MEMORANDUM

Subject: **Bear River Basin Plan**
Key Structures and Diversions
S. P. (RAMSEY) DIVERSION
(Also called Adin Brown)

Date: August 7, 2000

Diversion Description: The headgate structure consists of a deteriorated concrete headwall, a 48-inch CMP culvert, and a slide gate. The actual river diversion is located approximately 2000 feet upstream of the gate. A dozer is typically used each year to dam the river.

S.P. (Ramsey) Headgate

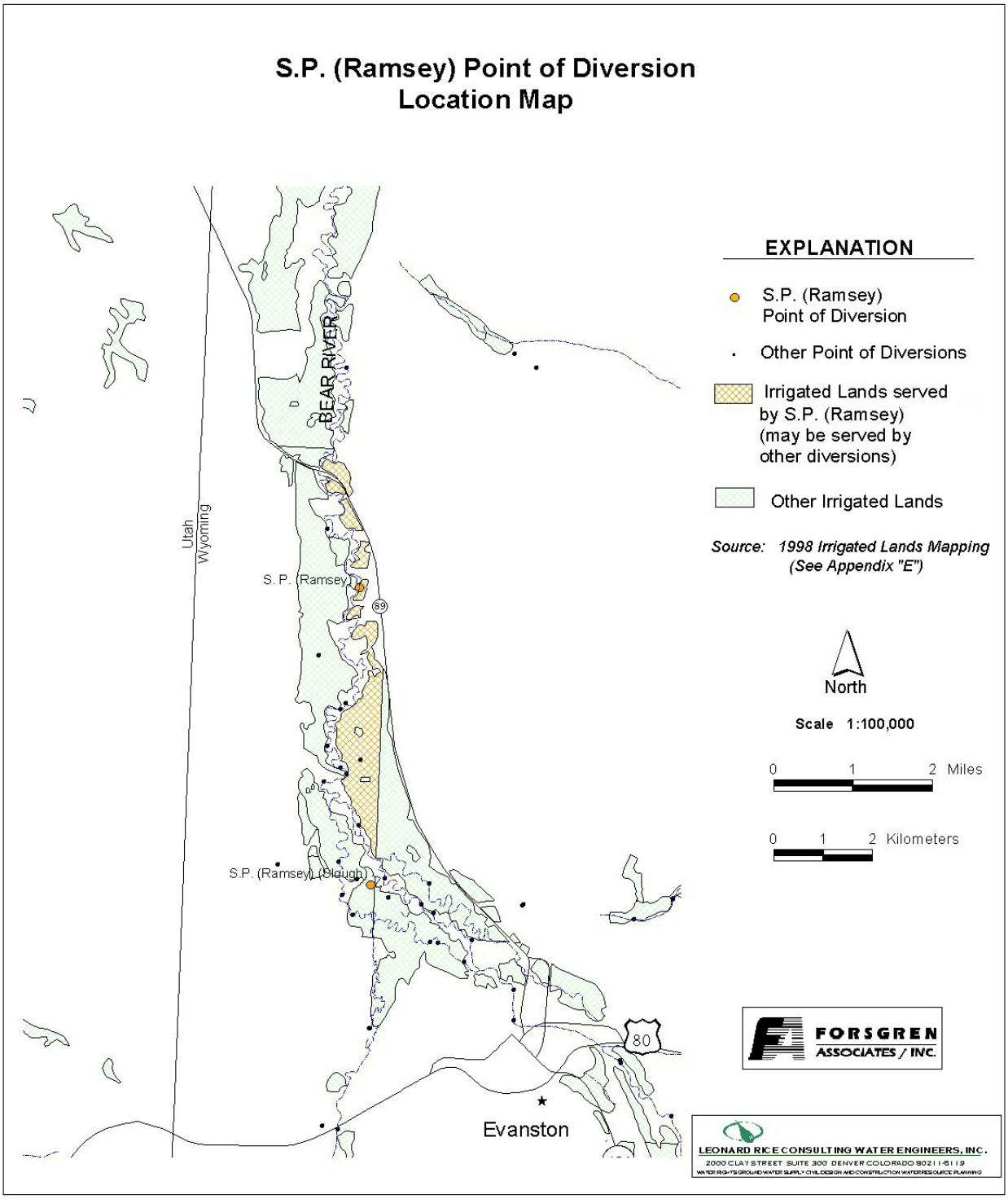
Diversion Location: Diversion is on the Upper Bear in Wyoming as shown on the location map hereafter.

Latitude N 41° 18' 04.2"
Longitude W 111° 00' 29.6"

Conveyance Description: Open channel canal, approximately 21,120 feet in length. [1]

Direct Flow Water Rights:[2]

Priority Date	Permit Number	Permitted Use	Permitted Acres	Flow (CFS)	Cumulative (CFS)	Comments
-1878	TERR	Irrigation	67	0.95	0.95	*(Adin Brown)*
10-01-1880	TERR	Irrigation	20	0.28	1.23	*(Morris Bros Irr)*
-1887	TERR	Irrigation	80	1.14	2.37	*(East)*
11-15-1900	599E	Irrigation	38	0.54	2.91	*(Enl Adin Brown)*
11-15-1900	599E	Irrigation	71	1.01	3.92	*(Enl Adin Brown)*
10-13-1916	3696E	Irrigation	45	064	4.56	*(Enl Adin Brown)*
10-13-1916	3696E	Irrigation	42	0.60	5.16	*(Enl Adin Brown)*
03-25-1920	16374	Irrigation	52	0.74	5.90	*(Neville)*
07-26-1920	4299E	Irrigation	67	0.96	6.86	*(Enl Neville)*
08-16-1922	4317E	Irrigation	4	0.06	6.92	*(Enl Neville*
08-16-1922	4317E	Irrigation	42	0.60	7.52	*(Enl Neville*
09-25-1956	5868E	Irrigation	114.50	1.63	9.15	
09-25-1956	2868E	Irrigation	111.60	1.59	10.74	


S.P. (Ramsey) Point of Diversion
Location Map
EXPLANATION
S.P. (Ramsey) Point of Diversion
Other Point of Diversions
Irrigated Lands served by S.P. (Ramsey) (may be served by other diversions)
Other Irrigated Lands
Source: 1998 Irrigated Lands Mapping (See Appendix "E")
North
Scale 1:100,000
0 1 2 Miles
0 1 2 Kilometers
BEAR RIVER
Utah
Wyoming
S.P. (Ramsey)
S.P. (Ramsey) (Slough)
89
80
Evanston
FORSGREN ASSOCIATES / INC.
LEONARD RICE CONSULTING WATER ENGINEERS, INC.
2000 CLAY STREET SUITE 300 DENVER COLORADO 80211-5113

Associated Storage Rights:

Reservoir	Shareholder	Volume (Acre-ft)	Est. % of Shares Used this Diversion[3]	Comments
Sulphur Creek	Sharon Ruffi	55	100%	
Sulphur Creek	Delbert Barker	110	100%	
Sulphur Creek	James Condos	27	100%	
Sulphur Creek	Dennis Moon	4	100%	
Sulphur Creek	Charles Nixon	137	34%	
Sulphur Creek	Gilda Sims	219	50%	
Sulphur Creek	Michael Sims	40	50%	

Irrigation Practices: Flood Irrigated except for about 80 acres sprinkled. Sprinkled acreage is alfalfa. [3]

Estimated Diversion Efficiency:

Calculated Diversion Efficiency = Conveyance Efficiency X Application Efficiency:

Conveyance Efficiency:	60%
Application Efficiency:	55%
Overall Diversion Efficiency:	**33%**

Conveyance efficiency is estimated based on total length of main canal. Application efficiency for flood irrigation and sprinkler irrigation is estimated at 55% and 85% respectively.

Crop Types / Consumptive Use: Mostly meadow grasses. Approximately 80 acres is alfalfa.[3]

Return Flows: Return flow is primarily split between the Chapman Canal (approx. 50%) and the Bear River (approx. 50%).

The following return flow pattern was adopted for modeling in this study are as follows:

Month (after initial Diversion)	Percent of Return
0	70%
1	20%
2	10%
3	0%
	100%

References:

1) *USDA -Soil Conservation Service Economic Research Service-Forest Service in Cooperation with the States of Idaho, Utah, Wyoming, Irrigation Conveyance Systems, Working Paper for the Bear River Basin Type IV Study, Idaho-Utah-Wyoming, April 1976*

2) *Water rights summary obtained from State Engineer Interstate Reglist – revised April 14, 1999*

3) *Irrigation practices based on field investigation and interview with Mr. Don Shoemaker, Water Hydrographer-Commissioner – November 12,1999.*

4) *State of Utah Natural Resources, Water Budget Studies – Utah, Bear River Study Area, September 1994*

BEAR RIVER WYOMING DIVERSIONS
MONTHLY DIVERSION RECORDS

S.P. (RAMSEY)

	MAY			JUNE			JULY			AUGUST			SEPTEMBER		
YEAR	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft	Total of Daily Ave for Month	Average CFS	Monthly Total Ac-Ft
*1970															
1971	0	0.0	0.0	684	22.8	1356.7	591	19.1	1172.2	169	5.5	335.2	51	1.7	101.2
1972	281	9.1	557.4	423	14.1	839.0	403	13.0	799.3	323	10.4	640.7	238	7.9	472.1
1973	67	2.2	132.9	557	18.6	1104.8	337	10.9	668.4	181	5.8	359.0	99	3.3	196.4
1974	233	7.5	462.1	530	17.7	1051.2	221	7.1	438.3	246	7.9	487.9	226	7.5	448.3
1975	46	1.5	91.2	521	17.4	1033.4	391	12.6	775.5	237	7.6	470.1	72	2.4	142.8
1976	110	3.5	218.2	281	9.4	557.4	200	6.5	396.7	214	6.9	424.5	72	2.4	142.8
1977	185	6.0	366.9	220	7.3	436.4	139	4.5	275.7	100	3.2	198.3	93	3.1	184.5
1978	388	12.5	769.6	918	30.6	1820.8	487	15.7	966.0	201	6.5	398.7	187	6.2	370.9
1979	658	21.2	1305.1	567	18.9	1124.6	167	5.4	331.2	157	5.1	311.4	18	0.6	35.7
1980	0	0.0	0.0	691	23.0	1370.6	398	12.8	789.4	190	6.1	376.9	236	7.9	468.1
1981	573	18.5	1136.5	641	21.4	1271.4	244	7.9	484.0	206	6.6	408.6	191	6.4	378.8
1982	63	2.0	125.0	766	25.5	1519.3	582	18.8	1154.4	188	6.1	372.9	236	7.9	468.1
1983	93	3.0	184.5	119	4.0	236.0	437	14.1	866.8	263	8.5	521.7	49	1.6	97.2
1984	70	2.3	138.8	409	13.6	811.2	389	12.5	771.6	30	1.0	59.5	32	1.1	63.5
1985	300	9.7	595.0	566	18.9	1122.6	403	13.0	799.3	328	10.6	650.6	91	3.0	180.5
1986	183	5.9	363.0	510	17.0	1011.6	322	10.4	638.7	0	0.0	0.0	134	4.5	265.8
1987	134	4.3	265.8	500	16.7	991.7	299	9.6	593.1	292	9.4	579.2	407	13.6	807.3
1988	233	7.5	462.1	453	15.1	898.5	150	4.8	297.5	45	1.5	89.3	22	0.7	43.6
1989	386	12.5	765.6	569	19.0	1128.6	171	5.5	339.2	93	3.0	184.5	122	4.1	242.0
1990	179	5.8	355.0	457	15.2	906.4	234	7.5	464.1	110	3.5	218.2	53	1.8	105.1
1991	213	6.9	422.5	394	13.1	781.5	246	7.9	487.9	203	6.5	402.6	140	4.7	277.7
1992	276	8.9	547.4	207	6.9	410.6	108	3.5	214.2	80	2.6	158.7	35	1.2	69.4
1993	396	12.8	785.5	629	21.0	1247.6	490	15.8	971.9	119	3.8	236.0	340	11.3	674.4
1994	391	12.6	775.5	357	11.9	708.1	142	4.6	281.7	196	6.3	388.8	130	4.3	257.9
1995	62	2.0	123.0	610	20.3	1209.9	87	2.8	172.6	192	6.2	380.8	553	18.4	1096.9
1996	412	13.3	817.2	435	14.5	862.8	209	6.7	414.5	216	7.0	428.4	281	9.4	557.4
1997	318.4	10.3	631.5	545.9	18.2	1082.8	188.9	6.1	374.7	153.1	4.9	303.7	306.3	10.2	607.5
1998	472	15.2	936.2	538	17.9	1067.1	392.3	12.7	778.1	133.7	4.3	265.2	267.7	8.9	531.0
1999	111	3.6	220.2	496	16.5	983.8	237	7.6	470.1	65	2.1	128.9	45	1.5	89.3
AVERAGES		**7.6**	**467.4**		**16.8**	**998.2**		**9.6**	**592.7**		**5.5**	**337.2**		**5.4**	**323.3**

*Notes: *1. No published records are available for this diversion for 1970*
2. This canal utilizes much Sulpher Creek storage water.