

MEMORANDUM OF UNDERSTANDING

REGARDING OPERATION AND MONITORING

OF THE JOINT WATER BANKING PROJECT ON THE

BERRENDA MESA PROJECT

EXHIBIT "T"

MEMORANDUM OF UNDERSTANDING

REGARDING OPERATION AND MONITORING  
OF THE JOINT WATER BANKING PROJECT ON THE  
BERRENDA MESA PROPERTY

This Memorandum of Understanding is entered into the \_\_\_ day of \_\_\_\_\_, 1999,  
by and among BELRIDGE WATER STORAGE DISTRICT, BERRENDA MESA WATER  
DISTRICT, LOST HILLS WATER DISTRICT and WHEELER RIDGE-MARICOPA WATER  
STORAGE DISTRICT, which are collectively referred to as the BERRENDA MESA PROJECT  
PARTICIPANTS, hereinafter collectively referred to as "Project Participants," and

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

hereinafter collectively referred to as "Adjoining Entities."

RECITALS

WHEREAS, the Berrenda Mesa Water District holds title to that certain real property more particularly shown on the map attached as Exhibit "A" to the Agreement Regarding Joint Water Banking Project on the Berrenda Mesa Property (Joint Agreement), and incorporated herein by this reference ("Project Site"); and

WHEREAS, the Project Participants have developed and improved the Project Site as necessary to permit the importation, percolation and storage of water in underground aquifers for later recovery, transportation and use for the benefit of Project Participants, all as more fully described in Exhibit "D" to the Joint Agreement incorporated herein by this reference ("Project");

and

WHEREAS, six wells have been constructed on the Kern County Water Agency's (Agency) Pioneer Property as part of the Project facilities for recovering banked groundwater, hereinafter referred to as the "Pioneer Wells;" and

WHEREAS, the Pioneer Wells and the wells on the Project Site are collectively referred to as the "Project Wells;" and

WHEREAS, Adjoining Entities encompass lands and/or operate existing projects lying adjacent to the Project Site as shown on said Exhibit "A" to the Joint Agreement; and

WHEREAS, in recent years, water banking, recovery and transfer programs in Kern County have become increasingly numerous and complex; and

WHEREAS, it is appropriate and desirable to mitigate or eliminate any short-term and long-term significant adverse impacts of new programs upon potentially affected projects and landowners within the boundaries of Adjoining Entities; and

WHEREAS, Adjoining Entities and Project Participants desire that the design, operation and monitoring of the Project be conducted and coordinated in a manner to insure that the beneficial effects of the Project to the Project Participants are maximized but that the Project does not result in significant adverse impacts to water levels, water quality or land subsidence within the boundaries of Adjoining Entities, or otherwise interfere with the existing and ongoing programs of Adjoining Entities;

NOW THEREFORE, BE IT RESOLVED that, based upon the mutual covenants contained herein, the Project Participants and the Adjoining Entities hereinafter collectively referred to as the "Parties" hereto agree as follows:

Exhibit "I" Memorandum of Understanding  
July 6, 1999

1. Project Design and Construction. Project Participants have completed the Project, including the six wells located on the Agency's Pioneer property, as described in Exhibit D to the Joint Agreement hereto representing the maximum facilities for the Project. Any major modifications of the facilities and/or significant changes from that described in Exhibit D to the Joint Agreement and in the environmental documentation for the Project will be subject to additional environmental review pursuant to CEQA and will be subject to review of the Monitoring Committee prior to implementation.
2. Project Operation. The Project shall be operated to achieve the maximum water storage and withdrawal benefits for Project Participants consistent with avoiding, mitigating or eliminating, to the greatest extent practicable, significant adverse impacts resulting from the Project. To that end, the Project shall be operated pursuant to the Joint Agreement and in accordance with the Memorandum of Understanding between the Berrenda Mesa Water District and the Kern County Water Agency, dated August 31, 1992 attached as Exhibit "C" to the Joint Agreement and the following Project Objectives and the Minimum Operating Criteria:
  - a. Project Objectives. Consistent with the Project Description, the Project Participants will make a good faith effort to meet the following objectives, which may or may not be met:
    - (1) The Parties should operate their projects in such manner as to maintain and, when possible, enhance the quality of groundwater within the Project Site and the Kern Fan Area, as shown at Exhibit "A" to the Joint Agreement.

- (2) If supplies of acceptable recharge water exceed recharge capacity, all other things being equal, recharge priority should be given to the purest or best quality water.
- (3) Each project within the Kern Fan Area should be operated with the objective that the average concentration of total dissolved salts in the recovered water will exceed the average concentration of total dissolved salts in the recharged water, at a minimum, by a percentage equal to or greater than the percentage of surface recharge losses. The average shall be calculated from the start of each Project.
- (4) To maintain or improve groundwater quality, recovery operations should extract poorer quality groundwater where practicable. Blending may be used to increase extraction of lesser quality groundwater unless doing so will exacerbate problems by generating unfavorable movement of lesser quality groundwater. It is recognized that the extent to which blending can help to resolve groundwater quality problems is limited by regulatory agency rules regarding discharges into conveyance systems used for municipal supplies, which may be changed from time to time.
- (5) All groundwater pumpers should attempt to control the migration of poor quality water. Extensive monitoring will be used to identify the migration of poor quality water and give advance notice of developing problems. Problem areas may be dealt with by actions including, but not limited to:

- (a) limiting or terminating extractions that tend to draw lesser quality water toward or into the usable water areas;
  - (b) increasing extractions in areas that might generate a beneficial, reverse gradient;
  - (c) increasing recharge within the usable water area to promote favorable groundwater gradients.
- (6) It is intended that all recovery of recharged water be subject to the so-called "golden rule." In the context of a banking project, the "golden rule" means that, unless acceptable mitigation is provided, the banker may not operate so as to create conditions that are worse than would have prevailed absent the project giving due recognition to the benefits that may result from the project, all as more fully described at paragraph 2(b)12 below.
- (7) The Project should be developed and operated so as to prevent, eliminate or mitigate significant adverse impacts. Thus, the Project shall incorporate mitigation measures as necessary. Mitigation measures to prevent significant adverse impacts from occurring include but are not limited to the following:
- (i) spread out recovery area;
  - (ii) provide buffer areas between recovery wells and neighboring overlying users;
  - (iii) limit the monthly, seasonal, and/or annual recovery rate;
  - (iv) provide sufficient recovery wells to allow rotation of recovery wells or the use of alternate wells;
  - (v) provide adequate well spacing;
  - (vi) adjust pumping rates or terminate pumping to reduce impacts, if necessary;
  - (vii) impose time restrictions between recharge and extraction to

allow for downward percolation of water to the aquifer; and (viii) provide recharge of water that would otherwise not recharge the Kern Fan Basin. Mitigation measures that compensate for unavoidable adverse impacts include but are not limited to the following: (i) with the consent of the affected overlying user, lower the pump bowls or deepen wells as necessary to restore groundwater extraction capability to such overlying user; (ii) with the consent of the affected overlying user, provide alternative water supplies to such overlying user; and (iii) with the consent of the affected overlying user, provide financial compensation to such overlying user.

b. Minimum Operating Criteria.

- (1) The Monitoring Committee shall be notified prior to the recharge of potentially unacceptable water, such as "produced water" from oilfield operations, reclaimed water, or the like. The Monitoring Committee shall review the proposed recharge and make recommendations respecting the same as it deems appropriate. Where approval by the Regional Water Quality Control Board is required, the issuance of such approval by said Board shall satisfy this requirement.
- (2) Recharge may not occur in, on or near contaminated areas, nor may anyone spread in, on or near an adjoining area if the effect will be to mound water near enough to the contaminated area that the contaminants will be picked up and carried into the uncontaminated groundwater supply. When contaminated areas are identified within or adjacent to the Project, the Project Participants

shall also:

- (a) participate with other groundwater pumpers to investigate the source of the contamination;
  - (b) work with appropriate authorities to ensure that the entity or individual, if any, responsible for the contamination meets its responsibilities to remove the contamination and thereby return the Project Site to its full recharge and storage capacity;
  - (c) operate the Project in cooperation with other groundwater pumpers to attempt to eliminate the migration of contaminated water toward or into usable water quality areas.
- (3) Operators of projects within the Kern Fan Area will avoid operating recharge projects in a fashion so as to significantly diminish the natural, normal and unavoidable recharge of water native to the Kern Fan Area as it existed in a pre-project condition. If and to the extent this occurs as determined by the Monitoring Committee, the parties will cooperate to provide equivalent recharge capacity to offset such impact.
- (4) The mitigation credit for fallowed Project land shall be .3 acre-feet per acre per year times the amount of fallowed land included in the Project Site in the year of calculation (which for the present approximately 369 acre Project Site is 111 acre-feet per year).
- (5) The lands described in Exhibit A (369 acres) to the Joint Agreement may be utilized for any purpose consistent with the Memorandum of Understanding

between the Berrenda Mesa Water District and the Kern County Water Agency, dated August 31, 1992 attached as Exhibit "C" to the Joint Agreement, by the Project Participants provided, however, the use of said property shall not cause or contribute to overdraft of the groundwater basin.

In this connection, any consumptive use of water on the Property which exceeds .3 acre-feet per acre (i.e., the mitigation credit) on a acre by acre basis shall be provided from supplemental sources that do not create or contribute to overdraft.

- (6) Each device proposed to measure recharge water to be subsequently recovered and/or recovery of such water will be initially evaluated and periodically reviewed by the Monitoring Committee. Each measuring device shall be properly installed, calibrated, rated, monitored and maintained by and at the expense of the owner of the measuring device.
- (7) It shall be the responsibility of the user to insure that all measuring devices are accurate and that the measurements are provided to the Monitoring Committee at the time and in the manner required by the Monitoring Committee.
- (8) A producer's flow deposited into another facility, such as a transportation canal, shall be measured into such facility by the operator thereof and the measurement reported to the Monitoring Committee at the time and in the manner required by such Monitoring Committee.

- (9) The Monitoring Committee or its designee will maintain official records of recharge and recovery activities, which records shall be open and available to the public. The Monitoring Committee will have the right to verify the accuracy of reported information by inspection, observation or access to user records (i.e., P.G.&E. bills). The Monitoring Committee will publish or cause to be published annual reports of operations.
- (10) Losses shall be assessed as follows:
  - (a) Surface recharge losses shall be fixed and assessed at a rate of 6% of water diverted for recharge.
  - (b) To the extent that Adjoining Entities execute this MOU, to account for all other actual or potential losses (including migration losses), a rate of 4% of water placed in a bank account shall be deducted to the extent that the Project Participant has been compensated within three (3) years following the end of the calendar year in which the water was banked at the SWP Delta Water Rate charged by DWR at the time of payment; provided further, however, that the water purchased and subtracted from a groundwater bank account pursuant to this provision shall only be used for overdraft correction.
  - (c) To the extent that Adjoining Entities execute this MOU, an additional 5% loss shall be assessed against any water diverted to the Project Site for banking by, for, or on behalf of any out-of-County person, entity or organization and/or against any banked water sold or

transferred to any out-of-County person, entity or organization  
(except current SWP Ag Contractors).

- (d) All losses provided for herein represent amounts of water that are non-bankable and non-recoverable by Project Participants.
- (11) Recovery of banked water shall be from the Project Wells. Recovery from other than the Project Wells may be allowed with the consent of the District or entity having jurisdiction over the area from which the recovery will occur and upon review by the Monitoring Committee.
- (12) Recovery of banked water may not be allowed if not otherwise mitigated if it will result in significant adverse impacts to surrounding overlying users. "Adverse impacts" will be evaluated using data applicable in zones including the area which may be affected by the Project of approximately five miles in width from the boundaries of the Project as designated by the Monitoring Committee. In determining "adverse impacts," as provided at this paragraph and elsewhere in this MOU, consideration will be given to the benefits accrued over time during operation of the Project to landowners surrounding the Project Site including higher groundwater levels as a result of operation of the Project;. In determining non-Project conditions vs Project conditions, credit toward mitigation of any otherwise adverse impacts shall be recognized to the extent of the 4% loss and 5% loss recognized under paragraphs 2.b.(10) (b) and (c), for the mitigation credit recognized under paragraph 2.b.(4), if any, and to the extent of recharge on the Project Site for overdraft

correction.

(13) To the extent that interference, other than insignificant interference, with the pumping lift of any existing active well as compared to non-Project conditions, is attributable to pumping of any Project Wells, Project Participants will either stop pumping as necessary to mitigate the interference or compensate the owner for such interference, or any combination thereof. The Monitoring Committee will establish the criteria necessary to determine if well interference, other than insignificant interference, is attributable to pumping of Project Wells by conducting pumping tests of Project Wells following the installation of monitoring wells (if not already completed) and considering hydrogeologic information.

(14) The Kern Fan Element Groundwater Model, with input from the Project Participants and Adjoining Entities, and utilizing data from a comprehensive groundwater monitoring program, may be used by the Monitoring Committee as appropriate to estimate groundwater impacts of the Project.

3. Project Monitoring. Adjoining Entities agree to participate in a comprehensive monitoring program and as members of a Monitoring Committee, as hereinafter more particularly described, in order to reasonably determine groundwater level and water quality information under Project and non-Project conditions. The monitoring program will more particularly require the following:

a. Monitoring Committee. The Project Participants and the Adjoining Entities shall participate in the Kern Fan Monitoring Committee. Such representation shall be

Exhibit "I" Memorandum of Understanding  
July 6, 1999

comprised of one representative of each of the Adjoining Entities (initially \_\_\_) and one representative of each of the Project Participants (initially 4). The Committee shall:

- (1) Engage the services of a suitable independent professional groundwater specialist who shall, at the direction of the Committee, provide assistance in the performance of the tasks identified below;
- (2) Meet and confer monthly or at other intervals deemed to be appropriate in furtherance of the monitoring program;
- (3) Establish a groundwater evaluation methodology or methodologies;
- (4) Prepare a monitoring plan and two associated maps, "Well Location, Water Quality Network," and "Well Location, Water Level Network," which plan and maps depict the location and types of wells anticipated to be used in the initial phase of groundwater monitoring (said plan and maps are expected to be modified from time to time as the monitoring program is developed and operated);
- (5) Specify such additional monitoring wells and ancillary equipment as are deemed to be necessary or desirable for the purposes hereof;
- (6) Prepare annual water balance studies and other interpretive studies, which will designate all sources of water and the use thereof within the study area;
- (7) Develop criteria for determining whether excessive mounding or withdrawal is occurring or is likely to occur in an area of interest;

Exhibit "I" Memorandum of Understanding  
July 6, 1999

- (8) Annually or as otherwise needed determine the impacts of the Project on each of the Adjoining Entities by evaluating with and without Project conditions;  
and
  - (9) Develop procedures, review data, and recommend Project operational criteria for the purpose of identifying, verifying, avoiding, eliminating or mitigating, to the extent practicable, the creation of significant imbalances or significant adverse impacts.
- b. Collection and Sharing of Data. The Adjoining Entities will make available to the Monitoring Committee copies of all relevant groundwater level, groundwater quality, and other monitoring data currently collected and prepared by each. The Project Participants shall annually report, by areas of interest, water deliveries for banking and other purposes and groundwater withdrawals.
- c. Monitoring Costs.
- (1) The cost of constructing monitoring wells and ancillary equipment, as identified in Attachment "A" and incorporated herein by this reference, shall be borne by Project Participants. The cost of any additional monitoring wells and ancillary equipment shall be borne as may be determined by separate agreement of the Project Participants and Adjoining Entities.
  - (2) Each of the parties shall be responsible for the personnel costs of its representative on the Monitoring Committee. In addition, the Adjoining Entities shall be responsible for all costs of monitoring operations and facilities within their respective boundaries and the Project Participants shall be

responsible for all costs of monitoring operations and facilities within the Project Site.

- (3) All other groundwater monitoring costs, including employment of the professional groundwater specialist, collection, evaluation and analyses of data as adopted by the Monitoring Committee, shall be allocated among and borne by the parties as follows: Project Participants = 50%; Adjoining Entities = 50%. Cost sharing among Project Participants shall be as agreed by them. Cost sharing among Adjoining Entities shall be as agreed by them. Any additional monitoring costs shall be determined and allocated by separate agreement of those parties requesting such additional monitoring.
- (4) It is intended that one Monitoring Committee shall deal with all projects operating within the Kern Fan Area. If, as and when existing or additional projects are brought within the purview of the Monitoring Committee, the participants in said projects and the adjoining entities for said projects may join the Monitoring Committee and, upon doing so, shall share in the costs of monitoring operations on the same basis as provided herein for the original parties.

4. Modification of Project Operations. The Monitoring Committee may make recommendations to the Project Participants, including without limitation recommendations for modifications in Project operations based upon evaluation(s) of data which indicate that excessive mounding or withdrawal is occurring or is likely to occur in an area of interest. The Monitoring Committee and its members shall not act in an arbitrary, capricious or unreasonable manner.

5. Dispute Resolution.

- a. Submission to Monitoring Committee. All disputes regarding the operation of the Project or the application of this agreement, or any provision hereof, shall first be submitted to the Monitoring Committee for review and analysis. The Monitoring Committee shall meet and review all relevant data and facts regarding the dispute and, if possible, recommend a fair and equitable resolution of the dispute. The Monitoring Committee and its members shall not act in an arbitrary, capricious or unreasonable manner. In the event that (1) the Monitoring Committee fails to act as herein provided, (2) any party disputes the Monitoring Committee's recommended resolution or (3) any party fails to implement the Monitoring Committee's recommended resolution within the time allowed, any party to this agreement may seek any legal or equitable remedy available as hereinafter provided.
  
- b. Arbitration. If all of the parties agree that a factual dispute exists regarding any recommendation of the Monitoring Committee made pursuant hereto, or implementation thereof, such dispute shall be submitted to binding arbitration before a single neutral arbitrator appointed by unanimous consent and, in the absence of such consent, appointed by the presiding judge of the Kern County Superior Court. The neutral arbitrator shall be a registered civil engineer, preferably with a background in groundwater hydrology. The arbitration shall be called and conducted in accordance with such rules as the contestants shall agree upon, and, in the absence of such agreement, in accordance with the procedures set forth in California Code of Civil Procedure section 1282, et seq. Any other dispute may be pursued through a court

of competent jurisdiction as otherwise provided by law.

- c. Burden of Proof. In the event of arbitration or litigation under this Agreement, all parties shall enjoy the benefit of such presumptions as are provided by law but, in the absence thereof, neither party shall bear the burden of proof on any contested legal or factual issue.
  - d. Landowner Remedies. Nothing in this agreement shall prevent any landowner within the boundaries of any party from pursuing any remedy at law or in equity in the event such landowner is damaged as a result of projects within the Kern Fan Area.
6. Term. This agreement shall commence on the day and year first above written and shall continue in force and effect until terminated by (1) operation of law, (2) unanimous consent of the parties, or (3) abandonment of the Project and a determination by the Monitoring Committee that all adverse impacts have been fully eliminated or mitigated as provided in this agreement.
  7. Complete Agreement/Incorporation Into Banking Agreements. This agreement constitutes the whole and complete agreement of the parties regarding Project operation, maintenance and monitoring. Project Participants shall incorporate this agreement by reference into any further agreement they enter into respecting banking of water in or withdrawal of water from the Project Wells.
  8. Future Projects. With respect to any future project within the Kern Fan Area, the Parties hereto shall use good faith efforts to negotiate an agreement substantially similar in substance to this MOU.

Exhibit "I" Memorandum of Understanding  
July 6, 1999

9. Notice Clause. All notices required by this agreement shall be sent via first class United States mail to the following and shall be deemed delivered three days after deposited in the mail:

Project Participants

Adjoining Entities

Paul Hendrix  
Belridge Water Storage District  
P.O. Box 1087  
Bakersfield, CA. 93302

Harry Starkey  
Berrenda Mesa Water District  
2100 "F" Street, Suite 100  
Bakersfield, CA 93301

Phil Nixon  
Lost Hills Water District  
3008 Sillect Avenue  
Bakersfield, CA. 93308

William Taube  
Wheeler Ridge-Maricopa  
Water Storage District  
P.O. Box 9429  
Bakersfield, CA 93389-9429

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Notice of changes in the representative or address of a Party shall be given in the same manner.

10. California Law Clause. All provisions of this agreement and all rights and obligations of the parties hereto shall be interpreted and construed according to the laws of the State of California.

11. Amendments. This agreement may be amended by written instrument executed by all of the parties. In addition, recognizing that the parties may not now be able to contemplate all the implications of the Project, the parties agree that on the tenth anniversary of implementation

of the Project, if facts and conditions not envisioned at the time of entering into this agreement are present, the parties will negotiate in good faith amendments to this agreement. If the parties cannot agree on whether conditions have changed necessitating an amendment and/or upon appropriate amendments to the agreement, such limited issues shall be submitted to an arbitrator or court, as the case may be, as provided above.

12. Successors and Assigns. This agreement shall bind and inure to the benefit of the successors and assigns of the parties.
13. Severability. The rights and privileges set forth in this agreement are severable and the failure or invalidity of any particular provision of this agreement shall not invalidate the other provisions of this agreement; rather all other provisions of this agreement shall continue and remain in full force and effect notwithstanding such partial failure or invalidity.
14. Force Majeure. All obligations of the parties shall be suspended for so long as and to the extent the performance thereof is prevented, directly or indirectly, by earthquakes, fires, tornadoes, facility failures, floods, drownings, strikes, other casualties, acts of God, orders of court or governmental agencies having competent jurisdiction, or other events or causes beyond the control of the parties. In no event shall any liability accrue against a party, or its officers, agents or employees, for any damage arising out of or connected with a suspension of performance pursuant to this paragraph.

IN WITNESS WHEREOF the parties have executed this agreement the day and year first above written at Bakersfield, California.