MEMORANDUM

To: Bill Swan/Jim Renthal/the record
Through: Steve Xmen/Lynn Saline/Ray Brady
From: Ben Lomeli
Date: 10/22/90
Subject: COMMENTS FROM REVIEW OF PRELIMINARY HYDROGRAPHIC SURVEY REPORT

Enclosed please find my comments on the Preliminary Hydrographic Survey Report (HSR), an updated copy of the San Pedro Riparian National Conservation Area (SPRNCA) water rights data base, and a copy of the latest water rights summary for the SPRNCA.

I have also enclosed a signed comment form for your convenience in forwarding comments to DWR after your review.

A complete set of volumes was not available for my review, but instead I had photo copies of most of volume 1, portions of volumes 2, 7, and 8, and BLM - Safford District WFR's within the Sierra Vista and Benson subwatersheds from volumes 3 and 4.

Please do not hesitate to contact me if I can answer any questions or if you need any other information.

OCT 24 1990
OFFICE OF SOLICITOR
ARIZONA

ARIZONA DEPARTMENT OF WATER RESOURCES

COMMENT FORM
FOR THE
SAN PEDRO RIVER PRELIMINARY HYDROGRAPHIC SURVEY REPORT

Please use this form to submit comments on the Watershed File Report pertaining to your property. You may also submit comments on any other Watershed File Report, or on information contained in any part of the nine volumes of the San Pedro River Preliminary Hydrographic Survey Report. If you agree with the information contained in your Watershed File Report, or do not wish to comment on any other information in the Hydrographic Survey Report, then it is not necessary to return this form. IT IS ONLY NECESSARY TO RETURN THIS FORM IF YOU DISAGREE WITH INFORMATION CONTAINED IN THE REPORT AND WANT TO SUGGEST CHANGES THAT SHOULD BE MADE TO YOUR WATERSHED FILE REPORT, ANOTHER WATERSHED FILE REPORT, OR OTHER INFORMATION IN THE HYDROGRAPHIC SURVEY REPORT.

If you have questions regarding the interpretation of your Watershed File Report, Department of Water Resources personnel are available to answer any questions you may have.

Phoenix metro area
542-1520

Within Arizona, outside Phoenix (toll free)
1-800-352-8488

Outside Arizona
1-602-542-1520

If these comments pertain to a Watershed File Report, please enter the Watershed File Report number (found at the top of the file to the right of the name): See Attachment.

Your Name: Ron Lomeli

Organization Represented: U.S. Bureau of Land Management

Address: San Pedro Riparian National Conservation Area
RR 1 Box 9053, Hereford City, Az. 85616

Phone Number: 457-2265

Are you the owner of the property listed in the report? Yes (BLM)

Are you the lessee of the property listed in the report? _____

SRP2

COMMENTS ON PRELIMINARY HYDROGRAPHIC SURVEY REPORT FOR THE SAN PEDRO RIVER WATERSHED

BY: BEN LOMELI, BLM HYDROLOGIST - SPRNCA

VOLUME 1

CHAPTER 1

[pages 25-26]:

Overall, the significance of federal reserve rights is down played. Winters v. U.S. is treated lightly; maintenance of "favorable conditions of flow" is not mentioned. The extension of federal reserve rights to non-Indian reservations by Arizona v. California is not mentioned. Neither is the fact that this protects federal reserve rights from loss due to nonuse (abandonment). Unlike state water rights, the federal reserved water rights provide for future needs (Eagle County v. U.S., 401 U.S. 502; 1971). This also is not even mentioned. The significance Cappert v. U.S. in the San Pedro is not sufficiently emphasized. The inter-relationship of groundwater depletions and infringements on federal reserved rights is an issue of special importance in this basin. The Mimbres decision (U.S. v. New Mexico) did delineate federal reserved water rights to only those uses which were necessary to fulfill the originally intended purpose of the Organic Act of 1897. Only through biased interpretation can anyone say that it "cautioned that the quantification of reserved rights should consider potential effects on downstream junior state right appropriations". No mention is made of McClellan v. Jantzen 547, P.2d 494,496 (1976) which authorizes the State to grant instream flow rights. No mention is made of Pima Farms v. Proctor 245 p.369, 1926 which protects senior surface water appropriators from junior groundwater or surface water appropriators. Both of these cases are of major significance to the San Pedro as is U.S. v. City and County of Denver, where wildlife and recreation were upheld by decree as beneficial instream flow uses for the National Park Service, the Forest Service and the Bureau of Land Management.

[page 38]:

The only values mentioned for riparian vegetation are wildlife habitat and "greenbelts". This reflects a biased, narrow-minded and non-environmental attitude with limited hydrologic and economic vision. (See comments on Chapter 4 for detailed riparian ecosystem values which should be fully recognized in this type of document).

CHAPTER 2

[page 63]:

Second paragraph, last sentence: "Under water table conditions, water simply drains out of the aquifer material by gravity and is thereby made more available for withdrawal from the well by pumping than in the confined aquifer situation." In wells completed in confined aquifers (artesian conditions) water is under pressure and rises to or near the ground surface elevation without pumping. Little or no pump lift is needed to make their water available at the surface. This certainly represents greater availability than unconfined (water table) conditions where lift requirements are usually greater. Some temporary exceptions may exist during high water table periods of the year in the floodplain aquifer.

[page 65]:

First complete sentence: "A cone of depression will continue to expand until an equilibrium state is reached within the aquifer where recharge received is equal to the amount pumped." This is a misleading sentence in need of rearrangement. Equilibrium will never be reached as long as pumpage exceeds recharge and in fact, due to the already huge deficit, areal expansion of the steep cone(s) of depression would continue for some time even if pumpage and recharge were suddenly made equal.

[pages 65-72]:

No mention is made of the nitrate plume from Apache Powder. This is a superfund site which has contaminated the alluvial floodplain aquifer, possibly the regional aquifer, and may even threaten the artesian aquifer. Only the surface water contamination from this site is mentioned later on page 86.

[page 72]:

Second paragraph, third sentence: "Prior to cultural development some of the present day intermittent reaches may have been perennial in nature". This is an excellent quote from Brown et al., 1981. This statement addresses a significant concept that should be used as part of the instream flow and surface/groundwater analyses.

[page 75]:

Figure 2-11 depicts the San Pedro as a perennial river between somewhere north of Palominas to about St. David. The reach of river from Charleston to St. David has gone dry during at least

the last two summers (before the monsoons) and may now be considered an intermittent reach (perennial prior to development).

[page 82]:

At present BLM monitors seven (not twelve) stream flow stations along the upper San Pedro. Two, maybe three more stations might be added.

CHAPTER 3

[page 106]:

Values of riparian ecosystems are many more than the casually mentioned aesthetic and wildlife benefits. Riparian vegetation tends to promote aggredation, enhance on-site infiltration rates (as mentioned) and raise local water tables. (Please see comments on Chapter 4 for a more detailed list of riparian ecosystem values).

Native riparian vegetation does not "clog" water ways. Salt cedar can clog water ways, but this is not a native species.

CHAPTER 4

[page 171-254]:

There is an apparent biased overall treatment of riparian vegetation as "phreatophytes" with negative (water consumptive) values. No positive values of riparian vegetation or of the SPRNCA are mentioned. There is an overall negative value judgement apparent in this chapter.

[page 179]:

Impacts at the Gila river from "phreatophyte uses" in the San Pedro basin are misrepresented. No mention is made of the timing and form of delivery of waters, enhanced infiltration, erosion control, improved water quality or any other positive effects of riparian vegetation on fluvial systems. Transmission losses due to bare soil evaporation would almost equal "natural uses" by "phreatophytes" when accounting for riparian enhanced infiltration. It is not made clear that there is a trade-off between natural uses and evaporation from bare soil and channel water surfaces. Evaporation and evapotranspiration can not both be simultaneously eliminated.

The only real difference is the form and timing of delivery of water with only minor differences in quantities.

Without riparian vegetation peak flows are attenuated only by minimal evaporation from the channel and bare soil. The delivery is a fast one in the form of muddy peak flows.

With proper channel and floodplain development (natural riparian vegetation) peak flows are attenuated due to increased roughness coefficients, enhanced infiltration rates and on-site recharge, long-term aggredation of sediments, and maintenance of natural stream sinuosities. The result is a slower delivery of cleaner waters. More specifically, under these natural conditions, channel banks are protected from erosion, water tables rise, base flows are extended, downstream erosion is reduced, downstream water quality is increased, and detrimental effects of suspended sediments are reduced downstream.

The values of maintaining riparian vegetation in tributaries to the San Pedro River are also many. Basically, the riparian ecosystem must be viewed holistically as a natural system which cannot be expected to function properly if it is fragmented and dismembered. Each tributary contributes naturally regulated flows of water, sediment, and nutrients, while providing temperature buffering effects and biotic diversity to the river. Tributaries are the arms that help maintain the whole riverine system, functioning as a vital part of the basin's dynamically balanced ecosystem.

Riparian tributaries act as wildlife corridors between mountains, uplands and the river by providing habitat continuity to species during migrations. Small pools and shallow subsurface water sources along these washes make excellent aquatic habitats. The vegetation provides cover, food, nesting and roosting areas. These corridors also provide habitat for many insects and reptiles which in turn serve as a base for a complete food chain.

> "Riparian vegetation zones tend to preserve the perennial nature of streams by enhancing hydrologic response within the fluvial network. Watershed values of flood control and water quality are natural benefits of riparian channels". (Chaimson, 1985; Stednick, 1988).

Energy dissipation of peak flows is accomplished naturally through retention and detention, promoted by influences of riparian vegetation on channel configuration. Vegetation slows down flows by increasing the roughness coefficient of the channel and floodplain. This promotes deposition of bedloads and sediment loads, which in turn enhances channel armoring. Such channel configurations will increase storage potentials within the channel and floodplain all year long.

Riparian vegetation does require water for growth, but only during the growing season and not during dormant winter periods. With increased storage potentials, the fluvial system attenuates peak flows and sediment flows. This reduces flooding potentials downstream, while enhancing on-site recharge. The enhancement of

on-site recharge promoted by riparian zones makes available much of the water required for riparian growth. This fact needs to be considered when computing "riparian salvage".

It behooves all of us to encourage and maintain natural benefits derived from riparian vegetated watercourses in the rivers and tributaries. Smaller headwater tributaries present greater opportunities for recharging regional aquifers, than does the San Pedro mainstream which overlies the younger floodplain alluvium.

> "The natural drainage systems which exist generally tend to represent systems which are in a state of dynamic equilibrium, and which have evolved in a manner that accommodates the runoff and sediment loads conveyed through them. In general, the drainage ways have evolved mechanisms, such as vegetation and armoring, which act to stabilize the horizontal and vertical alignment of the channel. The limits of the natural riparian vegetation zone, which usually forms a fairly well-defined belt along drainageways, are perhaps one of the simplest, time-tested indicators of the historical limits of flooding and erosion potential. In view of its use as an indicator of flood and erosion potential, and its immeasurable value as a stabilizing influence on the channel, the natural vegetation zone provides an excellent standard upon which to base a setback criteria for maintenance of the natural drainageway. The (Sierra Vista surface water management) plan is intended to provide a means for protecting the public against the hazards of flooding and erosion associated with surface water runoff, while recognizing that surface water runoff, as well as the natural systems which convey it, are public amenities." (Simons, Li and Associates, 1986).

Cochise County has also recognized riparian values in their floodplain management regulations, stating as one of the purposes:

> "To enhance wildlife and recreation values where appropriate by preserving riparian vegetation and open space along watercourses and floodplains". (Floodplain Board Of Cochise County, 1987).

The County's regulations also call for:

> "Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood waters". (Floodplain Board Of Cochise County, 1987).

Through maintenance of riparian vegetation in the river and its tributaries, water quality of downstream flows will be protected, benefiting the wildlife, fish, irrigation districts, and all other water users.

In addition to water quality, flood control and other hydrologic and watershed values, maintenance of riparian environments throughout the basin provides aesthetic amenities which enhance the general "quality of life". Such environments promote economic incentives associated with a desirable place to visit, recreate, and live in.

[pages 180-181]:

Without riparian vegetation more water would run downstream sooner where it could be captured as turbid peak flows in impoundments and diversions only to evaporate faster than if it were infiltrated and slowly released as base flow or available groundwater. The difference is in better timing, improved channel conditions and increased water quality; not much difference in quantity.

"Dense stands of phreatophytes" which "can cause significant problems for land managers" are not natural (cottonwood willow) riparian conditions, but usually consist of introduced Tamarisk. Over bank flooding is not altogether bad. Infiltration is increased as is on-site recharge and sediment deposition. Decreased downstream velocities are not bad either, this lessens erosion potentials downstream. This is natural and proper floodplain development. Channel capacities are not necessarily reduced, but instead channel configurations are changed and channel entrenchment is healed and discouraged as channels naturally widen.

"Water salvage" as presented, is not a hydrologically valid conclusion because only differences in consumptive rates are examined without considering differences in infiltration rates and on-site recharge potentials. Also, all the other morphologic values of riparian ecosystems have been ignored. A more holistic, long-term analysis is necessary for proper comparisons and environmentally wiser resource management decisions.

[pages 184-193]:

Good analysis of the timing effects of cultural surface and groundwater withdrawals on stream flows. It recognizes changes in water table gradients due to cones of depression. The hydrologic connection between regional groundwater and stream flows in river is also recognized . Limited data used for modeling efforts (Putman et al., 1989) is about 17 years old. Model should be run with larger updated database.

[page 194]:

In discussing transmission losses, this analysis has failed to recognize that increases to stream baseflow can be gained over time with natural riparian growth which promotes proper channel configurations and proper floodplain development.

[page 204]:

Just because it is not seen as surface peak flows all the way downstream, does not mean water is lost from the system. Much of it becomes groundwater and subflow and eventually does reach the mouth of the watershed. Not all is lost to cultural and natural uses (as per last sentence). All of section 4.4 refers strictly to surface flows, and while it is true that such losses occur from the surface component, they are not total losses from the fluvial system as implied.

[page 209]:

Fourth sentence says that at present there are no impacts to the surface water system due to ground water withdrawals in the Sierra Vista area. This is highly debatable. There is a verified large and expanding cone of depression which has to be affecting water table gradients and intercepting regional groundwater that would otherwise reach the river. As mentioned earlier in my comments, certain portions of the river have recently become intermittent, possibly as a result of lower water table gradients in the regional aquifer. It would be more accurate to say that no direct impacts have yet occurred to the streamflow. Indirectly streamflows may have already been diminished to some degree although they have not been totally depleted. Because of underlying geology, the Charleston gage is not the best indicator of streamflow diminishment. The reach between there and St. David may reflect negative changes earlier.

[pages 211-213]:

Irrigated crop lands do not promote high infiltration rates, increases in on-site recharge potentials, proper channel configurations, or proper floodplain development along water courses as do riparian zones. Therefore, the net effect of phreatophyte removal is not a "salvage" as mistakenly calculated by looking only at the differences in consumptive rates.

[page 214]:

The "brightline" (50%/90 days) concept is somewhat hydrologically ambiguous. Smaller shallower wells, with smaller and slower growing cones of depression, would take longer to have the same (or any) effect on streamflow than would larger wells at same

distance. In other words, a smaller well could be closer to a stream and yet not meet the strict technical criteria of 50% of its pumpage coming from subflow within 90 days. If such a well were shallow and did not pump much, it may never create a large enough cone of depression in the regional (basin fill) aquifer to draw any flows from the alluvial (floodplain) aquifer. The criteria itself is not hydrologically unsound, but the idea that a geographic line can be drawn using this criteria, regardless of well discharge is very theoretical and highly debatable. Maybe this concern is administratively addressed by differentiating small wells (catalogued) used for domestic, stockwatering and irrigation of two acres or less, but it is still not completely hydrologically sound. It is not clear whether small wells within the brightline would be classified as catalogued, (zone 3).

Unless completed in perched or non-tributary aquifers, all wells affect streamflow directly or indirectly. Why not let the legal water rights system reflect this hydrologic reality!

Zone 2 should be classified as appropriable water, it is hydrologically connected to streamflows.

[page 216]:

When water table elevations are immediately below streambed elevations, subflow may continue without surface streamflows. Ephemeral and intermittent streams can, and often do, have subflows even though no surface flows are observable. Subflows can occur all year round and may be evidenced by riparian vegetation. Groundwater pumpage can affect the subflows of ephemeral and intermittent streams.

Therefore, in recognizing the connection between groundwater and surface water, it should be recognized that dry season drawdowns of water tables by nearby wells will diminish subflows of some intermittent and ephemeral streams which will require recharge before surface streamflow can once again occur in response to precipitation or snowmelt.

[page 217]:

The concepts of appropriable subflow and brightlines should apply to all water courses which: 1) presently have subflow component, 2) have substrates capable of bearing subflow, and 3) show evidence of having had subflows in the past.

[page 221]:

Same comments as for page 214.

[page 222]:

Natural periodic shifting of channel banks will obligate corresponding shifts in brightline ("a" distances). It may be better to use a defined return period inundation area such as the 100 year floodplain as a more stable reference from which to draw the distance to the brightline.

[page 241]:

Heindl (1952) data may be outdated. Any better estimates possible?

CHAPTER 5

No comments on the general water usages reports. Specific comments are made to each pertinent WFR in later section (Volumes 3 and 4).

CHAPTER 6

[page 415]:

Table 6-1 shows a volume of 553,491 acre feet as the claimed amount for instream flow #application 33-90103. I can not figure out where this number came from.

[page 428]:

Total SPRNCA acreage is now 56,431 not 47,668.

[pages 434-437]:

Table 6-9 (claimed uses by previous owners) was only briefly reviewed. Specific comments are made to each pertinent WFR in later section (Volumes 3 and 4).

[page 439]:

An unexplained large difference exists between the federal reserve right application #39-13610 (11,028 acre feet per annum) and state right application #33-90103 (553,491 acre feet per annum as shown on table 6-1).
The listed source of water for application #39-13610 does recognize zone 2 wells in addition to instream flows. Also an unexplained municipal use is listed for application #39-13610.

[page 445]:

The accurate rendition of flow requirement criteria for successful establishment of southwestern riparian forests (Paxson 1981) should be incorporated into hydrologic analysis (chapter 4).

[page 447]:

Good description of riparian relationship to stream flow dynamics, floodplain development and general riverine morphology is given; (Elliot 1979 and in second paragraph). These fundamental principles (and riparian benefits) should be incorporated into the hydrologic analysis (chapter 4).

[page 448]:

Second paragraph, second sentence: "In the case of the San Pedro River, the base flow represents outflow from the flood plain aquifer, which is continually recharged by the regional aquifer and by rainfall-runoff events (Roeske and Werrell, 1973)" fully acknowledges the hydrologic connection between regional groundwater withdrawals and streamflow.

Since Turner and Brown's report of 1981, the reach between Charleston and St. David has become intermittent.

[page 449]:

BLM has been monitoring 7 not 12 streamflow stations on the San Pedro. We recently started monitoring flow at the International Border as our eighth station. Flows at the mouth of the Babocomari river are also being monitored now.

Third paragraph, last sentence states that "No significant long-term trends are evident upon examination of discharge data". This appears to be in contradiction with Bill Jackson's findings.

[page 451]:

Eleven well points were installed as test wells, but a total of 17 groundwater wells are monitored on a regular basis within SPRNCA.

[page 457]:

Federal reserve right should include much more than instream flows! Future and present uses for administration, maintenance of natural hydrologic processes, recreation, wildlife, cultural resource development, fire suppression, etc. were claimed by Statements of Claimant for specific wells, springs and ponds. The federal reserve right should be claimed on Tenneco's (older) claims which may not carry through for new and different uses. The older uses may not be viewed by DWR as a valid basis for purposes of reservation.

[pages 458-461]:

"Quantification of Significant Diminishment to SPRNCA": Impacts projected in this section fully verify and support BLM's analysis and contentions that under realistic pumpage scenarios, continued groundwater mining will have significant impacts on streamflows in the San Pedro within 50 years. BLM supports this analysis.

This section fully validates the hydrologic connection, which means that all wells in zone 2 (Sierra Vista, etc.) should be drawn into the adjudication.

The second paragraph on page 459 clearly establishes the hydrologic connection. It supports "zones of significant diminishment. Therefore, the brightline concept is too narrow in scope for this basin. The appropriable groundwater zone should be widened for the adjudication. The hydrologic connection should be recognized for state rights as well as for federal reserved water rights.

The graph on page 460 (figure 6-8) should also plot water table levels for the pre-cultural development period. Those levels would show how the river has already been affected through changes in the gradient of the water table.

CHAPTER 7

Only had page 488 (table 7-10) to review. No knowledge of application #38-17307.

CHAPTER 8

No comments.

APPENDIX A

No comments.

APPENDIX B

Excellent methodology was used for mapping of riparian vegetation.

Blaney-Criddle method was originally developed for estimating consumptive water use on agricultural croplands in eastern states. This method can over-estimate such uses when applied to non-agricultural vegetation in the west.

APPENDIX C

No comments.

APPENDIX D

The entire analysis of "riparian salvage" is "half- baked". It only compares the differences in consumptive rates without considering differences in infiltration rates and on-site recharge potentials. Other important hydro-morphologic factors of riparian vegetation have been totally overlooked. See comments for pages 180-181 for more detail.

APPENDIX E

[page E-3]:

A numerical model should be used as soon as sufficient data is compiled.

Jenkin's formula assumes continual year-round connection between surface and groundwater and is therefore invalid for use on intermittent and ephemeral streams even though in many cases the reason they are no longer perennial may be due to groundwater pumpage. Impacts on intermittent and ephemeral streams that may have been diminished by nearby groundwater pumpage should also be evaluated.

page E-5]:

The "Conclusion" is very realistic in recognizing that:

> "Assumptions of the analytical model are made to conform to real world situations which may result in, at best, a close approximation of the boundary in which pumping from the groundwater system for 90 consecutive days would impact the surface water system by 50 percent. As additional information becomes available, this methodology may be reevaluated."

APPENDIX F

[page F-2]:

The analysis should not assume that "groundwater overdraft has no effect on streamflow". Groundwater overdraft is "independent from surface water supply". If present pumpage levels continue, eventually cones of depression will "intercept the streams, causing an increase in streamflow loss" but will not necessarily significantly "reduce the supply derived from groundwater overdraft". Most of the overdraft is due to large, deep wells which could continue to pump at same rates long after streams go dry! The storage (recoverable volume) remaining in the regional aquifer will be diminished, but overdraft pumping will not decrease until the water table declines below the penetration levels of these large deep overdrafting wells. By then the streams are all diminished or totally ephemeral!

[page F-3]:

How interesting to note that groundwater "inflow to the Benson subwatershed was assumed to be zero due to overdraft in the Sierra Vista subwatershed."

[page F-5 and F-6]:

The assumption that 20 percent of domestic and municipal depletions is recharged back to the groundwater system seems very unlikely for the municipal effluent from Sierra Vista which is used for irrigating alfalfa.

APPENDIX G

[page G-1]:

Please note that "Water levels in this region are declining despite the apparently large water supply of the aquifer(s)."

[pages G-2 through G-8]:

Significant water level declines are depicted under the various scenarios.

VOLUMES 2, 7 AND 8

Specific comments are made to each pertinent WFR in next section (Volumes 3 and 4).

VOLUMES 3 AND 4

Watershed file reports (WFR's) were compared to the SPRNCA water rights data base. The following observations were made:

A.) No recent assignments, statements of claimant or amendments have yet been incorporated to WFRs.

B.) Future uses for the federal reserved water right should be quantified to reflect much more than instream flows.

1.) Future and present uses for administration, maintenance of natural hydrologic processes, recreation, wildlife, cultural resource development, fire suppression, etc. were claimed by Statements of Claimant for specific wells, springs and ponds.

2.) All uses described by statements of claimant and amendments filed this past year are only an initial attempt by me to identify water sources which could serve BLM's needs identified in the Safford District Resource Management Plan.

3.) Further review and quantification may be desirable.

C.) Three general types of discrepancies are possible:

1.) Claims listed by HSR for which no record exists in the SPRNCA data base:

4A-4012 4A-4013 4A-4019 4A-4020 4A-4069

36-21799 36-47745 through 36-47753

38-19221 38-59878

39-00964 39-01214 39-01215 39-01216 39-03833
39-05119 39-05373 39-07752 39-07755 39-11232
39-11829 39-11831 39-11936 39-11941 39-12686

2.) SPRNCA claims not listed by HSR:

39-13627	Cottonwood #1	55-623592
39-00670	Pipeline Tank	39-94145
Submitted	Meusel Spring	33-95392
"	Lewis Spring No.	33-95388
"	Ernist Pond	33-95393
"	Fred's Lake	33-95394
"	Domestic Well	55-805346-L
"	Fairbank G Well	55-803785-L

"	Escalante #1 Well	55-805734-L
"	Escalante #2 Well	55-805733-L
"	Land BOR Well	55-805434-L
39-13525	Flowing Well	55-805353-L
Submitted	Railroad Well	55-805732-L
"	Summers BOR Well	55-805435-L
"	Lomeli Spring	33-95383

3.) Discrepancies of specific information for a WFR, such as legal descriptions, claimed amounts, depth of wells, etc.

a.) Due to limited time allowed for this review, a detailed comparison of specific data on each WFR was not possible.

b.) An updated copy of SPRNCA's water rights data base is attached which gives a complete and correct description of all pertinent information for each claimed water source.

c.) The updated SPRNCA data reflects all recently submitted statements of claimant, amendments, and applications to appropriate.

d.) Also attached is a copy of SPRNCA's water rights summary memo which may be helpful in reviewing water rights for the SPRNCA.