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MEMORANDUM

To:	Patrick Brown (Soitec)
From:	Trey Driscoll, Senior Hydrogeologist
Subject:	Response to Late Comments On the Soitec Solar Final Environmental Impact Report Received From Snyder Geologic, January 30, 2015
Date:	February 3, 2015
Attachment:	Attachment A, Resume

INTRODUCTION

On January 30, 2015, Mr. Scott Snyder, Principal Hydrogeologist of Snyder Geologic, submitted comments to the County of San Diego Board of Supervisors on the Soitec Solar Final Program Environmental Impact Report (FPEIR). This letter provides responses to certain of Mr. Snyder's statements in his comment letter.

On page 1, Mr. Snyder states, "The water demands for construction of the TDS and Rugged sites should be reanalyzed using actual water use data from the Soitec Desert Green Solar project. The actual water use per acre for Desert Green is nearly 60% higher than current projections of water use for TDS and Soitec (and double the original estimates in the Draft EIR), the site conditions of which are similar to De-sert Green. The water demand was already increased by 35% for TDS and 40% for Rugged between the DEIR and the FPEIR due to omissions or initial underestimates of project activities that would use water (Table 9-2, page 9.0-42)."

> Response: The Desert Green Project is located in Borrego Springs, California within the Colorado Desert (also referred to as the Anza-Borrego Desert). The site-specific conditions of the Desert Green Project are not representative of either the Rugged or Tierra del Sol Projects. For instance, the Desert Green Project is located in California Irrigation Management Information System (CIMIS) Evapotranspiration Zone 18 with an average of 71.61 inches of reference evapotranspiration per year compared to the Rugged and Tierra del Sol Projects, which are located in CIMIS Zone 16 with an average of 62.5 inches of reference evapotranspiration per year (i.e. the reference evapotranspiration is 12.7% less at the Rugged and Tierra del Sol Projects). Additionally, the soil texture and type at the Desert Green Project are different at the Desert Green Project (i.e. overall the soils are finer at the Desert Green Project). The Desert Green Project proposed 93,300 cubic yards of grading compared to 29,834 cubic yards for Rugged and 9,429 cubic yards

for Tierra del Sol. As water demand for soil compaction and dust control typically represent 90% of the water demand on a solar project, this alone explains why actual water use per acre for Desert Green is nearly 60% higher than current projections of Rugged and Tierra del Sol Projects. Thus, while the empirical data from the Desert Green Project is useful to understand water demand required for a solar project built on fine sandy soil in a desert, the water demands for Desert Green are not representative of water demand required for the Tierra del Sol and Rugged Projects.

APPENDIX A

Resume

ATTACHMENT A
Resume

Trey Driscoll, PG, CHG – Senior Hydrogeologist

Trey Driscoll is an senior hydrogeologist with over 10 years' experience in the environmental field. Mr. Driscoll specializes in environmental investigations, groundwater supply and remediation, and soil gas studies. Mr. Driscoll brings diverse experience to the project team and has supported numerous projects encompassing a wide range of areas. Mr. Driscoll's project experience includes municipal well design, logging, and construction oversight; municipal well destruction; soil gas surveys for methane; experiments with pilot studies for in situ remediation; water quality and hydrology technical reports; phase I and II site assessments; and exploratory groundwater investigations.

EDUCATION

Hobart and William Smith Colleges, Geneva, New York
BS, Geoscience and Environmental Studies, 2000

CERTIFICATIONS

Professional Geologist (PG), CA No. 8511 (exp. 3/31/2013)

Certified Hydrogeologist (CHG), CA No. 936 (exp. 3/31/2013)

QSD/QSP #20167

PROFESSIONAL AFFILIATIONS

National Groundwater Association

PROJECT EXPERIENCE

Development

Installation of Methane Mitigation System, City of Los Angeles, Los Angeles County, California. Designed and oversaw installation of methane mitigation system for Eleven South, a new 13-story residential building in downtown Los Angeles. Completed plans in accordance with the Los Angeles Department of Building and Safety Methane Mitigation Standard.

Soil Gas Monitoring, San Diego County, California. Managed soil gas monitoring for methane, including the collection, analysis, and reporting of data in compliance with the County of San Diego's former methane testing ordinance, for over 1,000 new homes.

Redevelopment Project, City of Chula Vista, San Diego County, California. Performed phase I site assessments for property undergoing redevelopment.

Education

School Site Monitoring Project, Santa Barbara County Education Office, Santa Barbara County, California. Project geologist/manager for indoor air quality and sub-slab vapor monitoring for school site undergoing investigation for chlorinated solvents in Santa Barbara. Work was performed under the oversight of the California Department of Toxic Substance Control.

Energy

Methane Mitigation Project, San Diego Gas and Electric (SDG&E), San Diego County, California. Inspected proper methane mitigation for transformers, service connections, and distribution trench dams as required by SDG&E.

Weldon Solar Project, Renewable Resources Group, Kern County, California. Performed a hydrology and water quality analysis to determine the potential impact of the project on drainage and to downstream water bodies.

Methane Gas Venting Systems Project, San Diego and Los Angeles Counties, California. Designed, inspected, and certified installation of passive sub-slab venting systems for methane gas.

Municipal

Municipal Water Well Installation Project, Santa Ynez River Water Conservation District Los Olivos, Santa Barbara County, California. As site geologist, supervised installation of four municipal water wells. Conducted aquifer pump tests and logged lithology of borehole for a project funded by the Federal Emergency Management Agency.

Municipal Assessment to Determine the Suitability for Groundwater Development, Lee Lake Water District Corona, Riverside County, California. Project manager for assessment to determine the suitability for groundwater development. Evaluated potential well sites in context of local geology and fault zones, existing wells, water levels, and water quality.

Municipal Water Supply Well Project, U.S. Department of Agriculture, Joshua Tree, San Bernardino County, California. As project geologist, prepared all contract documents, including technical specifications, for project funded by a U.S. Department of Agriculture Rural Development Grant.

Resource Management

Beach Replenishment Material Evaluation, Unified Port of San Diego, San Diego County, California. Project geologist and manager for the project, which involved determining the compatibility of previously dredged material for beach replenishment in accordance with U.S. Army Corps of Engineers guidance.

Monitoring Well Installation Project, Former Crazy Horse Landfill, City of Salinas, Monterey County, California. Geologist for project that included installation of six monitoring wells at a landfill. Responsible for characterizing vertical and horizontal movement of contamination in conjunction with ongoing litigation.

High Groundwater Conditions Evaluation, Cal Sorrento Ltd., San Diego County, California. Geologist for project that involved installation of multiple wells. Conducted 5-day aquifer test to

determine hydraulic properties of alluvial aquifer. Estimated theoretical well spacing required to dewater the site.

Gas Station Site Contamination, Las Vegas, Nevada. As project geologist, oversaw the installation of four monitoring wells and 10 soil borings to characterize site lithology and the vertical and horizontal extent of contamination.

Expansion of Water Treatment Facilities, Cities of Irvine and Indio, Orange and Riverside Counties, California. Prepared water quality and hydrology technical reports in conjunction with environmental impact reports performed under the California Environmental Quality Act (CEQA) for water treatment facilities undergoing expansion.

Phase II Site Assessment for Dry Cleaning Facility, Toluca Properties, City of Oceanside, San Diego County, California. Created a work plan for soil gas sampling and installation of monitoring wells, as well as collection of soil samples to determine soil properties. Conducted soil vapor extraction test to determine radius of influence. Received risk-based closure for the site from the County of San Diego.

Phase II Site Assessment for Leaking Underground Storage Tank Site, Saint Vincent's School, Santa Barbara County, California. Delineated the extent of soil contaminated and developed work plan for removal of petroleum-contaminated soil. Oversaw soil remediation and received closure for site from the County of Santa Barbara.

Evaluation of Contamination, Santa Barbara County, California. Investigated previously unknown hydraulic cylinder uncovered at site in Santa Barbara. Worked in conjunction with regulators to develop soil sampling plan to determine presence of soil contamination. Received closure on site.

Soil Analysis Project, Phoenix, Arizona. Drilled four exploratory soil borings at site to determine soil properties. Involved logging of borehole and collection of soil samples for laboratory analysis. Developed work plan and health and safety plan.

Environmental Analysis Project at MGM Mirage and Mandalay Bay Resort Group Merger, Las Vegas, Nevada. Performed an environmental due diligence audit completed for the researched subsidence in Las Vegas due to groundwater withdrawal and the potential for differential subsidence to impact building foundations. Also investigated faults and fissures in the Las Vegas Valley to determine their potential impacts.

Water/Wastewater

Monitoring Well Installation and Pump Testing, Santa Barbara County, California. Project geologist for the installation of two monitoring wells in the Monterey formation along the Gaviota

Coast. Supervised the drilling, construction, and logging of the wells. Currently conducting pump testing to determine the sustainable yield in accordance with County of Santa Barbara guidance.

Water Supply Well Installation Project, City of Vista, San Diego County, California. Project geologist/manager for the installation of a water irrigation supply well for Vista Sports Park. Supervised drilling, construction, and pumping of an artesian well completed in fractured granite.

Recycled Water Storage Project, City of San Diego, San Diego County, California. Project geologist for the City of San Diego in cooperation with the U.S. Geological Survey evaluating the potential to use the Tijuana River Alluvial Basin for seasonal storage of recycled water.

Remediation Technologies Research, SPX Corporation, City of Stockton, San Joaquin County, California. Researched remediation technologies, including in situ redox manipulation, for use at a site contaminated with metals including hexavalent chromium. Also conducted stormwater investigation to determine source of metals in water. Determined that the degrading asphalt layer at the site was the primary source and developed list of potential remedial options, including phytoremediation.

Sewage Treatment Facility Percolation Study, Rancho Santa Fe, San Diego County, California. Investigated treated effluent wastewater discharges to percolation beds. Installed piezometers and monitored water levels during a percolation study.

Water Treatment Plant Hydrology Study, City of Indio, Riverside County, California. Prepared hydrology study for water treatment plant in Indio under CEQA for plan to update the facility.

Groundwater Management Plan, Rainbow Valley, San Diego County, California. Served as researcher on lithology and hydrology of Rainbow Valley for a groundwater management plan.

Relevant Previous Experience

- Supported in conducting an enhanced in situ bioremediation at two facilities contaminated with chlorinated solvents by injecting ethanol as an electron donor to promote reductive dechlorination by existing bacteria.
- Oversaw drilling of soil borings and logged lithology using both hollow stem auger and mud rotary drilling.
- Supported the implementation of in situ pilot studies using potassium permanganate as a chemical oxidant to degrade chlorinated solvents. Additionally, performed tracer test to determine aquifer characteristics.
- Oversaw geoprobe sampling of groundwater to characterize the extent of a chlorinated solvent plume.

- Prepared groundwater monitoring reports for various sites.
- Performed quarterly monitoring at chlorinated solvent and 1,4-dioxane contaminated sites. These sites are undergoing containment and remediation using pump and treat technologies
- Sampled for the presence of nitrosodimethylamine (NDMA) to determine the viability of a new municipal water well in the vicinity of a plume.
- Created and modified CADD drawings including designs for methane mitigations systems, lithologic logs, and groundwater elevation and concentration maps.

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