

Memorandum

To: BWCD BOARD OF DIRECTORS
From: ERIC MANGEOT *EM*
CC: CHRIS GEIGER
Date: FEBRUARY 9, 2015
File: APPLICATION – WESTHOFF BAKER RANCH MEMBERS ASSOCIATION (WBRMA)

Applicant Name: Westhoff Baker Ranch Members Association

Type of Use: Domestic Commercial _____
 Industrial _____ Agricultural _____

Amount: 4.4 AF 0.067 cfs 30 gpm

Location: Area A A-4 Area B _____ Inclusion _____
 County: GARFIELD Contiguous: _____
 BWCD Division: 1

Mid Valley Metro District Notice Required? Yes _____ No

Blue Creek Water Rights Applied? Yes _____ No

02CW77 Umbrella Plan Water Rights Applied? Yes No _____ **Cost:** \$3,000

This application is to cover specific uses associated with the Westhoff Baker Ranch Members Association (WBRMA) generally located in the SW1/4 of Section 8, Township 7 South, Range 88 West, of the 6th P.M. near Glenwood Springs, Colorado as shown on **Figure 1**. The proposed uses to be covered under the water allotment contract are as follows:

- 7 Single Family Dwellings and 7 Accessory Dwelling Units;
- 7,000 square feet of lawn and landscape irrigation; and
- 75 Livestock.

The current source of water supply is an existing well, Permit No. 45185-F-R located in the SW1/4 SW1/4 of Section 8, Township 7 South, Range 88 West of the 6th P.M. at a point 1,251 feet from the South section line and 338 feet from the West section line. A second well is proposed to be drilled to help meet the demand. The second well is proposed to be located 100 feet west of the existing well or in the SW1/4 SW1/4 of Section 8, Township 7 South, Range 88 West of the 6th P.M. at a point 1,251 feet from the South section line and 238 feet from the West section line.

Contract depletions are estimated at 4.4 acre-feet (AF) as estimated by Resource Engineering, Inc. (RESOURCE). WBRMA has lots located within both Area A (4 lots) and Area B (3 lots) of the District; however, both wells are located within Area A and is hydraulically connected to the Roaring Fork River. The Applicant is requesting inclusion into the District's 02CW77 Umbrella Plan. Some of the depletions will occur in Area B. However, in order for the contract to be served under the Umbrella Plan, RESOURCE has conservatively assumed that the diversions in Area A are 100%

depletive for the beneficial uses occurring within Area B. As such, the water requirement table is broken into three parts; Part 1 – for the Area A portion of the contract, Part 2 – for the Area B portion of the contract, and Part 3 – a summary of the Area A and Area B portions of the contract. The water right that defines the Area A/B line in this area is the Mason Ditch.

The WBRMA currently has two existing contracts (Contracts 139a and 207) that will be terminated once the new contract and well permit(s) are approved.

Water User :	Westhoff Baker Ranch Members Assoc.
Analysis Date :	February 9, 2015
District Area:	A
Source Series:	1
Maximum Demand:	30 (GPM) 0.067 (CFS)

**BASALT WATER CONSERVANCY DISTRICT
WATER REQUIREMENTS
(acre feet)**

**To be entered in BWCD Database
Summary of Depletion in Area A and Area B**

Month	Total Demand						**Area A/B Consumptive Use						Source of Aug/Replace	**(14) Delayed Depletion
	(1) Domestic In-house	(2) Commercial or Other	(3) Lawn Irrigation	(4) Crop Irrigation	(5) Livestock	(6) TOTAL	(7) Domestic In-house	(8) Commercial or Other	(9) Lawn Irrigation	(10) Crop Irrigation	(11) Livestock	(12) TOTAL		
January	0.466	0.000	0.000	0.000	0.078	0.545	0.252	0.000	0.016	0.000	0.082	0.350	RUE	0.366
February	0.421	0.000	0.000	0.000	0.071	0.492	0.227	0.000	0.016	0.000	0.074	0.318	RUE	0.354
March	0.466	0.000	0.000	0.000	0.078	0.545	0.252	0.000	0.017	0.000	0.082	0.351	RUE	0.361
April	0.451	0.000	0.016	0.000	0.076	0.543	0.244	0.000	0.024	0.000	0.080	0.348	RUE	0.355
May	0.466	0.000	0.079	0.000	0.078	0.623	0.252	0.000	0.052	0.000	0.082	0.386	RUE	0.355
June	0.451	0.000	0.097	0.000	0.076	0.624	0.244	0.000	0.061	0.000	0.080	0.384	RUE	0.349
July	0.466	0.000	0.093	0.000	0.078	0.638	0.252	0.000	0.059	0.000	0.082	0.393	RUE	0.355
August	0.466	0.000	0.057	0.000	0.078	0.601	0.252	0.000	0.042	0.000	0.082	0.376	RUE	0.355
September	0.451	0.000	0.052	0.000	0.076	0.579	0.244	0.000	0.040	0.000	0.080	0.363	RUE	0.357
October	0.466	0.000	0.019	0.000	0.078	0.564	0.252	0.000	0.025	0.000	0.082	0.359	RUE	0.366
November	0.451	0.000	0.000	0.000	0.076	0.527	0.244	0.000	0.016	0.000	0.080	0.339	RUE	0.369
December	0.466	0.000	0.000	0.000	0.078	0.545	0.252	0.000	0.016	0.000	0.082	0.350	RUE	0.375
TOTALS ->	5.488	0.000	0.413	0.000	0.924	6.825	2.963	0.000	0.384	0.000	0.970	4.318		4.318

Note. This is a summary of Area A and Area B portions of the contract.

** Based on diversions for Area B portion of the contract. 5% transit loss applied to Area A and B portions of the contract.

Water User :	Westhoff Baker Ranch Members Assoc.
Analysis Date :	February 9, 2015
Distinct Area:	A
Source Series:	1
Maximum Demand:	30 0.067 (GPM) (CFS)

**BASALT WATER CONSERVANCY DISTRICT
WATER REQUIREMENTS
(acre feet)**

Area A Portion of New Contract

Month	Total Demand				Consumptive Use				*(13) Lagged TOTAL	(14) Source of Aug/Replace			
	(1) Domestic In-house	(2) Commercial or Other	(3) Lawn Irrigation	(4) Crop Irrigation	(5) Livestock	(6) TOTAL	(7) Lagged TOTAL	(8) Domestic In-house			(9) Commercial or Other	(10) Lagged Irrigation	(11) Crop Irrigation
January	0.266	0.000	0.000	0.000	0.052	0.319	0.339	0.040	0.000	0.015	0.000	0.052	RUE
February	0.241	0.000	0.000	0.000	0.047	0.288	0.335	0.036	0.000	0.016	0.000	0.047	RUE
March	0.266	0.000	0.000	0.000	0.052	0.319	0.331	0.040	0.000	0.016	0.000	0.052	RUE
April	0.258	0.000	0.009	0.000	0.051	0.318	0.327	0.039	0.000	0.016	0.000	0.051	RUE
May	0.266	0.000	0.045	0.000	0.052	0.364	0.323	0.040	0.000	0.016	0.000	0.052	RUE
June	0.258	0.000	0.056	0.000	0.051	0.364	0.319	0.039	0.000	0.016	0.000	0.051	RUE
July	0.266	0.000	0.053	0.000	0.052	0.372	0.323	0.040	0.000	0.016	0.000	0.052	RUE
August	0.266	0.000	0.033	0.000	0.052	0.351	0.323	0.040	0.000	0.016	0.000	0.052	RUE
September	0.258	0.000	0.030	0.000	0.051	0.338	0.331	0.039	0.000	0.016	0.000	0.051	RUE
October	0.266	0.000	0.011	0.000	0.052	0.330	0.339	0.040	0.000	0.015	0.000	0.052	RUE
November	0.258	0.000	0.000	0.000	0.051	0.308	0.347	0.039	0.000	0.015	0.000	0.051	RUE
December	0.266	0.000	0.000	0.000	0.052	0.319	0.351	0.040	0.000	0.015	0.000	0.052	RUE
TOTALS ->	3.136	0.000	0.236	0.000	0.616	3.988	3.988	0.470	0.000	0.189	0.000	0.616	

Assumptions

(1)	NUMBER OF RESIDENCES	8	(5), (12)	# of Livestock @ 11 gals/day	50
	# persons/residence	3.5	(8), (9)	% CU for Domestic/Commercial	15
	# gallons/person/day	100	(10)	% Lawn Irrig. Efficiency Consumption of Irrig. (af/ac)	80
(2)	Commercial/Other Demand (af)	0.000	(11)	% Crop Irrig. Efficiency Consumption of Irrig. (af/ac)	2.085
(3)	Sq. Ft. of Lawn Irrigated Lawn Application Rate (af/ac)	4,000 2.606	(13)	Elevation (feet)	6200
(4)	Acres of Crop Irrigated Crop Application Rate (af/ac)	0.00 0.000	Total Includes 5% Transit Loss 10% from Green Mtn.		

**Area A-4
Cattle Creek
Formation Wells Type D**

Water User :	Westhoff Baker Ranch Members Assoc.
Analysis Date :	February 9, 2015
District Area :	A
Source Series :	1
Maximum Demand:	30 0.067 (GPM) (CFS)

**BASALT WATER CONSERVANCY DISTRICT
WATER REQUIREMENTS
(acre feet)**

Area B Portion of New Contract

Month	Total Demand					Lagged TOTAL *(7)	Consumptive Use					*(13) TOTAL	(14) Source of Aug/Replace
	(1) Domestic In-house	(2) Commercial or Other	(3) Lawn Irrigation	(4) Crop Irrigation	(5) Livestock		(6) TOTAL	(8) Domestic In-house	(9) Commercial or Other	(10) Lawn Irrigation	(11) Crop Irrigation		
January	0.200	0.000	0.000	0.000	0.026	0.226	0.253	0.030	0.000	0.000	0.026	0.059	RUE
February	0.180	0.000	0.000	0.000	0.024	0.204	0.250	0.027	0.000	0.000	0.024	0.053	RUE
March	0.200	0.000	0.000	0.000	0.026	0.226	0.247	0.030	0.000	0.000	0.026	0.059	RUE
April	0.193	0.000	0.007	0.000	0.025	0.226	0.244	0.029	0.000	0.000	0.025	0.063	RUE
May	0.200	0.000	0.034	0.000	0.026	0.260	0.241	0.030	0.000	0.000	0.026	0.087	RUE
June	0.193	0.000	0.042	0.000	0.025	0.260	0.238	0.029	0.000	0.000	0.025	0.092	RUE
July	0.200	0.000	0.040	0.000	0.026	0.266	0.241	0.030	0.000	0.000	0.026	0.092	RUE
August	0.200	0.000	0.024	0.000	0.026	0.250	0.241	0.030	0.000	0.000	0.026	0.079	RUE
September	0.193	0.000	0.022	0.000	0.025	0.241	0.247	0.029	0.000	0.000	0.025	0.076	RUE
October	0.200	0.000	0.008	0.000	0.026	0.234	0.253	0.030	0.000	0.000	0.026	0.066	RUE
November	0.193	0.000	0.000	0.000	0.025	0.219	0.259	0.029	0.000	0.000	0.025	0.057	RUE
December	0.200	0.000	0.000	0.000	0.026	0.226	0.262	0.030	0.000	0.000	0.026	0.059	RUE
TOTALS -->	2.352	0.000	0.177	0.000	0.308	2.837	2.979	0.353	0.000	0.142	0.308	0.843	

Assumptions

(1)	NUMBER OF RESIDENCES	6	(5), (12)	# of Livestock @ 11 gals/day	25	Area A-4 Cattle Creek Formation Wells Type D
	# persons/residence	3.5	(8), (9)	% CU for Domestic/Commercial	15	
(2)	Commercial/Other Demand (af)	0.000	(10)	% Lawn Irrig. Efficiency Consumption of Irrig. (af/ac)	80	Augmenting Diversions as 100% Depletive to Area A-4. Therefore, delayed diversions, not depletions.
	Sq. Ft. of Lawn Irrigated Lawn Application Rate (af/ac)	3.000	(11)	% Crop Irrig. Efficiency Consumption of Irrig. (af/ac)	2.085	
(4)	Acre of Crop Irrigated Crop Application Rate (af/ac)	0.00		Elevation (feet)	6200	

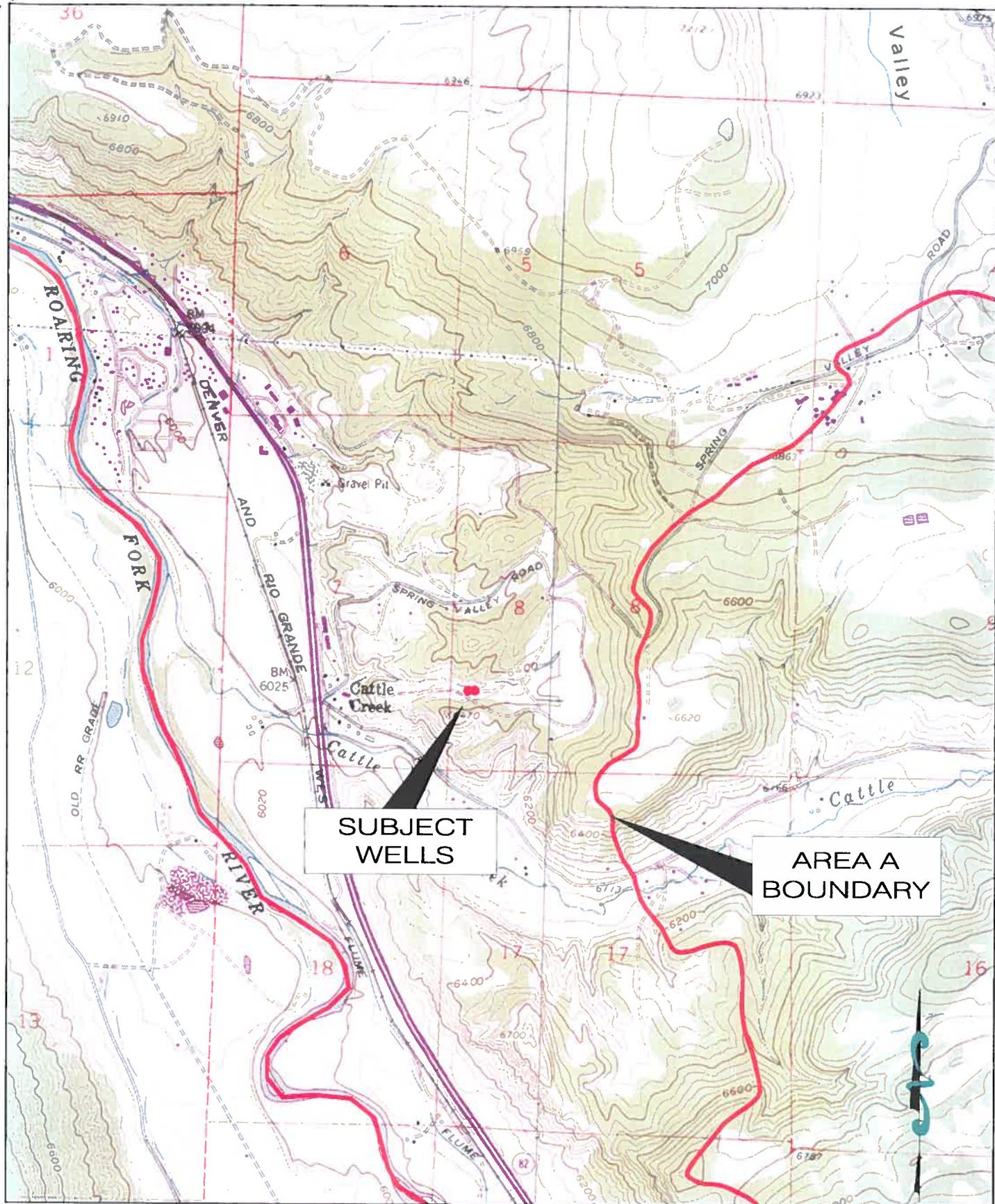
* (7) (13) Total Includes 5% Transit Loss
10% from Green Mtn.

Table 1
Westhoff Bakers Ranch Members Association Well Pumping Lag
Area A - Irrigation Diversion, Consumptive Use, Stream Depletion
 (All Values in Acre-Feet)

Month	Diversions (1)	Lagged Diversions (2)	Irrigation C.U. (3)	Groundwater Return Flow (4)	Lagged Return Flow (5)	Net Depletion (6)
January	0.000	0.019	0.000	0.000	0.004	0.015
February	0.000	0.019	0.000	0.000	0.004	0.016
March	0.000	0.020	0.000	0.000	0.004	0.016
April	0.009	0.020	0.007	0.002	0.004	0.016
May	0.045	0.020	0.036	0.009	0.004	0.016
June	0.056	0.020	0.044	0.011	0.004	0.016
July	0.053	0.020	0.043	0.011	0.004	0.016
August	0.033	0.020	0.026	0.007	0.004	0.016
September	0.030	0.020	0.024	0.006	0.004	0.016
October	0.011	0.019	0.009	0.002	0.004	0.015
November	0.000	0.019	0.000	0.000	0.004	0.015
December	0.000	0.019	0.000	0.000	0.004	0.015
Total	0.236	0.236	0.189	0.047	0.047	0.189

Notes:

- (1) Irrigation of 4,000 square feet and 80% irrigation efficiency. Equal to Column (3) / 0.8.
- (2) Column (1) well diversions lagged using Well Type D Glover lagging factors.
- (3) Irrigation consumptive use from Modified Blaney-Criddle Methodology (S.C.S. Technical Release 21).
See Table 2 for further information.
- (4) Column (1) - Column (3)
- (5) Column (4) lagged using the Well Type D lagging factors.
- (6) Column (2) - Column (5)



**Figure 1: Westhoff Baker Ranch
Members Association (WBRMA)**

File: 033-72
Date: 01/30/15

Basalt Water Conservancy District



Scale: 1"=2,000'

**RESOURCE
ENGINEERING, INC.**

909 Colorado Avenue
Glenwood Springs, CO 81601
(970) 945-8777 Voice 945-1137 Facsimile