Information from A&B in Response to Order Requesting Information for A&B Delivery Call

December 14, 2007

This summarizes A&B Irrigation District's (A&B) information response to the IDWR Director's Order dated November 16, 2007. The information summarized below is in the same order as the Director's Order. The information is provided on CD organized in directories with the same order as described below.

a. **Information Requested:** Total ground water diversions in acre-feet by month since 1959.

   Information Provided: This information is provided in the spreadsheet, WaterPumpedrevised.xls.

b. **Information Requested:** Average monthly deliveries per headgate since 1959.

   Information Provided: A&B does not keep records in the format requested and has not compiled statistics for the average monthly deliveries per headgate back to 1959. The attached spreadsheet, HeadgateDeliveries.xls provides the total headgate deliveries per user for each well system and the total for each well system by month from 1998 to 2007. The acreage of land served by each well system is presented in the spreadsheet, SystemAcreage.xls. The ditch rider logs showing headgate delivery records for the District water users for previous years are available.

c. **Information Requested:** Average monthly pumping rates since 1959 for each well serving A&B.

   Information Provided: A&B does not keep records in the format requested and has not compiled statistics on the average monthly pumping rate for each well. Total monthly pumping rates are available for each well system since 1995 are provided in the spreadsheet, PumpedAmountsPerPODrevised.xls. Pumping records for each well are not available prior to 1995. The pdf map discussed in Item I below shows the well locations.

d. **Information Requested:** History of conversion to sprinkler irrigation in terms of number of acres irrigated by sprinkler systems versus gravity (annual basis) since 1959.

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Information Provided: Almost all of the District's lands in Unit B have been converted to sprinkler irrigation in an effort to conserve water. This information is provided in the spreadsheet, Unit B Sprinkler Acres.xls. This is an estimate based on the records of total acres in sprinkler for combined Unit A and B and based on the District manager's estimate of the percentage of the total that are within Unit B by year.

e. **Information Requested:** Specific types of crops planted and acreage planted for each crop type since 1959.

   Information Provided: This information is available on the spreadsheet, CropReport.xls, for the combined Unit A and Unit B areas. The District manager reports that there isn't a significant difference in average crop distribution between Unit A or B.

f. **Information Requested:** Available information related to all current and abandoned production wells including the year drilled, original depth, depth of deepening and re-drilling, geologic logs, geophysical logs, well diameter, well construction diagrams, method of drilling, pump settings, yield and specific capacity data.

   Information Provided: The spreadsheet, Well Summary Table with Comments.xls, summarizes much of this information. The spreadsheet, Bowlset.xls, lists the most-current top of pump bowls and bottom of intake. Well logs for each production well are attached in the file, Welllogs.zip. Additional information regarding the modifications and improvements required to improve the wells to maintain supply under declining ground water levels are in the subdirectory "Database". This information includes the pump card, drawdown curves, pump curves, well logs, aquifer pumping test results, well improvement records and notes on other improvements made to wells. A readme file is included to explain how to extract the data. The District does not have geophysical logs. The pdf map discussed in Item I below shows the well locations.

g. **Information Requested:** Map showing the locations of the 40 wells serving A&B discussed in Item 2 of the petitioners Motion to Proceed. The same map should also point out the locations of the 40 wells serving approximately 21,000 acres and the location of that acreage, from which the diversion rate is said to be less than the minimum required for the proper irrigation of these acres.

   Information Provided: The ~40 wells discussed above that currently do not meet irrigation requirements are listed in the spreadsheet, ItemGLands.xls and the locations are shown on the GIS files ItemG*.* and on the pdf file ItemG Wells Lands.pdf.

   The file, Well System Delivery Shortages by Year.xls summarizes the amount of water that is calculated to be delivered at the headgate for each well system for years when wells were not been able to meet the irrigation diversion requirement due to falling ground water levels. The file, Well Summary Table.xls (under Item F above), shows the wells that have been

deepened and improved in an attempt to rectify the shortages. The pdf map discussed in Item I below shows the well locations.

h. **Information Requested:** Location of the 3.5% of A&B's lands that are currently irrigated with ground water not using sprinklers.

   Information Provided: This information has been provided in the spreadsheet, List of Current Gravity Lands.xls and in the GIS files, Gravity.*.

i. **Information Requested:** Hardcopy map or, preferably, GIS shape file showing the locations and well designations of the 7 new wells added, 47 wells deepened, and 7 wells abandoned since 1962.

   Information Provided: This information is summarized on the spreadsheet Well Summary Table with Comments.xls (under Item F above). A pdf file called, 4DC_ABID_district_effect_falling_groundwater_on_wells.pdf shows the locations and status of the wells and the lands that can no longer be served in Unit B from ground water and have been temporarily been served with surface water from Unit A. The GIS files for this map are in the subdirectory called HDR GIS Files described under Item Q.

j. **Information Requested:** Definition of the peak demand period.

   Information Provided:

   Definition of Peak Demand Period
   Peak Demand is the time of the irrigation season that the water irrigation requirement to meet the crop demand is at the highest amount. This generally occurs between the months of late June, July and August and early September. At these times the pump capacity is or has been unable to meet the irrigation requirement in some wells. When the pump capacity can not meet the irrigation requirement, the District restricts deliveries to water users to ration the available supply equally among the water users that share the water supplied from that pump system. This is called "allotment".

k. **Information Requested:** Table with well designations and total ground water level decline since 1959 of the approximately 150 wells mentioned in Item 11 (b) of petitioner's Motion to Proceed. This request could also be accomplished with a map showing well locations and water level decline since 1959.

   Information Provided: This information is provided in the file, A&B Groundwater Data.xls. The pdf map discussed in Item I above shows the well locations.

l. **Information Requested:** Hardcopy map or, preferably, GIS shape file showing locations and designations of wells referenced in Item 11 (a) of the Motion to Proceed that were deepened but did not yield additional water or any other wells that yield no or insufficient water for irrigation when drilled.

Information Provided: This is in the GIS files, ItemLWells.*.

m. **Information Requested:** Map showing estimated saturated thickness of high transmissivity Snake River basalts beneath A&B.

Information Provided: The District does not have this information.

n. **Information Requested:** Table with current or most recent depth to static water level, including data measured, for production wells serving A&B. Water levels measured in other monitoring and non-pumping wells should be added to this table. Static water levels should be measured during the non-irrigation season. This request could also be accomplished with a map showing the well locations and the measured depths to water.

Information Provided: This information is in the spreadsheets, 2007SpringStatic.xls and 2007FallStatic.xls. The pdf map discussed in Item I above shows the well locations.

o. **Information Requested:** Table with most recent pumping level measured in the 177 wells serving A&B.

Information Provided: This information is in the spreadsheet, 2007PumpingLevel.xls. The pdf map discussed in Item I above shows the well locations.

p. **Information Requested:** Hydrographs for all production wells demonstrating range of water level declines.

Information Provided: This information is in the spreadsheet, A&B Groundwater Data.xls, Well plots center.xls, Well plots east.xls, Well plot west.xls. The pdf map discussed in Item I above shows the well locations.

q. **Information Requested:** Hard copy map or preferably, GIS shape file showing the water delivery network and the areas serviced by surface water, ground water and mixed source systems.

Information Provided: A map has been provided showing the original delivery system with the filename, 4DC_ABID_district_facil_1960s.pdf. A second map has been provided (filename, 4DC_ABID_district_facil_current.pdf) showing the areas where the District has

replaced open ditch laterals with pipelines to reduce conveyance losses. The GIS shape files for these maps are attached in the subdirectory called HDR GIS Files.

All of Unit B is supplied with ground water by wells. The location of Unit B lands are shown in the file, 4DC_ABID_district_UNITS.pdf and the GIS files for this map are attached in the subdirectory referenced above. Wells serving approximately 1,323 acres of Unit B lands in the southwestern portion of the Unit B service area have been dewatered and attempts to deepen or replace these wells have not been successful; consequently, these lands are now temporarily supplied with Unit A surface water on an emergency basis. These 1,323 acres are within Unit B and are part of the acreage that is served by Unit B ground water. The location of these 1,323 acres are shown in the map presented in Item I and in the enclosed GIS files and on the spreadsheet, B_lands_Temp_Served_by_A.xls.

r. **Information Requested:** USBR, USGS and private consulting reports dealing with the hydrogeologic setting and/or the design operation and modification of the Unit B irrigation system.

Information Provided: These have been provided under the directory, Background Reports. The previous consulting reports prepared for A&B by HDR are in the directory, Consulting Reports.