SCANLAN ENGINEERING
Groundwater and Environmental Engineering

WD 34 2003

June 16, 2003

David Stoecklein
P.O. Box 856
Ketchum, ID 83340

Subject: Mitigation Plans for Irrigation Wells at the Idaho Cowboy and Stacey Ranches

Dear Dave:

As a follow-up to our telephone conversations, I have reviewed the mitigation plan for the well that serves the pivot and wheel line fields at the Idaho Cowboy Ranch and also the mitigation plan proposed for the new well east of the road at the ranch house

Mitigation Plan for Approved Permit 34-7595

The mitigation plan for permit 34-7595 indicates that the irrigated area from the existing well is 156 acres, including 124 acres for the pivot and 32 acres for the wheel line fields. The permit for the well is mitigated by 2 67 cfs of Warm Springs Creek water rights and by 4 91 cfs of Big Lost River water rights. The Warm Springs Creek "B" rights are subject to 21 percent shrink based on the Hatchery Canal transfer. I recall that the Big Lost rights were traditionally subject to 50 percent shrink in the Nielsen Ditch, and have assumed this 50 percent shrink for purposes of mitigation calculations However, a May 1, 2003 letter from Jennifer Berkey at IDWR indicates that mitigation in the future using Big Lost water rights will be based on the actual measured amount of water injected into the Warm Springs Creek from the Nielsen Ditch

Based on the mitigation plan, the following diversion rates are available from the well depending on which surface water rights are in priority. These diversion rates account for shrink.

- When 1890 rights are in priority, the available diversion rate is 1.41 cfs (631 gpm). This flow rate might be adequate to operate the pivot, but use of the water might be limited to 90 acres based on conditions of the mitigation rights

- When 1899 rights are in priority, there is an additional 0.4 cfs available from Big Lost River. Total available supply is 1.81 cfs (811 gpm) for 130 acres. This flow rate should be enough to run the pivot for irrigation of 124 acres (6.5 gpm/acre).

- When the 1905 rights are in priority, there is an additional 0.87 cfs available from Warm Springs Creek and an additional 0.05 cfs available from the Big Lost River Total diversion rate would be limited to 2.73 cfs (1,225gpm) for 139 7 acres. This is an adequate rate for

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operating both the wheel line and pivot, although the wheel-line irrigated area might be limited to 15.7 acres (i e., 139.7-124).

- When the 1910 rights are in priority, there is an additional 0 27 cfs available from the Big Lost River. Total diversion rate would be limited to 2.93 cfs (1,315 gpm) for 145.1 acres

- When the 1916 rights are in priority, there is an additional 1.64 cfs available from the Big Lost River for mitigation. Total diversion rate from the well is limited by the permit to 3 12 cfs (1,401 gpm) for irrigation of 156.2 acres.

Note that if the mitigation plan is enforced based on the acreage limitations of the mitigation rights, then the pivot could not operate until the 1899 rights were on, and the entire wheel line field could not be irrigated unless the 1916 rights were on. The mitigation plan is not currently based on acreage limitations of the individual rights, but such limitations could be imposed in the future.

Pending Application for Permit (34-13789) and Mitigation Plan

The pending application for permit for a well east of the road at the Stacey Ranch has a mitigation plan proposal similar to that for the existing well. The proposed plan utilizes Big Lost River water rights that have 1885 and 1905 priorities. The larger right is 1905 priority.

In reviewing the mitigation plans, I noticed an error in the plan proposed for the pending application for permit. A 26 percent portion of the rights proposed for mitigation is already used for mitigation of the existing well permit. Therefore, the proposed plan only mitigates for about 19 acres of irrigation rather than the 25 7 listed in the application for permit. Furthermore, the deliverable amount of water after 50% shrink would be only 0.26 cfs (117 gpm) rather than the 0 51 cfs listed in the application.

Alternative Mitigation Plan

As an alternative mitigation plan for both water rights, I suggest using the most senior surface water rights for mitigation of the groundwater irrigated acres, and using the junior surface water rights for flood irrigation of remaining pasture areas. Currently, approximately 182 total acres are proposed for irrigation from two wells, consisting of 156 acres for the wheel line and pivot fields, and 25 7 acres proposed for irrigation around the ranch house. The remaining 87 water right acres could be irrigated from surface water. I have attached a map showing how the water rights could be distributed

If the most senior rights are used for mitigation, then the pivot can be operated when the 1890 rights are in priority. The pivot field, wheel line field, and about 8 acres around the ranch house could be irrigated when 1899 rights are in priority (or all of the acres around the house and a portion of the wheel line field) All of the groundwater irrigated acres could be irrigated when 1905 rights are in priority

The alternative mitigation plan might also involve transferring the nature of use for the mitigation rights from irrigation to mitigation. Mitigation as an approved use of water is a new concept that has been promoted at IDWR over the past few months We should discuss the pros and cons of a transfer for this purpose. If a transfer is contemplated, a change in place of use should also be considered. The place of use change would make an overlapping permissible place of use for the "B" and "C" rights.

Please contact me to discuss this alternative mitigation plan

Sincerely,

Terry M Scanlan

Terry M. Scanlan, P.E., P.G.

Table 1
Idaho Cowboy and Wildhorse Partners Irrigation Water Rights

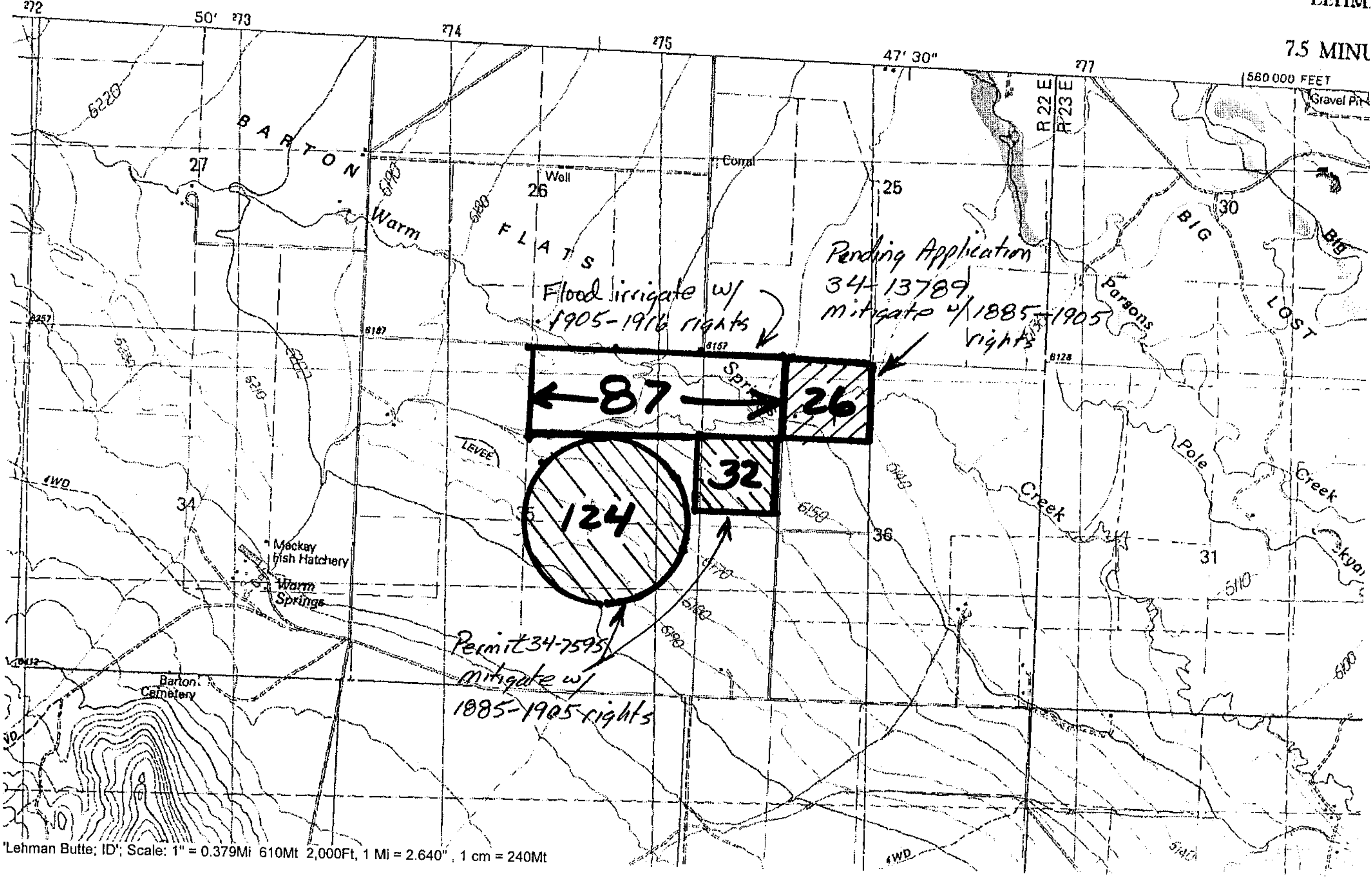
Water Right Number	Priority Date	Source	Rate of Diversion (cfs)	Irrigated Area (acres)	Deliverable Rate after Shrink (cfs)	Remarks
"B" Rights (Pivot Field)						
34-00703B	June 1, 1890	Warm Spring Creek	1.400	70.0	1.106	21% Hatchery Ditch shrink
34-00704B	May 1, 1905	Warm Spring Creek	0.940	100.2	0.7426	21% Hatchery Ditch shrink
Subtotal			2.340	100.2	1.8486	
34-00699B	June 1, 1885	Big Lost River	0.160	8.0	0.08	50% Nielsen Ditch shrink
34-00583B	June 1, 1899	Big Lost River	0.800	40.0	0.4	50% Nielsen Ditch shrink
34-00584D	June 1, 1916	Big Lost River	0.580	109.2	0.29	50% Nielsen Ditch shrink
34-00573B	May 13, 1912	Big Lost River	2.400	109.2	1.2	50% Nielsen Ditch shrink
34-00702B	May 1, 1910	Big Lost River	0.426	21.3	0.213	50% Nielsen Ditch shrink
Subtotal			4.370	109.2	2.185	
"B" Total			4.370	116.2	4.0336	
"C" Rights (Stacey Ranch?)						
34-00703C	June 1, 1890	Warm Spring Creek	0.77	38.5	0.77	
34-00704C	May 1, 1905	Warm Spring Creek	0.51	25.7	0.51	
Subtotal			1.28	64.2	1.28	
34-00699C	June 1, 1885	Big Lost River	0.15	7.5	0.075	50% Nielsen Ditch shrink
34-00700C	May 1, 1905	Big Lost River	0.36	18.2	0.18	50% Nielsen Ditch shrink
34-00701C	July 1, 1916	Big Lost River	1.13	56.7	0.565	50% Nielsen Ditch shrink
34-00702C	May 1, 1910	Big Lost River	0.41	20.8	0.205	50% Nielsen Ditch shrink
Subtotal			2.05	103.2	1.025	
"C" Total			3.33	153.0	2.305	
Total "B" and "C" Rights				**269.2**	**6.3386**	

TABLE 2 - CURRENT MITIGATION PLAN FOR PIVOT AND WHEEL LINE FIELD

Priority	Warm Spring Cr. Deliverable (cfs)	Big Lost River Deliverable (cfs)	Total Deliverable (cfs)	(gpm)	(inches)	Warm Spring Creek acres	Big Lost River acres	Total acres	Remarks
1890 Rights On	1.31	0.10	1.41	631	70	80.0	10.0	90.0	
1899 Rights On	1.31	0.50	1.81	811	90	80.0	50.0	130.0	Enough flow to run pivot
1905 Rights On	2.18	0.55	2.73	1225	136	117.0	54.7	139.7	Enough flow to run pivot and wheel lines
1910 Rights On	2.18	0.81	3.00	1345	149	117.0	81.4	145.1	
1912 Rights On	2.18	2.01	4.20	1883	209	117.0	121.3	156.1	Enough acres to run pivot and wheel lines
1916 Rights On	2.18	2.45	4.63	2080	231	117.0	212.4	156.1	Enough acres to run pivot and wheel lines

TABLE 3 - PROPOSED MITIGATION PLAN

Priority	Warm Spring Cr. Deliverable (cfs)	Big Lost River Deliverable (cfs)	Total Deliverable (cfs)	(gpm)	(inches)	Warm Spring Creek acres	Big Lost River acres	Total acres	Remarks
1890 Rights On	1.88	0.16	2.03	912	101	108.5	15.5	124	Enough to run pivot
1899 Rights On	1.88	0.56	2.43	1091	121	108.5	55.5	164	Enough to run pivot plus 40 acres of sprinklers
1905 Rights On	3.13	0.74	3.86	1734	193	164.4	73.7	206.1	Enough to run all sprinklers, plus 24 acres flood
1910 Rights On	3.13	1.15	4.28	1922	214	164.4	115.8	226.9	Enough to run all sprinklers, plus 45 acres flood
1912 Rights On	3.13	2.35	5.48	2460	273	164.4	155.7	269.2	Enough to run all sprinklers, plus 87 acres flood
1916 Rights On	3.13	3.21	6.34	2844	316	164.4	287.3	269.2	Enough to run all sprinklers, plus 87 acres flood



'Lehman Butte; ID'; Scale: 1" = 0.379Mi 610Mt 2,000Ft, 1 Mi = 2.640", 1 cm = 240Mt