biological resources would be less than significant.

4.7 CULTURAL RESOURCES

A review of cultural resources potentially affected by installation of the new well pump and water pipeline is provided in Appendix J. The record search that was conducted at the California Historical Resources Information System (CHRIS), South Coastal Information Center (SCIC) at San Diego State University on March 20, 2007 for power plant permitting was reviewed to determine if there were any previously recorded archaeological sites in the vicinity of the well or pipeline. The records search results consists of all previously recorded archaeological and historic sites and cultural resource reports within a one-mile radius of the entire OGPP project, so the vicinity of the well and pipeline is included. The record search results shows no previously recorded sites within the survey area for the well and proposed pipeline. The area surrounding the well and pipeline route was surveyed on January 15, 2014 by TRC archaeologist Susan Underbrink M.A., RPA. Ms. Underbrink meets the qualifications of the U.S. Secretary of the Interior‘s professional standards for Archaeology. The survey did not result in the identification of any unrecorded cultural resources, therefore no additional work is recommended.

No previously recorded prehistoric or historic cultural resources have been identified in vicinity of the proposed well pump and pipeline installation. Furthermore, the area that would be impacted by installation of the well pump and pipeline has been 100 percent extensively disturbed by former aggregate mining operations, road construction, former agriculture operations and development of the existing power plant. Considering these factors, no impacts to cultural resources would be anticipated.

4.8 PALEONTOLOGICAL RESOURCES

For OGPP permitting, a paleontological analysis was conducted by Hugh M. Wagner, Ph. D., to determine sensitivity of the OGPP area with regard to the potential for occurrence of important fossils. In addition to literature and records searches, Dr. Wagner visited the site area and examined accessible outcrops of geologic materials within a one mile radius of the OGPP project. The analysis included literature and field reconnaissance and concluded that there are no identified important paleontological occurrences within one mile of the original OGPP project, which includes a large area around the SDG&E well and proposed water pipeline.

The Society of Vertebrate Paleontology (SVP) recommends that geologic units be classified for paleontological resource sensitivity as follows:

- *High Sensitivity* - Indicates fossils are currently observed onsite, localities are recorded within the study area, and/or the unit has a history of producing numerous significant fossil remains.

- *Low Sensitivity* - Indicates significant fossils are not likely to be found because of random fossil distribution pattern, extreme youth of the rock unit and/or the method of rock formation, such as alteration by heat and pressure.

- *Unknown Sensitivity* - Unknown or undetermined status indicates that the rock unit either has not been sufficiently studied or lacks good exposures to warrant a definitive rating.

- *No Sensitivity* - Igneous and metamorphic rocks that due to the igneous nature of origin, or alteration during exposure to high temperature and pressures, have obliterated any fossils that may have been present.

North of SR-76, the pipeline would be within the OGPP emergency access road ROW and OGPP site. Through these areas, trenching for the pipeline would be in either fill material or Pleistocene Epoch alluvial fan deposits (Very Old Alluvial Fan Deposits of Kennedy, 2000). Paleontological analyses in the CEC record for the OGPP Final Decision considered the Pleistocene Epoch alluvial fan deposits to have an *Unknown Sensitivity* based on the Society of Vertebrate Paleontology recommended sensitivity evaluation system. The *Unknown Sensitivity* was due to an absence of records for the local formation and not enough of the material being adequately exposed to confirm the absence of fossils. During construction of the OGPP, 50 percent (35,000 cubic yards) of the excavation in this unit was monitored for the potential occurrence of paleontological resources in accordance with the CEC-approved Paleontological Resource Monitoring and Mitigation Plan and no fossils were found. Based on the absence of any discovery during construction of the OGPP, the Pleistocene Epoch alluvial fan deposits in

the OGPP area are now considered to have *Low Sensitivity*, indicating that important fossils are not likely to be found.

South of SR-76, water pipeline installation trenching would occur in fill, disturbed soils, and Holocene Epoch alluvium. Considering that the depth of trenching would typically be approximately five feet, the geologic materials that would be excavated south of SR-76 also would have *Low Sensitivity* because these shallow sediments would be too young to contain important paleontological resources.

Considering the relatively minor amount of excavation that would occur in natural geologic materials and the low paleontological sensitivity of the geologic units that would be encountered, no impact to paleontological resources is anticipated. Due to the *Low Sensitivity* of the geologic formations, monitoring for paleontological resources during trenching for the pipeline is not proposed.

4.9 LAND USE

Use of the well and installation of the pump and pipeline would have no effect on land use. The SDG&E well is an existing well. The proposed water pipeline would follow an existing water pipeline easement south of SR-76, and would be on SDG&E property and the OGPP leaseholds north of SR-76.

4.10 SOCIOECONOMICS

Use of the well would not result in any material socioeconomic impact.

4.11 TRAFFIC AND TRANSPORTATION

Installation of the new pump and pipeline from the well to the OGPP would require a small crew of construction workers and transport of equipment and materials. The typical construction crew is estimated to be approximately five persons with up to approximately ten persons on peak activity days (e.g., during horizontal boring). Transport of equipment and materials would generate up to a few delivery trips per day. The minimal levels equipment and material transport and worker trips generated would be short term and would not have a measurable impact on traffic flow.

Following installation of the well pump and pipeline, routine trucking of water from FPUD would be eliminated resulting in an overall net benefit to traffic and transportation.

4.12 NOISE CONTROL

Installation work would generate noise. Installation activities would be limited to the hours between 7 a.m. and 7 p.m. Monday through Saturday consistent with the San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Section 36.408, and would be short term. With the limited equipment anticipated to be used and limited scope of installation activities, construction noise is anticipated to remain well below the 75 decibel 8-hour average limit at boundaries of affected parcels as required by San Diego County Code of Regulatory Ordinances Title 3, Division 6, Chapter 4, Section 36.409. Furthermore, there are no noise sensitive receptors adjacent to the well or water pipeline route, except for several protected

wildlife species that may occur in the area. Mitigation of noise impacts to wildlife is addressed in Section 4.6, Biological Resources. With adherence to allowable hours for construction activities pursuant to County requirements, and considering mitigation for sensitive wildlife resources as described in Section 4.6, noise impacts of construction would be less than significant.

Following installation of the new well pump and water pipeline, the use of well water would eliminate the need for routine trucking of water from FPUD. This would reduce noise levels in the residential neighborhood off Alturas Road near the recycled water pick-up station, where complaints have originated regarding water truck noise.

4.13 VISUAL RESOURCES

Under the County of San Diego General Plan adopted in 2011, SR-76 in the project vicinity is a County Designated Scenic Highway. There are no State Designated Scenic Highways in the area but SR-76 is identified by the State as eligible to be a Designated Scenic Highway (Caltrans, 2014).

Use of the SDG&E well would not affect visual resources other than work being visible during installation. The proposed water pipeline would be underground except for terminations.

4.14 WASTE MANAGEMENT

The OGPP operates under an Operations Waste Management Plan submitted to the CEC in March of 2010 pursuant to Condition of Certification WASTE-7 in the OGPP Final Commission Decision. The Operations Waste Management Plan includes a detailed description of OGPP operation and maintenance waste streams and methods for managing each waste stream including waste minimization and recycling. The proposed amendment action would not generate any new routine waste stream or materially change any existing waste stream.

Installation of the new well pump and water pipeline would generate a small quantity of waste on a one-time basis including small quantities of packaging waste, scrap piping and empty containers. Wastes from installation of the new well pump and water pipeline would be managed in accordance with applicable regulations and recycled or disposed of at a properly licensed offsite facility.

4.15 HAZARDOUS MATERIALS HANDLING

Pump and pipeline installation would require the one-time use of hazardous materials such as fuel, lubricating oil, hydraulic fluid, adhesives and compressed gasses. The presence of these materials poses a risk of release. In the event of an accidental spill of a hazardous material, the spill would be required to be reported and cleaned up to prevent impacts to human health or the environment pursuant to existing laws and regulations. Hazardous materials would not be stored at the construction site other than in vehicles in a manner consistent with Federal and State regulations. The installation work would be subject to requirements of the State General Permit for discharges of storm water from construction sites, including prohibitions of non-storm water discharges and implementation of Best Management Practices (BMPs) for preventing storm water from coming in contact with hazardous materials. With no storage of hazardous materials onsite other than in vehicles consistent with regulations, BMPs for preventing storm water from

coming in contact with hazardous materials, and existing laws and regulations for response and reporting of hazardous materials releases, risk related to the hazardous materials usage for installation work is less than significant.

Following installation of the new well pump and pipeline, use of the well would not require routine hazardous materials handling. Therefore, the long-term risk related to hazardous materials is less than significant.

A Phase I Environmental Site Assessment was conducted for the OGPP in 2008 and the data base search encompassed the area of the SDG&E well and proposed pipeline. No hazardous materials releases were identified along the proposed pipeline route (TRC, 2008). A State Water Resources Control Board (SWRCB) Geotracker database search was conducted on February 4, 2014 for a radius of one-half mile around the OGPP site. Results are provided in Appendix K. No open hazardous materials release cases were identified in the search radius. Two former cleanup sites were identified with "case closed" status. The closest of these former sites is at 10331 Highway 76, which is the former aggregate mining operation south of SR-76 in the vicinity of the SDG&E well and proposed pipeline. The Geotracker database indicates that a ruptured diesel fuel line impacted soil and that 300 cubic yard (CY) of soil was excavated and bio-remediated onsite between 1993 and 1995. The case was closed in 1998. The second former site is identified as Warner Ranch located at 10950 Highway 76. This former cleanup site is on the north side of SR-76 approximately 0.5 mile northeast of the SDG&E well. A diesel fuel leak occurred at this former site that impacted soil. The case was closed in 2005.

4.16 PUBLIC HEALTH

Installation of the new pump at the SDG&E well and the pipeline from the well to the OGPP site would use only a few pieces of equipment at any time and, therefore, would generate minor quantities of fuel burning emissions in an area where there are no sensitive receptors nearby. This minimal level of construction equipment activity would be short term and would not affect public health.

Following installation of the well pump and pipeline, the proposed amendment action would eliminate the need for routine trucking of water from FPUD, thereby reducing fuel burning emissions compared to existing conditions.

4.17 WORKER SAFETY

During installation of the new well pump and water pipeline, OGE would require the construction contractor to maintain a comprehensive site-specific health and safety program to protect workers during construction. This program would be required to meet or exceed applicable federal and governmental safety policies and procedures. Administration, personal protective equipment, injury prevention, occupational health, fire protection and prevention, and equipment safety are example parts of a construction health and safety program.

Once installation of the new well pump and water pipeline is complete, routine operation and maintenance would fall within existing OGPP safety programs. No changes would be required.

5.0 MODIFICATIONS TO CONDITIONS OF CERTIFICATION

Appendix L summarizes changes to the OGPP Conditions of Certification that are requested for the proposed amendment actions.

6.0 NEARBY PARCELS

Appendix M provides a map of County Assessor's parcels and owner information for lands within a 1,000 foot radius of the parcel that the OGPP is situated on, and for lands within a 1,000 foot radius of the currently permitted recycled water pickup station. The 1,000 foot radius around the power plant includes all lands within 500 feet of SDG&E Well No. 2 and proposed water pipeline.

7.0 REFERENCES

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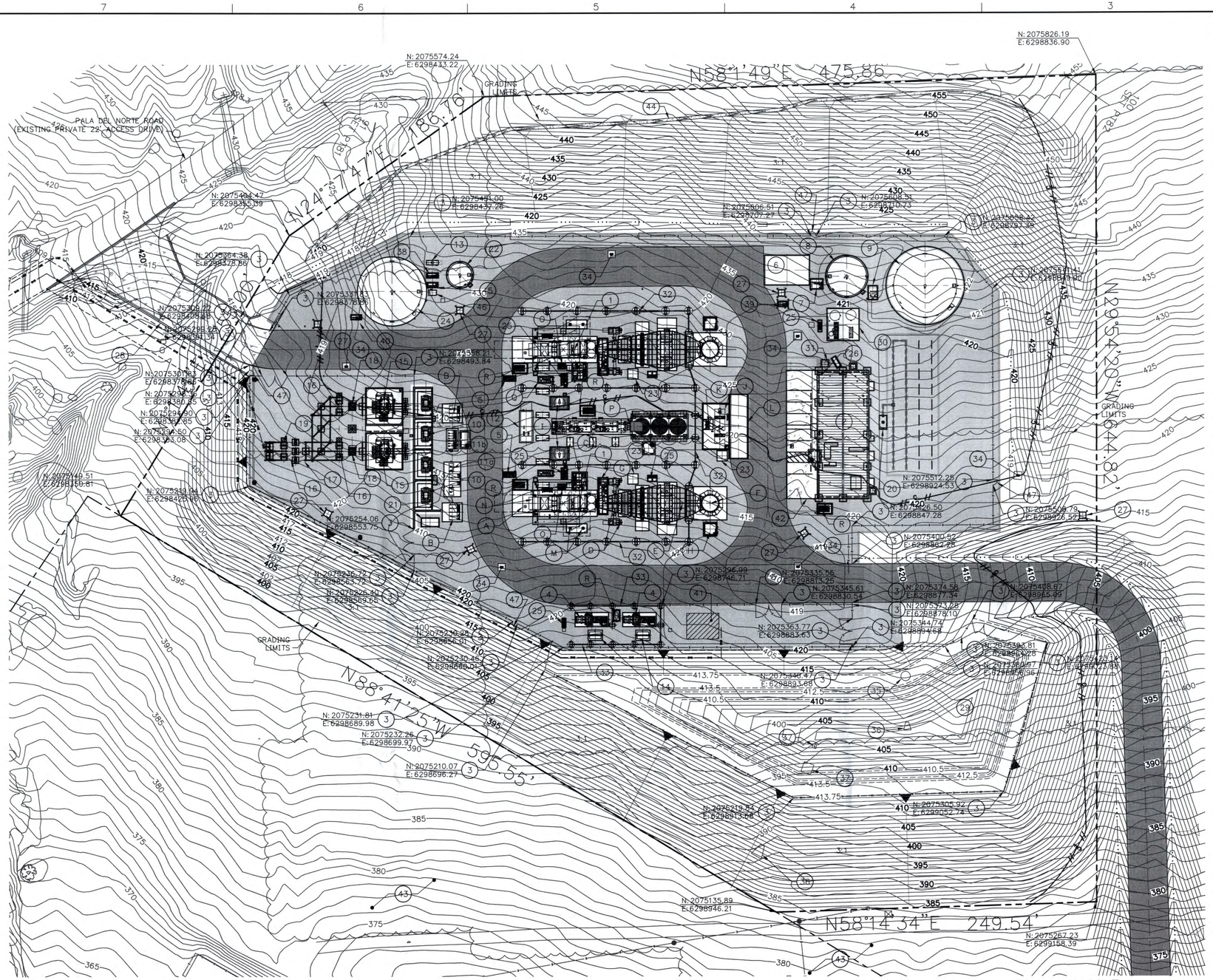
APPENDIX A

Orange Grove Power Plant Site Layout



KEYNOTES:

1. COMBUSTION TURBINE (CT), GENERATOR, AND AUXILIARY EQUIPMENT. (FOR EACH UNIT): (HEIGHT = 43' AT THE TOP OF VBV DUCT).
   - A. MAIN TURBINE GENERATOR SKID ENCLOSURE.
   - B. 13.8KV ELECTRICAL SWITCHGEAR.
   - C. CT AUXILIARY EQUIPMENT SKID.
   - D. TEMPERING AIR FANS (2).
   - E. EMISSION CONTROL SYSTEM–SCR (HEIGHT = ±33').
   - F. STACK (HEIGHT = 80').
   - G. AMMONIA VAPORIZATION SKID.
   - H. CEMS ENCLOSURE WITH TRANSFORMER AND CALIBRATION GAS STORAGE.
   - I. CT LUBE OIL COOLER.
   - J. AMMONIA STORAGE TANK (COMMON TO BOTH CT UNITS).
   - K. AMMONIA FORWARDING PUMP SKID (COMMON TO BOTH CT UNITS).
   - L. AMMONIA UNLOADING PAD, SPILL CONTAINMENT (COMMON TO BOTH CT UNITS).
   - M. TURBINE REMOVAL SUPPORTS.
   - N. AIR INLET FILTER (HEIGHT = 34').
   - O. SPRINT SKID.
   - P. INLET AIR CHILLER AND COOLING TOWER (COMMON TO BOTH CT UNITS) (HEIGHT = 30').
   - Q. WATER INJECTION SKID.
   - R. OILY DRAIN TANK.
2. SERVICE BUILDING FOR CONTROL ROOM, ELECTRICAL EQUIPMENT, FIRE PUMPS, COMPRESSED AIR. (HEIGHT = 18').
3. SITE SECURITY CHAINLINK FENCE AND GATES.
4. FUEL GAS COMPRESSORS.
5. GAS COALESCING FILTER SKID.
6. CONCRETE PAD FOR TEMPORARY WATER TREATMENT TRAILER.
7. DEMIN. WATER PUMP SKID AND RELATED EQUIPMENT.
8. DEMIN. WATER STORAGE TANK (HEIGHT = 24').
9. RAW WATER/FIREWATER STORAGE TANK & PUMP SKID (HEIGHT = 44').
10. AUXILIARY TRANSFORMERS.
11a. 4160V ELECTRICAL SWITCHGEAR.
11b. 480V ELECTRICAL SWITCHGEAR.
12. BLACKSTART GENERATOR.
13. IRRIGATION BOOSTER PUMP.
14. FUEL GAS COMPRESSOR RECYCLE FIN–FAN COOLER.
15. 13.8KV–69KV GENERATOR STEP–UP TRANSFORMER (GSU).
16. 69KV DISCONNECT SWITCH AND SUPPORTS.
17. 69KV CT/VT METERING UNIT.
18. 69KV CIRCUIT BREAKER.
19. 69KV TRANSITION STRUCTURE & POTHEAD.
20. UNDERGROUND SANITARY SYSTEM.
21. TRANSFORMER DELUGE VALVE ENCLOSURE.
22. WASTEWATER STORAGE TANK (HEIGHT = 24').
23. COMBINATION SAFETY SHOWER & EYE WASH UNIT.
24. RECLAIM WATER STORAGE TANK (HEIGHT = 36').
25. 480V MCC.
26. FIRE PUMP ROOM.
27. YARD FIRE HYDRANTS WITH HYDRANT MOUNT FIRE MONITORS.
28. BRIDGE.
29. STORMWATER DETENTION BASIN.
30. RO WATER TREATMENT AREA.
31. DIESEL STORAGE TANK – DIESEL FIRE PUMP.
32. GAS TURBINE SOUND WALL (HEIGHT = 48').
33. GAS COMPRESSOR SOUND WALL (HEIGHT = 24').
34. AREA INLET.
35. STORM MANHOLE.
36. STORM END SECTION.
37. STORMWATER OUTLET CONTROL STRUCTURE.
38. TANK TRANSFER PUMP SKID.
39. FRESH WATER UNLOADING PUMP SKID.

KEYNOTES CONT.:

40. RECLAIM WATER UNLOADING PUMP SKID.
41. SDG&E GAS METERING STATION (MSA).
42. SERVICE BUILDING CONCRETE PARKING.
43. TEMPORARY CONSTRUCTION PARKING AND GRADING.
44. BROW DITCH (CONCRETE).
45. COOLING TOWER MAKEUP PUMP SKID.
46. SERVICE WATER BOOSTER PUMP SKID.
47. FENCE MAN GATE (MIN. EVERY 500').

SITE LAYOUT PLAN
PLAN NORTH IS 29°55'46" CCW OF TRUE NORTH
40 0 40 80
SCALE IN FEET

EMISSION COORDINATES SYMBOL		
DESCRIPTION	NORTHING	EASTING
COMBUSTION TURBINE #1 (NORTH)	2075491	6298683
COMBUSTION TURBINE #2 (SOUTH)	2075387	6298743
DIESEL FIRE PUMP (±2')	2075517	6298766
BLACK START GENERATOR (±2')	2075379	6298582

REV.	DATE	DESCRIPTION	DWN	CHK
0	6-11-09	ISSUED FOR CONSTRUCTION	RAD	WHR

PERMITS

REZONE PERMIT NO. NOT APPLICABLE
SPECIAL USE PERMIT NO. NOT APPLICABLE
TENTATIVE MAP NO. NOT APPLICABLE
NOI/WDID NO. 9_37C354807

BENCH MARK

DESCRIPTION: 3 1/2" brass disk "M.W.D. OF SOUTHERN CA S.D.6–69 1993"
LOCATION: S.E. CORNER OF MANHOLE IN SDCWA R.O.W.
RECORD FROM: FIELD BOOK 4047–04–079
ELEVATION: 318.88' DATUM: NAVD88 AND NAD83
N/E: N:2071814.32 E:6297457.67

COUNTY APPROVED CHANGES

NO.	DESCRIPTION:	APPROVED BY:	DATE:

Sealed Only When Signed in Blue Ink
LICENSED PROFESSIONAL ENGINEER THOMAS F. HEAUSLER No. C040363 Exp. 3-31-11 CIVIL STATE OF CALIFORNIA 6-11-09

Sega ®
Engineers – Architects – Technicians
Design – Construction – Field Service
16041 Foster
P.O. Box 1000
Stilwell, Kansas 66085–1000

ORANGE GROVE ENERGY L.P.
Schaumburg, IL

ORANGE GROVE PROJECT

SITE LAYOUT PLAN

DESIGN BY:	CHECKED BY:
B. ROMINES	J. BONDANK
DRAWN BY:	DATE:
B. GASPERS	9–12–07
CLIENT I.D.	SEGA PROJECT NO.
ICC00101	07–201

CADD FILE NAME: 07201–C100.dwg

DRAWING NO.	REV.
C100	0

PRIVATE CONTRACT

3 SHEET	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	52 SHEET

GRADING PLAN FOR:
THE CONSTRUCTION AND OPERATION OF THE ORANGE GROVE POWER PLANT, AN ELECTRIC GENERATOR FACILITY. ALSO, THE INSTALLATION OF A 10" NATURAL GAS PIPELINE TO PROVIDE THE PLANT WITH FUEL ENERGY.
CALIFORNIA COORDINATE INDEX 434–1736/434–1737

APPROVED FOR MOHAMAD FAKHRIDDIME COUNTY ENGINEER BY:	ENGINEER OF WORK THOMAS F. HEAUSLER C040363 R.C.E. 3–31–11
	L–15454 GRADING PERMIT NO.

SEGA, INC.
PHONE NUMBER: (913) 681–2881

N:\2007\07201\dwgs\ce\07201–C100.dwg 6/10/09 2:48pm jsee

APPENDIX B

SDG&E Well Inspection Report

123 Technology Drive
Irvine, California 92618

949.727.9336 PHONE
949.727.7399 FAX

www.TRCsolutions.com

December 19, 2013

Mr. Chris Bluse
J-Power USA
1900 East Golf Road, Suite 1030
Schaumburg, Illinois 60173

RE: SDG&E WATER WELL INSPECTION, PALA, CALIFORNIA

Dear Mr. Bluse:

TRC Solutions, Inc. is pleased to submit this report documenting results of the inspection recently performed on the San Diego Gas and Electric Company (SDG&E) water well located south of State Route 76 near the Orange Grove power plant.

1.0 INTRODUCTION

Orange Grove Energy, L.P. is evaluating the feasibility of using ground water to replace or supplement the current project water supply being obtained from Fallbrook Public Utilities District. One of the ground water wells being considered for use is a well owned by SDG&E located approximately 0.25 mile southeast of the power plant site (see Figure 1). Appendix A includes a copy of the State of California Well Completion Report (Well Completion Report) that SDG&E has provided for the well. The well completion report shows that the well was constructed in 1995 with 12-inch-diameter steel blank casing and stainless steel, continuous wire wrap screen with a filter pack composed of 5/16 x 7 gravel. A 23.5-inch-diameter conductor casing is reported to have been installed from grade to approximately 20 feet below ground surface (bgs). The Well Completion Report indicates that the well was tested by pumping for four hours. A total drawdown of 50 feet was measured and the maximum yield from the well was estimated to be 500 gallon per minute (gpm).

2.0 INITIAL WELLHEAD INSPECTION

On September 25, 2013, TRC personnel conducted an initial reconnaissance of the SDG&E well location. A summary of these observations is presented below (see Figure 2; Photo 1):

- The 12-inch diameter steel well casing and 24-inch-diameter steel conductor casing was exposed at the wellhead and appeared in good condition where exposed.
- The motor assembly for the vertical turbine pump was in place on top of the wellhead and was connected to the discharge line and subsurface piping.
- The downhole bowl assembly of the vertical turbine pump had been removed from the well and was located next to the wellhead.
- Electrical service is located adjacent to the wellhead. The pump motor assembly was not connected to power.

3.0 WELL LOGGING AND SURVEY

On October 18, 2013, a crane was utilized to remove the pump motor assembly from the wellhead in order to access the well for well logging, surveying, and water level gauging activities. The pump motor assembly was left onsite adjacent to the wellhead (see Figure 2; Photos 2 and 3). A 12-inch-diameter, aluminum, locking well cap (Royer™) was installed to prevent unauthorized access to the well (see Figure 2; Photo 4).

It is possible that the pump motor assembly contains lubricating oil. We recommend that the pump motor assembly be removed from the area or be otherwise managed by SDG&E ensure that lubricating oil cannot leak from the pump motor assembly.

Following removal of the pump motor assembly, the well casing was inspected by conducting a downhole video survey and use of a downhole Casing Inspection Thickness Measurement (CITM) logging tool. The video survey was conducted using a side-scan and axial view downhole camera with color image and was reviewed in real time. A summary of downhole video survey observations is presented below:

- The steel casing appears intact; some spalling is present from approximately 3.5 to 33.8 feet below top of casing (TOC).
- Static groundwater was measured at approximately 24.8 feet below TOC.
- The wire wrapped screened interval begins at approximately 33.8 feet below TOC.
- The screen appears intact but partially to completely plugged.
- The well is filled with soft material below the point approximately 66.4 feet below TOC.

Refer to Appendix B for a DVD copy of the video survey along with a summary report that includes selected captured images of the well.

The CITM logging tool uses electromagnetic waves to measure wall thickness in ferrious, copper-bearing, and high strength low alloy (HSLA) steel casing. The CITM logging tool records separate measurements for: casing weight (pounds per foot [lbs/ft]), electronic caliper (diameter in inches), high resolution inductive collar locator, and downhole temperature and pressure.

A review of the CITM log is presented below:

- A conductor casing is present to a total depth of approximately 24 feet below TOC.
- The conductor casing and well casing appear intact
- Static groundwater is present at approximately 24.8 feet below TOC.
- The wire wrapped screened interval begins at approximately 34 feet below TOC.
- It appears that a dielectric coupler is not present between the steel casing and the stainless steel screen.
- The well is completely filled starting at approximately 67 feet TOC.

Refer to Appendix C for a copy of the CITM log.

The surface elevation of the well was surveyed vertically and horizontally with a precision of 0.001 foot by a California-licensed surveyor. The top of the well casing was surveyed to be at an elevation of 336.708 feet above mean sea level (North America Vertical Datum, 1988). A copy of the survey data is included in Appendix D.

4.0 WELL GAUGING

On November 1, 2013, the water levels in both the SDG&E Well and the recently completed Test Well installed north of Highway 76 on Parcel Number 110-072-26 were gauged within a 1-hour time period. Water levels in the wells were measured using a water level meter (electronic interface probe with conductance sensors) and the depth to water was measured relative to the top of the well casing. A summary of the gauging data is presented below.

Well ID	Date	Well Elevation (feet MSL)	Depth to Groundwater (feet)	Groundwater Elevation (feet MSL)
SDG&E Well	11/01/13	336.708	24.85	311.858
Test Well	11/01/13	357.373	46.16	311.213
Note: MSL = mean sea level				

5.0 CONCLUSIONS

The downhole video survey indicates that the well casing and screen appear to be in reasonable shape to return to service, although the screen is substantially plugged and will require considerable redevelopment effort to restore flow capacity and to obtain a sample of representative formation water. Based on the results of video logging, we anticipate two or possibly three days of well development will be required before the well is adequately clean to conduct pumping testing activities and to provide a representative water sample.

The CITM logging did not yield any evidence of excessive casing deterioration. The survey identified that there does not appear to be a dielectric coupler between the carbon steel casing and the stainless steel screen, but excessive corrosion or other deterioration was not evident.

The survey work provides reliable location and water level elevation data for the Well.

6.0 CLOSING

If you have any questions regarding this project, please call Joseph Stenger at (949) 697-7169.

Sincerely,

TRC

PROFESSIONAL GEOLOGIST
JOHN ERIC NORDENSTAM
No.7160
STATE OF CALIFORNIA

John Nordenstam, PG 7160
Senior Project Geologist

Joseph L. Stenger, PG 5964
Project Director

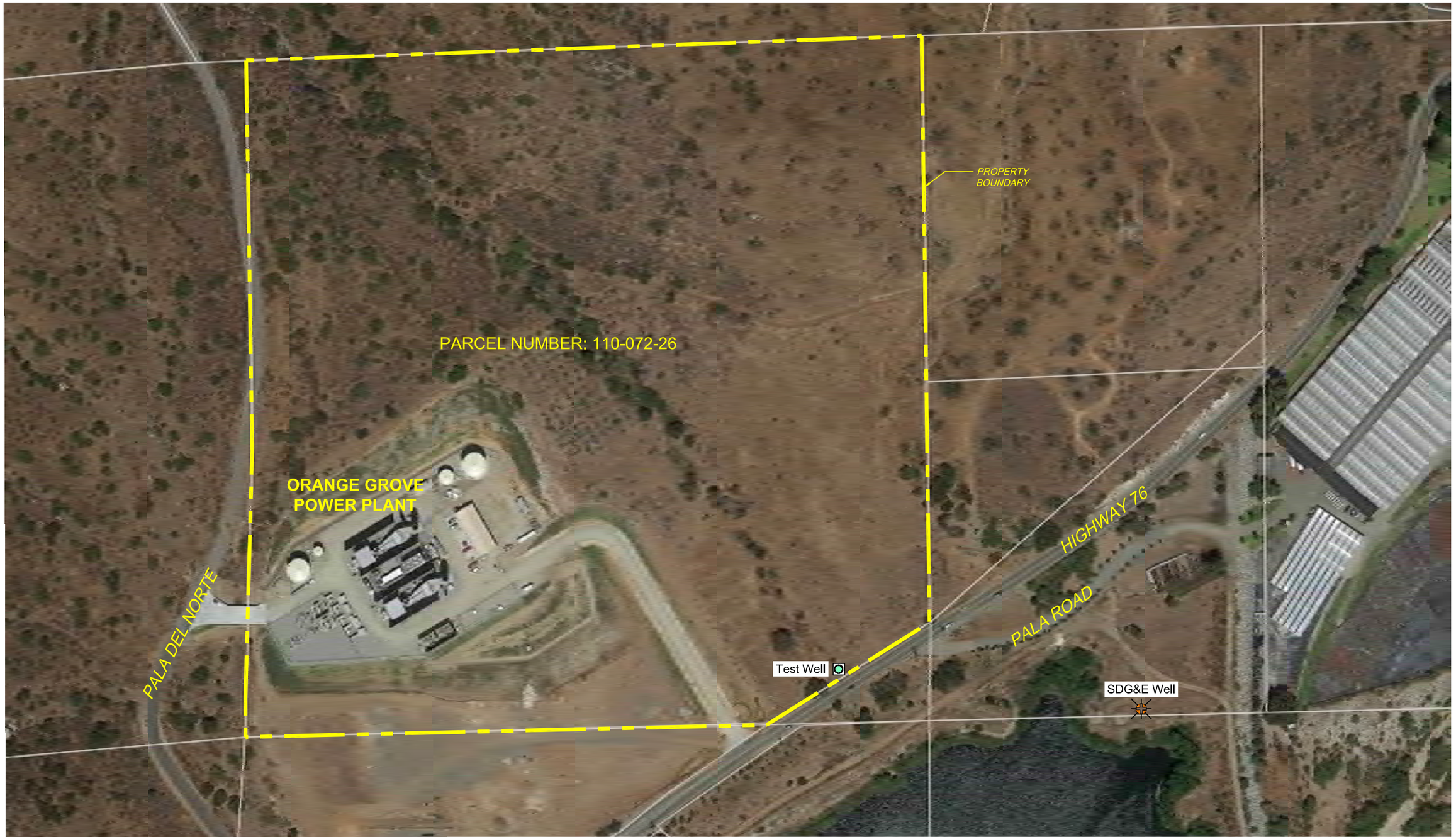
ATTACHMENTS:

Figure 1:	Well Location Map
Figure 2:	Photos
Appendix A:	Well Completion Report
Appendix B:	Video Survey Report
Appendix C:	Casing Inspection Log
Appendix D:	Survey Data

cc: Mr. Jim Pomillo, J-Power USA
John Hutson, Orange Grove Energy, L.P.

Inspection of SDG&E Well No. 2.doc

FIGURES



NOTE:

Modified from a map provided by Google Earth Professional, dated 8/23/2010.

SCALE (FEET)

0 200

TRC

PROJECT: 192592

FACILITY:

ORANGE GROVE ENERGY PROJECT
35435 EAST PALA DEL NORTE ROAD
PALA, CALIFORNIA

SITE PLAN

FIGURE 1

MS=1:200 L:\Graphics\ProjectsByName\Orange Grove Energy\CADD\ORANGE GROVE-AERIAL.dwg Nov 18, 2013 - 7:59am Bschmidt

Photo 1: SDG&E Well.

Photo 2: Pump Motor Assembly Removed and Placed by Well.

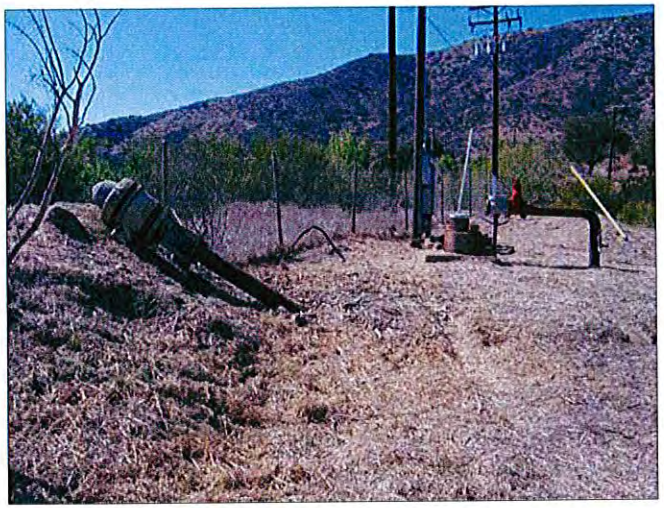


Photo 3: Pump Motor Assembly Removed and Placed by Well.

Photo 4: Locking Well Cap Installed.

TRC

PROJECT: 192592

FACILITY:
ORANGE GROVE ENERGY PROJECT
35435 EAST PALA DEL NORTE ROAD
PALA, CALIFORNIA

PHOTOS

FIGURE 2

APPENDIX A

WELL COMPLETION REPORT

ORIGINAL
File with DWR

Page 1 of 1
Owner's Well No. Two
Date Work Began 4/26/95 Ended 5/2/95
Local Permit Agency Dept of Env. Health
Permit No. W62950 Permit Date 4/18/95

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet
No. 463743

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)
DEPTH TO FIRST WATER 15 (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
		Alluvial fill as follows
0	23	fine to coarse sand with some small aggregates
23	26	black silt layer
26	36	silty sand with some small boulders
36	65	fine to coarse sand
65	75	cemented sand and hard boulders

TOTAL DEPTH OF BORING 75 (Feet)
TOTAL DEPTH OF COMPLETED WELL 75 (Feet)

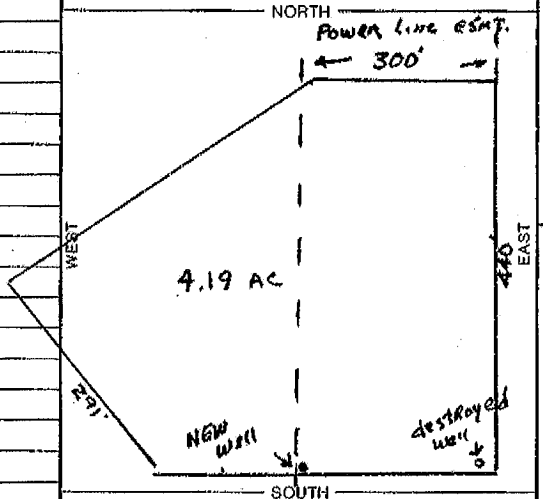
WELL OWNER

Name San Diego Gas & Electric
Mailing Address P.O. Box 1831
CITY San Diego, California STATE 92112 ZIP

WELL LOCATION

Address 10363 Pala Rd.
City Pala
County San Diego
APN Book 110 Page 370 Parcel X88 05
Township 9S Range 2W Section 32
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 (✓)

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

PLANNED USE(S) (✓)

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

DRILLING METHOD Rotary FLUID Gel

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 13 (Ft.) & DATE MEASURED 5/7/95
ESTIMATED YIELD* 500 (GPM) & TEST TYPE pump
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 50 (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	20	32	X				A-53-B	23.5	.250	
20	35	23	X				A-53-B	12	.375	
35	75	23		X			304SS	12	.250	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X			
20	75	pea gravel			5/16x7

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] (WELL DRILLER/AUTHORIZED REPRESENTATIVE)
DATE SIGNED 4/8/95 C-57 LICENSE NUMBER 328287

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 463744

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

Owner's Well No. One
Date Work Began 5/5/95, Ended 5/5/95
Local Permit Agency Dept of Env Health
Permit No. W62963 Permit Date 5/8/95

GEOLOGIC LOG

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

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
	Destroy existing 16" dia X65 ft. well
	Backfill well with concrete and remove 10 ft. of well casing to allow construction of diversion dam

TOTAL DEPTH OF BORING 65 (Feet)
TOTAL DEPTH OF COMPLETED WELL 0 (Feet)

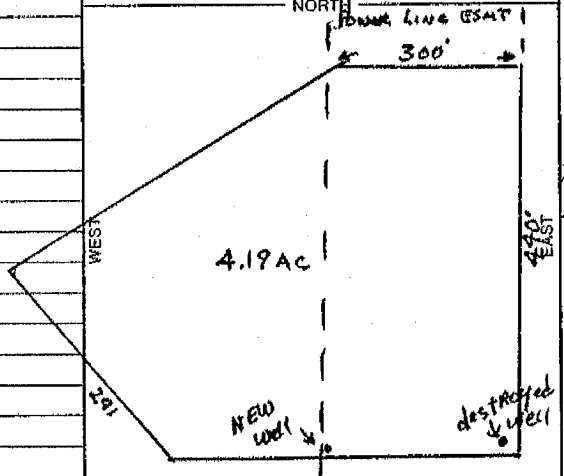
WELL OWNER

Name San Diego Gas & Electric
Mailing Address P.O. Box 1831
CITY San Diego STATE California ZIP 92112

WELL LOCATION

Address 10363 Pala Rd
City Pala
County San Diego
APN Book 110 Page 370 Parcel 05
Township 9S Range 2W Section 32
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)
X 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 ___ FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 12 (Ft.) & DATE MEASURED ___
ESTIMATED YIELD* 750 (GPM) & TEST TYPE pump
TEST LENGTH ___ (Hrs.) TOTAL DRAWDOWN ___ (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)

ANNULAR MATERIAL

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

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 Joe R. Fain
WELL DRILLER/AUTHORIZED REPRESENTATIVE
DATE SIGNED 5/18/95
C-57 LICENSE NUMBER 390067

DWR 188 REV. 7-90

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

APPENDIX B

VIDEO SURVEY REPORT

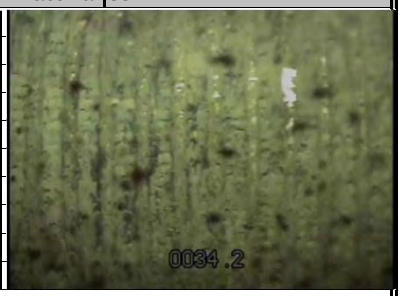
Pacific Surveys

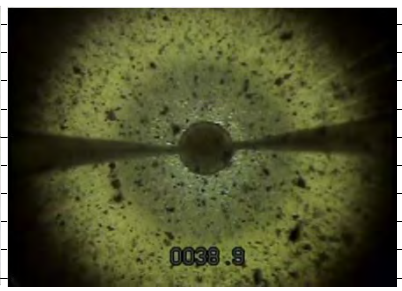
a full service geophysical well logging company

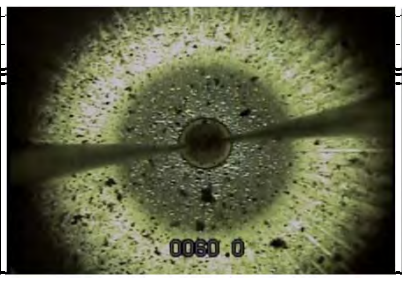
Video Survey Report

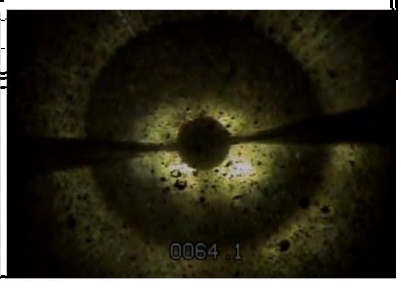
Company:	TRC Solutions	**Date:**	18-Oct-13		
Well:	SDG&E Well 2	**Run No.**	One	**Truck**	PS-5
Field:	Pala	**Job Ticket:**	17758		
State:	California	**Total Depth:**	66 ft		
		Water Level:	25 ft	SWL	
Location:	35435 E Pala Del Norte Road	**Oil on Water:**	No	**Amount:**	0 ft
	GPS: N33o 21.506' W117o 06.383'	**Operator:**	Afoh/Abreau		
Zero Datum:	Top of CSG **Tool Zero:**	Side-Scan		**Dead Space**	1.75 ft
Reason for Survey:	General Inspection	**Guides Set @**	11 inches		

Depth	Observations		
0.0 ft	Begin survey from top of casing.	**Perforation:**	**From Survey**
3.5 ft	Begin to observe spalling of casing wall.	Wire-Wrap	33.80 ft to ?
15.5 ft	Spalling increases.		
24.8 ft	SWL: water is slightly cloudy with some suspended material. Visibility is fair.		
33.8 ft	Top of perfs: perforations appear plugged.		
56.0 ft	Perforations appear partially plugged.		
61.0 ft	Water begins to clear slightly.		
63.5 ft	Perforations appear mostly plugged.		
66.4 ft	Fill, still in perfs, soft material, end survey.		
		Casing Size	**From Survey**
		12 in ID	0.00 ft to 66.35ft
		CSG Material	Mild Steel
		Screen Material	SST









800.919.7555
909.625.6262

4456 via st. ambrose
claremont ca 91711
www.pacificsurveys.com

fax: 909.399.3180

APPENDIX C

CASING INSPECTION LOG

PACIFIC SURVEYS

CASING INSPECTION LOG

Job No. 17758

Company TRC SOLUTIONS
Well SDG & E WELL #2
Field PALA
County SAN DIEGO State CA

Location:

35435 E. PALA DEL NORTE RD
GPS: N33o21.506' W117o06.383'

Sec. Twp. Rge.

Other Services:

VIDEO

Permanent Datum	T.O.C.		Elevation above perm. datum	Elevation K.B.
Log Measured From	T.O.C.	31"		D.F.
Drilling Measured From	N/A			G.L.

Date	10-18-2013		
Run Number	ONE		
Depth Driller	75'		
Depth Logger	67'		
Bottom Logged Interval	62'		
Top Log Interval	10'		
Static Water Level	24.8'		
Depth Of Pump Bowls	N/A		
Density / Viscosity	N/A		
Max. Recorded Temp.	68.0 F		
Pump Rate (GPM)	N/A		
Time Well Ready	9:30 AM		
Time Logger on Bottom	11:30 AM		
Equipment Number	PS-5		
Location	L.A.		
Recorded By	ABREAU	AFOH	
Witnessed By	J. NORDENSTAM		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To

Casing Record	Size	Wgt/Ft	Top	Bottom
Surface String				
Prot. String				
Production String	12" ID	41 ld/ft	0'	75'
Liner				

<<< Fold Here >>>

Comments

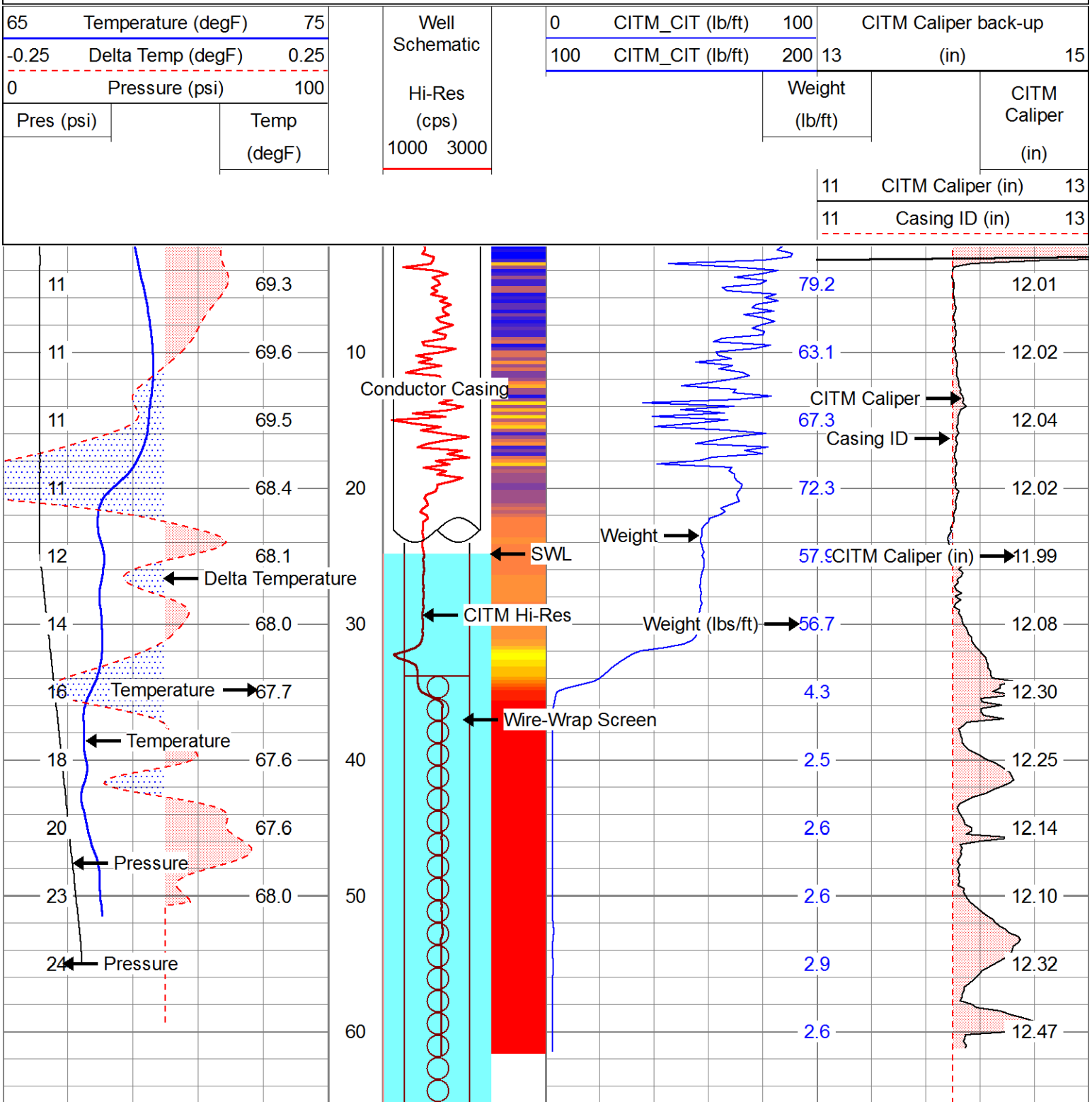
Calibration Report

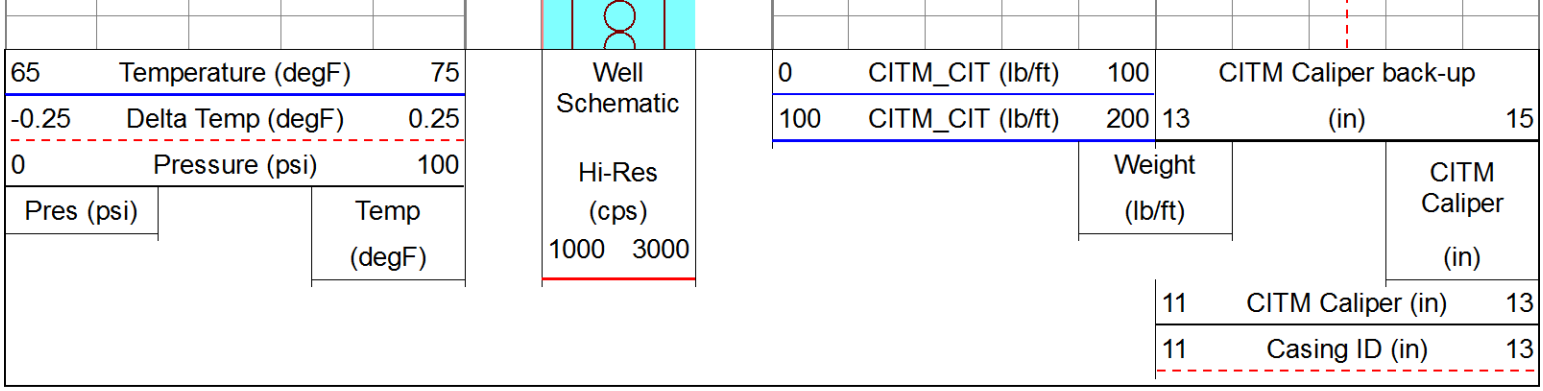
Database File 17758.db
Dataset Pathname citm_up.3
Dataset Creation Fri Oct 18 12:03:33 2013

Casing Inspection/Caliper Calibration Report

	Serial Number:	100
	Tool Model:	A
	Performed:	Sun Jan 20 14:26:23 2013
	Reference (cps)	Reading (cps)
Low:	0.000	0.000
High:	1.000	1.000
	Gain = 1.000	Offset = 0.000

Database File	17758.db
Dataset Pathname	citm_up.3
Presentation Format	citm
Dataset Creation	Fri Oct 18 12:03:33 2013
Charted by	Depth in Feet scaled 1:120




65 Temperature (degF) 75
-0.25 Delta Temp (degF) 0.25
0 Pressure (psi) 100
Pres (psi)
Temp (degF)
Well Schematic
Hi-Res (cps)
1000 3000
0 CITM_CIT (lb/ft) 100
100 CITM_CIT (lb/ft) 200
Weight (lb/ft)
CITM Caliper back-up
13 (in) 15
CITM Caliper (in)
11 CITM Caliper (in) 13
11 Casing ID (in) 13

APPENDIX D

SURVEY DATA

PALA ROAD
CONTROL DATA SHEET

HORIZONTAL DATUM: North American Datum of 1983 (NAD83)
VERTICAL DATUM: North American Vertical Datum of 1988 (NAVD88)
PLANE COORDINATES: California Coordinate System of 1983 (CCS83), Zone 6

Adjusted by: *NPG*
Adjustment Date: *9-May-08*

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	COMBINATION FACTOR
		US Survey Feet			*(North)*	*(West)*	
1	Fd 2" alum cap in ac paving; Dn 0.15'	2074474.128	6291073	413.984	33-21-23.234	117-08-10.259	0.99994
2	Fd 1½" I.P. & tag "San Diego Surveyor"; flush	2074592.108	6291086.03	421.083	33-21-24.402	117-08-10.117	0.99994
3	Fd 1½" alum cap; flush	2074465.903	6291258.856	402.379	33-21-23.168	117-08-08.067	0.99994
1024	2" brass disk stamped "W 1/16 S32"	2072447.215	6296680.18	481.312	33-21-03.648	117-07-03.956	0.99994
1027	2" brass disk stamped " S31 S32 S6 S5"	2069768.839	6295220.028	300.604	33-20-37.028	117-07-20.904	0.99994
1036	Fd 1" I.P. empty	2069792.985	6293889.304	294.88	33-20-37.157	117-07-36.593	0.99995
1037	2" brass mon	2069817.546	6292556.937	291.723	33-20-37.289	117-07-52.300	0.99995
1589	L&T N'ly edge of conc structure (1926+46.43)	2072423.083	6297154.254	462.482	33-21-03.448	117-06-58.364	0.99994
5019	2" brass disk	2073793.381	6298217.019	428.458	33-21-17.092	117-06-45.970	0.99994
5022	2" brass disk	2072439.361	6298113.625	422.339	33-21-03.688	117-06-47.056	0.99994
5025	Fd 2" brass disk stamped "1/4 S32 S5" in conc collar	2069758.789	6297908.084	313.208	33-20-37.150	117-06-49.218	0.99994
5026	Fd 2" brass disk stamped "S 1/16 S31 S32"	2071112.111	6295231.058	708.209	33-20-50.319	117-07-20.907	0.99993
5039	Fd 2" Brass disk stamped "NE 1/16 S6"	2068448.118	6293870.428	295.086	33-20-23.850	117-07-36.682	0.99995
5040	Fd 2" brass disk stamped "N 1/16 S6 S5" under power lines	2068423.478	6295199.325	330.632	33-20-23.716	117-07-21.016	0.99994
5114	L&T N'ly edge of conc structure	2069732.282	6298481.869	404.704	33-20-36.935	117-06-42.452	0.99994
5115	Fd L&T at N'ly edge of structure	2070270.126	6298216.534	331.648	33-20-42.235	117-06-45.632	0.99994

PALA ROAD
CONTROL DATA SHEET

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION	LATITUDE (North)	LONGITUDE (West)	COMBINATION FACTOR
		US Survey Feet					
5173	½" square metal bar	2069157.803	6291247.084	483.773	33-20-30.652	117-08-07.674	0.99994
5197	Fd ¾" & tag "LS 1953" appears disturbed	2075150.21	6298320.881	398.092	33-21-30.524	117-06-44.878	0.99994
5198	Fd ½" rebar	2076418.102	6298343.583	545.137	33-21-43.070	117-06-44.734	0.99993
402081	Set 1" I.P. with Psomas plug	2069778.68	6297926.146	313.389	33-20-37.349	117-06-49.007	0.99994
404081	Set mag nail & washer stamped "Psomas 404081", flush; in ac driveway	2069970.323	6294966.715	300.187	33-20-39.001	117-07-23.910	0.99994
411081	1" I.P. & Psomas plug	2069908.69	6296224.048	311.109	33-20-38.495	117-07-09.083	0.99994
411082	1" I.P. & Psomas plug	2070615.633	6296495.527	313.305	33-20-45.512	117-07-05.952	0.99994
411083	Mag nail in boulder	2073185.979	6297451.55	627.687	33-21-11.020	117-06-54.934	0.99993
411084	Punched spike; flush	2072169.621	6297991.363	340.982	33-21-01.009	117-06-48.471	0.99994
081495F	Gear spike & washer "081495F"	2071931.89	6296893.759	329.71	33-20-58.567	117-07-01.387	0.99994
76195R	Fd 2½" brass disk stamped "Calif. Dept. of Transportation 76-19.5R 1993" at W'ly edge of roadway	2068127.86	6292499.779	290.003	33-20-20.567	117-07-52.806	0.99995
AT1	2x2 & tack at E'ly side of Pala Rd.	2069052.401	6292018.211	305.095	33-20-29.674	117-07-58.574	0.99994
AT10	Set 2x2 & tack at back of abandon farm	2071409.613	6297664.631	313.63	33-20-53.463	117-06-52.249	0.99994
AT11	Set 2x2 & tack	2072319.9	6296557.284	404.069	33-21-02.378	117-07-05.392	0.99994
AT12	Set PK nail & tin at right lane on Pala Rd.	2072588.036	6298263.149	359.791	33-21-05.171	117-06-45.308	0.99994
AT13	Fd 1" I.P., up 0.1'	2072884.309	6296843.128	708.416	33-21-07.985	117-07-02.077	0.99993
AT2	Mag nail & tin SB lane	2070721.73	6291271.879	319.96	33-20-46.127	117-08-07.539	0.99994
AT20 *(formerly known as AT5- for this project)*	Mag nail P/W S'ly Pala	2069922.301	6295423.506	302.367	33-20-38.564	117-07-18.521	0.99994

PALA ROAD
CONTROL DATA SHEET

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	COMBINATION FACTOR
		US Survey Feet			*(North)*	*(West)*	
AT3	PK nail at AT, flush; at ac	2069912.563	6293870.073	296.013	33-20-38.338	117-07-36.831	0.99995
AT4	2x2 & tack, flush	2069077.168	6293845.79	294.597	33-20-30.071	117-07-37.035	0.99995
AT5	Mag nail & tin at AT, flush; at ac	2071901.21	6296956.7	322.92	33-20-58.268	117-07-00.642	0.99994
AT6	60D tin & feather N'ly Pala of AT20	2069429.721	6295627.121	308.086	33-20-33.707	117-07-16.072	0.99994
AT7	1x2 & tack field S'ly AT6	2069076.71	6295957.289	300.165	33-20-30.242	117-07-12.146	0.99994
AT8	Set 2x2 & tack S'ly of Pala on hill	2070280.092	6295882.926	432.726	33-20-42.141	117-07-13.141	0.99994
AT9	Set mag nail at farm entry; asphalt D/W	2070754.462	6296477.671	311.534	33-20-46.884	117-07-06.177	0.99994
HV1	Set nail in center of AT, flush	2074851.784	6297865.27	523.806	33-21-27.534	117-06-50.220	0.99993
HV2	Mag nail at AT	2075595.343	6298330.884	446.958	33-21-34.929	117-06-44.803	0.99994
HV4	60 penny at AT	2073863.508	6298443.953	335.428	33-21-17.804	117-06-43.301	0.99994
HV5	Mag nail at AT, flush; in ac	2074696.173	6298881.327	342.593	33-21-26.078	117-06-38.226	0.99994
HV6	Mag nail at AT, flush; in ac	2075227.467	6299742.83	348.881	33-21-31.405	117-06-28.121	0.99994
N115	Fd chiseled "x" at AT; in conc	2069828.929	6295931.872	306.214	33-20-37.682	117-07-12.519	0.99994
N248	Fd mag nail & washer "Nolte Control" at Pala & Rice Cyn Rd	2069585.306	6292002.661	295.721	33-20-34.945	117-07-58.811	0.99995
N503	Fd mag nail & washer "Nolte Control"; flush	2069930.305	6295579.771	303.686	33-20-38.656	117-07-16.680	0.99994
SD666	Fd MWD benchmark at Rice Canyon & Pala	2069590.51	6291994.195	295.306	33-20-34.995	117-07-58.911	0.99995
SD668	Fd MWD benchmark	2069886.865	6295902.563	306.15	33-20-38.253	117-07-12.871	0.99994
SD669	Fd 3" alum disk in cor of conc on vault pad stamped "Metropolitan Water District of	2071814.32	6297457.67	318.88	33-20-57.450	117-06-54.728	0.99994
SDGPS3	Fd 2" brass disk stamped "SDGPS03 NE 15/76 1980 1991"	2065546.22	6284089.45	308.26	33-19-54.311	117-09-31.672	0.99994

PALA ROAD
CONTROL DATA SHEET

STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION	LATITUDE	LONGITUDE	COMBINATION
		US Survey Feet			*(North)*	*(West)*	**FACTOR**
YUNG	Fd punched steel rod	2101332.21	6288717.95	1155.16	33-25-48.753	117-08-40.740	0.99991

HELD HORIZONTALLY: STATIONS *YUNG, SDGPS3, SD669 & AT5*

HELD VERTICALLY: STATIONS *YUNG, SDGPS3, SD669, AT5 & SD668*

NOTE:
ALL POINTS WERE TRANSLATED TO THE OLD MWD AT5 COORDINATES THAT IS:
FROM *N: 2071901.36, E: 6296956.19, El: 322.92 → N: 2071901.21, E: 6296956.70, El: 322.92*
******ALSO, AERIAL TARGET "AT-5" FOR THIS PROJECT IS NOW "AT20" SINCE POINT NUMBERS WERE REPEATING******

Survey Data - Summary of Control Points

Point No.	Northing	Easting	Elevation	Description
6	2075118.192	6299720.464	0	PROP COR APPROX
106	2075227.467	6299742.83	348.881	CP MAG NAIL / HV6
999	2075223.451	6299655.518	351.468	CALC
1000	2075249.407	6299697.584	351.046	CL ROAD
1001	2075193.232	6299606.541	351.96	CL ROAD
1002	2075156.222	6300109.193	332.594	WATR PMRK
1003	2075155.261	6300118.676	332.842	WATR PMRK
1004	2075154.005	6300129.329	332.959	WATR PMRK
1005	2075152.25	6300143.644	335.747	WATR PMRK
1006	2075119.924	6300152.858	333.698	WATR PMRK
1007	2075119.572	6300152.94	336.993	WATR
1008	2075118.849	6300153.089	337.326	WATR
1009	2075115.878	6300153.766	337.36	WATR
1010	2075113.966	6300152.544	334.544	EDGE CONC
1011	2075110.225	6300153.501	334.587	EDGE CONC
1012	2075111.137	6300156.902	334.616	EDGE CONC
1013	2075114.823	6300156.086	334.604	EDGE CONC
1014	2075112.391	6300154.666	336.708	WELL 12-IN CSNG TOP
1015	2075522.574	6298965.856	421.954	BS
1016	2075118.17	6299720.425	337.906	ANGL PNT
1017	2075077.312	6299616.512	342.554	PMRK
1018	2075075.254	6299608.796	343.166	ICV
1019	2075059.334	6299570.949	343.063	PMRK
1020	2075053.536	6299553.008	344.18	PMRK
1021	2075195.821	6299552.898	355.003	EDGE CONC
1022	2075198.494	6299551.726	354.957	EDGE CONC
1023	2075199.704	6299554.451	354.949	EDGE CONC
1024	2075197.097	6299555.613	354.974	EDGE CONC
1025	2075196.763	6299556.716	354.548	GRD POST
1026	2075201.054	6299554.419	354.979	GRD POST
1027	2075198.53	6299550.177	354.717	GRD POST
1028	2075194.769	6299552.64	354.403	GRD POST
1029	2075197.822	6299553.709	357.373	WELL 6-IN CSNG TOP
1030	2075522.621	6298965.82	421.933	BS
20000	2075595.34	6298330.88	446.96	CP
20001	2075595.353	6298330.848	446.981	BS
705131	2075522.61	6298965.847	421.992	CP
1018131	2075211.025	6300158.695	332.994	CP

1029
TOP WELL
6-IN CASING

GUARD
POSTS

CONC PAD

1001
CL ROAD

CL ROAD

UTILITLY LINE
(MAGNETIC LOCATOR)

CONC PAD

1014
TOP WELL
12-IN CASING

1016
UTILITY LINE
ANGLE PNT
(MAGNETIC LOCATOR)

UTILITLY LINE
(MAGNETIC LOCATOR)

0' 40' 80' 120'
SCALE 1" = 40'

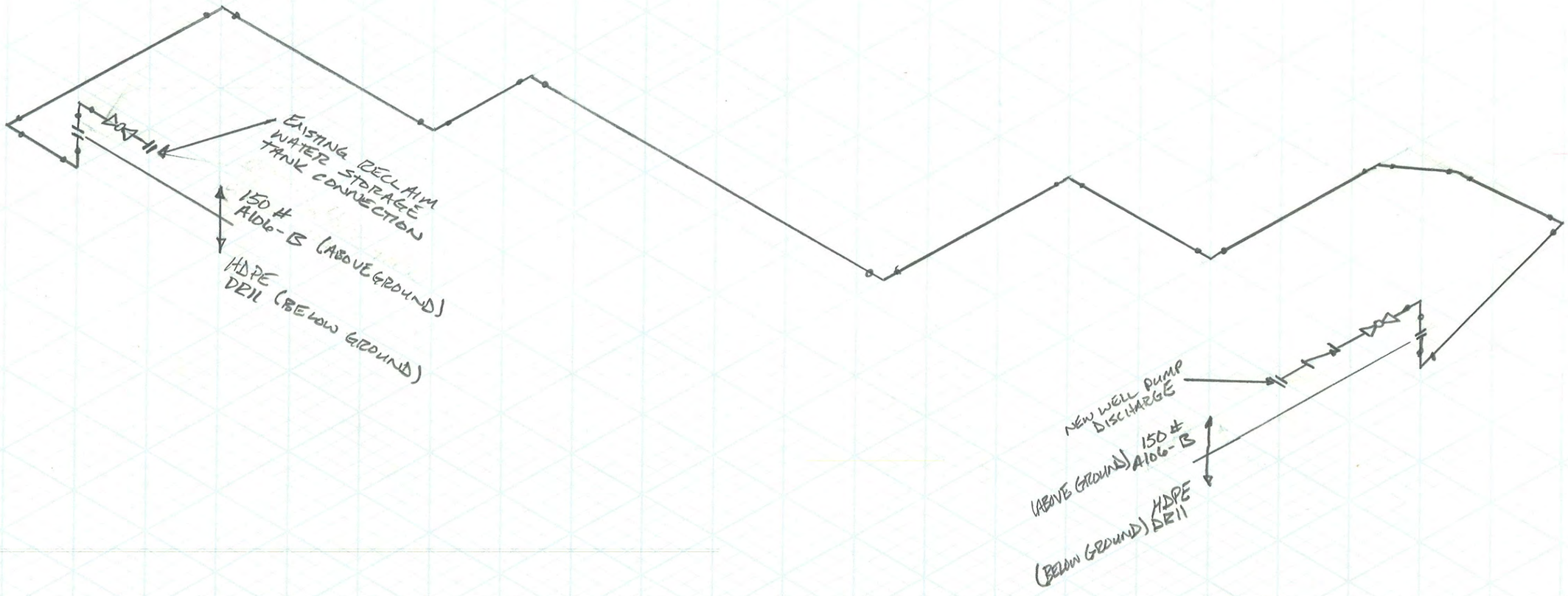
APPENDIX C

Water Pipeline Preliminary Isometric

140015-03

Sega ®
OVERLAND PARK, KANSAS

Customer J-Power Page Of
Job No. 14-0015 Date 1/9/14 Made By JB
PRELIMINARY PIPING ISOMETRIC



APPENDIX D

New Well Pump One Line Diagram


140015-04
EC to demolish existing well pump electrical service equipment and reuse existing 480 V utility service.

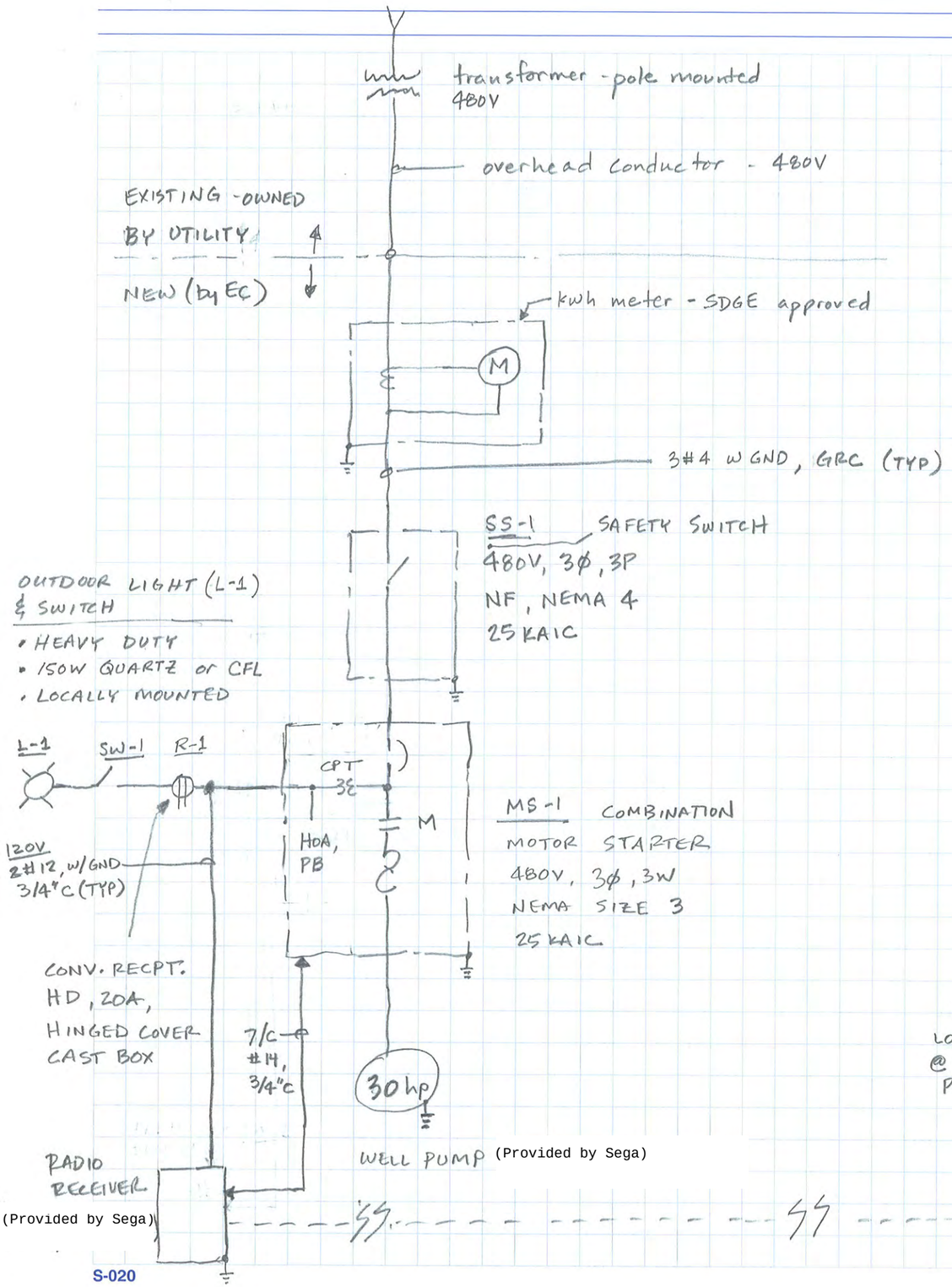
Sega®
www.segainc.com
913-681-2881

140015-05

Customer Orange Grove Page Of

Job No. Date 12/10/13 Made By JKB

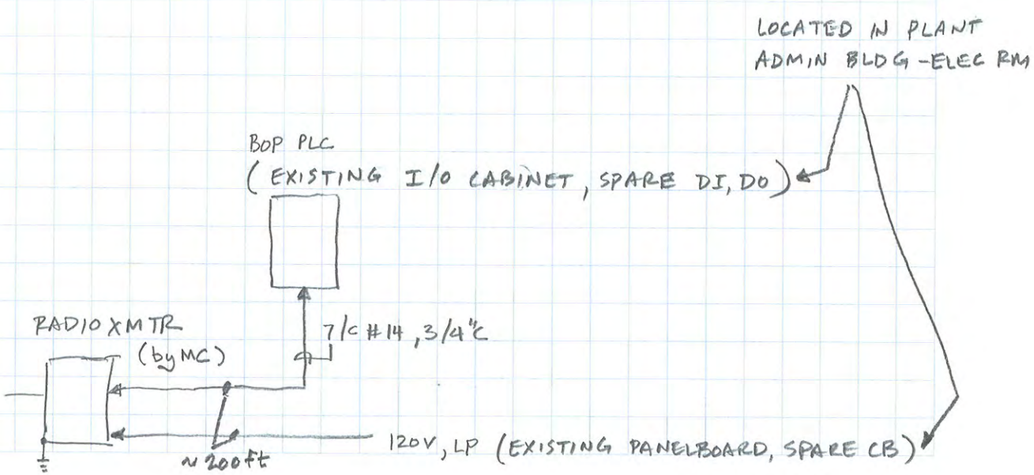
ELECTRICAL ONE-LINE



NOTES

1. Electrical Contractor (EC) to demo existing well pump electrical service equipment and reuse existing 480V utility service.
2. EC to furnish and install all materials shown, unless indicated otherwise. Radio equipment quoted by others, installed by EC.
3. New well pump is located across the street (CA SR-76) from existing plant. Line of site distance from well pump to control building is approx. 1500 feet.
4. Radio xmtr to be mounted ~60ft above grade on existing plant equipment or structure.

LOCAL @ WELL PUMP | ORANGE GROVE PLANT



APPENDIX E

SDG&E Water Pipeline Easement

(A)

7676 HAZARD CENTER DR., 7th FLR.
SAN DIEGO, CALIF. 92108

Recording Requested by
San Diego Gas & Electric Company

When recorded, mail to:

San Diego Gas & Electric Company,
P.O. Box 1831
San Diego, CA 92112
Attn: Office Services, EB 5

11.1454-1

DOC # 1998-0003909

Jan 06, 1998 8:00 AM

609

OFFICIAL RECORDS
SAN DIEGO COUNTY RECORDER'S OFFICE
GREGORY J. SMITH, COUNTY RECORDER
FEES: 48.00
DC: NA
WAYS: 2

1998-003909

SPACE ABOVE FOR RECORDER'S USE

Transfer Tax None
SAN DIEGO GAS & ELECTRIC COMPANY

A.P. NO. POR. 110-072-07,21&23
110-370-05

INDEX AS EASEMENT AND AGREEMENT

EASEMENT AGREEMENT

THIS AGREEMENT is entered into on 1-6-98, by and between H. G. FENTON MATERIAL COMPANY, a corporation (Grantor), and SAN DIEGO GAS & ELECTRIC COMPANY, a corporation (Grantee)

A. Grantor is the owner of certain real property situated in the unincorporated area of San Diego County, California, hereafter referred to as the Servient Tenement and more particularly described in Exhibit "A" which is attached to this Agreement and hereby incorporated by reference.

B. Grantee is the owner of certain real property situated in the unincorporated area of San Diego County, California, hereafter referred to as the Dominant Tenement and more particularly described in Exhibit "B" which is attached to this Agreement and hereby incorporated by reference.

C. Grantee desires to acquire certain rights in the Servient Tenement.

NOW, THEREFORE, for and in consideration of the recitals, covenants and other provisions set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, agree as follows:

1. GRANT OF EASEMENTS

Subject to the terms of this Agreement, Grantor grants to Grantee the easements described as follows:

a. An easement to exclusively pump, export, take, use and remove the water from the existing well and through the existing water pipeline currently located within a strip of land six (6) feet in width generally as depicted on Exhibit "C" hereto.

b. Incidental rights of ingress and egress and for the laying of pipeline and necessary appurtenances in, upon, over, under and across a portion of the Servient Tenement or as said ways of ingress and egress, pipelines and appurtenances may be relocated to the extent necessary to use the easement described in paragraph 1a hereof.

c. An easement in, upon, over, under and across the Servient Tenement of an area 12.00 feet in width, being 6.00 feet on each side of the center line of electric facilities as they exist at the date of execution of this easement, to erect, construct, change the size of, improve, reconstruct, relocate, repair, maintain and use electric facilities. The electric facilities will be installed at such locations and elevations upon, along, over and under the hereinafter described easement as Grantee may now or hereafter deem convenient or necessary. Grantee also has the right of ingress and egress, to, from and along this easement in, upon, over and across the Servient Tenement. Grantee further has the right, but not the duty to clear and keep this easement clear from explosives, buildings, structures and materials.

2. RELOCATION OF WELL AND APPURTENANCES TO WELL

The well and appurtenances may be relocated at any time and from time to time upon the following terms and conditions: whenever Grantee in its reasonable judgment believes that solely as the result of any action or activity on the part of Grantor the output of the well is less than 450 gallons per minute and/or the quality of the water is an inferior quality for agricultural irrigation purposes, or if Grantor at any time and from time to time wishes to effect a relocation. Any well and appurtenance relocation shall be at Grantor's sole cost and expense, must be constructed to maintain the existing connection and location of the line crossing under State Highway 76, and relocation shall occur only if at the relocated site, the well is capable of pumping water at a rate not less than 450 gallons per minute and of a quality not less than that necessary to provide satisfactory irrigation for agricultural purposes on the Dominant Tenement. If the relocation is initiated by Grantor, Grantor shall provide not less than forty-five (45) days advance written notice to Grantee of Grantor's intent to relocate the well, together with documentation satisfactory in Grantee's reasonable judgment that the quantity and quality requirements for water to be pumped from the relocated well will be met. Prior to the beginning of any construction to relocate the well, Grantor shall grant to Grantee a new easement for the well site and any additional water lines and/or electric facilities needed to operate said well. Notwithstanding anything in this paragraph to the contrary, Grantor shall not require relocation of the well at any time during a cultivation cycle where daily irrigation cannot be interrupted, including by way of example a time of extreme heat.

3. RESTRICTIONS ON GRANTOR'S ACTIVITIES

Grantor shall not erect, place or construct, nor permit to be erected, placed or constructed, any building or other structure, plant any tree, drill or dig any well, within this easement without prior written consent of Grantee, which consent shall not unreasonably be withheld.

Grantor shall not increase or decrease the ground surface elevations without prior written consent of Grantee, which consent shall not unreasonably be withheld.

Grantee shall have the right but not the duty, to trim or remove trees and brush along or adjacent to this easement and remove roots from within this easement whenever Grantee deems it necessary. Said right shall not relieve Grantor of the duty as owner to trim or remove trees and brush to prevent danger or hazard to property or persons.

4. ATTORNEYS' FEES

If any legal action or proceeding arising out of or relating to this Agreement is brought by either party to this Agreement, the prevailing party shall be entitled to receive from the other party in addition to any other relief that may be granted, its reasonable attorneys' fees, cost and expenses incurred in the action or proceeding.

5. ENTIRE AGREEMENT

This Easement Agreement implements provisions of that certain Agreement of Purchase and Sale dated October 1, 1997 entered into between the parties. This Easement Agreement and the Agreement of Purchase and Sale together constitute the entire agreement between Grantor and Grantee relating to the easements granted herein. Any prior agreements, promises, negotiations, or representations not expressly set forth in either this Easement Agreement or the Agreement of Purchase and sale are of no force and effect. No amendment to this Easement Agreement shall be of any force or effect unless it is in writing, signed by both Grantor and Grantee, and duly recorded.

6. BINDING EFFECT

This Easement Agreement shall be binding on and inure to the benefit of the heirs, executors, administrators, licensees, successors and assigns of Grantor and Grantee.

EXECUTED ON 12/3./97.

GRANTOR:
H.G. FENTON MATERIAL COMPANY

By: _____
Henry F. Hunte
President and Chief Executive Officer

By: _____
Michael P. Neal
Vice President
R.E. Portfolio Management & Development

GRANTEE:
SAN DIEGO GAS & ELECTRIC COMPANY
A California Corporation

By: _____

Its: Acting Division Manager
Administrative Services

Drawn By: Love
Project No. Pala Sale

State of California

County of San Diego

On December 18, 1997 before me, Kathleen M. Babcock, Notary Public, personally appeared Kathryn N. Frost, personally known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Kathleen M. Babcock

Signature

CSC1 KATHLEEN M. BABCOCK COMM. #1148106 NOTARY PUBLIC-CALIFORNIA SAN DIEGO COUNTY My Commission Expires AUGUST 18, 2001 CSC1

EXHIBIT "A"

614

PARCEL 1:

THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 9 SOUTH, RANGE 2 WEST, SAN BERNARDINO MERIDIAN AND THAT PORTION OF THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 29, TOWNSHIP 9 SOUTH, RANGE 2 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF.

EXCEPTING THEREFROM THAT PORTION LYING NORTHWESTERLY OF THE CENTER LINE OF PALA ROAD (CALIFORNIA STATE HIGHWAY ROUTE NO. 18, DIVISION NO. 2), AS SAID ROAD EXISTS ON THE DATE OF EXECUTION OF THIS DEED; THE APPROXIMATE LOCATION OF SAID PALA ROAD IS SHOWN AND DELINEATED ON STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION DISTRICT 11 RIGHT OF WAY MAP NO. S-339,S340 SIGNED BY A.E. HETHCOCK, DISTRICT RIGHT OF WAY ENGINEER, DISTRICT 11, RCE 13042 ON FILE IN THE OFFICE OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, DISTRICT 11.

PARCEL 2:

THAT PORTION OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32, TOWNSHIP 9 SOUTH, RANGE 2 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO OFFICIAL PLAT THEREOF, LYING SOUTHEASTERLY OF THE CENTER LINE OF PALA ROAD (CALIFORNIA STATE HIGHWAY ROUTE NO. 18, DIVISION NO. 2), AS SAID ROAD EXISTS ON THE DATE OF EXECUTION OF THIS DEED; THE APPROXIMATE LOCATION OF SAID PALA ROAD IS SHOWN AND DELINEATED ON STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION DISTRICT 11 RIGHT OF WAY MAP NO. S-339,S340 SIGNED BY A. E. HETHCOCK, DISTRICT RIGHT OF WAY ENGINEER, DISTRICT 11, RCE 13042 ON FILE IN THE OFFICE OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, DISTRICT 11 AND LYING NORTH AND WEST OF A LINE DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF SAID NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32; THENCE NORTH 45° EAST, 20.24 CHAINS TO A POINT THAT IS 6.66 CHAINS WEST AND 6.66 CHAINS SOUTH OF THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 32; THENCE NORTHEAST IN A STRAIGHT LINE TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 32.

EXCEPTING THEREFROM THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHWEST CORNER OF SAID NORTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE NORTH 49° 23' 11" EAST-RECORD NORTH 45° EAST- ALONG A LINE WHICH INTERSECTS A POINT THAT IS 6.66 CHAINS WEST AND 6.66 CHAINS SOUTH OF THE NORTHEAST CORNER OF SAID NORTHWEST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 394.65 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTH 49° 23' 11" EAST ALONG SAID LINE, A DISTANCE OF 983.39 FEET TO SAID POINT WHICH IS 6.66 CHAINS WEST AND 6.66 CHAINS SOUTH OF SAID NORTHEAST CORNER OF SAID NORTHWEST QUARTER OF THE NORTHEAST QUARTER; THENCE EAST, 52.69 FEET; THENCE NORTH 40° 36' 49" WEST, 291.51 FEET TO A POINT IN A 1000 FOOT RADIUS CURVE CONCAVE SOUTHEASTERLY; THE RADIAL LINE THROUGH SAID POINT BEARS NORTH 35° 12' 24" WEST; THENCE SOUTHWESTERLY ALONG SAID CURVE THROUGH AN ANGLE OF 8° 23', A DISTANCE OF 146.32 FEET; THENCE TANGENT TO SAID CURVE SOUTH 46° 24' 36" WEST, 420.97 FEET TO THE BEGINNING OF A TANGENT 500 FOOT RADIUS CURVE CONCAVE SOUTHEASTERLY; THENCE SOUTHWESTERLY ALONG SAID CURVE THROUGH AN ANGLE OF 34° 17' 45", A DISTANCE OF 299.29 FEET; THENCE TANGENT TO SAID CURVE SOUTH 12° 06' 51" WEST, 226.22 FEET TO THE TRUE POINT OF BEGINNING.

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EXCEPTING THEREFROM THAT PORTION LYING NORTHWESTERLY OF THE CENTER LINE OF PALA ROAD (CALIFORNIA STATE HIGHWAY ROUTE NO. 18,

EXHIBIT "B"

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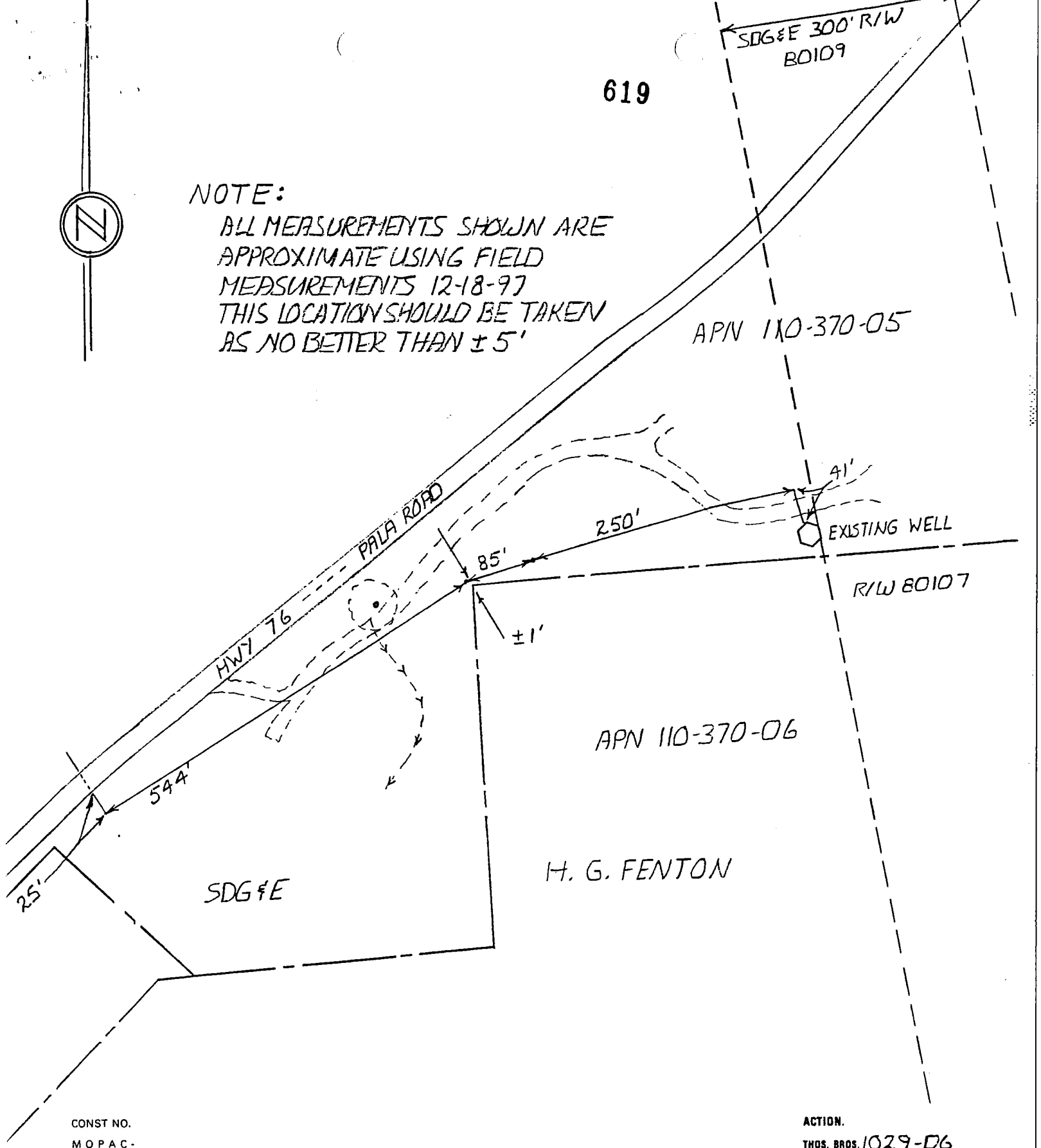
THE BEARINGS USED IN THE ABOVE DESCRIPTION ARE ON THE CALIFORNIA STATE COORDINATE SYSTEM, ZONE 6. ALL DISTANCES ARE GROUND LEVEL DISTANCES.

619



CONST NO.

MOPAC-

ACTION.

THOS. BROS. 1029-D6

SAN DIEGO GAS & ELECTRIC SAN DIEGO, CALIFORNIA	DRAWN BY: RAP	OK TO INSTALL:	DRAWING NO.:
	DATE: 12-19-97	R/W OK:	
APPROXIMATE LOCATION OF EXISTING 6" PVC & STEEL WATERLINE FROM WELL TO HIGHWAY CROSSING	SCALE: NONE		COORDINATES
		APP'D BY	

EXHIBIT "C"

CALIFORNIA ALL-PURPOSE KNOWLEDGMENT

State of California

620

County of San Diego

On December 31, 1997 (Date) before me, Mary Day Dewart, Notary Public (Name and Title of Officer (e.g., "Jane Doe, Notary Public"))

personally appeared Henry F. Hunte and Michael P. Neal (Name(s) of Signer(s))

☑ personally known to me – OR – ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

CSC1 MARY DAY DEWART COMM. #1070597 NOTARY PUBLIC-CALIFORNIA SAN DIEGO COUNTY My Commission Expires SEPTEMBER 4, 1999 CSC1

WITNESS my hand and official seal.

Mary Day Dewart
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____

☐ Individual
☐ Corporate Officer
Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney-in-Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer Is Representing:

_____

_____

Signer's Name: _____

☐ Individual
☐ Corporate Officer
Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney-in-Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

Signer Is Representing:

_____

_____

Prod. No. 5907 Reorder: Call Toll-Free 1-800-876-6827

APPENDIX F

Orange Grove Power Plant Water Use 2011-2013

Orange Grove Energy, L.P. Annual Water Usage

Units	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Annual 2011
325851													
Acre Feet	0.934	0.330	0.380	0.568	0.686	0.384	0.736	0.237	0.711	0.348	0.309	0.374	**5.997**
Gallons	304,345	107,531	123,823	185,083	223,534	125,257	239,987	77,136	231,680	113,331	100,688	121,868	1,954,264
Average gpd	9818	3840	3994	6169	7211	4175	7742	2488	7723	3656	3356	3931	5354
Monthly Average gpd range		**2,488 - 9,818**											
Annual Average gpd		**5354**											

Units	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Annual 2012
325851													
Acre Feet	1.169	0.819	0.896	1.421	1.777	3.060	4.499	6.276	6.997	5.585	3.769	1.642	**37.910**
Gallons	381,000	267,000	292,000	463,000	579,000	997,000	1,466,000	2,045,000	2,280,000	1,820,000	1,228,000	535,000	12,353,000
Average gpd	12290	9207	9419	15433	18677	33233	47290	65968	76000	58710	40933	17258	33751
Monthly Average gpd range		**9,207 - 76,000**											
Annual Average gpd		**33751**											

Units	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Annual 2013
325851													
Acre Feet	0.721	1.062	1.559	2.406	2.185	1.544	1.866	1.424	2.925	1.525	0.884	1.206	**19.306**
Gallons	235,000	346,000	508,000	784,000	712,000	503,000	608,000	464,000	953,000	497,000	288,000	393,000	6,291,000
Average gpd	7581	12357	16387	26133	22968	16767	19613	14968	31767	16032	9600	12677	17236
Monthly Average gpd range		**7581-31767**											
Annual Average gpd		**17236**											

Yearly Range **5.997 - 37.910 acre feet**
Yearly Average **21.071 acre feet**

APPENDIX G

Vallecitos Water District Letter of Intent

April 17, 2014

Vallecitos Water District
201 Vallecitos de Oro
San Marcos, CA 92069-1456
Attention: Dennis Lamb

Re: Orange Grove Recycled Water Offset Agreement

Dear Mr. Dennis Lamb:

Thank you for responding to our request and providing the Orange Grove Recycled Water Offset Proposal. This non-binding letter of intent (the "Letter of Intent") will confirm that **Orange Grove Energy, L.P.** directly or through an affiliate ("OGE") has interest in entering into an Orange Grove Recycled Water Offset Agreement ("Water Offset Agreement") for providing financial assistance to **Vallecitos Water District** (the "District") related to the District's Sewer Lift Station No. 1 improvement project (the "Project").

The proposed terms and conditions are as follows:

1. **Financial Assistance:** An amount between **seventy five thousand US$ (75,000 US$) and one hundred fifty thousand US$ (150,000 US$)** paid in cash by OGE at the signing of the Water Offset Agreement (the "Financial Assistance"), such amount to be mutually agreed by OGE and the District based on the amount of the water offset (the "Water Offset") stipulated in the Certification Amendment.

2. **Project Description:** District's Sewer Lift Station No. 1 ("LS1") currently pumps raw sewage from the sanitary sewer system to the Meadowlark Reclamation Facility ("MRF"). Raw sewage is treated at MRF to produce recycled water primarily utilized in landscape irrigation. The Project contemplates installation of a new 150 HP, 2000 gpm sewer pump that will increase the capacity of LS1 by approximately 0.5 MGD. The Project will result in an increase in the annual recycled water production by 150 acre feet per year by approximately the fall of 2014.

3. **Water Offset Agreement:** Upon the execution of this Letter of Intent and following OGE's receipt of California Energy Commission ("CEC") approval to the proposed amendment to OGE's Application for Certification (CEC Docket Number: 08-AFC-04) (the "Certification Amendment"), OGE and the District shall proceed diligently toward execution of a Water Offset Agreement related to the Project.

[the remainder of this page intentionally left blank]

4. **Representations and Warranties.** The Water Offset Agreement, which shall supersede the terms of this Letter of Intent, shall contain customary representations and warranties of OGE and the District, including but not limited to an acknowledgement by the District that without the Financial Assistance, the Project would be highly unlikely to proceed at the currently proposed time frame and the District would need to utilize additional funding sources not currently contemplated which would further delay the completion of the Project.

5. **Covenants.** The Water Offset Agreement, which shall supersede the terms of this Letter of Intent, shall contain certain obligations of the District, including but not limited to: (i) the District's obligation to accept and utilize the Financial Assistance solely for the purpose of pursuing the Project; and (ii) the District's commitment to use the Project to produce the Water Offset for a minimum period of twenty one (21) years.

6. **Exclusivity:** In exchange for OGE's commitment to provide the Financial Assistance (which commitment is subject to OGE being able to obtain the Certification Amendment), to the extent any other financial assistance to the Project from any third party eliminates, reduces or otherwise affects the need for the Financial Assistance, the District hereby agrees (a) to discontinue any current negotiations with respect to such other financial assistance, (b) not to enter into any new negotiations for such other financial assistance, and (c) not to solicit offers for such other financial assistance from the date this Letter of Intent is countersigned by the parties hereto. This paragraph constitutes the binding obligation of the District until this Letter of Intent expires (see paragraph 8) or the Water Offset Agreement has been executed and delivered by both parties.

7. **Confidentiality:** The District shall not make any public announcement with respect to the proposed transaction without prior consent of the other party. Notwithstanding the foregoing sentence, this Letter of Intent shall be subject to the District's legal obligations in response to any valid request under lawful subpoena, request for records under the applicable statutes (FOIA/CPRA), or other similar provisions of law.

8. **Notices.** Any notice required or permitted to be given under this Letter of Intent shall be deemed to be delivered (a) when received or delivery is refused by the addressee if delivered by courier service or overnight service, or (b) if sent by facsimile, when transmission is received by the addressee with electronic or telephonic confirmation, in each such case addressed or sent by facsimile to the addresses or facsimile numbers set forth herein below as follows:

[the remainder of this page intentionally left blank]

if to the District:

Vallecitos Water District
201 Vallecitos de Oro
San Marcos, CA 92069-1456
Attention: James Gumpel
Fax: (760) 744 - 3507

if to OGE:

Orange Grove Energy, L.P.
1900 E. Golf Rd. Suite 1030
Schaumburg, IL 60173
Attention: Christopher Bluse
Fax: (847) 908-2888

With a copy to:

Baker & McKenzie LLP
300 East Randolph Street, Suite 5000
Chicago, Illinois 60601
Attention: James P. O'Brien
Fax: (312) 698-2324

The purpose of this Letter of Intent is to set forth the present mutual intent of OGE and the District to negotiate and attempt in good faith to enter into a Water Offset Agreement. Except for this section and paragraph 6 (Exclusivity) of this Letter of Intent, neither OGE nor the District shall be legally bound by the terms of this Letter of Intent unless and until a Water Offset Agreement containing terms, conditions, and provisions satisfactory to both OGE and the District has been executed and delivered by both parties. OGE shall have no legal obligation whatsoever with respect to providing the Financial Assistance or entering into a Water Offset Agreement unless (a) OGE is able to secure the Certification Amendment and OGE obtains any necessary approvals to enter into a Water Offset Agreement. Notwithstanding the foregoing, the parties acknowledge and agree that the provisions of this paragraph and paragraph 6 (Exclusivity) will be binding and enforceable against the parties. The terms of a fully executed and delivered Water Offset Agreement shall fully supersede the terms of this Letter of Intent. Notwithstanding that either or both parties may expend substantial efforts and sums in anticipation of entering into a Water Offset Agreement, the parties acknowledge that in no event will this Letter of Intent be construed as an enforceable contract to enter into any other transaction and that each party accepts the risk that no such contract will be executed.

[the remainder of this page intentionally left blank]

If the terms and conditions set forth above are satisfactory, please execute and date this Letter of Intent in the space provided below and return it to us. In the event that not later than thirty (30) business days following the date of the District's acceptance of this Letter of Intent, a definitive Water Offset Agreement is not fully executed and delivered between the parties, this Letter of Intent shall terminate without further action of the parties. This Letter of Intent may be executed in counterparts and by facsimile or portable document format and all such counterparts together shall constitute one and the same agreement.

If you have any questions, please do not hesitate to call. We look forward to working with you on this transaction.

Sincerely,

ORANGE GROVE ENERGY, L.P.

By: _____ (Paul Peterson)

Title: VP, Asset Management

Date: 4/17/2014

Agreed and Accepted:

VALLECITOS WATER DISTRICT

By: _____

Title: GENERAL MANAGER

Date: 4/18/14

APPENDIX H

Water Use and Drawdown

Appendix H.1 Pala Basin Water Use Evaluation (Gregory Canyon Landfill Final EIR Appendix J)

Appendix H.2 Drawdown Impact Analysis

APPENDIX H.1

Pala Basin Water Use Evaluation
(Gregory Canyon Landfill Final EIR Appendix J)

Geo-Logic
ASSOCIATES
Geologists, Hydrogeologists and Engineers

MEMORANDUM

TO: William Hutton, Esq.

FROM: Sarah Battelle, Geo-Logic Associates
William Lopez, Geo-Logic Associates

DATE: October 9, 2009

RE: **EVALUATION OF CURRENT UTILIZATION OF GROUNDWATER RESOURCES IN THE PALA GROUNDWATER BASIN SAN DIEGO COUNTY, CALIFORNIA**

The purpose of this memorandum is to present an evaluation of the current utilization of groundwater resources from the Pala Groundwater Basin.

As shown in Exhibit 4.15-4, included in RFEIR (2007), the Pala Basin extends over eight miles along the San Luis Rey River and covers about 4500 acres. The San Luis Rey Municipal Water District (SLRMWD) was formed to protect the groundwater quality, quantity and water rights of landowners within the San Luis Rey River Basin, of which the SLRMWD manages approximately 1750 acres within the western portions of the Pala Basin. The Pala Basin also includes significant portions of the Pala Indian Reservation immediately east of the SLRMWD boundary.

Land use within the SLRMWD is primarily low density agriculture/farmland, although, the SLRMWD anticipates future development within the Basin providing water and wastewater services to support a combination of residential, recreational, educational, and commercial projects over the next 21 years. The Pala Indian Reservation land uses include residential, casino/hotel, an off road motocross raceway, and aggregate plants.

For this evaluation GLA performed an assessment of changes in land use in the Pala Basin, identified permitted wells drilled within the Basin over the past 15 years, and reviewed available literature for the Basin including the following:

1. Moreland, J.A., 1974, Hydrologic and salt-balance investigations utilizing digital models, Lower San Luis Rey River area, San Diego County, California, USGS Water Resources Investigation Bulletin 24-74.
2. Don Owens & Associates, 1995, Groundwater Management Planning Phase II: Analysis of Hydrology and Determination of Available Water Supply.
3. NBS Lowry, 1995, Groundwater Feasibility Study, prepared for the San Diego County Water Authority.
4. San Diego County Water Authority (SDCWA), 1997, Groundwater Report, June.
5. San Luis Rey Municipal Water District, 2006, Notice of Preparation of a Draft Program Environmental Impact Report for the San Luis Rey Municipal Water District Water and Wastewater Master Plan, February 2.

6. San Diego Local Agency Formation Commission (LAFCO), 2006, Draft Municipal Service Review and Sphere of Influence Update for the Municipal Water Districts within the Bonsall and Pala Hydrologic Subarea, October.
7. PCR, 2002, Final Environmental Impact Report for the Gregory Canyon Landfill.
8. Tierra Environmental Services, 2002, Draft Environmental Assessment for the Pala Gaming Facility.

Moreland (1974) completed an investigation of the San Luis Rey watershed, including the Pala Basin, to assist in developing a comprehensive water quality management plan. In his study, Moreland found a lack of data to develop a hydrologic model for the basin. He noted that most of the wells are not metered, underflow into and out of the basin is not known, gauged data on tributary flow is sparse, precipitation entering the groundwater basin is not directly measurable, and quantities of irrigation return have never been estimated. Nevertheless, Moreland used a digital model, and available data (driller's logs, specific capacity tests, and water level measurements) to arrive at a near-steady state of 2,500 AFY for the Pala Basin. He noted that this near steady state condition probably does not represent true steady-state values but rather the conditions required to maintain the initial head conditions in equilibrium. Thus, it may be concluded that the 2,500 AFY value provided for the Pala Basin is a relatively conservative (low) value.

Owen (1995) performed a safe yield study for the SLRMWD portion of the Pala Basin, and reported that the effective maximum groundwater storage capacity of the Basin is approximately 18,000 acre-feet. He reported that production (pumping rate) within the Basin had remained relatively stable at approximately 2,400 acre-feet per year (AFY). Mr. Owen concluded that the long-term dependable yield in the SLRMWD portion of the basin could be increased to 3,350 acre feet per year with reasonable management practices.

GLA also spoke to Mr. Jack Hoagland (pers.comm, February 19, 2009), of John E. Hoagland & Associates, a consultant for the SLRMWD, who indicated that the SLRMWD contracted with a company to look at the safe yield within the district and the study concluded that Moreland, Owens and others were all in the same "ballpark" of 2000 to 3000 AFY safe yield for the SLRMWD.

Changes in Water Use - GLA reviewed the land use within the Basin since 1995 and found no notable increases in residential, agricultural or livestock water uses that would create an increased demand for groundwater within the Basin. In fact, water demand within the Basin has likely decreased as a result of the Hansen aggregate plant closure, just north of the GCLF landfill site, and discontinuation of agricultural/livestock operations and vacating of associated residential properties located on the GCLF property.

Based on the 2002 Environmental Impact Report (EIR), historical water use on the GCLF property was estimated to be 465 AFY, of which, the Verboom dairy and residences used approximately 78 to 187 AFY; the Lucio dairy and residences used approximately 150 AFY; Embesi orchard and residence used approximately 50 AFY; and the Guthrie agriculture and residence used approximately 128 AFY.

Water demand at the Hansen aggregate plant is unknown. It is assumed that the groundwater that the Hansen plant used was discharged back into the Pala Basin, but some water loss (approximately 20 to 25%) would be expected primarily from evaporation from the processing ponds.

Although the Vulcan Mining plant property is north of the alluvial limits of the Pala Basin, before it closed it was also likely a significant user of groundwater from on-site wells that might have had a connection to the underflow of Pala Basin. Located about 1.5 miles east of the Pala casino, the property has been modified and converted to be operated as a 240-acre motocross raceway under a long-term lease between MX Motocross Raceway and the Pala Tribe identified as the Pala Raceway. There were no water supply estimates available for the now-defunct Vulcan Mining plant, however, based on a meeting held by the San Luis Rey Watershed Council on May 22, 2008, a Pala Raceway representative indicated that the water use for the raceway would be 10 times less than that used by Vulcan Mining. Eventually, the facility will use tertiary treated (recycled) water from the Pala Tribe wastewater treatment plant, which we understand is currently being constructed.

The most significant increase in water use within the Basin is from construction of the Pala casino and 507-room hotel on the Indian reservation, to the east of the GCLF project site. Review of the Environmental Assessment (EA) for the Pala casino's initial construction estimated that water use would be 80,000 gallons per day (gpd) with a peak quantity of 100,000 gpd (or 90 to 112 AFY). However, the Pala casino project EA (excluding the hotel) stated it would provide water from a reservoir with a nominal capacity of 750,000 gpd to support facility operation (20,000 gpd [25 percent of average daily demand]), fire sprinklers (102,000 gpd) and emergency storage (622,000 gpd). The EA for development of the 507-room hotel at the Pala casino was not available for use in assessing additional water requirements. Based on available literature (City of Los Angeles Master Plan of Sewers), 130 gpd per room is typically estimated for two-person hotel occupancy, or a peak daily water use of approximately 65,910 gpd for full occupancy of the 507-room hotel. Recognizing that the fire sprinkler and emergency supply represent fixed storage rather than daily use, the peak casino and hotel water use is estimated to be 165,910 gpd (100,000 gpd peak daily use for the casino and 65,910 gpd peak daily use for the hotel), or about 186 AFY[1]. With the exception of a net water loss of about 20 to 25 percent (or about 37 to 47 AFY[2]) associated with evaporation and irrigated plant transpiration, the water that is used at the Pala casino and hotel, and is pumped to a wastewater treatment plant, is assumed to be discharged back to the underflow of the Pala Basin. Therefore, the estimated water use by the Pala casino and hotel is expected to be 37 to 47 AFY

GLA contacted the San Diego County Department of Planning and Land Use to identify new domestic/agricultural wells that may have been drilled within the Basin since 1995 as another indicator of changes in groundwater usage within the Basin. This review indicated that well permit applications were obtained for three parcels within the Basin. One of the wells was permitted for the Pala Rey Ranch, located immediately south of the GCLF property, while the other two parcels are located within the Hansen aggregate plant property. Since these properties have already been developed (and the Hansen property has now ceased operation), it is believed

[1] 165,910 multiplied by 365 days is approximately 60.6 million gallons per year; divided by 325,850 gallons per acre-foot per year, it equals 186 AFY.
[2] 186 AFY multiplied by 0.20 (20%), and 0.25 (25%) equals 37.2 AFY and 46.5 AFY, respectively.

that the groundwater wells constructed since 1995 were most likely used to supplement or replace existing wells and would not result in an increased demand for water within the Basin.

Changes in Water Levels - Some moderate increase in groundwater use is expected associated with recent drought conditions within the region, and GLA reviewed the historical water levels in alluvial wells located on the GCLF property for evidence of a decreasing water table within the Basin. Based on water level data obtained over the past four years, alluvial water within the Basin has remained relatively static reflecting only minor seasonal changes. Hydrographs for wells in the Pala Basin were also retrieved from the California Department of Water Resources, but the data is limited to pre-1985 measurements. Mr. Jack Hoagland indicated that water level data show no significant change at the Monserate narrows to the west of the GCLF property, near the Pala Rey Ranch.

Gregory Canyon Landfill Project Percolating Water Use – For the Gregory Canyon Landfill project, it is proposed that a portion of the water (about 66.4 AFY) be supplied by pumping from a series of fractured crystalline bedrock wells located at the toe of Gregory Canyon and in three smaller canyons within the project boundaries, outside of the Pala Basin and defined as percolating groundwater. Safe yield calculations have been performed at each location and calculation of the total recoverable groundwater stored in the fractured crystalline bedrock indicates that pumping of the calculated safe yield represents less than 5% of the total volume of recoverable water stored within the fractured crystalline bedrock system, and even so, any flows from the fractured crystalline bedrock into the Pala Basin are an insignificant volume compared with the available alluvial water within the Pala Basin.

Protocols established for these wells will include the use of totalizer meters for each area to monitor the volume of water that is being extracted from the bedrock so that the annual volume does not exceed the calculated safe yield at each canyon. In addition, based on the results of long term pumping test data, water level controls will be placed in each well so that even in severe drought conditions, groundwater pumping does not occur below the sustainable depth of the effective aquifer and result in over-drafting of the bedrock system. As a result, the proposed pumping of percolating groundwater would have a much less than significant impact on the water resources in the Pala Basin.

Conclusion - Based on our assessment, changes in known groundwater usage have likely resulted in a net reduction in water demand. In addition, there appears to be no evidence of a significant increase in the agricultural, industrial or commercial demand for water resources in the portion of the Pala Basin that is managed by the SLRMWD. This conclusion is consistent with the Gregory Canyon EIR (PCR, 2002), which noted a reduction in water demand within the Pala Basin following discontinuation of the dairy and associated residential water demand on the GCLF property. No significant change in groundwater levels are noted within the alluvium on the GCLF property, or at the Monserate narrows, suggesting that groundwater storage in the basin has remained relatively constant in the Pala Basin even under recent drought conditions within the region. The safe yield calculation developed by Owen (1995) of about 2400 AFY for the SLRMWD portion of the Pala Basin, included in the EIR for the Gregory Canyon Landfill, appears to be relatively consistent with safe yield calculations developed by others for the Pala Basin which were more conservatively estimated without hard data (water metering, flow gauging, precipitation data).

APPENDIX H.2

Drawdown Impact Analysis

APPENDIX H.2

DRAWDOWN IMPACT ANALYSIS

Orange Grove Energy, L.P. is proposing to use water from an existing San Diego Gas and Electric (SDG&E) Company water supply well to alleviate complaints that have been raised regarding water trucks currently being used to supply water to the Orange Grove Power Plant (OGPP). Evaluations described in this appendix were conducted to determine if proposed water use from the well could adversely affect other wells in the aquifer, or water levels in nearby lakes located downstream from the SDG&E well. The lakes are perennial and occupy former aggregate mine pits where ground water was intersected by mining. Figure 1 shows the mine pit lakes and locations of nearby wells completed in the same aquifer as the SDG&E well. Attachment 1 provides a Well Completion Report for the SDG&E well. The SDG&E well is constructed with a 12-inch diameter casing screened to a depth of 75 feet below the ground surface in alluvial materials of the Pala basin.

At the mine pits, alluvium of the Pala basin was excavated and sold commercially for construction material until the mining ceased in 2005. The water levels in the mine pit lakes are representative of the water table level in the adjacent alluvium, and the water in the lakes is in direct hydraulic connection with the ground water in the alluvium. The Pala basin is approximately eight miles long with alluvial deposits 0.5 mile wide on average. The alluvial thickness ranges from zero where rock outcrops on the edges of the valley to at least 244 feet thick and averages 150 feet thick near the axis of the basin. The alluvium in the Pala basin is comprises a very permeable unconfined aquifer composed of dominantly medium to coarse grained sand and gravel. The water table is relatively shallow and depth to ground water is typically 25 feet or less. The average hydraulic conductivity is 80 feet per day and average storativity is 12 percent. The gross groundwater storage of the Pala Basin is 50,000 acre-feet and the safe basin yield has been conservatively estimated at 2,500 AFY (NBS Lowry, 1995).

The OGPP is a "peaking" power plant designed to supply electric power to the grid at times of peak demand. It is designed to recycle water to the maximum extent practical to minimize water consumption. To date, the OGPP has operated using an average of 21 acre-feet per year (AFY), which equates to a long-term average rate of 13 gallons per minute (gpm). The analysis in this appendix is based on the following more conservative pumping scenarios to estimate the maximum amount of drawdown that could occur if the plant were ever to run at maximum permitted operations:

- Scenario 1- Pumping the well at the design peak plant water usage rate of 101 gpm for 9 hours. Nine hours is the daily average of the maximum 3,200 hours per year that OGPP is permitted to operate.
- Scenario 2 – Pumping the well at 62.5 gpm continuously (24 hours per day 365 days per year) to yield OGPP's maximum permitted water use rate of 100.7 AFY.

These water use rates, other parameters used for evaluating potential drawdown, and results of drawdown calculations, are provided in Tables 1 through 4.

Effect of Pumping On Aggregate Mine Pit Lakes

The SDG&E well is located approximately 80 feet from the closest edge of the approximately 70-acre mine pit lake system. The expected ground water drawdown at the distance of the nearest lake shore was estimated using the Theis (1935) solution for unsteady flow to a pumping well in a confined aquifer. Although the Pala Basin comprises a water-table aquifer, the confined solution provides a good (and conservative) approximation where drawdowns are expected to be small compared with the saturated thickness (Todd, 1980). The Theis solution applies to a single point within the radius of influence of a pumping well, under the assumption of an infinite aquifer. Applying the solution near a large surface water body provides an extremely conservative solution.

The Theis solution is:

$$h_0 - h = \frac{Q}{4\pi T}\int_u^{\infty} \frac{e^{-u}}{u}\, du$$

where u is given by:

$$u = \frac{r^2 S}{4Tt}$$

and

$h_0 - h$ = difference between initial and final head (i.e., drawdown)
Q = constant pumping rate
T = aquifer transmissivity
r = distance from pumping well
S = aquifer storativity
t = time

The integral in the Theis solution above is known as the well function *W(u)*. Although it can be represented as an infinite series and easily calculated, it has been tabulated (Wenzel, 1942) and is readily available in books and online.

Table 4 shows the results of the Theis solution calculation for pumping Scenarios 1 and 2. The drawdown shown in Table 4 for the 80 foot distance represents the theoretical drawdown that would be expected in groundwater just outside the closest shoreline of the lakes if the lakes were not present. The drawdown at the 80 foot distance for pumping Scenarios 1 and 2 is calculated as 0.61 feet and 2.00 feet, respectively. However, because this closest point at the lake shoreline would be recharged by water from the lakes, the point location drawdown represented by the Theis solution would be effectively "distributed" over the entire lake area, rendering the drop in water level in the lakes negligible. This is consistent with the practice of ground water modeling where a surface water body is generally treated as a constant-head boundary, with a no-drawdown assumption at the outset.

Effect of Pumping on Closest Well

Each of the identified nearby wells (Figure 1) are located in the same alluvial aquifer as the SDG&E well. To determine the maximum drawdown effect on other wells, the closest well was evaluated since the drawdown in wells that are further away will be less. The closest well is the Zalinda Farms well located approximately 1,200 feet up-gradient from the SDG&E well. The Zalinda Farms alluvial well is 70 feet deep. A pumping test on the well indicated the well is capable of a yield of greater than 500 gpm.

Table 4 shows the Theis calculation of drawdown for the 1,200 foot distance to the Zalinda Farms well ignoring the constant-head boundary of the mine pit lakes. For pumping Scenario 1, the drawdown at the Zalinda Farms well would not be noticeable and for Scenario 2 it would be less than one foot. Because this amount is small compared with the approximately 50 foot thickness of saturated alluvium penetrated by the wells, there will be no material impact on well yield.

References

Acme Drilling Company, undated. Results of well test on August 3, 1992.

NBS Lowry, 1995. Emergency Water Storage for San Diego County, Groundwater Feasibility Study, prepared for San Diego County Water Authority, September.

Theis, C.V., 1935. The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage, Am. Geophys. Union Trans., vol. 16, pp. 519-524.

Todd, D.K., 1980. Groundwater Hydrology. John Wiley & Sons, Inc.

Wenzel, L.K., 1942. Methods for determining permeability of water-bearing materials with special reference to discharging well methods, U.S.G.S. Water Supply Paper 887.

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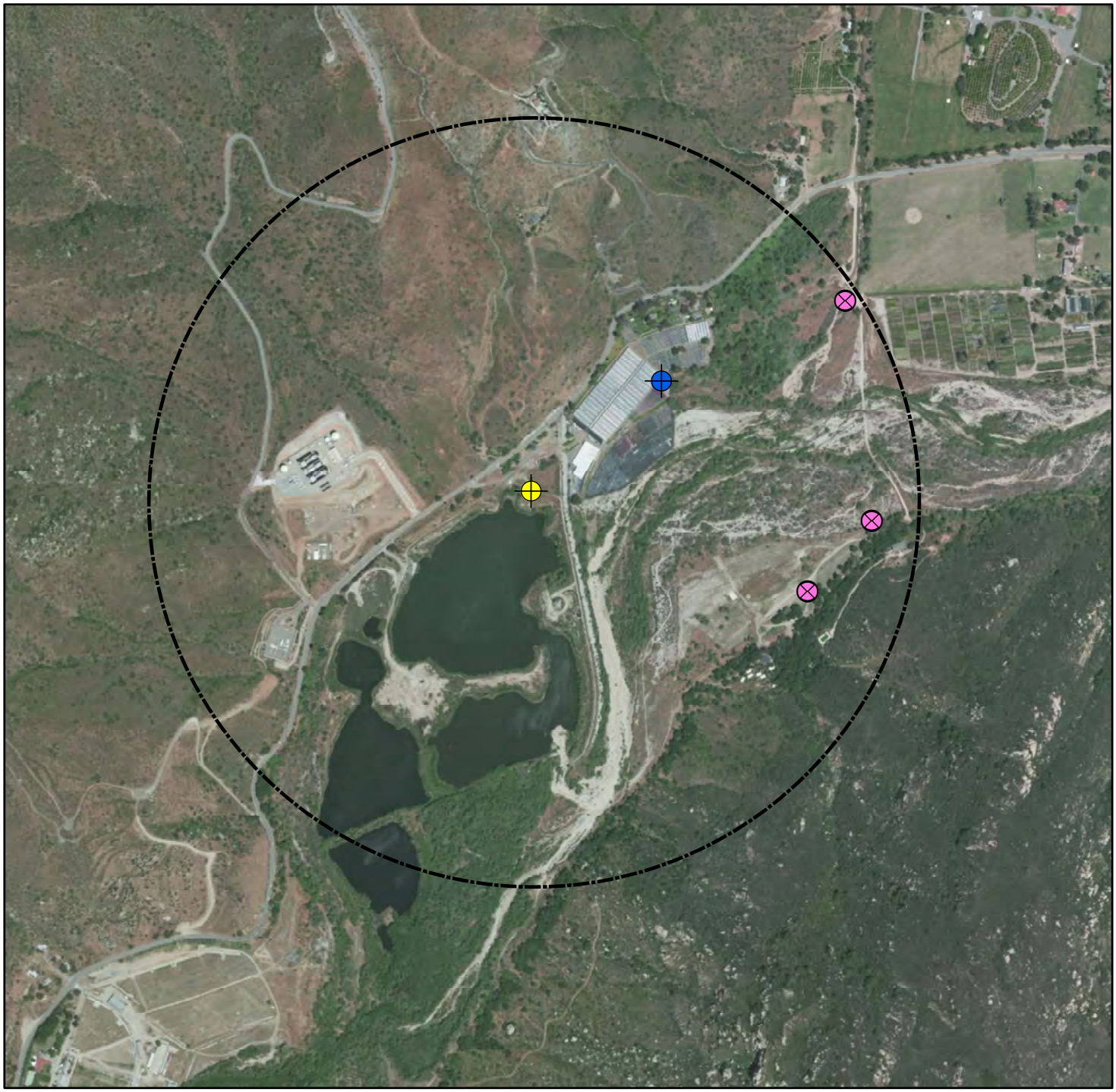

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Orange Grove Well Water Pipeline Project

Wells within One-Half Mile

Figure 1

- Existing SDG&E Well
- Zalinda Farms Alluvial Well
- Other Alluvial Well
- One-Half Mile Radius

Date: 4/21/2014

1 in = 1,000 feet

0 1,000 2,000 Feet

N

TRC

Basemap Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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APPENDIX H.2 DRAWDOWN EVALUATION TABLES

Table 1: Published Pala Basin Hydrogeologic Parameters		
Parameter	**Value**	**Units**
Average hydraulic conductivity (K)[1]	80	feet/day
Storativity (S)[1]	0.12	-

Table 2: SDG&E Well Parameters		
Parameter	**Value**	**Units**
Depth to water	25	feet
Depth to base of alluvium[2]	75	feet
Saturated thickness (b)	50	feet
Distance to closest point of mine pit ponds	80	feet
Distance to nearest well (r)	1200	feet

Table 3: Orange Grove Power Plant Maximum Permitted Water Usage		
Parameter	**Value**	**Units**
Peak instantaneous water use rate (Q_w)	101	gpm
Permitted annual water use (Q_w)	100.7	AFY
	62.5	gpm
Maximum permitted annual operations (t)	3200	hours
Maximum permitted annual operations as a daily average (t)	9	hours

Table 4: Drawdown Calculations					
Parameter	**Drawdown at 1,200 Foot Distance**		**Drawdown at 80 Foot Distance**		**Units**
	Scenario 1	**Scenario 2**	**Scenario 1**	**Scenario 2**	
Q_w	19444	12041	19444	12041	$feet^3/day$
T (= Kb)	4000	4000	4000	4000	$feet^2/day$
r	1200	1200	80	80	feet
S	0.12	0.12	0.12	0.12	-
t	0.4	365	0.4	365	days
u (= $r^2S/4Tt$)	30	0.030	0.13	0.00013	-
W(u)	-[3]	3.0	1.6	8.4	-
h_0 - h (drawdown)	-[3]	0.71	0.61	2.00	feet

Notes:

[1] Data from NBS Lowry (1995).

[2] Minimum depth based on Well Completion Report.

[3] As u grows large, W(u) approaches zero.

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Attachment 1

SDG&E Well Completion Report

ORIGINAL
File with DWR

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 463743

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. Two
Date Work Began 4/26/95 Ended 5/2/95
Local Permit Agency Dept of Env. Health
Permit No. W62950 Permit Date 4/18/95

GEOLOGIC LOG

ORIENTATION (∠) X VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER 15 (Ft.) BELOW SURFACE

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION Describe material, grain size, color, etc.
		Alluvial fill as follows
0	23	fine to coarse sand with some small aggregates
23	26	black silt layer
26	36	silty sand with some small boulders
36	65	fine to coarse sand
65	75	cemented sand and hard boulders

TOTAL DEPTH OF BORING 75 (Feet)
TOTAL DEPTH OF COMPLETED WELL 75 (Feet)

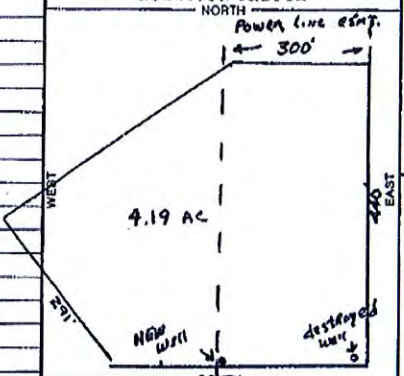
WELL OWNER

Name San Diego Gas & Electric
Mailing Address P.O. Box 1831
City San Diego, California 92112 STATE ZIP

WELL LOCATION

Address 10363 Pala Rd.
City Pala
County San Diego
APN Book 110 Page 370 Parcel X88 05
Township 9S Range 2W Section 32
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 (∠)
X NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (∠)
___ MONITORING
WATER SUPPLY
___ Domestic
___ Public
X Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD Rotary FLUID Gel

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 13 (Ft.) & DATE MEASURED 5/7/95
ESTIMATED YIELD* 500 (GPM) & TEST TYPE pump
TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 50 (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	20	32	X				A-53-B	23.5	.250	
20	35	23	X				A-53-B	12	.375	
35	75	23		X			304SS	12	.250	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (∠)	BENTONITE (∠)	FILL (∠)	FILTER PACK (TYPE/SIZE)
0	20	X			
20	75			pea gravel	5/16x7

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 Valley Center, Ca 92082 CITY STATE ZIP
Signed [signature] (WELL DRILLER/AUTHORIZED REPRESENTATIVE) 4/8/95 (DATE SIGNED) 328287 (C57 LICENSE NUMBER)

DWR 188 REV 7-90 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

APPENDIX I

Biological Resources Assessment

Biological Resources Assessment

Orange Grove Energy

Well Water Pipeline Project

Pala, California

Revised May 2014

Prepared for:
Orange Grove Energy
35435 Pala Del Norte Road
Pala, CA 92059

Prepared by:
TRC Solutions, Inc.
123 Technology Drive West
Irvine, CA 92618

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1.0 INTRODUCTION

TRC has conducted a biological resources assessment of the area surrounding the existing water well proposed for use by the existing Orange Grove Energy (OGE) power plant and the area surrounding the route of a proposed pipeline between the well and the power plant. The power plant is located in unincorporated San Diego County approximately two miles west of Pala, California (Figure 1). The purpose of the biological resources assessment was to document existing conditions and biological resources that could be disturbed by use of the well or construction of the pipeline, assess the suitability of the surrounding area to support special-status species and sensitive habitats, and determine if any regulatory permitting or further analyses would be required prior to project construction.

The proposed use of the well would involve installing a new vertical turbine well pump at an existing well and installing a small diameter (e.g., 3-inch) pipeline over a distance of about 2,750 feet between the well and the existing reclaimed water storage tank at the OGE facility. The proposed alignment for the majority of the pipeline would be within or adjacent to an existing dirt road on the south side of Highway 76 and within disturbed land within and adjacent to the OGE facility. The new well pump will be controlled by a wireless control system from the existing OGE facility control room.

2.0 METHODS

Prior to conducting the field survey, available information pertaining to the natural resources of the project area was reviewed including:

- California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDB) within a 1-mile radius of the site;
- Google Earth historical aerial photographs of the project area;
- Pala, California United States Geologic Survey quadrangle map;
- Biological Resources Sections of the Orange Grove Project's Application For Certification (AFC); and
- Orange Grove Project's Final Commission Decision.

TRC biologist Mike Farmer conducted a field survey of the site on January 15, 2014 between the hours of 11:30 a.m. and 2:30 p.m. Weather conditions during the survey included clear skies, no wind, and temperatures around 80°F. The survey area included a roughly 1,400-foot-wide piece of land south of Highway 76 adjacent to a pond occupying a former aggregate mine pit, and a corridor along the existing OGE facility secondary (emergency) access road and areas within the facility. Figure 2 shows the survey area boundaries. During the field survey, the biologist recorded plant and animal species observed, and characterized biological communities occurring within and surrounding the survey area.

3.0 RESULTS

3.1 SURVEY AREA DESCRIPTION

The survey area is comprised of some of the same vegetation communities and land cover described in Section 6.6.1.4.3 of the June 2008 Orange Grove AFC. Figure 2 depicts the vegetation communities and land cover types mapped within the survey area and representative photographs are included as Appendix A.

Based on historical aerial photographs, much of the survey area located south of Highway 76 was previously disturbed by mining activities and stripped of vegetation within the last 10-12 years. Currently, this portion of the survey area consists predominately of disturbed non-native grassland, disturbed oak woodland, other disturbed areas, irrigated landscaped areas, and reclaimed/reestablished coastal sage scrub and riparian habitat around edge of the mine pit lake. Descriptions of the mapped vegetation communities and land cover types are provided below.

Developed

The developed area mapped within the survey boundaries includes paved roadways and the gravel access road, landscaped areas, and developed areas within the OGE facility.

Disturbed Habitat

Disturbed areas identified during the field survey occur north of Highway 76 where the orchard was removed as part of facility construction and south of Highway 76 in areas previously disturbed by mining activities. These areas currently contain mostly barren land with scattered debris and sparse vegetation such as foxtail chess (*Bromus madritensis* ssp. *rubens*), Russian thistle (*Salsola tragus*), Peruvian peppertree (*Schinus molle*), and eucalyptus (*Eucalyptus* sp.).

Ephemeral Drainage

Ephemeral drainages are primarily fed by storm water runoff and convey flows during and immediately after storm events. Typically, these features lack significant amounts of vegetation and exhibit a defined bed and bank and often show signs of scouring as a result of rapid flows. However, the upstream section of the westernmost drainage lacks scouring and supports fairly dense annual grassland vegetation, which is associated with the irrigated landscape community described below.

Irrigated Landscape

A portion of the previously mined area has been elevated by fill and planted with ornamental shrubs and trees, most notably olive trees (*Olea* sp.). The area contains an underground irrigation system and is regularly maintained as evidence by pruning cut on the olive trees and mowed vegetation.

Disturbed Non-Native Grassland

This habitat is comprised of non-native grasses and herbaceous broadleaf species including foxtail chess, short-pod mustard (*Hirschfeldia incana*), filaree (*Erodium cicutarium*), tocalote (*Centaurea melitensis*), and wild oats (*Avena barbata*). This community shows evidence of periodic vehicle traffic and vegetation control (e.g., mowing).

Disturbed Non-Native Grassland/Oak Woodland

This community contains similar plant species as the habitat described above but also supports isolated and small clusters of mature coast live oaks (*Quercus agrifolia* var. *agrifolia*). This area also has an underground irrigation system and is periodically mowed.

Coastal Sage Scrub

The coastal sage scrub habitat within the survey area is located on previously mining land that has been recently reclaimed and supports coastal sage scrub vegetation such as coastal sagebrush (*Artemisia californica*), white sage (*Salvia apiana*), California buckwheat (*Eriogonum fasciculatum var. fasciculatum*), California broom (*Lotus scoparius*), and golden yarrow *(Eriophylum confertiflorum* var. *confertiflorum*).

Riparian

This community occurs within reclaimed mining land along the perimeter of the existing mine pit pond. This habitat is comprised of a narrow strip of vegetation comprised of small to medium sized cottonwoods (*Populus* sp.) and willows (*Salix* sp.) and emergent vegetation such as cattails (*Typha* sp.) along the water's edge.

A paved and dirt road traverse the survey area and provide a clear access route from Highway 76 to the well location. Two small ephemeral drainages flow from north to south across the survey area and the dirt portion of the road, and connect to the existing mine pit pond located along the southern edge of the survey area. The dirt road at the easternmost drainage location has been surfaced with concrete while the road at the westernmost drainage is unsurfaced and appears to be regularly maintained based on the absence of an erosion scar.

The portion of the survey area north of Highway 76 is on developed land associated with the existing OGE facility including a facility access road, constructed drainage channels, gravel-surfaced and landscaped areas, and disturbed ruderal vegetation.

Wildlife species observed on and adjacent to the survey area during the field assessment included black phoebe (*Sayornis nigricans*), scrub jay (*Aphelocoma californica*), American coot (*Fulica Americana*), mallard (*Anas platyrhynchos*), common raven (*Corvus corax*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Zenaida macroura*), spotted towhee (*Pipilo maculatus*), and western fence lizard (*Sceloporus occidentalis*).

3.2 SPECIAL-STATUS SPECIES

Special-status species are plant and animal species afforded protection by federal, state, and local resource agencies or organizations. Special-status species are of limited distribution and may require specialized habitat conditions. Special-status species include the following:

- Species listed or proposed for listing under state or federal Endangered Species acts;
- Species protected under other regulations (e.g., Migratory Bird Treaty Act);
- CDFW species of special concern;
- Species assigned a California Rare Plant Rank by California Native Plant Society (CNPS); or
- Species considered sensitive by San Diego County.

The locations of special-status species occurrences (as recorded in the CNDDB) within a 1-mile radius of the survey area boundaries are depicted in Figure 3. This biological resource assessment considers each of the special-status species occurrences recorded in the CNDDB within the 1-mile search radius as shown on Figure 3. In addition, it includes the coastal California gnatcatcher and the burrowing owl because these species are judged to have a moderate potential to occur within in the survey area based on habitat conditions present.

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Table 1 — Special-Status Species Potentially Occurring on the Site

Species	Regulatory Status[1]	Habitat Requirements	Potential for Occurrence
Plants			
Chaparral nolina (*Nolina cismontana*)	1B.2 List A	Chaparral, coastal scrub. Prefers sandstone or gabbro soils. Occurs between 140 and 1,275 meters. Blooms May-July.	**Low** – marginal habitat occurs in onsite coastal sage scrub habitat, however, past land disturbances likely preclude its occurrence on the site.
Delicate clarkia (*Clarkia delicata*)	1B.2 List A	Chaparral, cismontane woodland, often on gabbro soils. Occurs between 235 and 1,000 meters. Blooms April-June.	**None** – no suitable habitat within the survey area.
Mesa horkelia (*Horkelia cuneata* ssp. *puberula*)	1B.1 List A	Chaparral, cismontane woodland, coastal scrub. Prefers sandy or gravelly soil. Occurs between 70 and 810 meters. Blooms February-July.	**Low** – marginal habitat occurs in onsite coastal sage scrub habitat, however, past land disturbances likely preclude its occurrence on the site.
Parry's tetracoccus (*Tetracoccus dioicus*)	1B.2 List A	Chaparral, coastal scrub. Occurs between 165 and 1,000 meters. Blooms April-May.	**Low** – marginal habitat occurs in onsite coastal sage scrub habitat, however, past land disturbances likely preclude its occurrence on the site.

Species	Regulatory Status[1]	Habitat Requirements	Potential for Occurrence
Payson's Jewelflower (*Caulanthus simulans*)	4.2 List D	Chaparral, coastal scrub. Prefers granitic soil. Occurs between 90 and 2,200 meters. Blooms March-May.	**Low** – marginal habitat occurs in onsite coastal sage scrub habitat, however, past land disturbances likely preclude its occurrence on the site.
Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*)	1B.2 List A	Chaparral, coastal scrub. Occurs between 1 and 885 meters. Blooms January-July.	**Low** – marginal habitat occurs in onsite coastal sage scrub habitat, however, past land disturbances likely preclude its occurrence on the site.
Amphibians/Reptiles			
Arroyo toad *(Bufo californicus*)	FE, CH CSC Group 1	Prefers rivers with sandy banks, willows, cottonwoods, and sycamores and loose, gravelly areas of streams in the drier parts of its range. Uses areas with canopy cover and layers of organic matter for foraging, movement routes, and estivation.	**Low** – marginal non-breeding habitat occurs in the onsite riparian habitat. Species was not observed during the field survey. Breeding habitat occurs just offsite within the San Luis Rey River.
Coast horned lizard (*Phrynosoma coronatum blainvillii*)	CSC Group 2	Inhabits coastal sage scrub and chaparral in arid and semi-arid areas. Prefers friable, rocky, or shallow sandy soils.	**Moderate** – marginal habitat occurs in onsite coastal sage scrub habitat. Species not observed during field survey.

Species	Regulatory Status[1]	Habitat Requirements	Potential for Occurrence
Orange throat whiptail (*Aspidoscelis hyperythra*)	CSC Group 2	Coastal sage scrub, chaparral, and valley-foothill hardwood habitats. Prefers sandy areas with patches of brush and rocks.	**Moderate** – marginal habitat occurs in onsite coastal sage scrub habitat. Species not observed during field survey.
Red-diamond rattlesnake (*Crotalus ruber ruber*)	CSC Group 2	Chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains. Prefers rocky areas and dense vegetation and requires rodent burrows, cracks in rocks or other surface cover for refuge	**Moderate** – marginal habitat occurs in onsite coastal sage scrub habitat. Species not observed during field survey.
Birds			
Burrowing owl (*Athene cunicularia hypugaea*)	CSC	Burrows, pipes, debris piles within low-growing vegetation.	**Moderate** – suitable nesting and cover habitat occurs in debris piles, culverts and other structures scattered throughout the survey area and the grassland areas provide suitable foraging habitat; however, there was no evidence of owls observed during the field survey.
Coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	CSC Group 1	Coastal sage scrub where large patches of cactus are present for nesting and roosting.	**None** – onsite coastal sage scrub lacks cactus.

Species	Regulatory Status[1]	Habitat Requirements	Potential for Occurrence
Coastal California gnatcatcher (*Polioptila californica californica*)	FT, CH CSC Group 1	Permanent resident of coastal sage scrub below 7,500 meters in Southern California. Typically found in low, coastal sage scrub in arid washes, and on mesas and slopes.	**Moderate** – marginal habitat occurs in onsite coastal sage scrub habitat. Species not observed during field survey.
Golden eagle (*Aquila chrysaetos*)	CSC SFP BCC Group 1	Nesting and wintering habitats include rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons, rocky outcrops, and large trees provide nesting habitat.	**None** – no suitable habitat within the survey area.
Least Bell's vireo (*Vireo bellii pusillus*)	FE, CH SE BCC Group 1	Typically found foraging and nesting in low riparian areas in the vicinity of water or in dry river bottoms, below 6,000 meters. Nests are often found in willow, baccharis, or mesquite.	**Moderate** – marginal habitat occurs in onsite riparian habitat. Species not observed during field survey.
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE SE Group 1	Riparian areas with cottonwood and willow forests.	**Moderate** – marginal habitat occurs in onsite riparian habitat. Species not observed during field survey.
Yellow-breasted chat (*Icteria virens*)	CSC Group 1	Inhabits dense, riparian thickets of willow and other brushy vegetation near watercourses. Nesting occurs in low, dense riparian areas.	**Moderate** – marginal habitat occurs in onsite riparian habitat. Species not observed during field survey.

[1]Definitions

U.S. Fish and Wildlife Service

FE – Federally endangered

FT – Federally threatened

CH – Critical Habitat

California Department of Fish and Wildlife

SE – State endangered

ST – State threatened

CSC – California species of concern

California Native Plant Society

1B - Rare, threatened, or endangered in California and elsewhere

2B - Rare, threatened, or endangered in California, but more common elsewhere

3 – Plants about which we need more information — a review list

4 - Plants of limited distribution – a watch list

0.1 – Seriously endangered in California

0.2 – Fairly endangered in California

San Diego County

List A - Plants rare, threatened or endangered in California and elsewhere

List B - Plants rare, threatened or endangered in California but more common elsewhere

List C - Plants which may be quite rare, but need more information to determine their true rarity status

List D - Plants of limited distribution and are uncommon, but need more information to determine their true rarity status

Group 1 - Species has a very high level of sensitivity, either because it is listed as threatened or endangered or it has very specific natural history requirements.

Group 2 - Species becoming less common, but not so rare that extirpation or extinction is imminent. Species tends to be prolific within suitable habitat types.

3.2.1 Special-Status Plants

Based on a records search of the CNDDB, special-status plant species have the potential to occur in the project area. Based on field observations and literature review, the onsite coastal sage scrub habitat provides marginal habitat for chaparral nolina, mesa horkelia, Parry's tetracoccus, Payson's Jewelflower, and Robinson's peppergrass. However, where this type of habitat occurs within the survey area, the area was stripped of vegetation and mined within the past 10-12 years and is unlikely to support sensitive plant species. Furthermore, the coastal sage scrub habitat suitable for these plant species is located downslope from the proposed project disturbance areas and will not be impacted by the project. The field survey took place outside the typical blooming period for the special-status plant species; therefore, focused surveys for the species were not performed.

3.2.2 Special-Status Wildlife

Based on a records search of the CNDDB, special-status wildlife species have the potential to occur in the project area. Based on field observations and literature review, the onsite coastal sage scrub provides marginal habitat for coast horned lizard, orange throat whiptail, and red-diamond rattlesnake, none of which are protected by the federal or state Endangered Species Act and none of which were observed during the field survey. Since this habitat type is located downslope from the proposed project disturbance areas and will not be impacted by the project, these species are not expected to be affected.

The onsite grasslands, coastal sage scrub, and/or riparian habitats provide marginal habitat for arroyo toad, burrowing owl, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and yellow-breasted chat. None of these species was observed during the field survey. Measures to ensure the protection of these species are included in the OGE Conditions of Certification and listed in the Conclusions and Recommendations section of this document.

3.3 SENSITIVE HABITATS

Sensitive habitats include those that are of special concern to resource agencies or those that are protected under CEQA, Section 1600 of the California Fish and Game Code, Federal Endangered Species Act, and/or Sections 401 and 404 of the Clean Water Act. Additionally, sensitive habitats may be protected under specific local policies.

3.3.1 Critical Habitats

Based on the U. S. Fish and Wildlife Service (USFWS) Critical Habitat portal, the portion of the survey area south of Highway 76 is mapped as critical habitat for arroyo toad, coastal California gnatcatcher, and least Bell's vireo. Although critical habitat for these three species is mapped within the survey area, the proposed alignment of the project does not transect any primary constituent elements (the biological and physical element required by the species to survive and reproduce).

3.3.2 Potential Waters of the U.S. and State

As shown on Figure 2, two small ephemeral drainages flow from north to south across the survey area and dirt road, and connect to the existing mine pit pond located along the southern edge of the survey area. The upstream portion of the westernmost drainage is depicted as a blue-line feature on the Pala, California quadrangle map (U.S. Geological Society 1968) and appeared to have a direct hydrological connection to the San Luis Rey River prior to mining activities. The easternmost drainage is not shown as a blue-line feature on the quadrangle map; however, aerial photographs show a well-defined drainage feature upstream of the survey area and a hydrologic connection to the river.

A more thorough analysis would need to be conducted to determine whether the drainage features are potentially subject to Army Corps of Engineers' (ACOE) jurisdiction under Section 404 of the Clean Water Act. The features would be jurisdictional if there is a significant nexus with the nearest traditional navigable water (i.e., if the features affect the chemical, physical, and biological integrity of a traditional navigable water). The features may also be subject to the jurisdiction of the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW). If these drainage features will be disturbed by the project, a more detailed evaluation is needed to determine permitting requirements.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Nearly all of the survey area is disturbed or developed. Nearly all of the area south of Highway 76 was graded in association with recent aggregate mining activities and reclaimed to its current condition.

Suitable habitat for special-status plant and reptile species occurs within the coastal sage scrub in the previous mine area south of Highway 76; however, this habitat type is located downslope from the proposed project disturbance areas and will not be impacted by the project. Therefore, no impacts to special-status plant or reptile species are anticipated.

Known or potential biological constraints for the proposed project include the following:

- Suitable nesting and foraging habitat for bird species protected by federal and or state laws, including coastal California gnatcatcher, least Bell's vireo, southwest willow flycatcher, yellow-breasted chat, and burrowing owl;
- Potential non-breeding habitat for arroyo toad; and
- Potential waters of the U.S. and State (two small ephemeral drainages).

4.1 PROTECTION OF NESTING BIRDS AND OTHER RESOURCES

To ensure the protection of arroyo toad and nesting birds and compliance with the OGE Final Commission Decision, a summary of each required Condition of Certification along with additional recommended measures for the burrowing owl are listed below. Please refer to the Final Commission Decision for the full text related to each Condition of Certification.

BIO-4: The project owner shall implement a Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work

on the project site or related facilities during construction and operation are informed about the sensitive biological resources associated with the project area.

BIO-6: Construction workers shall implement Best Management Practices during all construction activities to avoid impacts to protected species and their habitat during construction.

BIO-7.1: To avoid impacts to arroyo toad, no vegetation removal or surface disturbing activities shall occur within 100 feet of riparian habitat between March 1 and August 31. Toad exclusion fencing shall be installed to prevent arroyo toad access to areas subject to traffic activities within 100 feet of riparian habitat between March 1 and August 31.

BIO-7.2: To avoid impacts to least Bell's vireo, southwestern willow flycatcher, and other sensitive species inhabiting riparian habitat along the San Luis Rey River no construction activities shall occur within 100 feet of riparian habitat from March 1 through September 15.

BIO-7.3: Preconstruction nest surveys shall be conducted if construction activities will occur within 300 feet of riparian habitat from March 15 through September 15. If an active nest of a least Bell's vireo, southwestern willow flycatcher, or other sensitive riparian bird species is located within 300 feet of a construction area, then a temporary visual screen and sound curtain shall be used during construction, as needed to achieve a noise level of 60 dB or less at the active nest location.

BIO-7.4: The Designated Biologist shall be present for all work occurring within 300 feet of riparian habitat from March 1 through September 15.

BIO-7.5: To avoid impacts to coastal California gnatcatcher, preconstruction nest surveys shall be conducted if construction activities will occur within 500 feet of coastal sage scrub habitat from February 15 through August 31. If an active nest of a coastal California gnatcatchers is identified within 500 feet of a construction area, then construction shall not occur within 500 feet of the nest location(s) until the Designated Biologist determines the nestlings have fledged and dispersed, unless alternative mitigation measures to allow construction within the 500-foot buffer are approved in writing by CDFW, USFWS, and San Diego County Department of Public Works.

BIO-8: Pre-construction nest surveys shall be conducted if construction activities will occur within 500 feet of coastal sage scrub habitat from February 15 through August 31, or within 300 feet of riparian habitat from March 15 through September 15. The Designated Biologist shall perform the surveys and implement mitigation as required by BIO-8.

BIO-9: At least two weeks prior to construction activities and vegetation clearing, the Designated Biologist shall identify and flag biologically sensitive areas that are to be protected as Environmentally Sensitive Areas (ESAs) during construction. Orange construction fencing shall be installed around these flagged ESAs wherever work is proposed within 50 feet of these sensitive features. If any bore pit excavations are dug into a soil or rock surface, the bore pit excavations shall be located at least 20 feet from boundary of jurisdictional waters of the State.

New Mitigation Measure for Burrowing Owl: Although burrowing owls were not observed during the field survey, the survey area contains limited nesting and foraging habitat for the

species. For this reason, it is recommended that a burrowing owl survey be conducted no more than 30 days prior to the onset of project-related disturbance activities. Burrowing owls can be present during all times of the year in California, so this survey is recommended regardless of the time grading activities occur. If active owl burrows are located during the pre-activity survey, it is recommended that a 250-foot buffer zone be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. In the case of occupied burrows without active nesting, active burrows after the young have fledged, or if disturbances commence after the breeding season (typically February 1-August 31), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. The USFWS and CDFW should be consulted for current guidelines and methods for passive relocation of any owls found on the site and mitigation for their relocation.

New Mitigation Measure for Impacts to Native Oak Trees: In the event the final pipeline alignment encroaches upon the dripline of any native oak tree, trenching within such driplines should be monitored by an International Society of Arboricultural Certified Arborist. The Arborist should approve excavation equipment and methods within the dripline, perform any necessary root pruning, and recommend other tree preservation measures if needed to ensure tree health is not jeopardized. For example, the Arborist may require excavation within all or portions of the driplines to be performed using hand tools, vacuum truck, or other methods to limit the amount of impact to the tree root system. Heavy equipment such as backhoes or mechanic trenchers can cause significant root damage and the arborist should be instructed by the owner to prohibit the use of such equipment where it would otherwise be likely to adversely impact tree health.

4.2 POTENTIAL PROJECT IMPACTS TO JURISDICTIONAL FEATURES

In the event project-related activities such as trenching will temporarily impact one or both ephemeral drainages, permits and authorizations from the ACOE, RWQCB, and CDFW may be required. A wetland delineation and jurisdictional determination would need to be performed and submitted to the ACOE to formally verify whether the features are subject to ACOE and RWQCB jurisdiction. To help expedite the jurisdictional determination and permitting process with the ACOE, it would be recommended that a wetland delineation and Preliminary Jurisdictional Determination form be submitted to the ACOE along with a 404 permit application. The form essentially grants jurisdiction to the ACOE for the proposed project to avoid an extensive jurisdictional analysis by the ACOE. As part of the 404 permit process, water quality certification from the RWQCB pursuant to Section 401 of the Clean Water Act would also need to be obtained. Alternatively, spanning the pipeline over the drainages, or installing the pipeline under the drainages using the former pipeline as a conduit or using horizontal directional drilling, would not require authorizations from the ACOE or RWQCB.

Pursuant to Section 1602 of the California Fish and Game Code, CDFW would likely take jurisdiction of the drainages for either trenching or horizontal boring installation methods. Therefore, a Streambed Alteration Agreement notification package should be submitted to the agency to determine if an agreement is required if either of these methods is used. Alternatively, spanning the pipeline over the drainages, or using the former pipeline as a conduit for pipe installation would not require notification to CDFW.

5.0 REFERENCES

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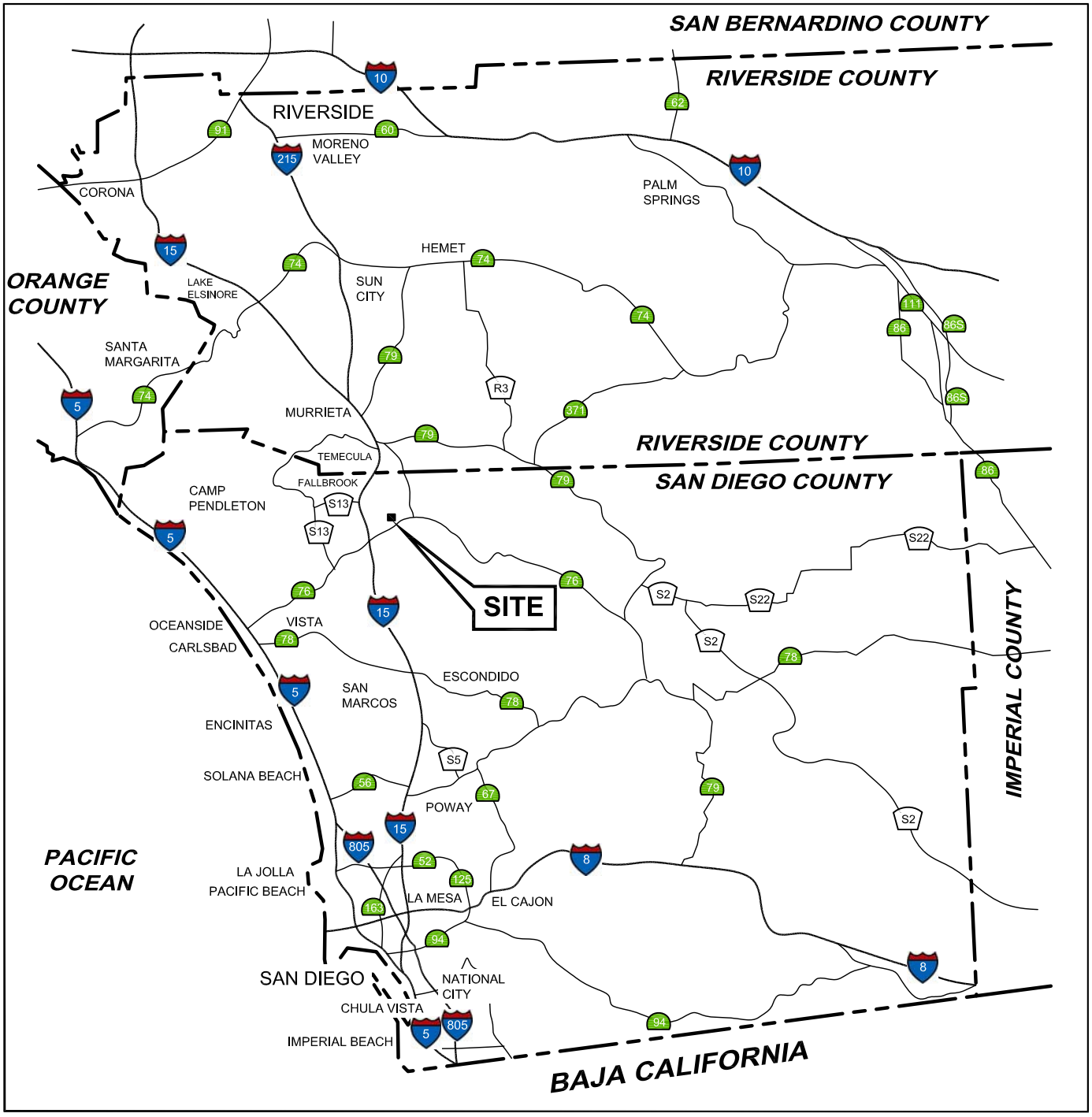

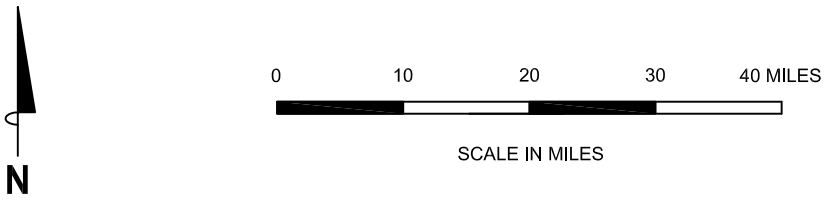

TRC	PROJECT: 192592	SITE LOCATION MAP
	FACILITY: ORANGE GROVE ENERGY PROJECT SAN DIEGO COUNTY, CALIFORNIA	FIGURE 1

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Orange Grove Well Water Pipeline Project

Vegetation Communities and Land Cover Map

Figure 2

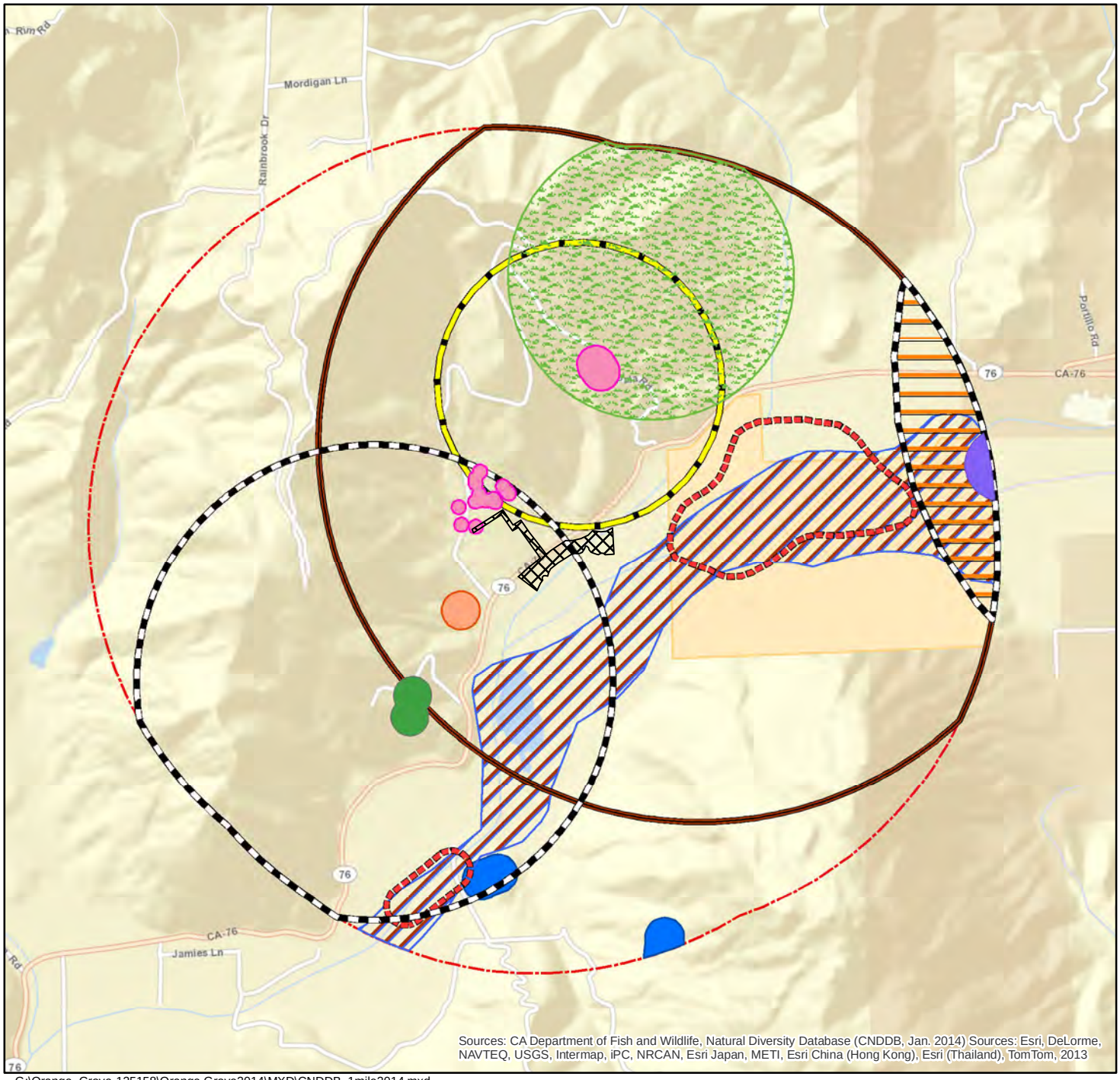
- Survey Boundary
- Developed
- Disturbed
- Ephemeral Drainage
- Irrigated Landscape
- Disturbed Non-Native Grassland/Oak Woodland
- Dirt Road
- Disturbed Non-Native Grassland
- Coastal Sage Scrub
- Riparian

Date: 2/4/2014

0 300 600 900 Feet

N

TRC



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Orange Grove Well Water Pipeline Project

CNDDB Map

Figure 3

- least Bell's vireo
- Robinson's pepper-grass
- Payson's jewelflower
- delicate clarkia
- mesa horkelia
- coastal cactus wren
- chaparral nolina
- southwestern willow flycatcher
- yellow-breasted chat
- coast horned lizard
- Parry's tetracoccus
- red-diamond rattlesnake
- orangethroat whiptail
- golden eagle
- arroyo toad
- 1-Mile Site Buffer
- Site Location

N

0 0.25 0.5 0.75 1 Miles

Date: 1/28/2014

TRC

Appendix A
Representative Site Photographs

Orange Grove Energy – Well Water Pipeline Project
Appendix A: Representative Site Photographs
All Photographs Taken on 1/15/14

	View of existing well location and surrounding disturbed grassland habitat looking east.
	View of dirt road in the vicinity of the existing well looking northwest.

	View of concreted portion of the dirt road at the easternmost ephemeral drainage crossing looking southwest.
	View of downstream side of road where easternmost drainage flows into the mining pond.

	View of westernmost ephemeral drainage as it crosses the dirt road looking downstream.
	View of disturbed grassland/oak woodland (foreground) and maintained irrigated landscape (background).

	View of maintained irrigated landscape looking northeast.
	View of coastal sage scrub and riparian habitats downslope from dirt road.

	View of developed and disturbed areas associated with the existing Orange Grove Energy facility north of Highway 76.
	View of proposed pipeline alignment along the facility's northern fence line. The reclaimed water storage tank is in the background.

APPENDIX J

Cultural Resources

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February 11, 2014

Mr. Chris Bluse
Orange Grove Energy, L.P.
1900 East Golf Road, Suite 1030
Schaumburg, IL 60173

Subject: Cultural Survey for Proposed Well Water Use and Pipeline, Orange Grove Power Plant

Dear Mr. Bluse:

TRC Solutions, Inc. (TRC) conducted a cultural resource pedestrian survey for the area surrounding the existing water well proposed for use by the Orange Grove Energy power plant and the associated proposed water pipeline route. The Orange Grove power plant is located in unincorporated San Diego County approximately two miles west of Pala, California (see Figure 1, Vicinity Map). The purpose of the cultural resource survey was to determine if any significant cultural resources would be impacted by activities associated with use of the well including construction of the proposed pipeline.

The proposed use of the well would involve installing a new vertical turbine well pump in the existing well and installing a small diameter (e.g., 3-inch) pipeline a distance of about 2,750 feet between the well and the existing reclaimed water storage tank at the Orange Grove Power Plant. The majority of the pipeline route would be within or adjacent to an existing dirt road on the south side of Highway 76 and within the power plant secondary access road and power plant facility on the north side of Highway 76. The new well pump will be controlled by a wireless control system from the existing power plant control room.

The area surrounding the well and pipeline route was surveyed on January 15, 2014 by TRC archaeologist Susan Underbrink M.A., RPA. Ms. Underbrink meets the qualifications of the U.S. Secretary of the Interior's professional standards for Archaeology, and is a Registered Professional Archaeologist (#15434) with over 17 years of experience. The survey area is shown in Figure 2.

The record search that was conducted at the California Historical Resources Information System (CHRIS), South Coastal Information Center (SCIC) at San Diego State University on March 20, 2007 for power plant permitting was reviewed to determine if there were any previously recorded archaeological sites within the area to be surveyed. The records search consists of all previously recorded archaeological and historic sites and cultural resource reports within a one-mile radius of the entire Orange Grove power plant project.

There were no previously recorded sites within the survey area for the well and proposed pipeline. There was one previously recorded site in the vicinity of the survey area (37-013762). This site is an historic domestic refuse scatter and was recorded in 1994. The site was predominantly glass with over 50 fragments and was located in an old citrus grove adjacent to Highway 76. Based on the previous documentation of this site, is outside of the proposed project area. An attempt was made to relocate the site to verify the boundaries, but the site was not relocated during the survey. As the site was not relocated and is documented outside the proposed project area, there would be no impact to site 37-013762.

The survey area included a roughly 1,400-foot-wide piece of land south of Highway 76 adjacent to an existing pond that occupies a former aggregate mine pit. On the north side of Highway 76, the survey area included a corridor along the existing power plant secondary (emergency) access road and areas within the plant.

Based on historical aerial photographs, much of the survey area located south of Highway 76 was previously disturbed by aggregate mining operations. A dirt road traverses the survey area south of Highway 76 and provides a clear access route from Highway 76 to the existing well location. The entire area shows signs of disturbance including irrigated landscaping and recent mowing. The archaeological survey utilized meandering transects checking all open areas. There was modern trash including glass, metal pieces, and paper. For the most part, the soil appears tan and very sandy, with few rocks. The entire survey area appears highly disturbed. No cultural materials were located.

The portion of the survey area north of Highway 76 encompasses land associated with the existing OGE facility and this land was previously disturbed during the construction of the facility. This area consists of graded and gravel-stabilized areas including a facility access road, constructed drainage channels and landscaped areas.

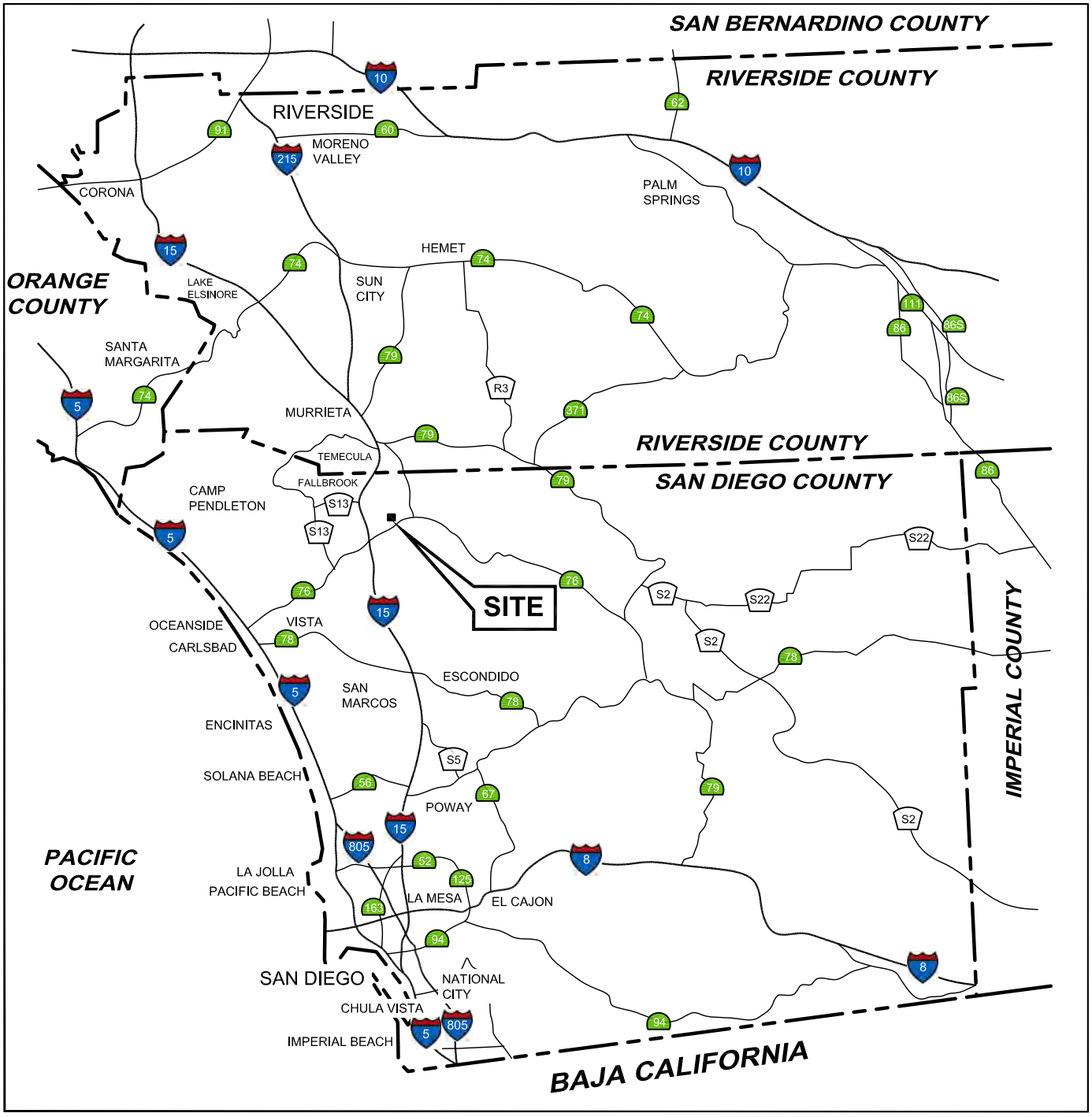
The records search, literature review, and Sacred Lands File search did not identify any previously recorded prehistoric or historic cultural resources within the survey area. The pedestrian survey did not result in the identification of any unrecorded cultural resources, therefore no additional work is recommended. No impacts to cultural resources would be anticipated from the proposed water pipeline construction and well use.

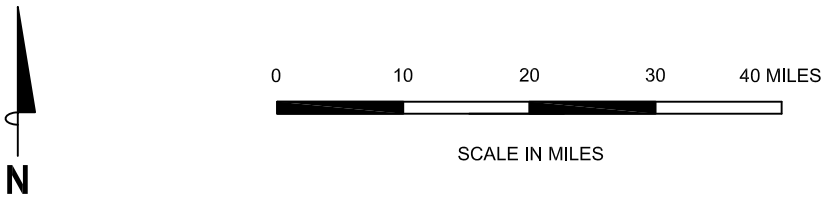
Sincerely,

Joseph L. Stenger, PG
Project Director

Susan Underbrink, RPA
Senior Archaeologist

Attachments:
Figure 1: Site Location Map
Figure 2: Survey Area





TRC	PROJECT: 192592	SITE LOCATION MAP
	FACILITY: ORANGE GROVE ENERGY PROJECT SAN DIEGO COUNTY, CALIFORNIA	FIGURE 1

MS=1:1 L:\Graphics\ProjectsByNumber\29-xxxx\29-0319\AFC (125158)\AFC-Location.dwg Oct 02, 2013 - 10:45am Bschmidt

G:\Orange_Grove-125158\Orange Grove2014\MXD\CulturalSurvey2014.mxd

Orange Grove Well Water Pipeline Project

Cultural Survey Map

Figure 2

Cultural Survey Boundary

0 300 600 900

Feet

N

Date: 1/29/2014

TRC

APPENDIX K

February 2013 Geotracker Database Search Results

LINK TO THIS MAP

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☑ Other Cleanup Sites
- ☑ Land Disposal Sites
- ☑ Military Sites
- ☑ WDR Sites
- ☑ Irrigated Lands Regulatory Program
- ☑ Permitted Underground Storage Tank (UST) Facilities
- ☑ Monitoring Wells*

* ZOOM IN TO SEE MWS

- ☐ DTSC Cleanup Sites
- ☐ DTSC Haz Waste Permit

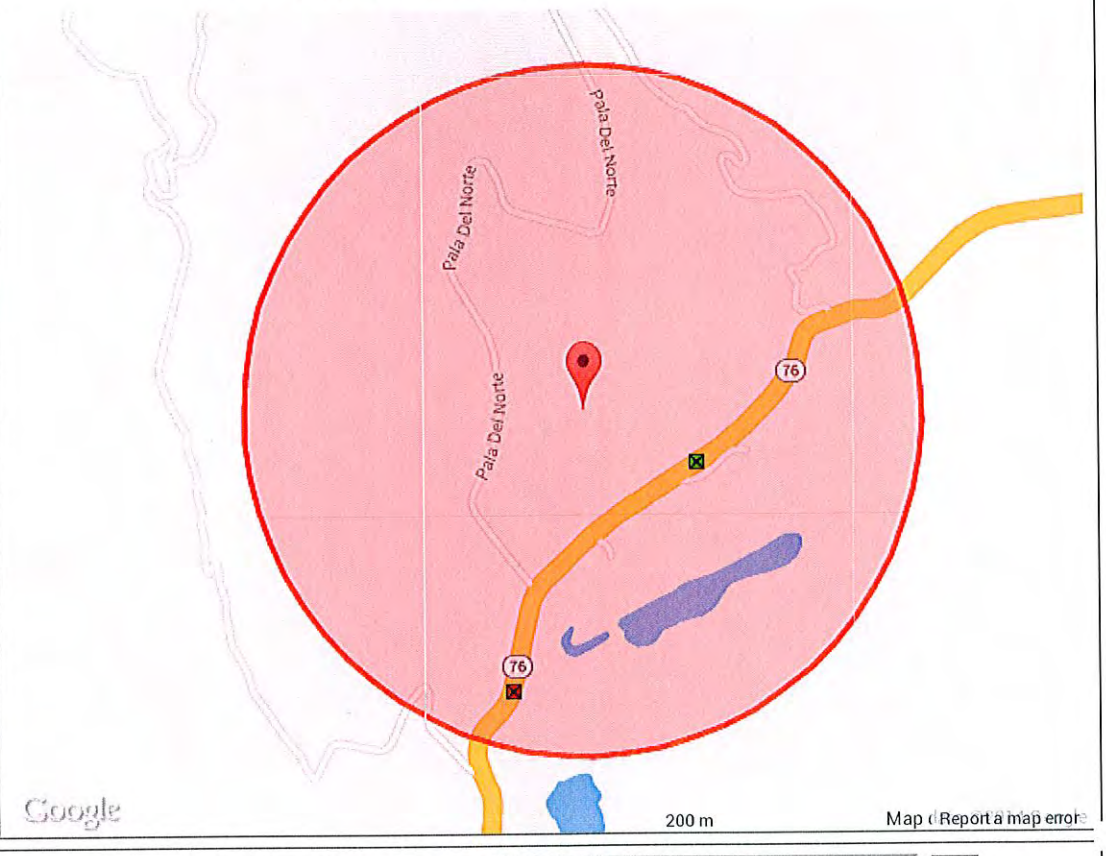
MAP SIZE

640x480

OPTIONS

☑ Site List - EXPORT TO EXCEL

2 Sites



☑ SHOW SITES WITHIN 2640 FEET OF THE FOLLOWING ADDRESS: 35435 East Pala Del Norte Road, Pala, CA Go

SITE LIST

	SITE NAME	GLOBAL ID	FAC ID	STATUS	ADDRESS	CITY
☒	HANSON AGGREGATE PACIFIC INC	T0608160260		COMPLETED - CASE CLOSED	10331 HY 76	PALA
☒	WARNER RANCH	T06019776078		COMPLETED - CASE CLOSED	10950 PALA RD	PALA

MAP AN ADDRESS: Go!

LINK TO THIS MAP

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☑ Other Cleanup Sites
- ☑ Land Disposal Sites
- ☑ Military Sites
- ☑ WDR Sites
- ☑ Irrigated Lands Regulatory Program
- ☐ Permitted Underground Storage Tank (UST) Facilities
- ☑ Monitoring Wells*

* ZOOM IN TO SEE MWS

- ☐ DTSC Cleanup Sites
- ☐ DTSC Haz Waste Permit

MAP SIZE

640x480

OPTIONS

☑ Site List - EXPORT TO EXCEL

3 Sites

HANSON AGGREGATE PACIFIC INC (T0608160260)
10331 HY 76
PALA, CA 92059

LUST Cleanup Site

Cleanup Status: Completed - Case Closed
Loc Case #: H28563-001

☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: Go

SITE LIST

SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY
GREGORY CANYON LANDFILL	L10006391801	OPEN - PROPOSED	9708 PALA ROAD	PALA
HANSON AGGREGATE PACIFIC INC	T0608160260	COMPLETED - CASE CLOSED	10331 HY 76	PALA
WARNER RANCH	T06019776078	COMPLETED - CASE CLOSED	10950 PALA RD	PALA

MAP AN ADDRESS: Go!

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER

HANSON AGGREGATE PACIFIC INC (T0608160260) - (MAP)

10331 HY 76
PALA, CA 92059
SAN DIEGO COUNTY
LUST CLEANUP SITE

CLEANUP OVERSIGHT AGENCIES
SAN DIEGO COUNTY LOP *(LEAD)* - *CASE #: H28563-001*
SAN DIEGO RWQCB (REGION 9)

Regulatory Profile

PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS

COMPLETED - CASE CLOSED AS OF 8/27/1998 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
DIESEL

POTENTIAL MEDIA AFFECTED
SOIL

FILE LOCATION
LOCAL AGENCY

BENEFICIAL USE
NONE SPECIFIED

Site History

No site history available

Cleanup Action Report

NO CLEANUP ACTIONS EXIST

Regulatory Activities

* Indicates a revised due date

	ACTION TYPE	ACTION	ACTION DATE	RECEIVED / ISSUE DATE
[VIEW DOCS]	*OTHER REGULATORY ACTIONS*	Clean Up Fund - Case Closure Review Summary Report (RSR)	8/27/1998	8/27/1998
	LEAK ACTION	Leak Reported	10/1/1994	
	NOTICES	Notice of Responsibility	5/10/1994	5/10/1994

* DENOTES A SUBMITTAL WAS AUTO-RECEIVED

Site Maps and Boring Logs (GEO_MAP and GEO_BORE)

NO SITE MAP SUBMITTALS FOUND FOR THIS FACILITY.

Site Documents

TITLE	TYPE	SUBMITTED BY	DOCUMENT DATE	SIZE
CLOSURE SUMMARY	CLEAN UP FUND - CASE CLOSURE REVIEW SUMMARY REPORT (RSR)	KATHY L. DENK (REGULATOR)	8/27/1998	

Monitoring Reports

NO MONITORING REPORT SUBMITTALS FOUND FOR THIS FACILITY.

Case Closure Summary
Non-LOP or Voluntary Assistance Program

I. AGENCY INFORMATION

Date: 27 August 98

Agency: County of San Diego, Environmental Health, SAM P.O. Box 129261 San Diego, CA 92112-9261	Phone: (619) 338-2222 Fax: (619) 338-2315
DEH Staff Person: Earl W. Phillips, Jr.	Title: Environmental Health Specialist

II. CASE INFORMATION

Case No. H28563-001		
Site Name: H.G. Fenton Pala Facility		
Site Address: 10331 Highway 76, Pala, CA 92059		
Property Owner: H.G. Fenton Company	Address: 7220 Trade Street, Ste 300 San Diego, CA 92112	Phone: (619) 566-2000
Responsible Party: H.G. Fenton Company	Address: 7220 Trade Street, Ste 300 San Diego, CA 92112	Phone: (619) 566-2000
Type of Case: ☐ Non-LOP* Tank Case ☒ Non-Tank Case		
RWQCB/DTSC notification of DEH Oversight: 15 July 94		

III. SITE CHARACTERIZATION AND/OR INFORMATION

Cause and Type of Contamination (if any): Ruptured diesel fuel line			
Site Characterization complete? Yes			
Monitoring Wells Installed? No	Total Number: N/A	Proper Screened Interval? N/A	Number of decommissioned wells: N/A
Range of groundwater levels on the site? 5.5 - 6.5 ft bgs			Groundwater flow direction: Unknown
Most Sensitive Current Use: MUN, AGR, IND			
Are Drinking Water Wells Affected? No			RWQCB Basin Number: Pala HSA 3.21
Is Surface Water Affected? No			Nearest Surface Water name: San Luis Rey River
Off-Site Beneficial Use Impacts: None			

TREATMENT AND DISPOSAL OF AFFECTED MATERIAL

Material	Amount (Include Units)	Action (Treatment or Disposal w/Destination)	Date
Contaminated soil	300 cyds	Excavated and bioremediated onsite	1993-1995

III. SITE CHARACTERIZATION AND/OR INFORMATION

MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS -- BEFORE AND AFTER CLEANUP

Contaminant	Soil(ppm)		Water (ppm)		Contaminant	Soil (ppm)		Water (ppb)	
	Before	After	Before	After		Before	After	Before	After
TPH(d)	2,000	<5.0	NA	<0.5	Benzene	<0.05	<0.05	NA	NA
Toluene	<0.05	<0.05	NA	NA	Ethylbenzene	<0.05	<0.05	NA	NA
Xylenes	<0.15	<0.15	NA	NA	PAH	NA	NA	NA	<0.5

Comments: The site was overexcavated to non-detect. Approximately 300 cyds of soil contaminated with diesel fuel was removed and stockpiled for bioremediation onsite. The site was regraded to facilitate sand recovery and dredging operations.

Non-LOP - Underground Storage Tank Oversight handled outside the LOP
Non-Tank - Voluntary Assistance Program

Case Closure Summary
Non-LOP or Voluntary Assistance Program

H28565 J1

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? Yes
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? Yes
Does corrective action protect public health for current land use? Yes Case review based on current/proposed use as a sand mining and concrete batching facility:
Are there other issues DEH needs to follow up on: No
Site Management Requirements: Any contaminated soil excavated as part of subsurface construction work must be managed in accordance with the legal requirements at that time.
Should corrective action be reviewed if land use changes? Yes
Enforcement Action Taken: None
Enforcement Actions Rescinded: N/A

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Chuck Pryatel	Title: Chief Site Assessment and Mitigation
Signature: [signature]	Date: 8/27/98
Hydrogeologist Concurrence: [signature]	Date: 8/27/98

VI. RWQCB NOTIFICATION

Date submitted to the RWQCB: Soils only	RWQCB Response date: N/A
RWQCB Staff: N/A	Title: N/A

VII. ADDITIONAL COMMENTS, DATA, ETC.

Laboratory analyses on a grab sample of groundwater indicated no detectable diesel fuel contamination.

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.

LINK TO THIS MAP

GEOTRACKER

LAYERS

☒ SIGNIFIES A CLOSED SITE

- ☑ Leaking Underground Tank (LUST) Cleanup Sites
- ☑ Other Cleanup Sites
- ☑ Land Disposal Sites
- ☑ Military Sites
- ☑ WDR Sites
- ☑ Irrigated Lands Regulatory Program
- ☐ Permitted Underground Storage Tank (UST) Facilities
- ☑ Monitoring Wells*

* ZOOM IN TO SEE MWS

- ☐ DTSC Cleanup Sites
- ☐ DTSC Haz Waste Permit

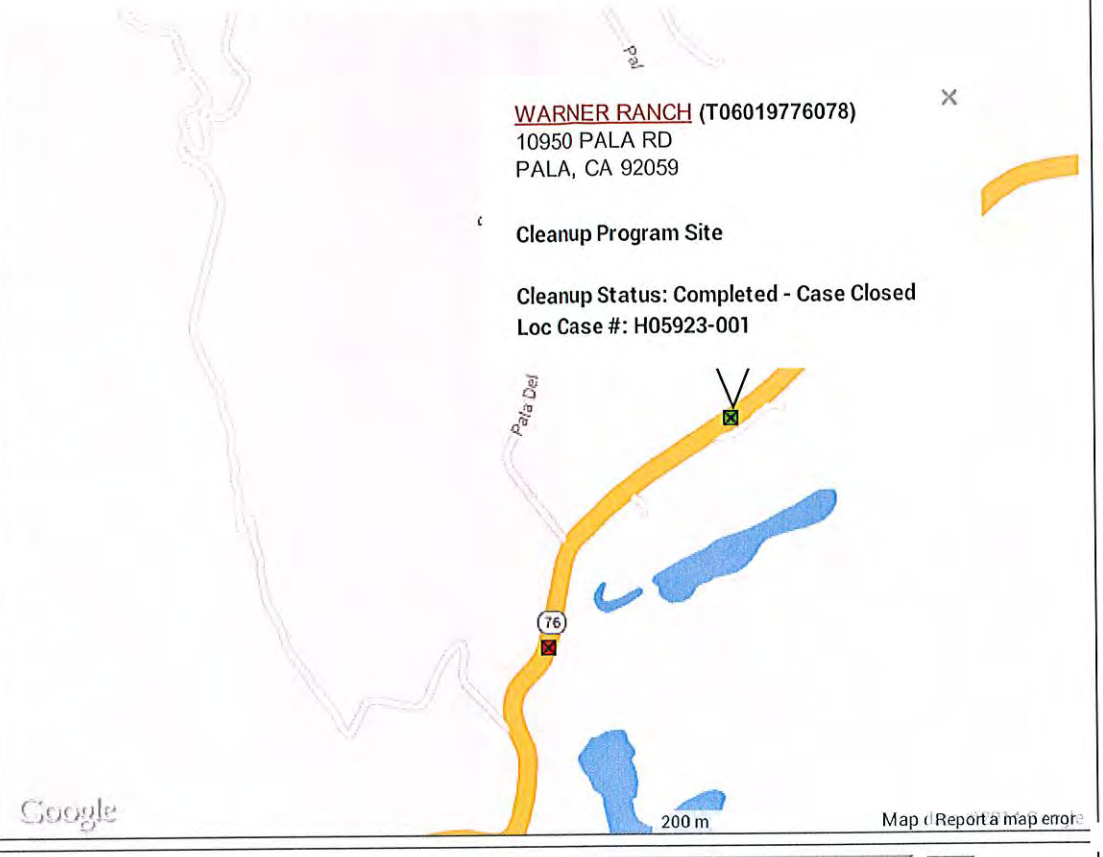
MAP SIZE

640x480

OPTIONS

☑ Site List - EXPORT TO EXCEL

3 Sites



☐ SHOW SITES WITHIN 1000 FEET OF THE FOLLOWING ADDRESS: Go

SITE LIST

	SITE NAME	GLOBAL ID	STATUS	ADDRESS	CITY
■	GREGORY CANYON LANDFILL	L10006391801	OPEN - PROPOSED	9708 PALA ROAD	PALA
☒	HANSON AGGREGATE PACIFIC INC	T0608160260	COMPLETED - CASE CLOSED	10331 HY 76	PALA
☒	WARNER RANCH	T06019776078	COMPLETED - CASE CLOSED	10950 PALA RD	PALA

MAP AN ADDRESS: Go!

STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER

WARNER RANCH (T06019776078) - (MAP)

10950 PALA RD
PALA, CA 92059
SAN DIEGO COUNTY
CLEANUP PROGRAM SITE

CLEANUP OVERSIGHT AGENCIES
SAN DIEGO COUNTY LOP *(LEAD)* - *CASE #: H05923-001*
SAN DIEGO RWQCB (REGION 9)

Regulatory Profile

PRINTABLE CASE SUMMARY

CLEANUP STATUS - DEFINITIONS

COMPLETED - CASE CLOSED AS OF 11/30/2005 - CLEANUP STATUS HISTORY

POTENTIAL CONTAMINANTS OF CONCERN
DIESEL

POTENTIAL MEDIA AFFECTED
SOIL

FILE LOCATION
LOCAL AGENCY

BENEFICIAL USE
GW - MUNICIPAL AND DOMESTIC SUPPLY, SW - AGRICULTURAL SUPPLY, SW - COLD FRESHWATER HABITAT, SW - INDUSTRIAL SERVICE SUPPLY, SW - NON-CONTACT WATER RECREATION, SW - WARM FRESHWATER HABITAT, SW - WATER CONTACT RECREATION, SW - WILDLIFE HABITAT

Site History

No site history available

Cleanup Action Report

NO CLEANUP ACTIONS EXIST

Regulatory Activities

* Indicates a revised due date

ACTION TYPE	ACTION	ACTION DATE	RECEIVED / ISSUE DATE
LEAK ACTION	Leak Began	6/23/2005	
LEAK ACTION	Leak Discovery	6/23/2005	

0.046875 seconds

APPENDIX L

Proposed Revisions to Conditions of Certification

APPENDIX L

REQUESTED CHANGES TO CONDITIONS OF CERTIFICATION

SUPPORT FOR PETITION TO ADDRESS WATER TRUCK COMPLAINTS

ORANGE GROVE POWER PLANT

The limited nature of the construction contemplated by the proposal does not require all of the construction conditions included for the initial construction of the power plant and supporting linear facilities. The following modifications and clarifications include noting conditions that are not needed for this limited project as well as specific conditions to avoid or reduce any impacts from the construction of the water supply line. Changes to Conditions of Certification are requested in the areas of Air Quality, Waste Management, Biology, Soil & Water, Paleontology, Traffic and Transportation, and Noise, as identified further below. No other changes to Conditions of Certification are requested or needed to accommodate the proposed Petition actions.

Air Quality

Considering the limited scope of construction compared to the power plant and gas pipeline construction addressed in the record leading to the Final Commission Decision, there is far less potential for fugitive dust and other construction emissions. Therefore, impacts to air quality from installation of the well pump and pipeline can be controlled to a less than significant level without the extensive array of conditions that were required for construction of the existing power plant. Accordingly, the following changes to the Air Quality Conditions of Certification are requested:

- AQ-SC1, through AQ -SC5 : Add new last sentence to each stating "[T]his condition shall not apply to construction of the water pipeline."

- Add new AQ-SC12: "Fugitive dust from water pipeline construction shall be controlled in accordance with San Diego Air Pollution Control District Rule 55.

  VERIFICATION: The project owner shall submit a written Compliance Report to the CPM within 30 days following completion of the well pump and water pipeline installation. The Compliance Report shall document the procedures and practices used to maintain compliance with Rule 55 standards for airborne dust and track-out. Reporting for airborne dust control measures shall identify measures implemented and shall include a log of the approximate quantity of water used for dust control each day that construction work occurred. The Compliance Report shall identify any violations of Rule 55 occurring during water line construction."

Waste Management

San Diego County ordinances would not require a Debris Management Plan for the installation of the proposed well pump and pipeline because of the limited scope of construction activities. Therefore, the following change to the Waste Management Conditions of Certification is requested:

- WASTE-6: Add new last sentence stating "[T]his condition shall not apply to construction of the water pipeline."

Biology

Although burrowing owls have not been observed in the area, the biology survey conducted for the proposed water pipeline identified limited nesting and foraging habitat for this species. In addition, the proposed water pipeline location would be within the drip line of one or more native oak trees. The following changes to Biological Resources Conditions of Certification are requested to limit impacts to burrowing owl and oak trees:

- Add new BIO-15 for burrowing owl protection stating: "A burrowing owl survey shall be conducted no more than 30 days prior to beginning installation activities for the water pipeline. If active owl burrows are located during the pre-activity survey, a 250-foot buffer zone shall be established around each burrow with an active nest until the young have fledged and are able to exit the burrow. In the case of occupied burrows without active nesting, active burrows after the young have fledged, or if disturbances commence after the breeding season (typically February 1-August 31), passive relocation of the birds should be performed. Passive relocation involves installing a one-way door at the burrow entrance, which encourages the owls to move from the occupied burrow. The USFWS and CDFW shall be consulted for current guidelines and methods for passive relocation of any owls found on the site if relocation is needed.

  VERIFICATION: At least 14 days prior to initiating installation of the water pipeline, the project owner shall provide the CPM a copy of the pre-construction burrowing owl survey report for review and approval. If the pre-construction survey identifies an active burrow requiring avoidance or relocation, then such measures shall be described in the survey report."

- Add new BIO-16 for native oak tree protection stating: **"**In the event the final pipeline alignment encroaches upon the drip line of any native oak tree, all trenching within such drip lines shall be monitored by an International Society of Arboricultural Certified Arborist. The Arborist shall approve excavation equipment and methods within the drip line, perform any necessary root pruning, and recommend other tree preservation measures if needed to ensure tree health is not jeopardized. For example, the Arborist may require excavation within all or portions of the drip line to be performed using hand tools, vacuum truck, or other methods to limit the amount of impact to the tree root system. Heavy equipment such as backhoes or mechanical trenchers can cause significant root damage and the Arborist shall be instructed by the project owner to prohibit the use of such equipment where it would otherwise be likely to adversely impact tree health.

  VERIFICATION: Oak trees occur near the water pipeline route only on the south side of Highway 76. Within 30 days following completion of construction of the water pipeline, the project owner shall provide a Compliance Report to the CMP showing the final project pipeline location south of Highway 76. The pipeline location shall be provided on an aerial photograph base map adequately scaled to document the pipeline's proximity to the drip lines of nearby native oak trees. In addition, the Compliance Report shall describe measures implemented for compliance with this condition."

Soil and Water

The following changes to Soil and Water Conditions of Certification are requested to reflect the minor scope of well pump and water pipeline installation activities and use of the proposed alternate water supply :

- SOIL AND WATER-3: Add new last sentence stating "[T]his condition shall not apply to construction of the water pipeline."
- SOIL & WATER-10: Modify to read as follows: "The project owner shall obtain project back up water supplies from FPUD in volumes not to exceed 62 AFY of potable water and 38.7 AFY of recycled water, unless other use volumes are approved by the CPM. Prior to the use of potable water for commercial operation, the project owner shall implement a CPM-approved system to monitor and record the total volumes of potable and recycled water supplied to the OGP by the FPUD. The system may use FPUD invoices or other FPUD records, or onsite metering devices. If onsite metering devices are used they shall be operational whenever water is being supplied by FPUD and must be able to record the volumes of potable and recycled water separately.

  VERIFICATION: At least 60 days prior to receiving potable water from FPUD, the project owner shall submit a plan to the CPM for review and approval that identifies how the potable and recycled water volumes received from FPUD will be measured and documented. The project owner shall prepare an annual potable water and recycled water use summary giving the monthly range and monthly average of daily potable water usage and recycled water usage in gallons per day and total potable water and total recycled water used on a monthly and annual basis in acre-feet for any year during which potable or recycled water is used. The annual summary shall be included in the Annual Compliance Report. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average for potable water used and recycled water used. For calculating the total water use, the term year will correspond to the date established for the annual compliance report submittal. If the amount of potable water and/or recycled water to be used by OGP is expected to exceed 62 AFY and 38.7 AFY respectively, during any annual reporting period, the project owner shall provide a written request and explanation for the anticipated water use increase to the CPM at least 60 days prior to the date when the water use limit is expected to be exceeded."

- Add new SOIL AND WATER-14 stating: "The project owner shall obtain the project primary water supply from SDG&E Well No. 2 in a volume not to exceed 100.7 AFY unless another use volume is approved by the CPM. Prior to the use of well water for commercial operation, the project owner shall install and maintain a metering device on the project water supply pipeline to monitor and record the total volume of well water supplied to the OGP. The metering device shall be maintained operational for the life of the project.

  VERIFICATION: At least 5 days prior to use of well water for commercial operations, the project owner shall provide documentation to the CPM that the metering device for the well water supply system has been installed and is operational. The project owner shall prepare an annual well water use summary giving the monthly range and monthly average of daily well water usage in gallons per day and total well water used on a monthly and annual basis in acre-feet. The

annual summary shall be included in the Annual Compliance Report. For years subsequent to the initial year of well water use, the annual summary will also include the yearly range and yearly average for well water used. For calculating the total water use, the term year will correspond to the date established for the annual compliance report submittal. If the total amount of well water plus backup supply to be used by OGP is expected to exceed 100.7 AFY during any annual reporting period, the project owner shall provide a written request and explanation for the anticipated water use increase to the CPM at least 60 days prior to the date when the water use limit is expected to be exceeded."

- Add new SOIL AND WATER-15 stating: "In lieu of the requirements of Condition of Certification SOIL AND WATER-6, construction of the water pipeline shall use water from the permitted SDG&E well for construction dust control and compaction.

  VERIFICATION: Within 30 days following completion of construction of the water pipeline, the project owner shall provide a Compliance Report to the CMP that shall include a log of the total volume of well water used during construction."

- Add new SOIL & WATER- 16 stating: "The project owner shall implement the Water Offset Agreement with Vallecitos Water District.

  VERIFICATION: At least 30 days prior to use of well water for power plant operations, the project owner shall provide the CPM proof that the project owner has provided funding under the agreement to Vallecitos Water District and that the water recycling project has been completed and is operational."

Paleontology

The Final Commission Decision considered construction impacts of the existing power plant located in a geologic unit that at the time was considered to have an Unknown Sensitivity for paleontological resources due to lack of monitoring data. Monitoring was needed to determine its sensitivity rating under the Society of Vertebrate Paleontology (SVP) classification system. Monitoring during OGPP construction did not identify any paleontological resources and, due to the absence of any discovery even after construction monitoring efforts, all geologic units that would be disturbed by water pipeline installation are now considered to have a Low Sensitivity for paleontological resources. Furthermore, on the south side of Highway 76, the geologic unit is too young to contain any important fossils. Consequently, the following changes to the Paleontology Conditions of Certification are requested:

- Add new PAL-8 stating: "Conditions PAL-1 through PAL-7 shall not apply to construction of the water pipeline except as specified in this Condition. In the event that a fossil discovery occurs during construction, it shall be evaluated by a Cultural Resource Specialist approved by the CPM pursuant to PAL-1, and treated in accordance with the Paleontological Resource Mitigation and Monitoring Plan (PRMMP) approved by the CPM pursuant to Condition PAL-3.

  VERIFICATION: Any paleontological resource discovery shall be reported to the CPM by telephone within one business day. The owner shall provide a follow-up written report to the CPM within 3 business days outlining plans for resource management consistent with the

approved PRMMP. If no fossil resources are discovered during construction of the water pipeline, then a written statement identifying that no fossil resources were encountered shall be in a Compliance Report to be submitted to the CPM within 30 days following the completion of construction."

- Add new PAL-9 stating: "For construction of the water pipeline, prior to ground disturbance on the north side of Highway 76, the project owner shall ensure that the construction foremen, excavation equipment operators and other construction workers with responsibility for observing construction excavations receive paleontological Worker's Environmental Awareness Program (WEAP) training. The goal of the WEAP training is to provide basic education for construction personnel to facilitate recognition of paleontological resources if encountered and appropriate steps to prevent significant impacts. The WEAP training shall include the following:

    - an overview of applicable laws for protection of paleontological resources and potential penalties under the law;

    - identification of geologic units to be disturbed by construction and their location and paleontological sensitivity;

    - a discussion and presentation of example paleontological resources geared toward training for recognition of important paleontological resources in the event they are discovered;

    - a discussion of the role and authority of each construction worker if an unexpected paleontological resource is encountered, including the responsibility and authority to temporarily halt or redirect construction; and

    - instruction to immediately stop work in the area and notify the foreman in the event that a potential paleontological resources is encountered.

  VERIFICATION: A paleontological WEAP training acknowledgement form shall be signed by each worker receiving training. The form shall include a list of topics covered during training and each worker trained shall sign an acknowledgement on the form stating that they understand the training they received and agree to abide by the training guidance." The project owner shall retain copies of forms signed by workers for a minimum of six months following the completion of construction.

Traffic and Transportation

Some Conditions of Certification for traffic impacts in the Final Commission Decision were designed to mitigate potential impacts of a large construction project and are not applicable or needed for installation of the well pump and pipeline due to the limited scope of activities. In addition, Condition of Certification TRANS-4 includes conditions for water trucks that are intended for operations and not construction. Accordingly, the following changes to the Traffic and Transportation Conditions of Certification are requested:

- Add new TRANS-6 stating: "Conditions TRANS-1 through TRANS-4 shall not apply to construction of the water pipeline."

- Add new TRANS-7 stating: "Prior to construction of the water pipeline, the project owner shall provide Caltrans with the conceptual design and construction method for crossing the Caltrans right-of-way, including identification of whether horizontal boring will occur or whether the existing pipeline segment beneath the highway will be used. Construction of the water pipeline shall not be initiated until an encroachment permit is issued by Caltrans unless Caltrans determines that an encroachment permit is not required.

  VERIFICATION: Construction of the water pipeline shall not begin until the CPM has received and accepted: (1) a copy of an encroachment permit from Caltrans that is valid for the water pipeline; or (2) written acknowledgement from Caltrans indicating that no encroachment permit is needed for the water pipeline."

Noise

Considering the limited scope of construction activities for installation of the well pump and pipeline, there would be little potential for noticeable noise impacts to human receptors compared to the OGPP construction activities addressed in the Final Commission Decision. Consequently, noise issues are not anticipated and the following change to the Noise Conditions of Certification is requested:

- NOISE-1: Add new last sentence stating "Notifications in this Condition shall not apply to construction of the water pipeline."

APPENDIX M

Parcels Within 1,000 Feet

APPENDIX M

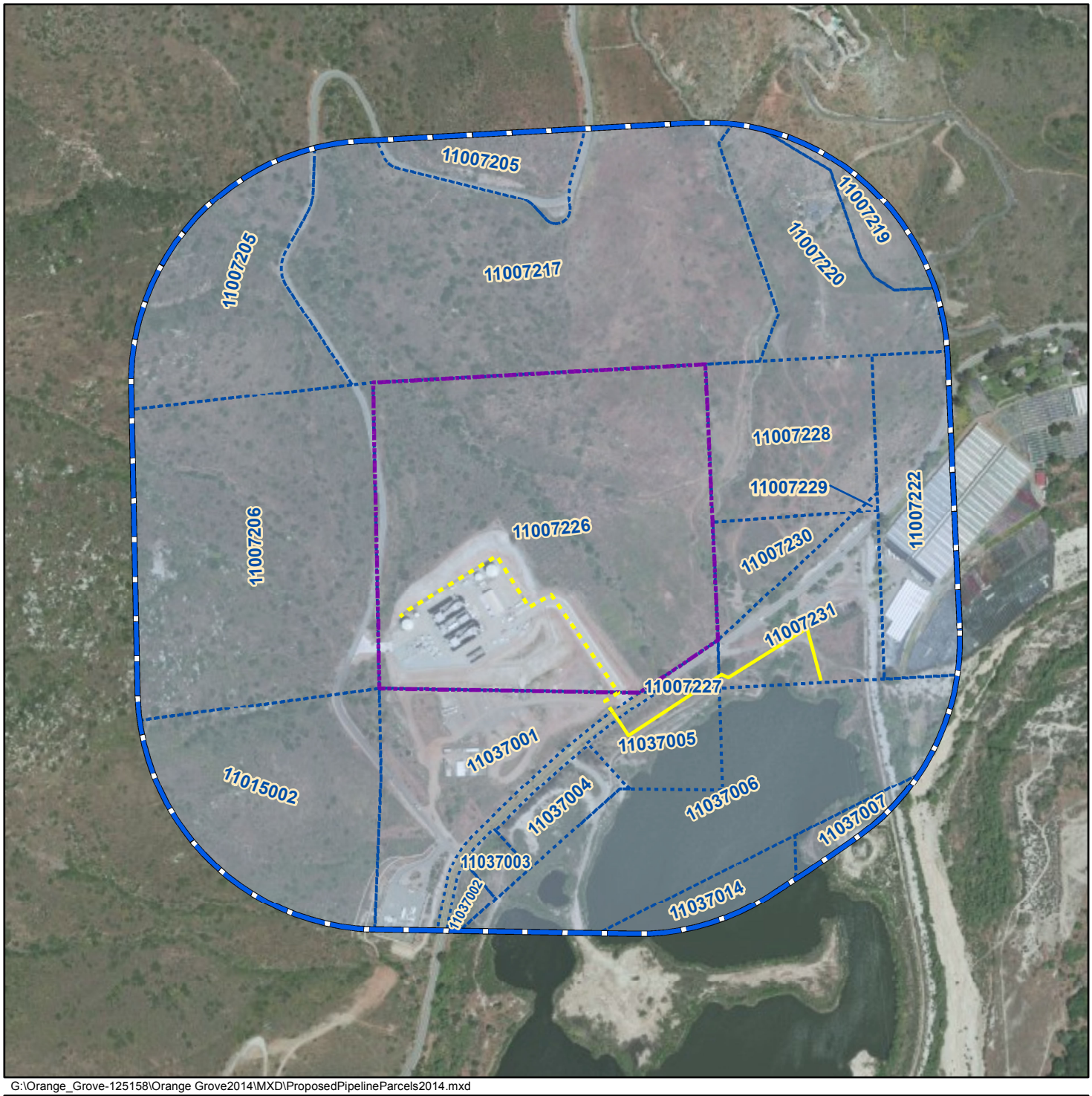
Table M.1 - Parcels Within 1,000 Feet of the Power Plant Parcel

APN	OWNER NAME 1	OWNER NAME 2	OWNER ADDRESS 1	OWNER ADDRESS 2	OWNER ADDRESS 3	ZIP
11037002	PALA BAND OF MISSION INDIANS		35008 PALA TEMECULA RD #PMB50		PALA CA	92059
11037014	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11015002	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11007226	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11037003	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11007206	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11007219	GARDINERA WILLIAM I		10690 HIGHWAY 76		PALA CA	92059
11037001	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11007230	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11007228	SAN DIEGO GAS&ELECTRIC CO		CALIFORNIA STATE ASSESSED			00000
11007229	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11007227	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11007231	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11007217	D F I PROPERTIES L L C		4120 DOUGLAS BLVD #306-521		GRANITE BAY CA	95746
11037004	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11037006	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11037005	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059
11007205	SAN LUIS REY RIVER HABITAT CONSERVATION PRESERVE L L C		4120 DOUGLAS BLVD #306-521		GRANITE BAY CA	95746
11007222	ZALESCHUK VICTOR S TRUST 10-29-02		10693 HIGHWAY 76		PALA CA	92059
11007220	CHUNG JAE YUL&CHOON HO	JUNG JI HO	10692 HIGHWAY 76		PALA CA	92059
11037007	PALA BAND OF MISSION INDIANS		PMB 50	35008 PALA TEMECULA RD	PALA CA	92059

APPENDIX M

Table M.2 - Parcels Within 1,000 Feet of Recycled Water Pickup Station

APN	OWNER NAME	OWNER ADDRESS			
10152014	UNITED STATES OF AMERICA(CAMP PENDLETON)	PUBLIC AGENCY			00000
10419017	FALLBROOK PUBLIC UTILITY DISTRICT	PUBLIC AGENCY			00000
10427102	VALLEY VIEW M H P L L C	8 PINEHURST LN	NEWPORT BEACH CA		92660
10427103	FALLBROOK PUBLIC UTILITY DISTRICT	PUBLIC AGENCY			00000
10427146	PARKHOUSE L L C	C/O GAGGERO	1855 ALTURAS RD	FALLBROOK CA	92028
10427201	HUTCHERSON FAMILY TRUST 06-16-99	478 JOSTEN WAY	FALLBROOK CA		92028
10427202	GERTEN FAMILY TRUST 01-10-05	1627 YORK TER	SALINE MI		48176
10427203	NORTON FAMILY TRUST 06-03-02	265 SUNSET DR	ENCINITAS CA		92024
10427204	DUHACHEK JEFFREY G&ARDIS L	1722 ALTURAS RD	FALLBROOK CA		92028
10427229	BRIGHAM FAMILY TRUST 03-28-91	473 ALI WAY	FALLBROOK CA		92028
10427230	SKINNER FORREST E JR	459 ALI WAY	FALLBROOK CA		92028
10437102	HUNT SHERI	1550 ALTURAS RD	FALLBROOK CA		92028
10437103	WOOLFOLK ROSHARD A	1572 ALTURAS RD	FALLBROOK CA		92028
10437104	COSTELLO ROY H JR&LINDA M	1569 TODOS SANTOS PL	FALLBROOK CA		92028
10437105	SCALZO FRANK V&PIYAWAN	1557 TODOS SANTOS PL	FALLBROOK CA		92028
10437106	GREEN ANDREW M&HOLLY C	1549 TODOS SANTOS PL	FALLBROOK CA		92028
10437201	MATLOVE FAMILY TRUST 10-06-98	495 MERIDA DR	FALLBROOK CA		92028
10437202	479 MERIDA DRIVE PARTNERSHIP	C/O DEBORAH L CHAVEZ	479 MERIDA DR	FALLBROOK CA	92028
10437203	MELNIKOFF LAUREL K TRUST 11-08-01	463 MERIDA DR	FALLBROOK CA		92028
10437204	FURLEIGH FAMILY TRUST 08-26-02	1581 TODOS SANTOS PL	FALLBROOK CA		92028
10437230	STEPHENS KEVIN F	1500 W 11TH AVE #24	ESCONDIDO CA		92029
10437231	FINIZIO ANTHONY	1627 YUCATAN WAY	FALLBROOK CA		92028
10437232	RONALD KERRY T	470 MERIDA DR	FALLBROOK CA		92028
10437233	FILO FAMILY 2002 TRUST 05-14-02	27185 HEMINGWAY CT	MENIFEE CA		92584
10437234	BATEMAN LONNIE B&LOUISE M	498 MERIDA DR	FALLBROOK CA		92028
10437235	MILLER HARRY&LUCIA FAMILY TRUST 10-14-96	148 E OLYMPIA ST	CHULA VISTA CA		91911
10437236	JONES KIRKLAND&JENNIFER	431 CANCUN CT	FALLBROOK CA		92028
10437237	MASON GAYLE T	445 CANCUN CT	FALLBROOK CA		92028
10437238	HICKS JOSEPHINE TRUST 09-08-87	26591 EL MAR DR	MISSION VIEJO CA		92691
10437239	CARPENTER ALLYSON	473 CANCUN CT	FALLBROOK CA		92028
10437241	VONRAVENSBERG PAUL C LIVING TRUST 10-21-91	P O BOX 987	FALLBROOK CA		92088
10437242	KALISUCH BARBARA A	454 CANCUN CT	FALLBROOK CA		92028
10437243	CHAMBLISS BARBARA L	442 CANCUN CT	FALLBROOK CA		92028
10437244	FERRAL THERESE L	428 CANCUN CT	FALLBROOK CA		92028
10437245	CORONA RICHARD&MARIANNA	412 CANCUN CT	FALLBROOK CA		92028



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Orange Grove Project

Figure M.1 - Nearby Parcels

- New Pipeline Installation (SDG&E Property)
- New Pipeline Installation (SDG&E Easement)
- OGPP 40-acre Parcel Boundary
- 1000-foot radius from OGPP 40-acre Parcel
- Nearby Parcels

0 500 1,000 1,500 Feet

N

Date: 5/5/2014

TRC

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Orange Grove Project

Figure M.2 - Parcels Surrounding the Recylcled Water Pickup Station

- Water Pickup Station
- FPUD Property Boundary
- 1000-foot radius from Water Pickup Station
- Surrounding Parcels

1 inch = 300 feet

0 250 500 750 Feet

N

Date: 5/8/2014

TRC

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community