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December 14, 2009

Paul Murphey  
Division of Water Rights  
1001 I Street, 14th Floor  
Sacramento, CA 95814

VIA HAND DELIVERY

Re: Water Right Application No. 30166  
Comments on Draft Environmental Impact Report

Dear Mr. Murphey:

The Applicant provides the following comments to the Draft EIR issued October 23, 2009 by the State Water Resources Control Board's Division of Water Rights. As a fundamental premise, the DEIR has concluded that there are no potentially significant project impacts outside of the critically dry periods. Accordingly, these comments focus on only DEIR material relevant to critically dry years.

***I. Material Factual Errors and Inconsistencies in Defining the "Net Change Evaluated in the DEIR".***

A. Input mistakes were made in the description of "project" and "baseline" as set forth in Chapter 4. The DEIR defines the proposed project for the purpose of impact analysis in terms of change in the "30-day average rate" of deliveries from the New and Old Wells combined. (See, e.g., Table 4.1-1 (attached for convenience), pages 4.3-32 and 4.3-3, Impacts 4.3-1, 4.3-2, 4.3-4 and 4.3-7.) However, there are representational and labeling errors in Table 4.1-1. The author of Table 4.1-1 erroneously transferred data (which is correctly stated in Tables 2-1, 4.2-2 and 6-1) and mislabeled rates of flow, specifically:

1. The "30-day average rate (5.34 cfs)" Diversion Type is mislabeled and incorrectly includes a flow rate (5.34 cfs) that is applicable only to "Proposed Project" flow rates and not to "Baseline". 5.34 cfs is intended to be the maximum 30-day average rate for the Proposed Project, as defined in the water right application.

2. The "30-day average rate" for "Baseline" incorrectly inputs 234 AF, which is an error, presumably made when transferring the accurate inputs from Table 6-1. The corrected label describing this diversion type is "Maximum 30-Day Average Rate" and the corrected baseline input should be 339 AF (5.70 cfs)

over the 30 day period of June, 1986, as correctly stated in Table 6-1. When the correction is made the “Net Change Evaluated in the DEIR” for “Maximum 30-Day Average Rate” becomes -21 AF (-0.36 cfs), rather than the 84 AF at 1.4 cfs stated in the DEIR. This erroneous input of data and resulting calculation are the premise for impact analyses, including without limitation, at pages 4.3-32, 4.3-37, 4.3-41, 4.3-43, and 4.3-47. Corrections of such errors in inputs, calculations and resulting impact analyses are required.

3. Further, the “30-day average rate” depicted in the DEIR’s Table 4.1-1 (234 AF for Aug/Sept 1997) purports to reflect the highest 30-day average rate within the 20 years analyzed. In fact, the averaged rate of diversion based on usage for Aug/Sept 1997 is 1.58 cfs and 2.03 cfs respectively (based upon DEIR Table 2-1, with monthly diversions AF/month converted to cfs). Averaging those two months does not result in a defensible highest 30-day average rate that can be contrasted with the “Proposed Project”. The correct label, consistent with the DEIR’s Table 6-1, should be “Maximum 30-Day Average Rate,” and the correct maximum 30 day average rate of diversion should be 5.70 cfs, consistent with baseline usage of 339 AF in June 1986. This 339 AF figure is also consistent with the Maximum Monthly Pumping Volume (AF) correctly reported in “Table 4.2-2, Statistical Analysis of El Sur Ranch Baseline (1985-2004) Irrigation” of the DEIR.

4. The Maximum monthly rate heading is confusing since it is really the Instantaneous Rate and, to be consistent with Table 6-1, would be >6.0 cfs. This correction would result in a “Net Change Evaluated in the DEIR” of -0.16 cfs instead of zero (0.0) cfs.

5. Similarly, the irrigation season baseline “Maximum Monthly Diversion (July 1-Oct 31)” misstates the year for determining baseline maximum as 1997; the correct maximum monthly diversion occurred in September 1990 at an average rate of 4.52 cfs. Because of the Proposed Project’s limitation on maximum monthly diversion (235 af/month for July through October), the correct maximum monthly diversion rate for the proposed project is 3.87 cfs, resulting in a “Net Change Evaluated in DEIR” of -0.65 cfs. The text analysis at pages 4.3-41 and 4.3-43 should be referencing a reduction of 0.65 cfs, because it looks at impacts during the July 1 – October 31 period (see DEIR Table 4.1-1). The data input error materially influenced the characterization of impacts, primarily of Impact 4.3-2 and Impact 4.3-4, as “potentially significant,” and those impact sections must be rewritten in light of the correct data.

6. Please note that the 20-Year Annual Rolling Average erroneously compares a straight average baseline for 20 years (857 AF) against a rolling

average of 1,200 AF to define the maximum change in pumping volume being evaluated. The Applicant reiterates its earlier comments that these are not like measures and cannot be compared to define project pumping. In the same vein, in instances where baseline flows and pumping characteristics can more specifically be determined, as opposed to a 20-year average of years of differing water year categories and monthly variations in flow and diversions, the more refined and therefore accurate baseline should be used, rather than Table A.

The foregoing corrections are made in the below table identified as “Corrected Table 4.1-1”. Attached are copies of Tables 2-1, 4.2-2 and 6-1 from the DEIR, for ease of reference.

**Corrected Table 4.1-1<sup>1</sup>**

<b>Diversion Type</b>	<b>Baseline 1985-2004</b>	<b>Proposed Project</b>	<b>Net Change Evaluated in DEIR</b>
Maximum Annual Usage	1,136 AF (2004)	1,615 AF	+479 AF
Maximum Annual Calculated Diversion Demand <sup>2</sup>	1,441 AF (1997)	1,615 AF	+174 AF
20-Year Annual Rolling Average <sup>3</sup>	857 AF	1,200 AF	+343 AF
Maximum 30-Day Average Rate	339 AF (June 1986) <sup>4,6</sup> (5.70 cfs)	318 AF (5.34 cfs) <sup>4</sup>	-21 AF (-0.36 cfs)
Maximum Instantaneous Rate <sup>5</sup>	> 6.0 cfs	5.84 cfs	< -0.16 cfs
Maximum Monthly Diversion (July 1 - Oct 31)	269 AF (Sept 1990) <sup>6</sup> (4.52 cfs)	230 AF (3.87 cfs)	-39 AF (-0.65 cfs)
Maximum Seasonal Diversion (July 1 - Oct 31)	701 AF (1990) <sup>6</sup>	735 AF	+34 AF

**Table Notes:**

- 1) Recommended changes are highlighted.
- 2) The term “maximum calculated usage” in existing Table 4.1-1 is used to represent the calculation of irrigation diversion demands based on crop water requirements and assumed irrigation efficiencies. This term should be rewritten to more appropriately

reflect its intended meaning; using “maximum annual calculated diversion demand” would be more appropriate.

- 3) The 20-Year Annual Rolling Average erroneously compares a straight average baseline for 20 years (857 AF) against a rolling average of 1,200 AF to define the maximum change in pumping volume being evaluated. The Applicant reiterates its earlier comments that these are not like measures and cannot be compared to define project pumping.
- 4) The 30-day average rate of 5.34 cfs is a maximum in the El Sur Ranch water right application and the DEIR references the +84 AF (1.4 cfs) as a maximum; therefore, it appears that diversion type was mislabeled. The maximum 30-day average baseline value of 339 AF is found in DEIR Tables 2-1, 4.2-2, and 6-1. The origin of 234 AF in the DEIR Table 4.1-1 appears to have been the average of historical diversions in September (269 AF) and October (199 AF) of 1990 DEIR Table 2-1, which is not the maximum 30-day average pumping. The August and September of 1997 historical pumping was 97 and 121 AF, respectively (DEIR Table 2-1).
- 5) The maximum monthly diversion listed in DEIR Table 4.1-1 appears to be the maximum instantaneous rate, because the maximum monthly rate in the El Sur Ranch water right application is 5.34 cfs, not 5.84 cfs. The instantaneous baseline rate of greater than 6.0 cfs is taken directly from DEIR Table 6-1.
- 6) The dates referenced on lines 4, 6, and 7 are incorrect, the dates have been updated in the table. The month and year changes can be confirmed in DEIR Table 2-1.

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B. As a consequence of the data input errors in Table 4.1-1 being carried forward into the DEIR analysis, including Impact 4.1-2 and Mitigation Measure 4.2-2, the allowable diversion rates during dry years would reduce diversions to less than historical levels during dry years such as 1988 and 1990. Therefore, the affected Mitigation Measures are not mitigating for conditions that result from the Project described in the October 2006 El Sur Ranch water right application, but for historical baseline conditions.

C. The errors in Table 4.1-1, on which the direct project impact analyses rely, also affect the cumulative impact analyses; therefore all those conclusions should be modified accordingly.

## ***II. Material Errors in Methodology for Determining Impacts to Flows and Water Quality from Diversions***

A. The DEIR’s determination of streamflow adjacent to the project site relies on a formula that does not always hold true. The formula used is: Monthly Average USGS Flow Rate multiplied by 1.3352, and the product then reduced by 7.771 cfs.

This relationship between flows at the gage and flows entering the POD holds true only if the monthly average flows at the gauge are less than 20 cfs. Further, the formula is not valid for daily flows. See Page 4.2-56. The analyses in Impact 4.2-2 and at page 4.2-66 incorrectly rely upon this formula for conditions when the flow at the USGS gage exceeds 20 cfs.

- B. Further, the DEIR misuses the only data available that describes the drawdown potential for the river system, including the underflow, to conclude that the drawdown potential of 0.17 feet is occurring totally within the surface river stage. The DEIR then uses this mischaracterization to make erroneous findings of impact and frame mitigation. See, e.g., pages 4.2-32, 4.3-40 and Impact 4.3-2, as well as the related cumulative impact analyses. Attached for the convenience of the Consultant, and to ensure a complete record, is piezometer data relevant to this topic (in the form of a CD identified as "App. 30166, SGI 2007 Study, Piezometer Data"), as well as data (in the form of a CD identified as "Hanson Environmental, Inc. El Sur Ranch, DATA FROM 2007 STUDY: BIOLOGY & HYDROLOGY", also marked "burned 6.11.08" and with the word "COPY"), previously submitted to the State Board.
- C. The DEIR reflects no evidence upon which to conclude the existence of measurable river stage impacts due to project diversions. The piezometer data collected by SGI in 2007 does not support this conclusion. It shows that the calculated surface water drawdown effects of the project pumping (assuming the +84 AF "Maximum Monthly Rate" erroneously stated in Table 4.1-1) were not measurable based upon the accepted techniques used to measure fish passage. Effects on fish passage of this low magnitude are merely speculative and necessarily *less than significant* under CEQA. However, when the data input errors in Table 4.1-1, and the impact analyses based thereon are corrected, proposed project pumping, as defined in the DEIR, is less than baseline rates. (See Corrected Table 4.1-1, *supra*.) As such, not even a theoretical nexus between project pumping and surface water drawdown or river stagnation (low DO impact) can be hypothesized. Each of the affected direct and cumulative project impacts assessments should be modified in light of the correct data found in DEIR Tables 2-1, 4.2-2 and 6-1.
- D. Impact 4.3-4, of the DEIR relies upon 2007 Study data for August 31 through September 8 that reflect low dissolved oxygen (DO) concentrations (less than 7.0 mg/L) at several of the River sensors, suggesting a widespread condition. While concluding impact, no data is referenced that specifically correlates the DO readings to diversions. Similarly, for that same period, August 31 through September 8, the DEIR fails to reference the following:

- 1 The average pumping rate during the August 31 through September 8 period was only 2.37 cfs, a rate less than the baseline pumping rate for the month of September (2.60 cfs - DEIR Table A) and thus any effects from this pumping can only be included in baseline conditions.
- 2 The August 31 through September 8 time period included the Labor Day weekend. Heavy upstream water use related to tourism during that period resulted in extremely low flows within the Study Area. Background low flows across some parts of the Study Area were overcome by contributions of low DO in underflow, surfacing from beneath Creamery Meadow.
- 3 The benefit of increased DO concentrations in surface flows resulting from diversion pumping, which reduces the contribution of low DO inflow introduced to the River from beneath Creamery Meadow (SGI 2007 and SGI 2008).

The DEIR should be corrected to describe any link between pumping and water stagnation as well as the low DO levels recorded between August 31 and September 8.

Further, the DEIR's reliance upon low flow data between September 28 and October 4, (a period of low River flow and when both irrigation wells were pumping a combined 5.02 cfs) fails to consider that the low DO concentrations relied upon were measured at a single sensor located near a circumscribed stagnant point in the River, and existed contemporaneously with daily average DO concentrations of 7 mg/L at similar points across the River, including one approximately 22-feet away. These data support the conclusion that project pumping during low River conditions did NOT create widespread low DO conditions within the River. Given the limited area potentially affected, the availability of good DO concentrations in directly adjacent areas, and the extremely low frequency of occurrence, any pumping-related DO impacts should be considered less than significant.

In addition to there being no potentially significant impact on DO requiring mitigation, Mitigation Measure 4.3-4 b is too narrowly constrained. Rather than limiting the permittee to only a possible single method to increase DO levels, the measure should set forth a performance standard or standards to be attained, and should be expanded to allow for any method that achieves the performance standards. See Impact 4.3-4 in summary of Table 3-11.

- E. The DEIR fails to consider the actual Study conditions and arbitrarily chooses to rely upon statistical generalities concerning rainfall year type, based on conditions

that occurred after the Study was concluded. See Page 4.2-46. The DEIR thus mischaracterizes the hydrologic conditions under which the 2004 Study was conducted, stating that it “was conducted during a hydrologically Normal July through October season (mean daily flow rate of 18.42 cfs at the USGS gage station)”. In fact, the 2004 Study ended in mid-October and flow conditions during the study period met the criteria for a “Dry” year type. Late October rainfall, occurring *after conclusion of the study* had the effect of raising the average monthly flows into the “Normal” category.

- F. Mitigation Measures, including MM 4.2-2 as depicted in Table A, on page 4.2-68, erroneously include “mitigation” for diversions that are included in the baseline. The diversions listed in Table A would reduce allowable diversions to a level *below* baseline diversions.

### ***III. Failure to Establish Nexus between Mitigation Measures and Protection of Resources As Required By CEQA***

- A. As noted above, Impact 4.3-1 and Impact 4.3-2 erroneously conclude that project-related draw downs would impact fish passage at transects 4, 10 and 11. There is no evidence of pumping effects on fish passage outside Zone 2 through Zone 4, such as at Passage Transect 11. Passage Transect 10 (PT10) is at the upstream end of the ‘Zone 2 through Zone 4’ section of River and thus, in theory, could be minimally affected by pumping ***at the levels erroneously stated in Table 4.1-1 and evaluated in the impact analyses text.*** However, when the errors in Table 4.1-1 and the impact analyses based thereon are corrected, the project pumping, as defined in the DEIR, is less than baseline pumping.

As such, not even a theoretical nexus between project pumping and surface water drawdown or river stagnation (low DO impact) can be hypothesized anywhere in or out of the Zone of Influence. Each of the affected direct and indirect resource impact assessments which are based on the erroneous data must be reconsidered in light of the correct data found in DEIR Tables 2-1, 4.2-2 and 6-1. See also Corrected Table 4.1-1, above.

- B. The mitigation measures premised on exceedance flows at the gage (MM 4.3-1, 4.3-2, 4.3-4) are not directly related to river stage requirements for fish passage. Due to the data input errors in Table 4.1-1, they “mitigate” for conditions associated with baseline pumping, which by definition are not project impacts. See Table A, page 4.3-38. Even analyzed by comparing total volumes of water, the DEIR cannot make a nexus to resource or water quality impacts without first showing an impact related to seasonal rates of flow.

- C. The limitations set forth in Table A are inconsistent with the text of Mitigation Measure 4.2-2 and inconsistent with historical flow exceedance records. The values for USGS limiting flow rates in Table A are different than the values in Tables 4.2-1 (page 4-2.5), 4.3-7 (page 4.3-36) and 4.3-9 (page 4.3-40) and those calculated from USGS daily flows.

**Table 1 - Summary of the Differences between the Mitigation Measure Description in the Text and DEIR Table A.**

<b>Months</b>	<b>Mitigation Measure Text (DEIR Page 4.2-69)</b>	<b>DEIR Table 6 (DEIR Page 4.2-70)</b>
July August September October	Limit diversion to monthly baseline rates when Big Sur flows are below 10 <sup>th</sup> percentile and until Big Sur flows exceed 20 <sup>th</sup> percentile (mean daily flows).	Limit diversions to monthly baseline rates when Big Sur flows are below 20 <sup>th</sup> percentile (mean daily flows).
January February March April	Limit diversion to monthly baseline rates when Big Sur flows are below 5 <sup>th</sup> percentile and until Big Sur flows exceed 10 <sup>th</sup> percentile (mean daily flows).	Limit diversions to monthly baseline rates when Big Sur flows are below 10 <sup>th</sup> percentile (mean daily flows).
June November	Limit diversions to monthly baseline rates when Big Sur flows are below 10 <sup>th</sup> percentile (mean daily flows).	Limit diversions to monthly baseline rates when Big Sur flows are below 10 <sup>th</sup> percentile (mean daily flows).

- D. Impact 4.2-4 Implementation of the proposed project could substantially alter the existing drainage pattern of the POU through increased irrigation rates that could result in substantial erosion or siltation on- or off-site (page 4.2-70). The DEIR characterizes this as a potentially significant impact. The impact statement does not consider the provisions of the operational limitations and continuing operating principles in the water right application that prevent substantial erosion or siltation. Additionally, the greatest runoff and erosion potential occurs from precipitation events, not irrigation, which is negligible by comparison.



**IV. Failure to Assess Feasibility of Mitigation Measures**

CEQA requires that mitigation measures be feasible, which is defined as a measure “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” Guidelines section 15364. In addition to proposed mitigation measures that are unjustifiably broad requiring “mitigation” for pumping that is part of the baseline, and remediation of fish passage and water quality characteristics that are part of the existing environmental setting and unrelated to the Project, the DEIR has failed to assess the feasibility of its proposed mitigation measures, in light of known labor, facility and economic constraints of the ranch.

**V. The DEIR’s Cumulative Impact Analysis Is Flawed**

A. Cumulative Impact Context:

The Cumulative Impact Analyses of the DEIR must be re-written to address fundamental data input errors requiring changes to “Net Change Evaluated in the DEIR” and any resultant impact and mitigation analyses. In addition, the following issues should be considered. The following discussion of cumulative impacts is not intended to be exhaustive, but illustrative.

A cumulative impact results from the combination of an adverse impact of the project together with related impacts caused by "other projects causing related impacts". Guidelines section 15130(a)(1). A project’s incremental effect is only cumulatively considerable if it is significant when viewed in connection with the effects of other past, current and probable future projects. Guidelines 15065(a)(3).

B. Cumulative Impact 4.3-1

In the discussion of Impact 4.3-1, the statement appears that, “While baseline pumping conditions by definition do not require mitigation under CEQA, the effect of baseline pumping on fish passage in critically dry conditions, serves to magnify any adverse cumulative effect of project pumping on aquatic resources.” Similar statements appear elsewhere in the DEIR. Such statements are incorrect. The total impact of all pumping (as well as upstream diversions) on fish passage is already documented by the measurements made by SGI and Hanson Environmental during the 2004, 2006 and 2007 studies, when pumping included both baseline and project pumping levels, and was conducted in the context of and any other upstream project pumping. Accordingly, these measurements do in fact document the “cumulative” effect of the ESR project pumping and any "other

projects causing related impacts", regardless of those "other projects causing related impacts" not being adequately identified in the DEIR.. Since these measurements and the corrected data demonstrate the lack of El Sur Ranch pumping impacts on fish passage, habitat and aquatic water quality, there is no "cumulative impact" to be found, magnified or otherwise.

C. Cumulative Impacts 4.3-9, 4.3-10 and 4.3-12

The cumulative impact analyses contained within Impacts 4.3-9 (page 4.3-49), 4.3-10 (page 4.3-50) and 4.3-12 (page 4.3-51) are conclusory, lacking a minimal degree of specificity or detail. Each of these impacts statements recite without evidentiary support that there are other existing water users within the Big Sur River whose extractions are expected to continue. On this basis, the DEIR concludes that reductions in stream flow due to diversions of these other water uses, combined with direct project impacts (which are erroneously assessed for the reasons described in this letter), could lead to a significant cumulative impact. The mere identification of existing water users within the lower river falls short of the CEQA requirement to identify past, present and future projects. Guidelines 15065(a)(3). Analysis premised on such non-specific cumulative development is legally inadequate. (See *San Joaquin Raptor/Wildlife Rescue Center v County of Stanislaus* (1994) 27 CA4th 713.) Rather than identifying past, present or future projects, the DEIR impermissibly treats baseline environmental conditions as related projects. Furthermore, as discussed above, any diversions from past or present projects are already folded into the existing conditions and measurements documented by the 2004, 2005 and 2007 studies. No future projects are identified. Unless some additional future projects are identified and the incremental effects of those projects are estimated, there is no basis to conclude that direct project impacts may "make a cumulatively considerable incremental contribution to a significant cumulative effect." Guidelines Section 15130(a).

D. Cumulative Impacts 4.2-11

The DEIR acknowledges at page 4.2-81 that "potential project-related increases in erosion and sedimentation in no way affect cumulative conditions within the Big Sur watershed upstream of the project site." However, the DEIR errs in concluding that "the cumulative context for this impact, therefore, is limited to past and ongoing irrigation practices **within the proposed project site boundaries**, and the potential for erosion and sedimentation related to those practices." (Page 4.2-81, emphasis added.)

This approach, which conflates the existing environmental setting and baseline conditions **within the proposed project site boundaries** with **"other projects causing related impacts"** under Guidelines section 15130(a)(I), is inconsistent

with the description of the baseline conditions elsewhere in the DEIR, and contrary to the purpose of cumulative impact analysis under CEQA and the Guidelines.

More specifically, the internal inconsistency is as follows: the DEIR concludes that the environmental setting when the NOP was issued on June 2, 2006 constitutes the baseline physical conditions against which impacts of the project will be evaluated. By attempting to characterize effects associated with "increases in irrigation on the project site ***“in combination with past and ongoing practices within the POU”***, as cumulative (page 4.2-81, emphasis added), the DEIR creates an irreconcilable inconsistency with the established environmental baseline. *Baseline* conditions on the project site cannot combine to produce cumulative impacts. Guidelines Section 15355 (cumulative impacts consist of two or more individual *project* effects which, considered together, are considerable or increase other environmental impacts).

As a result of improperly including the baseline conditions on the EI Sur Ranch as part of "other projects", the cumulative impact analysis effectively modifies the definition of the "project" for the purpose of cumulative impact analysis. This shifting project definition for purposes of cumulative impact analysis is inconsistent with CEQA's requirement of a stable project definition.

The analysis of Impact 4.2-11 is also contrary to the purpose of the cumulative impact analysis, which is to avoid considering project impacts in a vacuum, due to the failure to consider cumulative harm. (*Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 408.) Since the DEIR acknowledges that no other projects affect cumulative conditions within the Big Sur watershed upstream of the project site (page 4.2-81), there is no cumulative harm to assess. Any potentially adverse effect of the project on erosion and sedimentation is necessarily limited to direct project effects.

The analysis of Impact 4.2-11 can be rendered internally consistent with the balance of the DEIR, and compliant with the Guidelines and CEQA, by determining that "the proposed increase in pasture irrigation in combination with past practices on the project site do not contribute to substantial alterations in the drainage pattern of the POU and increased erosion or siltation on- or off-site."

## **VI. General Comments**

The DEIR contains numerous inconsistent statements within its text and as between tables purporting to represent data and analysis. Several of the comments herein, including the errata set forth below, highlight such inconsistencies, but in no way reflect

all such errors. ESR requests the Board to conduct a thorough review of the document and correction of all such inconsistencies. .

- A. Mitigation Measure 4.2-2 on Page 4.2-68 inappropriately contains a statement that the measure would reduce the proposed project impacts to less than significant, but that continued pumping at baseline levels would result in adverse effects. This statement, also found elsewhere in the document, has no place in a CEQA evaluation, because the baseline diversions are part of the existing environmental conditions. This statement should be removed from the mitigation measure. However, based on the errors in Table 4.1-1 described earlier, this entire Mitigation Measure should be deleted from the DEIR.
- B. Page 4.2-71: The last paragraph states that, "a greater intensity of cattle grazing (as a result of increase irrigation) could cause or contribute to surface conditions more susceptible to erosion." Increased irrigation levels do not dictate herd size. The DEIR's conclusion based on its faulty assumption should be corrected.
- C. Mitigation Measure 4.3-2(a) establishes a 20 percentile threshold between July 1 and October 31, whereas Mitigation Measure 4.2-2 establishes a 10 percentile for the same period in the text on page 4.2-2. The text of MM 4.3-2 does not match MM 4.2-2. However, based on the errors in Table 4.1-1 described earlier, both of these Mitigation Measures should be deleted from the DEIR.
- D. At Page 4.3-43, the DEIR makes a reference to Section 4.1 in support of the conclusion that the project maximum diversion rate is 1.4 cfs per day based upon an 84 AF increase in pumping. Then at 4.3-47, Section 4.0 is cited in support of this conclusion. Neither Section supports this erroneous 84 AF increase.

Sincerely,

KRONICK, MOSKOVITZ, TIEDEMANN &  
GIRARD



Janet K. Goldsmith

Attachments:

- 1. Copies of Tables 2-1, 4.2-1, 4.2-2 and 6-1 from the DEIR, for reference
- 2. Application 30166 cd SGI 2007 Study Piezometer Data
- 3. ESR Data from 2007 Study Biology & Hydrology

cc: Rick Hanson  
James J. Hill, III

## ATTACHMENTS

Copies of Tables 2-1, 4.2-1, 4.2-2 and 6-1 from the DEIR, for reference:

<b>TABLE 2-1</b>													
<b>EL SUR RANCH HISTORICAL DIVERSIONS (ACRE-FEET)<sup>1</sup></b>													
<b>Year</b>	<b>Jan</b>	<b>Feb</b>	<b>Mar</b>	<b>Apr</b>	<b>May</b>	<b>Jun</b>	<b>Jul</b>	<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Annual</b>
1975	0	0	0	0	38	193	206	206	133	83	1	3	840
1976	3	34	48	58	212	188	190	201	189	40	51	0	1212
1977	0	0	138	203	198	228	180	190	183	108	119	84	1611
1978	0	0	0	0	164	153	125	125	221	153	0	0	940
1979	0	0	0	0	59	229	206	208	168	182	0	0	1032
1980	0	0	0	0	23	228	196	188	186	75	107	37	1037
1981	0	0	0	0	143	204	215	230	180	93	0	0	1045
1982	0	0	0	0	120	200	202	184	203	136	1	0	1048
1983	0	0	0	0	14	15	208	133	81	48	0	0	478
1984	30	0	0	241	262	262	253	301	177	213	0	0	1737 <sup>2</sup>
1985	0	0	0	0	240	272	231	210	32	0	0	0	984
1986	0	0	0	0	105	339	189	199	127	0	32	0	1012
1987	0	0	0	0	0	275	284	205	198	10	0	0	950
1988	0	0	0	239	21	265	88	71	99	215	76	0	1054
1989	0	0	0	0	35	71	92	79	161	134	0	0	572
1990	0	0	0	50	143	82	80	173	269	199	64	0	1021
1991	17	0	0	0	52	198	191	138	116	170	0	57	934
1992	0	0	0	0	287	267	116	99	241	119	0	0	1099
1993	0	0	0	0	159	178	202	219	147	97	0	0	992
1994	0	0	0	0	111	139	102	102	182	33	0	0	669
1995	0	0	0	0	97	83	225	155	201	111	0	0	982
1996	0	0	0	0	129	164	170	184	190	128	8	0	973
1997	0	0	0	118	150	122	94	97	121	98	0	0	800
1998	0	0	0	0	0	20	140	123	109	71	5	0	468
1999	0	0	1	0	85	89	106	177	127	90	0	0	675
2000	0	0	0	0	37	208	129	118	191	35	0	0	714
2001	0	0	0	0	39	188	174	118	158	21	0	0	697
2002	0	0	0	0	161	174	135	104	105	88	0	0	767
2003	0	0	0	0	6	144	205	125	142	102	37	0	780
2004	0	0	0	94	253	199	155	161	177	96	0	0	1138
30-year average	2	1	6	33	110	178	188	161	159	97	17	5	937
20-year rolling average 1985-2004	1	0	0	37	104	172	152	143	155	90	11	3	857

Notes:  
<sup>1</sup> Based on analysis of electrical energy usage by pump motors and pump efficiency test.  
<sup>2</sup> New well added in 1984.  
 Source: El Sur Ranch Water Right Application No. 30166, revised October 17, 2005.

<b>TABLE 4.1-1</b>			
<b>WATER RIGHT APPLICATION NO.30166</b>			
<b>SUMMARY OF BASELINE ASSUMPTIONS AND PROPOSED CHANGES (1985-2004)</b>			
<b>AS EVALUATED IN THIS DEIR</b>			
<b>Diversion Type</b>	<b>Baseline<sup>1</sup> 1985-2004</b>	<b>Proposed Project<sup>2</sup> 19 years plus next year</b>	<b>Net Change Evaluated in the DEIR</b>
Maximum annual usage	1,136 AF (2004)	1,615 AF	+479 AF
Maximum calculated usage	1,441 AF (1997)	1,615 AF	+174 AF
20-year annual rolling average	857 AF	1,200 AF	+343 AF
30-day average rate (5.34 cfs)	234 AF (Aug/Sept 1997)	318 AF	+84 AF
Maximum monthly rate	5.84 cfs	5.84 cfs	+0 cfs
Maximum monthly diversion (July 1 – Oct 31)	269 AF (Sept 1997)	230 AF	- 39 AF
Maximum seasonal diversion (July – Oct 31)	701 AF (1997)	735 AF	+34 AF
<b>Notes:</b>			
1. See Table 2-1, this DEIR (1985-2004 historic average with two wells in operation).			
2. El Sur Ranch Application No. 30166, revised October 17, 2006			
Source: El Sur Ranch Application No. 30166, revised October 17, 2006; ESR Technical reports (SGI 2005, 2006).			

TABLE 2-1													
EL SUR RANCH HISTORICAL DIVERSIONS (ACRE-FEET) <sup>1</sup>													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1975	0	0	0	0	36	193	206	206	133	63	1	3	840
1976	3	34	48	58	212	188	190	201	189	40	51	0	1212
1977	0	0	138	203	198	228	180	190	183	108	119	64	1611
1978	0	0	0	0	164	153	125	125	221	153	0	0	940
1979	0	0	0	0	59	229	206	208	168	162	0	0	1032
1980	0	0	0	0	23	226	196	188	186	75	107	37	1037
1981	0	0	0	0	143	204	215	230	160	93	0	0	1045
1982	0	0	0	0	120	200	202	184	203	136	1	0	1048
1983	0	0	0	0	14	15	206	133	61	46	0	0	476
1984	30	0	0	241	262	262	253	301	177	213	0	0	1737 <sup>2</sup>
1985	0	0	0	0	240	272	231	210	32	0	0	0	984
1986	0	0	0	0	105	339	189	199	127	0	32	0	1012
1987	0	0	0	0	0	275	284	205	196	10	0	0	860
1988	0	0	0	239	21	265	66	71	99	215	76	0	1054
1989	0	0	0	0	35	71	92	79	161	134	0	0	572
1990	0	0	0	50	143	62	60	173	269	199	64	0	1021
1991	17	0	0	0	52	196	191	136	116	170	0	57	934
1992	0	0	0	0	267	257	116	99	241	119	0	0	1099
1993	0	0	0	0	159	179	202	218	147	87	0	0	992
1994	0	0	0	0	111	139	102	102	182	33	0	0	869
1995	0	0	0	0	87	83	225	155	201	111	0	0	862
1996	0	0	0	0	129	164	170	184	190	128	8	0	973
1997	0	0	0	118	150	122	94	97	121	98	0	0	800
1998	0	0	0	0	0	20	140	123	109	71	6	0	468
1999	0	0	1	0	85	89	106	177	127	90	0	0	675
2000	0	0	0	0	37	206	129	116	191	35	0	0	714
2001	0	0	0	0	39	188	174	118	158	21	0	0	697
2002	0	0	0	0	161	174	135	104	105	88	0	0	767
2003	0	0	0	0	6	144	205	125	142	102	37	0	760
2004	0	0	0	94	253	199	156	161	177	96	0	0	1136
30-year average	2	1	6	33	110	178	168	161	159	97	17	5	837
20-year rolling average 1985-2004	1	0	0	37	104	172	152	143	155	90	11	3	857

Notes:  
 1. Based on analysis of electrical energy usage by pump motors and pump efficiency test.  
 2. New well added in 1984.  
 Source: El Sur Ranch Water Right Application No. 30166, revised October 17, 2005.

TABLE 4.2-2												
STATISTICAL ANALYSIS OF EL SUR RANCH BASELINE (1985-2004) IRRIGATION												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Monthly Average Pumping Volume (AF)</b>												
Minimum	0	0	0	0	0	20	60	71	32	0	0	0
25th percentile	0	0	0	0	37	114	105	103	120	34	0	0
Median	0	0	0	0	96	176	148	130	152	93	0	0
75th percentile	0	0	0	0.1	152	218	194	179	190	121	6	0
Maximum	17	0	0.6	239	267	339	264	218	269	215	76	57
Mean	0.8	0	0	25	104	172	152	143	155	90	12	3
Standard Deviation	4	0	0.1	60.4	84	83	57	46	54	62	24	13
<b>Monthly Average Pumping Rate (cfs)</b>												
Minimum	0	0	0	0	0	0.34	0.98	1.15	0.54	0	0	0
25th percentile	0	0	0	0	0.60	1.92	1.71	1.68	2.01	0.55	0	0
Median	0	0	0	0	1.56	2.96	2.41	2.12	2.56	1.52	0	0
75th percentile	0	0	0	0	2.47	3.67	3.15	2.91	3.20	1.97	0.10	0
Maximum	0.27	0	0.01	4.01	4.35	5.70	4.29	3.55	4.52	3.50	1.27	0.93
Mean	0.01	0	0	0.42	1.69	2.89	2.48	2.32	2.60	1.47	0.20	0.05
Standard Deviation	0.10	0	0	1.02	1.36	1.40	0.93	0.75	0.91	1.01	0.41	0.21
Notes: Pumping rates are based on relationships developed between electrical usage and pump flow measurements at the well head. Source: PBS&J 2008 and SGI 2006.												



TABLE 6-1

COMPARISON OF ALTERNATIVES' WATER USE

	Irrigated Area (acres)	20-year Average		Annual Maximum		Monthly Maximum		Seasonal (July through October) Average		Seasonal Maximum		Monthly Maximum		Maximum 30 Day Average Diversion Rate (cfs)	Maximum Instantaneous Diversion Rate (cfs)
		acre-foot	inches	acre-foot	inches	acre-foot	cfs	acre-foot	average cfs	acre-foot	average cfs	acre-foot	cfs		
<b>Baseline 1985-2004</b>	267	857	38.5	1,137	51.1	339	5.70	540	2.21	702	2.88	269	4.52	5.70	>6.0 <sup>a</sup>
<b>Project/Alternative Description</b>															
<b>Project</b>	<b>267</b>	<b>1,200</b>	<b>53.9</b>	<b>1,615</b>	<b>72.6</b>	<b>318</b>	<b>5.34</b>	<b>735</b>	<b>3.01</b>	<b>735</b>	<b>3.01</b>	<b>230</b>	<b>3.87</b>	<b>5.34</b>	<b>5.84</b>
<b>1 No Project/No Permit Alternative</b>	25	80	38.5	106	51.1	32	5.70	51	2.21	66	2.88	25	4.52	0.53	>6.0 <sup>a</sup>
<b>2 No Change in Historical Diversions<sup>b</sup></b>	267	857	38.5	1,137	51.1	339	5.70	540	2.21	702	2.88	269	4.52	5.70	>6.0 <sup>a</sup>
<b>3 Alternate Irrigation Efficiency<sup>c</sup></b>	267	862	38.7	946	42.5	146	2.45	430	1.76	453	1.86	138	2.24	2.45	>6.0 <sup>a</sup>
<b>4 Alternative Limitations on Diversion<sup>d</sup></b>	267	1,200	53.9	1,615	72.6	318	5.34	735	3.01	735	3.01	230	3.87	5.34	5.84
<b>Above Base Line</b>															
<b>Project</b>	0	<b>343</b>	<b>15.4</b>	<b>478</b>	<b>21.5</b>	-21	-0.36	<b>195</b>	<b>0.80</b>	33	0.13	-39	-0.65	-0.36	<-0.2
<b>1 No Project/No Permit Alternative</b>	-242	-777	0.0	-1,031	0.0	-307	0.00	-489	0.00	-636	0.00	-244	0.00	-5.17	0
<b>2 No Change in Historical Diversions</b>	0	0	0.0	0	0.0	0	0.00	0	0.00	0	0.00	0	0.00	0.00	0
<b>3 Alternate Irrigation Efficiency</b>	0	5	0.2	-191	-8.6	-193	-3.25	-110	-0.45	-249	-1.02	-131	-2.28	-3.25	0
<b>4 Alternative Limitations on Diversion</b>	0	<b>343</b>	<b>15.4</b>	<b>478</b>	<b>21.5</b>	-21	-0.36	<b>195</b>	<b>0.80</b>	33	0.13	-39	-0.65	-0.36	<-0.2
<sup>a</sup> Based on Table 6-13 measured pumping in 2004 (SGI 2005) <sup>b</sup> Equal to baseline <sup>c</sup> APPROXIMATE VALUES based on historic (1975-2006) monthly Irrigation Requirements and a 80% Irrigation Efficiency <sup>d</sup> Diversion quantities same as Project with proposed operational limitations to reduce impacts. Bold text: Equal to greater than 10% increase over baseline Blue bold text: El Sur Ranch water right Application No. 30166 Request.															