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7 Contractors Water Authority

8 **BEFORE THE STATE WATER RESOURCES CONTROL BOARD**  
9 **OF THE STATE OF CALIFORNIA**

10 In the Matter of

11 **Periodic Review of the 1995 Water**  
12 **Quality Control Plan for the San**  
13 **Francisco Bay/Sacramento-San Joaquin**  
14 **Delta Estuary**

**TESTIMONY OF SAN JOAQUIN RIVER**  
**EXCHANGE CONTRACTORS WATER**  
**AUTHORITY: TESTIMONY OF CHRIS**  
**WHITE, P.E. ON ISSUE 2: SOUTHERN**  
**DELTA ELECTRICAL CONDUCTIVITY**

Hearing Date: March 15, 2005  
Time: 9:00 a.m.

15  
16 1.0 My name is Chris White, and I am a Registered Civil Engineer (California RCE  
17 48073, August 1991). Since 1991 I have worked within the region that includes the service area  
18 of the San Joaquin River Exchange Contractors Water Authority on issues relating to irrigation  
19 and drainage. For the last 11 years, I have served as District Engineer (1993 to today), and then  
20 General Manager (2000 to today) of the Central California Irrigation District. My educational  
21 and work experience is set forth on SJREC-1.

22 2.0 The San Joaquin River Exchange Contractors Water Authority ("Exchange  
23 Contractors") serves an area of approximately 240,000 acres lying adjacent to the San Joaquin  
24 River in the area from the City of Mendota at the South and extending northward approximately  
25 80 miles to Crows Landing. The largest proportion of the service area consists of Central  
26 California Irrigation District approximately 145,000 acres, Firebaugh Canal Water District  
27 consisting of approximately 22,000 acres, and San Luis Canal Company consisting of  
28 approximately 47,000 acres. The Districts are situated on the West side of the San Joaquin

1 River, and have sustained irrigated agriculture since the 1880s. A portion of the Districts lie  
2 downslope and adjacent to the irrigated areas of the San Luis Unit of the Central Valley Project.  
3 SJREC-2 is a map of the Exchange Contractors service area, and SJREC-3 is a map showing the  
4 upslope areas of the San Luis Unit relative to lands within the Exchange Contractors service area.

5 3.0 The Exchange Contractors receive water service primarily from the Delta-  
6 Mendota Canal in exchange for our historic rights to San Joaquin River water, and all of the  
7 CCID, SLCC and FCWD drain into the San Joaquin River.

8 4.0 My purpose for this testimony is to build upon the testimony of Dr. Burt, to  
9 demonstrate how a Vernalis standard of 1.1 mmhos/cm or greater is appropriate. It is critical that  
10 your Water Quality Control Plan of the Southern Delta not be based upon promulgating  
11 unrealistic standards at Vernalis and at upstream points with the intent to stop drainage flows that  
12 have accumulated in the soil profile for over 40 years. We are here today to provide evidence as  
13 to the necessary elements for your plan for salinity as measured at Vernalis and upstream  
14 locations.

15 I would make the following points to you and hopefully provide convincing testimony to  
16 support these points:

17 A. The establishment of salinity standards at Vernalis which simply express  
18 a longing for a pristine San Joaquin River, rather than recognizing that a man-altered river exists,  
19 and is being utilized by the Bureau of Reclamation as a drainage system instead of the San Luis  
20 Drain, are not only unrealistic, they are destructive to the efforts that in fact can be accomplished  
21 to manage salinity and to preserve the beneficial uses of the San Joaquin River. A salt standard  
22 of .7 mmhos/cm EC, especially if adopted as the basis for TMDL loads at upstream points is not  
23 necessary to protect beneficial uses. The harm of the standard is that they destroy beneficial uses  
24 of water and valuable farm land.

25 B. The concept of a Water Quality Control Plan for salinity is fatally flawed  
26 if the Board simply sets a numerical standard for salinity in which upstream agricultural users are  
27 driven to remove surface drainage from the San Joaquin River during the whole irrigation season.  
28 The approach will result in the management of drainage flows only temporarily and will soon

1 devolve into unmanaged poor-quality drainage from shallow groundwater and the destruction of  
2 our productive farm land. The correct approach is to compel the United States Bureau of  
3 Reclamation (Reclamation) to implement and fund their drainage management plan as required  
4 under D-1641. Reclamation has already been ordered by the Court, in accordance with the San  
5 Luis Act, to provide drainage to the San Luis Unit. Reclamation's current use of the San Joaquin  
6 River as a stealth drain is the major cause of water quality degradation. Instead of simply setting  
7 standards that will harm virtually every water user adjacent to the River, the Board needs to  
8 compel Reclamation to deal with the drainage discharges from the San Luis Unit and impacted  
9 down slope lands.

10 Some of your Board Members may not be fully acquainted with the following facts:

11 1.0 The San Luis Act requires that a drainage system be constructed and operated by  
12 the Bureau as a part of the delivery of water to the San Luis Unit. The Bureau failed for a  
13 number of reasons to comply with this requirement.

14 2.0 The San Luis Unit's irrigated lands lie upslope of the Central California Irrigation  
15 District, Firebaugh Canal Water District and San Luis Canal Company. SJREC-3 depicts this  
16 area.

17 3.0 Poor-quality drainage water from the San Luis Unit seeps in the underground  
18 aquifers downslope into Central California Irrigation District and Firebaugh Canal Water  
19 District, and that water is extremely poor-quality.

20 4.0 In addition to the seepage, the failure to have a drainage system results in  
21 groundwater pressures being transmitted downslope to our service areas. A farmer who  
22 conserves the water applied to his crops perfectly in the Exchange Contractors will still find the  
23 tile drainage system for his farm or surface water drains running full of highly saline water. Such  
24 farms may have been irrigated since the early 1900s. SJREC-4 demonstrates the typical way in  
25 which poor-quality water reaches these drains. Your regulatory system treats our farmers as the  
26 dischargers, yet there is absolutely nothing that our farmers within the Exchange Contractors can  
27 do to substantially reduce the drainage flows.

28 5.0 The answer to solving water quality problems in the San Joaquin River is for

1 Reclamation to provide drainage to the San Luis Unit and our adjacent area. Such a plan the  
2 Westside Regional Drainage Plan, has been developed and is based on in-valley disposal. The  
3 plan is implementable by Reclamation, is technically feasible, and modeling shows that it is the  
4 key tool that can be used to meet Vernalis Standards.

5         6.0     The Firebaugh Canal Water District's predecessor and CCID went to Federal  
6 Court in 1963 and again in 1968 to require that the Bureau build and operate its drainage system  
7 for the San Luis Unit as the San Luis Act requires. Each time the Court refused an injunction on  
8 the grounds that the Bureau promised that the export system out of the Central Valley would be  
9 constructed and operated. It was never constructed and operated. Only a collector system for  
10 some 42,000 acres was constructed, and that water was delivered only to Kesterson. That system  
11 was shut down in 1986.

12         7.0     In 2000, finally the 9<sup>th</sup> Circuit in the case of *Firebaugh v. United States* ordered the  
13 Bureau to provide for construction and maintenance of a drainage system for the San Luis Unit.  
14 The Court gave the Bureau the option to consider and implement other options than the physical  
15 San Luis Drain to the Bay, and unfortunately, this has caused the Bureau to delay taking any  
16 action. Since 1985, on the 42,000 acres, and since the early 1970s as to the remaining  
17 approximately 200,000 acres, the Bureau is operating what we refer to as its "Stealth Drainage  
18 System" in which the drainage through shallow aquifers and increases in groundwater pressures  
19 in the downslope areas are causing the drainage of poor-quality water to eventually reach the San  
20 Joaquin River either as surface drainage or as groundwater accretion flows.

21         8.0     In 2000, in its Decision 1641 (the Bay Delta Decision), the SWRCB Board  
22 ordered that by April of 2005, the Bureau of Reclamation provide to the SWRCB its plan for  
23 implementing the drainage system. A plan would seem to require financing. The Bureau has not  
24 provided any reports to your Board. We have asked previously that this Board enforce its  
25 Decision 1641 Order and obtain progress reports and commitments.

26         9.0     Against this backdrop, the SWRCB and its Central Valley Regional Board can  
27 continue to adopt salinity, boron and selenium standards at Vernalis and at upstream locations,  
28 the Regional Water Quality Control Board can pretend that the Bureau's "Stealth Drainage

1 System" in fact is not utilizing the San Joaquin River as a drain, and ignoring the fact that  
2 although the flow of salinity through this River system and the tributaries can be managed to  
3 protect all beneficial uses, it cannot be stopped, and attempting through regulatory standards to  
4 demand .7 mmhos/cm EC at Vernalis and above, is both unnecessary but also unrealistic and  
5 counterproductive.

6 10.0 We believe that a better plan exists, and the key is your rejection of the fiction that  
7 by regulatory requirements and standards, the SWRCB and Regional Board will somehow  
8 prevent the use of the San Joaquin River by the Bureau of Reclamation as a "stealth drain". The  
9 steps in that "better plan" are as follows:

10 A. Reject the idea that by establishing stringent standards for salt at  
11 Vernalis, standards that are not necessary to productively continue agricultural use in the South  
12 Delta, you can return the San Joaquin River to a pristine natural stream. 1.1 mmhos/cm EC  
13 water is routinely applied to crops and soils within the Exchange Contractors, and with modern  
14 farming methods, no adverse effects on yields occur. As Dr. Burt explains, soil leaching and soil  
15 salinity management permit water of much higher salinity to preserve even the most salt-  
16 sensitive cropping.

17 B. Instruct your Regional Board that the mindless regulation of selenium,  
18 boron and salt will only have the effect of guaranteeing that the San Luis Unit farmers and the  
19 poor downslope farmers within the Exchange Contractors where this poor-quality water is  
20 appearing are not the dischargers of these constituents.

21 C. How will that management be evidenced? We have a plan which the  
22 Upslope San Luis Unit Contractors and the Exchange Contractors are cooperatively attempting to  
23 implement called the "Westside Regional Drainage Plan". It involves reducing groundwater  
24 pressures by groundwater pumping both in the San Luis Unit and within the Exchange  
25 Contractors, placing that water in the water applied to the lands and attempting to manage salts  
26 by dilution and blending in the water supplies of both the Upslope areas and the Exchange  
27 Contractors. Simultaneously, the drainage systems will be managed to treat as much salinity,  
28 boron and selenium as practicable by placing segregated and collected drainage waters upon an

1 area which will concentrate salts and, finally, the Bureau of Reclamation installing and operating  
2 a treatment plant by reverse osmosis to physically collect and transport the salts out of the basin.  
3 The Westside Drainage Plan has a price tag of over \$100 million, about one-tenth of the latest  
4 estimate for the San Luis Drain to the Carquinez Strait area. The Plan, however, requires that  
5 discharges continue to the San Joaquin River in a managed fashion at least in the short-run.

6 11.0 The Westside Regional Plan cannot be effective unless it is recognized that  
7 establishing discharge permits for the Grassland Bypass Project, as an example, that require in  
8 2009 that any water entering the San Joaquin River from Salt and Mud Sloughs, have no greater  
9 than 2-ppm selenium or no greater than the .7 mmhos/cm EC that the Regional Board seems to  
10 be patterning after your current standard at Vernalis as an upstream standard, is  
11 counterproductive and contrary to a managed drainage plan. The Westside Regional Drainage  
12 plan will require time to develop and be effective. All those premature requirements will do is  
13 require that we stop all drainage, salt up the land in this area, pack the shallow groundwater with  
14 selenium, boron and salt-enriched water which will accrete and flow into the San Joaquin River  
15 over a period of years in a totally uncontrolled fashion, and do so long after your requirements  
16 have destroyed the productivity of our lands.

17 A. The local interests have found a way to fund a large part of the cost of  
18 this Westside Regional Drainage Plan, but the United States needs to contribute a substantial  
19 amount of the cost and take responsibility for the ultimate treatment first by land disposal and  
20 then by mechanical treatment of the residual drainage water. The Bureau needs your support and  
21 guidance to find the remainder of the money for this effort now.

22 12.0 So what should this Board do in regard to establishing the Salinity Standard in the  
23 South Delta?

24 1. Indicate that you understand that the San Joaquin has a number of  
25 beneficial uses, including both irrigation and drainage, and that since for the last 40 years  
26 drainage water has entered the soil profile and is migrating downstream both in the forms of  
27 pressure and physical water, that the salinity standards have to recognize the inevitability of poor-  
28 quality drainage water flowing into the San Joaquin River for a number of years. Adopt a

1 requirement of 1.1 mmhos/cm EC during the irrigation season at Vernalis to preserve reasonable  
2 and beneficial uses.

3           2.       Order the Bureau, in conformance with your Decision 1641, to come  
4 before you immediately and explain whether they have a different plan than the Westside  
5 Regional Drainage Plan that the local interests, out of desperation and the Bureau delay, have  
6 developed. Ask for assurance of financial contributions to the implementation of that drainage  
7 plan immediately by the United States. The Grassland Bypass Drainage Plan, which currently  
8 collects and segregates the worst quality waters, is facing a requirement that all collected waters  
9 be removed from Mud and Salt Sloughs by 2009 because the drainage water selenium exceeds 2  
10 ppb. If the Regional Board adopts a standards of .7 mmhos/cm EC at upstream locations, taking  
11 its cue from you, even though this standard is not necessary and does not in any way protect  
12 irrigation use as a beneficial use, all local attempts to try to fill in for the Bureau's obvious  
13 neglect and failure will be doomed, and more, not less, saline conditions can be expected at  
14 Vernalis due to uncontrolled drainage and accretion flows.

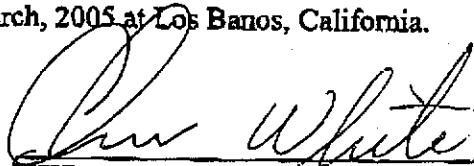
15           3.       Utilizing the powers of the SWRCB under Decision 1641, indicate that  
16 you understand that the plan for drainage through a drain of the Bureau has not been  
17 implemented, and if the Bureau of Reclamation and its funding showed progress toward a  
18 management system for its stealth flows and cooperation with both the San Luis Unit irrigators  
19 and the Exchange Contractors occurs and the plan is implemented immediately, showing promise  
20 of managing salts and that further enforcement using your water right powers would not be  
21 required.

22           4.       Explain to your Regional Board and implement yourself in the review of  
23 the Regional Board regulatory activities, including TMDLs and establishment of upstream  
24 standards, the principle that establishing water quality plan standards based on a longing that the  
25 San Joaquin River be returned to a pristine natural stream is not reality, and it is not necessary to  
26 preserve beneficial uses. Recognize in your plan for the Southern Delta that attempts to regulate,  
27 ignoring that this is a managed waterway accommodating both irrigation and drainage uses will  
28 be counterproductive, destroying the beneficial use of the Exchange Contractors farm land,

1 destroying the efforts to manage the release of drainage water to the San Joaquin in periods and  
2 manners in which the least risk of impairment of beneficial uses will occur.

3 If called to testify in this matter, I could and would testify to each of the above matters,  
4 except as to those matters stated upon information and belief, and as to those matters I believe  
5 them to be true and correct.

6 Executed this 14<sup>th</sup> day of March, 2005 at Los Banos, California.

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9 CHRIS WHITE, P.E.

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**STATEMENT OF QUALIFICATIONS****CHRIS WHITE**

c/o San Joaquin River Exchange Contractors Water Authority  
836 6<sup>th</sup> Street  
Los Banos, Ca 93635  
(209) 827-8616

**Professional Qualifications:** Registered Civil Engineer and Licensed Land Surveyor, California.

**1995 to Present:** Assistant Manager and District Engineer, Central California Irrigation District, Los Banos, California, a member agency of the San Joaquin River Exchange Contractors Water Authority (Exchange Contractors).

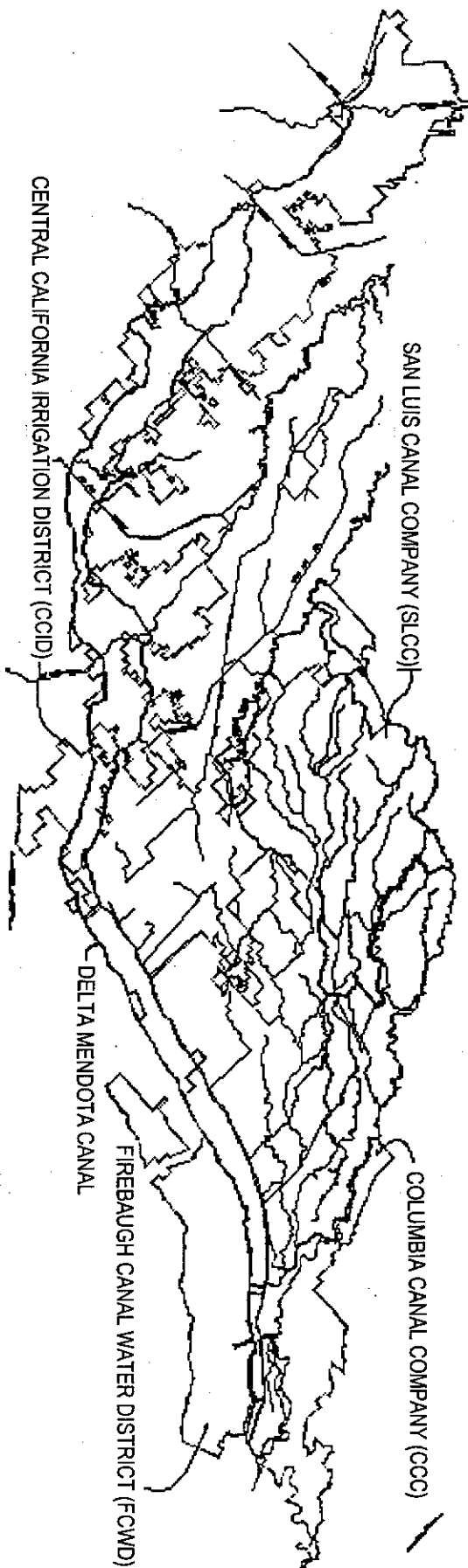
**1993 to 1995:** District Engineer, Central California Irrigation District.

**1991 to 1993:** Project Engineer and Vice President, Stoddard and Associates, Los Banos, California.

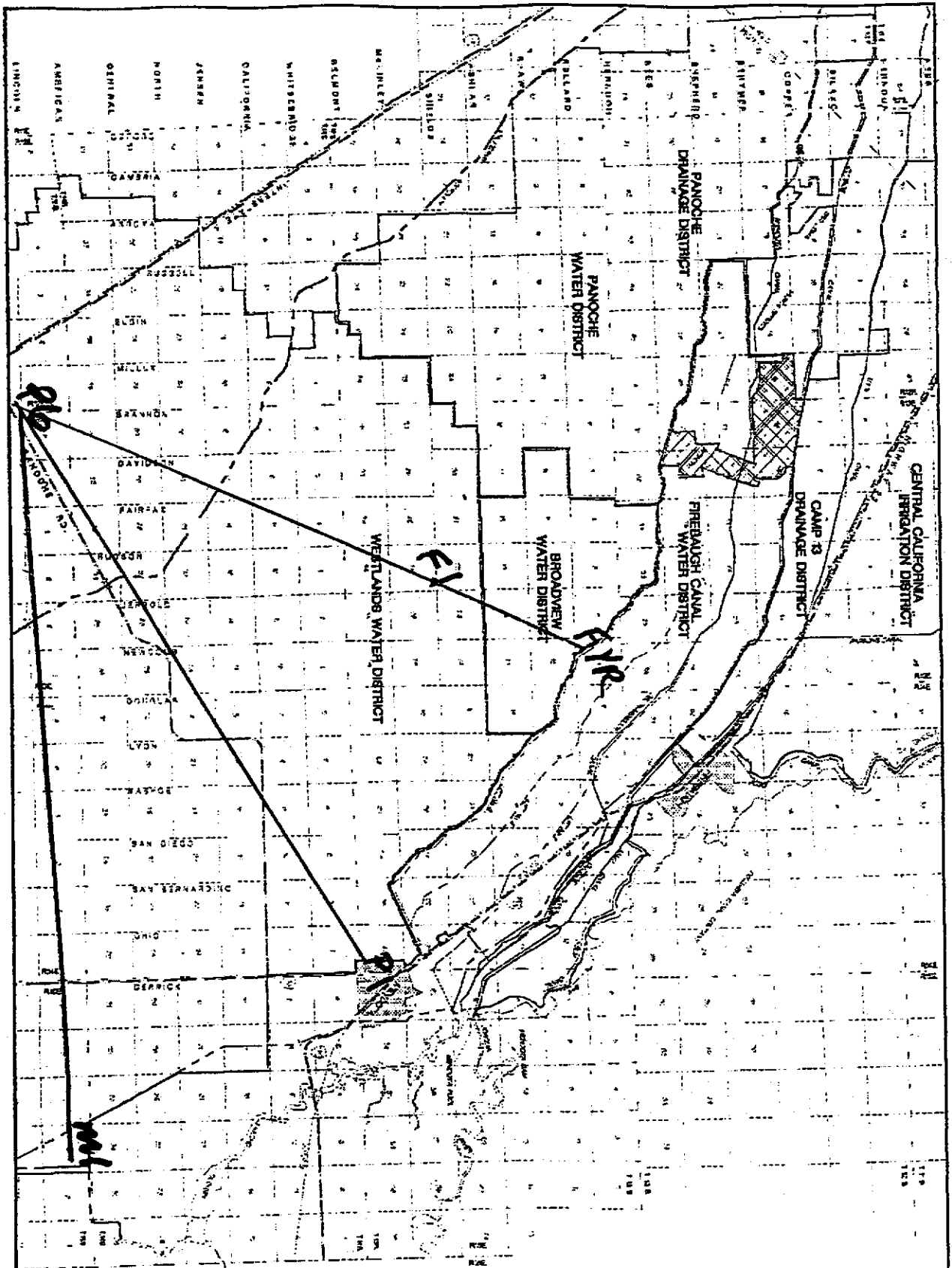
**SJREC-1**

STATEMENT OF QUALIFICATIONS OF CHRIS WHITE

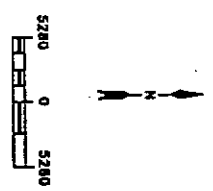
**SAN JOAQUIN RIVER EXCHANGE CONTRACTORS  
SERVICE AREA**



SAN JOAQUIN RIVER EXCHANGE CONTRACTORS  
WATER AUTHORITY  
EXHIBIT SJREC-2



VICINITY MAP  
Exhibit



- GENERAL LEGEND
- IRRIGATION CANAL
  - STATE HIGHWAY
  - ROAD
  - RAILROAD
  - WATERWAY
  - U/I CANAL
  - BRIDGE
  - CANAL
  - CITY
  - LAND NOT PARTICIPATING IN COST OF STUDY

SJREC-3

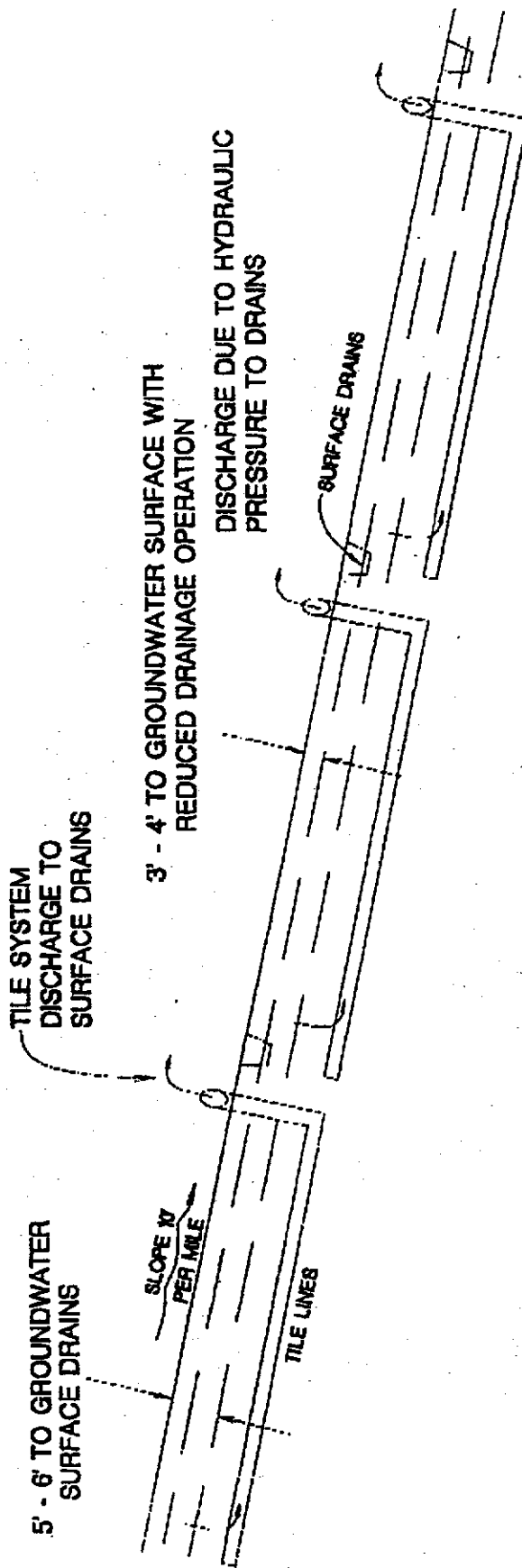


Exhibit  
**TILE DRAINAGE  
 ON  
 LOWER LYING LANDS**

San Joaquin River Exchange Contractors Water Authority

**SJREC-4**  
 DIAGRAM - TILE DRAINAGE ON LOWER LYING LANDS WITHIN SJREC