DUDEK

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
Date:	January 28, 2015
Attachment:	Attachment A, Resume

INTRODUCTION

On January 13, 2015, Mr. Scott Snyder, Principal Hydrogeologist of Snyder Geologic, submitted comments regarding technical reports prepared for and information presented in the Planning Commission Hearing Report on the Soitec Solar Final Environmental Impact Report (FEIR). More specifically, Mr. Snyder provide detailed comments on the Jacumba Community Services Department (JCSD) Groundwater Resources Investigation Report (GRIR), the Tierra del Sol GRIR, general comments on all GRIR prepared for Soitec Solar Project and included as appendices to the FEIR, and groundwater data and mitigation measures included in the Planning Commission Hearing Report. This memorandum was compiled to address the comments submitted by Mr. Snyder and is organized by issues identified in his comment letter dated January 13, 2015.

COMMENTS AND RESPONSES

Issue Area #1 – JCSD GRIR

- Comment 1: For the 50% reduction in storage calculation, the percent cover of several soil types has changed over the study area between the December 2013 and September 2014 GRIR. Dudek must explain why were these numbers changed and how this affects the amount of water in storage. [underline emphasis included in original comment letter]

  Response to Comment 1: The DRAFT 2014 JCSD GRIR referenced by Mr. Synder is in the process of being prepared by Dudek for the Jacumba Solar Project, which is a separate project from the Soitec Solar projects under consideration by the County of San Diego. The DRAFT 2014 JCSD GRIR remains under development and subject to change, and has not been finalized by Dudek and the County of San Diego. It appears that the DRAFT 2014 JCSD GRIR was erroneously posted on the County's website for the Soitec

Solar Development Project. Accordingly, Mr. Snyder's comments attempting to compare and contrast to the December 2013 JCSD GRIR, which was prepared for the Soitec Solar Development Project, is speculative and premature because the DRAFT 2014 JCSD GRIR remains under development and subject to change. In contrast, the December 2013 JCSD GRIR prepared for the Soitec Solar Development Project is final and requires no updates or amendments.

Nevertheless, the following differences between the two documents explain the differences that Mr. Snyder notes. First, the December 2013 JCSD GRIR did not include those portions of the watershed that lie in Mexico, which the DRAFT 2014 JCSD GRIR did include. Second, the December 2013 JCSD GRIR estimated the thirty-year demand on JCSD Well #4 because historical data was not yet available from JCSD. In contrast, thirty-year demand on Well #4 in the DRAFT 2014 JCSD GRIR was based on data received from JCSD, which indicated that thirty-year demand had been conservatively over-estimated in the December 2013 JCSD GRIR. Third, in the interval between the two reports, JCSD determined that the production cap for Well #4 would be increased from 80,000 gallons per day to 100,000 gallons per day. Finally, there was an erroneous reference value in the alpha file for the DRAFT 2014 JCSD GRIR, which resulted in calculation errors in the column P-(PET + RO) and an erroneous suggestion that groundwater in storage would trend to zero over time.

In sum, the December 2013 JCSD GRIR presented a more conservative analysis of JCSD groundwater resources than the DRAFT 2014 JCSD GRIR, primarily because the watershed analyzed was smaller, the thirty-year demand estimate was nearly double the actual data later provided by JCSD, and JCSD's subsequent determination that a production cap of 100,000 gallons per day, instead of 80,000 gallons per day, would be supportable for Well #4.

- Comment 2: Dudek needs to explain how an apparent 24% increase in groundwater in storage (from 5,495 Acre-Feet [AF] to 6,835 AF) occurred for the basin between the December 2013 and September 2014 reports. [underline emphasis included in original comment letter].

  Response to Comment 2: See response to comment 1, above. This difference is explained by the DRAFT 2014 JCSD GRIR's larger watershed.

- Comment 3: For existing demand on JCSD Well 4, the existing potable demand has been reduced from 7,323 AF over 30 years in the December 2013 report, down to 3,919 AF in

the September 2014 report (potable demand of Well 4 is reduced from 200 acre-feet per year (AFY) to 85 AFY). That is a reduction of existing demand, not projected future conditions. No explanation is given in the text for the reduction. Dudek needs to explain how and why this existing demand has been reduced. [underline emphasis included in original comment letter].

Response to Comment 3: See response to comment 1, above. This is explained by the fact that the December 2013 JCSD GRIR was based on an estimate, while the DRAFT 2014 JCSD GRIR was based on data provided by JCSD.

- Comment 4: In the December 2013 report, the 50% reduction in storage calculation for Scenario 3b results in a reduction in storage down to 52%, just above the threshold for a determination of significance. This did not include water demand for Jacumba Solar at 59 AF. In the September 2014 report, with Jacumba Solar added in to the calculation (but existing demand reduced from 200 AFY to 85 AFY), the resulting reduction in storage level is 78%. Dudek needs to explain how the existing demand can be different between December 2013 and September 2014 and how the change in groundwater in storage can rise from 52% to 78%.[underline emphasis included in original comment letter].

  Response to Comment 4: See response to comments 1 - 3, above.

- Comment 5: The amount of groundwater in storage as reflected in the data sheets (Appendix B far right column) in Appendix B does not match the graphs presented in Section 3.13 of the September 2014 report. Dudek needs to explain how the data were derived for those graphs in Section 3.13. [underline emphasis included in original comment letter].

  Response to Comment 5: See response to comment 1 - 3, above.

- Comment 6: In several years the amount of groundwater in storage is shown as zero. The reason for this needs to be explained by Dudek. [underline emphasis included in original comment letter].

  Response to Comment 6: See Response to Comment 1, above. This error is attributable to a reference error in the alpha file.

- Comment 7: The data in column "P-(PET+RO)" of Appendix B in the 2013 report are in many cases, orders of magnitude different than the same output column of the report in

September 2014. Dudek needs to explain this. [underline emphasis included in original comment letter].

Response to Comment 7: See Response to Comment 1, above.

- Comment 8: Unless Dudek can satisfactorily explain why several key values were changed between the December 2013 and September 2014 report, Dudek needs to recalculate the % reduction in storage using the original maximum storage value of 5,495 AF, existing demand of 200 AFY (not the revised 85 AFY), and include the demand for Jacumba Solar. [underline emphasis included in original comment letter].

  Response to Comment 8: See Response to Comments 1 - 7, above.

Well #4 Production Cap

- Comment 9: In the December 2013 report, Dudek indicated that the historical production cap on JCSD Well #4 has been 80,000 gallons per day (gpd). In the September 2014 report Dudek claimed that the historical production cap of Well #4 has been 100,000 gpd. How can there have been an increase of 20,000 gpd historical cap on Well #4 between December 2013 and September 2014? The cap can't be 80,000 gpd and 100,000 gpd at the same time. Dudek needs to explain why there is a change in the historical production cap. [underline emphasis included in original comment letter].

  Response to Comment 9: See Response to Comment 1, above. In the interval between the December 2013 JCSD GRIR and the DRAFT 2014 JCSD GRIR, JCSD increased its production cap from 80,000 to 100,000 gallons per day

Issue Area #2 – Tierra Del Sol GRIR

Well Interference Calculations and Request for Maximum Flow Rate Restriction (TDS)

- Comment 10: An important item to note with regard to the transmissivity used by Dudek for the well interference calculations at Tierra Del Sol (TDS), is that of the four transmissivities calculated from the aquifer test, Dudek used the second highest, which is 5% higher than the average value. A more conservative approach would be to use either the average value, or the lowest value.

Response to Comment 10: Dudek used the transmissivity whose residual statistics indicated the best fit of the solution methods used to calculate transmissivity. The transmissivity estimated for Well B that best fit the data is 31.53 feet^2/day or 235.84 gallons per day/foot (gpd/ft) using the Theis Recovery solution with a sum of squares of 12.07. Use of the best fit transmissivity is acceptable for purposes of well interference calculations.

- Comment 11: Given the transmissivity value used however, the calculations of drawdown for the 90-day construction period at a flow rate of 18 gpm for wells RM-1 and RM-2 is not 19.9 feet, but rather exceeds the 20-foot threshold at 20.46 feet. This result was calculated using the same numbers provided by Dudek in their GRIR. The reason for the discrepancy is unknown, but it is our opinion that the 20.45 foot result is correct. At 17 gpm, the threshold is not exceeded with a result of 19.32. Based on the inaccuracy of flow meters, a flow rate of 17 gpm, without exceedance, is infeasible.

  Response to Comment 11: There is a rounding error and the correct value for flow rate should be 17.5 gallons per minute. Flow meters used in the water industry have a reported accuracy of plus or minus 0.5 percent. The accuracy of the flow meter is considered sufficiently accurate for compliance purposes.

- Comment 12: The drawdown calculation for the one year timeframe is similarly flawed at RM-1 and RM-2. The drawdown after one year is not 19.9 feet at 11.2 gpm, but rather 20.35 feet. At 11 gpm, the 20-foot threshold is not exceeded.

  Response to Comment 12: There is an error and the correct value should be 11.0 gallons per minute. This equates to 17.74-acre-feet per year or approximately 18 acre-feet per year (rounded). The identified error appears to be in rounding to 18 acre-feet and back calculating to 11.2 gallons per minute.

- Comment 13: While a total extracted volume cap has been placed on Well B for the peak construction period, a *maximum flow rate has not been placed on the well*. Based on our analysis, if the well is used at the maximum flow rate of 61 gpm, the 20-foot interference criterion is exceeded after only 17 days; at 90 days, the drawdown is 69 feet. At 30 gpm, the 20-foot criterion is exceeded after 35 days; at 90 days the drawdown is 34 feet. At 20 gpm, the criterion is exceeded after 68 days; at 90 days the drawdown is 22.7 feet.

  Response to Comment 13: The flow rate cap of 7 acre-feet over the first 90 day and 18 acre-feet over the 1 year construction period in combination with the water level

thresholds is sufficient to protect off-site wells. If water level response is measured in the off-site wells during or in response to pumping, action will be taken to curtail or cease production.

- Comment 14: Based on the factors above, we request that the County impose a flow rate cap of 15 gpm on Well B during the 90-day construction period, in addition to a commensurate 6 AF total extraction cap. Similarly, we request that a flow rate cap of 10 gpm be placed on Well B for the nine month time period following peak construction.

  Response to Comment 14: The flow rate cap of 7 acre-feet over the first 90 day and 18 acre-feet over the 1 year construction period in combination with the water level thresholds is sufficient to protect off-site wells. If water level response is measured in the off-site wells during or in response to pumping of Well B, action will be taken to curtail or cease production.

- Comment 15: All wells tested at Rough Acres Ranch should have flow rate caps placed on them. For Well 6a the flow rate cap should be 49 gpm, for Well 6b the flow rate cap should be 39 gpm, and for Well 8 the flow rate cap should be 27 gpm. These are the rates at which the wells were tested and the conclusions drawn.

  Response to Comment 15: The production caps in combination with water level monitoring is considered appropriate by the County of San Diego. Thus, flow caps will not be placed on the wells.

Well Testing

- Comment 16: The depth of Well B at TDS is 1,311 feet. No other wells in the vicinity are as deep; the deepest well is 1,000 feet according to the GRIR. The average depth of wells in the area based on the GRIR is 353 feet and the median depth is 299 feet. We are concerned that a deep well, while perhaps not reducing groundwater in storage to less than 50%, could reduce the overall groundwater levels below the depths of shallower wells. Per the GRIR, water-bearing fractures in Well B we encountered at depths greater than nearly every well in the area. If these fractures are connected to fractures used by shallower wells, groundwater levels could be drawn down below the bottom of residential wells.

Response to Comment 16: If the fractures encountered by Well B are connected to fractures used by the shallower off-site wells, a water level response (i.e. drawdown in water level) in the shallow wells will occur because of Well B pumping. Thus, an existing monitoring well network has been established to document baseline water levels and monitor water level changes as a result of pumping Well B.

Drawdown of Nearby Wells during Testing

- Comment 17: Although Dudek claims drawdown was not observed in any off-site wells during testing of Well B, drawdown at GS-2 is apparent in the graph (Figure 21) during the test, but the supporting datalogger readings are not provided in the report, only the 3 manual measurements. Data from the data loggers for GS-2 should be provided.

  Response to Comment 17: Dudek claims that drawdown does not appear to result in any of the off-site wells *as a result of pumping Well B*. It appears Well GS-2 was being pumped by the homeowner during the 72-hour constant rate test (see figure 21 of TDS GRIR). Well GS-2 pump cycles on and off on a pressure switch in order to sustain pressure in an adjacent pressure tank. The water level recovered in Well GS-2 prior to the Well B 72-hour test ending suggests that this is water level recovery from pumping Well GS-2 (see figure 21 of the TDS GRIR) and not the result of pumping Well B. Well GS-2 is reported to be 366 feet deep with a pump depth of 320 feet and a maximum reported production capacity of 65 gpm. Additionally, adjacent off-site wells were pumping during the Well B 72 hour constant rate test including GR-1 (see Figure 19 in the TDS GRIR) and other unmonitored residential wells, which likely influence the water level in Well GS-2.

General Comments on all GRIR

50% Reduction in Storage

- Comment 18: For the 50% reduction in storage calculations for each GRIR, Dudek assumed a groundwater withdrawal rate for residential properties of 0.5 AFY, equivalent to 0.31 gallons per minute (gpm) or 446 gpd. While this may be water use for a typical American family, we feel this extraction rate for residents of the Project area is grossly underestimated for some of the land owners, and at the very least places an undue burden and restriction on residents. The size of the properties for many residents in the area can exceed 10 acres and some own 100 acres or more. In addition, many residents have

livestock or landscaping which both place an additional demand on the water resources. Residential properties have the right to use up to 20,000 gpd without being considered a water intensive use, i.e., without special permission from the County, and this is not factored into the storage calculations. As a conservative approach, the 50% reduction in storage analysis should reflect true "full General Plan build out" by considering the maximum permitted withdrawal by residences, or 22.4 AFY per property. The 50% reduction in storage calculations should be reanalyzed using a 22.4 AFY demand for residential lots. [underline emphasis included in original comment letter].

Response to Comment 18: Assuming groundwater withdrawal of 22.4 acre-feet per year per property is neither representative of the existing water demands nor representative of "full General Plan build out." For comparison, the Tierra del Sol Solar Farm is being capped a production of 18 acre-feet per year for the first year of construction and 7 acre-feet per year thereafter for operation. Residential properties have a correlative right to groundwater in basin with the requirement that water be put to beneficial use.

Well Monitoring

- Comment 19: Due to the heterogeneous nature of hydrogeologic properties of fractured rock, wells within close proximity of the pumping well may not experience effect due to pumping if they do not penetrate the same fracture system as the pumping well, while wells at much greater distance from the pumping wells may be affected if the wells intersect the same fracture network as the pumping well. The County should require Soitec to provide monitoring, in the form of a downhole datalogger for any and all residences that request monitoring, within a two-mile radius of the pumping wells for the duration of the Project. [underline emphasis included in original comment letter].

  Response to Comment 19: The Project will be conditioned to expand the groundwater well monitoring network of the Rugged Solar Farm Project to residential wells within a one-mile radius of pumping wells. With owner's permission, pressure transducers would be installed on wells included in the monitoring network at least oone month prior to groundwater extraction.

- Comment 20: Water levels in residential wells should be monitored daily for the first week of extraction at each location. Reporting of groundwater extraction and water levels should be reported weekly for all extraction areas and any exceedances should be reported within 3 working days. The County should conduct routine, unannounced,

random inspections of the groundwater extraction activities at all of the locations during peak construction and for the first year of the Project. This will serve to check the accuracy and reliability of the imposed groundwater flow rate restrictions recommended above, as well as the accuracy of the monitoring with regard to drawdown of the monitoring wells and adherence to the shutdown criteria. We also request that a consultant selected by the BPG also be permitted to conduct similar random, unannounced inspections of the same with the cost to be borne by Soitec. [underline emphasis included in original comment letter].

Response to Comment 20: As per the Groundwater Monitoring and Mitigation Plans For Tierra del Sol, during the approximately 60 day period of peak construction water demand transducer data will be downloaded weekly at Well B, select on-site monitoring wells and the nearest off-site monitoring wells RM-1, RM-3 and RSD-1. Additionally, a water level threshold of 20 feet of drawdown below baseline will be enforced at offsite monitoring wells GR-1, GS-1, GS-2, LK-1, RSH-1, RSH-2, WHH-1, and any additional offsite residential wells included in the well monitoring network. Please also refer to the Groundwater Conditions prepared for the Tierra del Sol Solar Farm Project.

For Rugged, transducer data will be downloaded on a monthly basis during Project construction. During the approximately 60 day period of peak construction water demand, transducer data will be downloaded weekly at the three pumping wells (Well 6a, Well 6b and Well 8) as well as at the following five monitoring wells: Well 8a, the McCain Conservation Camp Well, MW-SPB, MW-O1, and MW-O2. In addition, pressure transducers would be installed with owner's permission in wells on Assessor Parcels Number (APN) 611-091-07, APN 611-090-02, APN 611-090-20, APN 611-091-14, and APN 611-090-19. At least 90 days prior to project-related extraction, additional residential wells within a one mile radius of pumping Well 8, Well 6a and Well 6b shall be given the opportunity to have their wells added to the monitoring well network by the applicant at no cost to the well owner. Daily monitoring rather than weekly monitoring is not warranted as the 72 hour constant rate test has already indicated initial water level response in the off-site wells. Please also refer to the Groundwater Conditions prepared for the Rugged Solar Farm Project.

Planning Commission Hearing Report

Tierra del Sol Conditions

- Comment 21: Page 1-138: 26.b. Any residential well within a two-mile radius should be able to have well monitoring provided by Soitec at no cost to the well owner.

  Response to Comment 21: See Response to Comment 19, above. In addition, the closest wells to where groundwater pumping will occur will provide the most valuable information. Not only would data collected from wells outside a one-mile radius be of questionable value and likely duplicative of other results from closer wells, but also it would be needlessly onerous to Soitec and logistically challenging to manage.

- Comment 22: The baseline water levels should be made public and input should be solicited from the public.

  Response to Comment 22: See Response to Comment 21, above. The Rugged Solar Farm will be conditioned to implemented pre-construction, construction, and post-construction groundwater mitigation monitoring report for on- and off-site use of groundwater. Please also refer to the Groundwater Conditions prepared for the Rugged Solar Farm Project.

- Comment 23: Page 1-148 42.a. A flow rate cap of 15 gpm should be imposed on Well B. (This rate is expected to result in less than 20 feet of off-site drawdown per the Dudek analysis.) Groundwater flow rates for Well B should be recorded daily.

  Response to Comment 23: See Response to Comment 14, above.

- Comment 24: 42.e. Any residential well within a two-mile radius should be able to have well monitoring provided by Soitec at no cost to the property owner. Water levels in residential wells should be monitored daily for the first week of extraction at each location.

  Response to Comment 24: See Response to Comments 19 and 21, above.

- Comment 25: 42.a. Documentation: Data should be provided to the County Groundwater Geologist weekly.

  Response to Comment 25: As part of on-site Groundwater MMRPs that the Projects would be conditioned to implement, groundwater production data and water level data would be reported to the County Groundwater Geologist on a once every two weeks basis

during the first 90 days of construction and a monthly basis during the remainder of the construction phase of the projects.

- Comments 26 and 27: 42.b and Page 1-149 42c. - Documentation: Should be 3 working day notification.

  Response to Comments 26 and 27: Per the Groundwater MMRP that would be implemented during construction of the Tierra del Sol Solar Farm for on-site groundwater use, if production or water level thresholds are exceeded, pumping of the associated pumping wells would cease and the County Groundwater Geologist would be notified via letter and electronic mail within one working day of the exceedance.

- Comment 28: 43.a. Groundwater production shall be limited to 80,000 gpd.

  Response to Comment 28: Per the Groundwater MMRP that would be implemented during construction of the Tierra del Sol Solar Farm for on-site groundwater use, production caps would be imposed on groundwater extraction activities. At Tierra del Sol, the Project would be conditioned to implement the following production caps:

  > *"Groundwater production shall be metered and monitored at pumping well B with production limited to a sum total of 18 acre-feet extraction during the construction period. Groundwater production shall further be limited to no more than 7 acre-feet extraction during the first 90 days of construction*".

- Comment 29: Page 1-150 43.i. Water level thresholds and groundwater production limits may not be altered.

  Response to Comment 29: The Project would be conditioned such that water level thresholds and groundwater production limits established in the Groundwater MMRPs may not be altered.

- Comment 30: 43. Documentation: Groundwater production and levels must be reported on a weekly basis. Groundwater and level threshold exceedances must be reported within 3 working days.

  Response to Comment 30: See Response to Comment 25 through 27, above.

Rugged Conditions

- Comment 31: Page 1-223, 22. The Walker Residence Well and any residential well within a two mile radius should be able to have well monitoring provided by Soitec at no cost to the property owner.

  Response to Comment 31: The Walker residential well was not monitored due to an obstruction encountered approximately 10 feet below top of casing. See also Response to Comments 19 and 21, above.

- Comment 32: Page 1-232, 37.a. Well 6a flow rate should be capped at 49 gpm, as tested. Well 6b flow rate should be capped at 39 gpm, as tested. Flow rates for each well should be recorded daily.

  Response to Comment 32: Per the Groundwater MMRP that would be implemented during construction of the Rugged Solar Farm for on-site groundwater use, production caps would be imposed on groundwater extraction activities. At Rugged, the Project would be condition to implement the following production caps:

  > *Production Wells 6a and 6b: Groundwater production shall be metered and monitored at pumping well 6a and 6b with production limited to a sum total of 32.7 acre-feet extraction during the construction period. During the peak construction demand period for the Tule Wind project (P09-019) which is anticipated to occur over a 34 to 64 day period, the Well 6a and Well 6b shall not be permitted for use by the Rugged Solar Project and Tule Project at the same time.*
  >
  > *Production Well 8: Groundwater production shall be metered and monitored at pumping well 8 with production limited to a sum total of 12 acre-feet during the construction period. During the peak construction demand period for the Tule Wind project (P09-019) which is anticipated to occur over a 34 to 64 day period, Well 8 shall not be permitted for use by the Rugged Solar Project and Tule Project at the same time.*

  If approved, gpm flow rates would not be imposed during construction.

- Comment 33: 37.b. Well 8 flow rate should be capped at 39 gpm as tested. Flow rates for Well 8 should be recorded daily.

  Response to Comment 33: See Response to Comment 32, above. If approved, gpm flow rates would not be imposed during construction.

- Comment 34: 37.d. Walker Residence Well should be subject to the same 10 foot drawdown criteria.

  Response to Comment 34: During groundwater extraction for construction, a groundwater level threshold of 10 feet of drawdown below baseline conditions shall be enforced at on-site monitoring well MW-O1 and offsite monitoring wells located at APN 611-091-07, APN 611-090-02, APN 611-090-20, APN 611-091-14, APN 611-090-19, and any additional offsite residential wells included in the well monitoring network prior to commencement of project related extraction.

- Comment 35: Page 1-233, 37.h.3. Walker Residence Well and any residential well within a two mile radius should be able to have well monitoring provided by Soitec at no cost to the property owner. Water levels in residential wells should be monitored daily for the first week of extraction at each location.

  Response to Comment 35: In addition to the 12 identified off-site monitoring wells (Well MW-O2, Well 1, Well 2, Well 3, Well 4, Well 5, McCain Conservation Camp Well, Well at APN 611-091-07, Well at APN 611-090-02, Well at APN 611-090-20, Well at APN 611-091-14, Well at APN 611-090-19), additional residential wells within a one mile radius of pumping Well 8, Well 6a and Well 6b shall be given the opportunity to have their wells added to the monitoring well network by the applicant at no cost to the well owner. Please refer to the Groundwater Conditions of Approval for the Rugged Solar Farm Project, and Response to Comments 19 and 21, above.

- Comment 36: Page 1-234, 37.a. Documentation: Groundwater production data and water level data should be reported to the Groundwater Geologist on a weekly basis.

  Response to Comment 36: Per the Groundwater MMRP that would be implemented during construction of the Rugged Solar Farm for on-site groundwater use, groundwater production data and water level data would be reported to the County Groundwater Geologist on a once every two weeks basis.

- Comment 37: 37.b. Documentation: Exceedances should be reported within 3 working days.37.c. Documentation: Exceedances should be reported within 3 working days. 38.a. Production should be limited to 80,000 gpd

Response to Comment 37: Per the Groundwater MMRP that would be implemented during construction of the Rugged Solar Farm for on-site groundwater use, if production or water level thresholds are exceeded, pumping of the associated pumping wells would cease and the County Groundwater Geologist would be notified via letter and electronic mail within one working day of the exceedance. See Response to Comment 32, above regarding production limits.

- Comment 39: Page 1-237, 39. Documentation: Groundwater production and water levels should be reported weekly during peak construction (first 90 days). Exceedances should be reported within 3 working days.

  Response to Comment 39: See Response to Comment 36 and 37, above.

- Comment 40: Page 1-249, 58.a. Groundwater production rates in each well should be limited to Well 6a-49 gpm; Well 6b-39 gpm; Well 8-27 gpm. 58.b. Add Walker Residence Well. 58.f. Add Walker Residence Well.

  Response to Comment 40: See Response to Comment 32, above for production limits. See Response to Comments 19, 21, and 36, above, which state that residential wells within a one mile radius of pumping Well 8, Well 6a and Well 6b shall be given the opportunity to have their wells added to the monitoring well network by the applicant at no cost to the well owner.

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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