

Memorandum

To: Shelley Keen

From: Craig L. Saxton

RE: Overlap review 63-10034 – Simplot Co

Source:

Added waste water per October 8, 2008 memo from Shelley Keen – No amendment needed

Diversion Rate:

Irrigation: I recommend the irrigation diversion rate as 4.46 cfs. Carter Fritschle described the maximum industrial diversion rate as 12.48 cfs. This capacity is agreed to be the maximum capacity that can be diverted by the 6 wells I am recommending as points of diversion. By summing the existing irrigation rights from the wells for the same POU, we find that 8.02 cfs has already been authorized. That leaves 4.46 cfs left for diversion rate.

Less than one inch per acre will be authorized from groundwater on the 933 acre PPU. But that is because we are limited by capacity of the diversion system ($12.48 \text{ cfs} / 0.02 \text{ cfs} = 624 \text{ acres}$ at 1 inch per acre). There is plenty of surface water that can be used in combination to reach the 1 inch per acre standard.

Industrial: On November 25, 2008, Kay Walker confirms in an e-mail to Michele Edl that the capacity for the food processing system is limited to 8.83 cfs.

Diversion Volume:

Irrigation: Because this is supplemental, a diversion volume will not be added to the face of the license, rather it will be limited in conditioning. $260 \text{ day's in the irrigation season} * 1.9835 * 4.46 \text{ cfs} = 2300 \text{ af}$.

The other way to calculate volume is $532 \text{ acres} * 4.5 \text{ af} = 2394 \text{ af}$. The diversion rate of 4.46 cfs will not produce 2394 AF

Industrial: $105 \text{ days} * 1.9835 * 8.83 \text{ cfs} = 1839 \text{ afa}$. 105 days is the non-irrigation season of use: 11/16 – 2/28

Point of Diversion:

Michele Edl recommended 5 wells on the system (Well # 4, 6, 8, 9, 10). I added the "Parking lot" well per December 4, 2008 e-mail from Kay Walker that indicated it was part of the system.

Michele Edl recommended 2 waste water POD's which I kept as part of my recommendation. See her September 3, 2009 memo for that analysis

My total recommendation for this right is 8 points of diversion, 6 wells and two waste water POD's. An amendment is needed for this change.

Place of Use Summary:

See attachments for calculations for details:

Total PPU with all GW and SW rights = **1299 ac**

Total SW right acreage = **758 ac** (*sum of surface rights*)

Total existing GW acreage – excluding 63-10034 = **401 ac** (*sum of GW acre limits*)

Total GW right PPU acreage = **933 ac** (*PPU*)

Total overlap between GW and SW = **392 ac** (*both tabular & spatial analysis*)

Acre limit for 63-10034 = **532 ac** (*933 ac – 401 ac*)

Conditions:

Conditions of Approval:

1. Industrial use is for the land application of wastewater diverted and used for industrial purposes pursuant to ground water rights 63-2731, 63-4968, 63-5036, 63-5038, 63-5039, 63-10034 and surface water right 63-2239. (*Carried over from Michele's recommendation. I added 63-10034 to the list because the industrial use authorized under this right could come from water diverted under the irrigation portion of this right in the irrigation SOU.*)
2. Rights 63-5036, 63-5037, 63-5038, 63-5039 and 63-10034 when combined shall not exceed the irrigation of 933 acres. (*GW rights PPU only*)
3. Rights 63-290, 63-2239, 63-2241, 63-2386, 63-2425, 63-2657, 63-5036, 63-5037, 63-5038, 63-5039, and 63-10034 when combined shall not exceed the irrigation of 1299 acres. (*Overall PPU from Craig's overlap analysis*)
4. E01 Use of this right for irrigation purposes is combined with water from Pioneer Dixie Ditch Co.
5. K06 This right is limited to the irrigation of 532 acres within the place of use described above in a single irrigation season. (*this is the 933 acre PPU for GW – the 401 acres of GW rights that already exist.*)
- ~~5. R43 The right holder shall maintain a measuring device and lockable controlling works of a type approved by the Department in a manner that will provide the watermaster suitable control of the diversion(s). (I removed this from Michele's original draft licensing amendment because not required on permit.)~~
6. The use of water for industrial purposes pursuant to this right shall not exceed a total annual diversion volume of 1839 af. (*8.83 cfs * 1.9835 * 105 days*)
7. X35 Rights 63-2731, 63-4968, 63-5036, 63-5037, 63-5038, 63-5039, 63-7678, 63-10034, 63-21537, and 63-21541 when combined shall not exceed a total diversion rate of 12.48 cfs and a total annual maximum diversion volume of 8080 af. (*This limits all GW rights to previously defined max capacity of 12.48 cfs and previous vol limit of 5779.7 plus new vol under 63-10034 of 2300 af*)
8. Rights 63-2239, 63-2731, 63-4968, 63-5036, 63-5038, 63-5039, and 63-10034 when combined shall not exceed a total diversion rate of 9.63 cfs and a total annual maximum diversion volume of 4477 af for industrial purposes. (*This indicates that there is no rate or volume being added for industrial use under 63-10034 since the rate and volume limits are the sum of the authorized limits for rights 63-2239, 63-2731, 63-4968, 63-5036, 63-5038, 63-5039.*)
9. The diversion and use of water under this right for irrigation purposes shall not exceed the volume necessary to provide the difference between the surface water supply and 4.5 af per acre at the field headgate, up to a maximum total of 2300 AF if no surface water is available. (*because there is no volume limit for SW, this condition essentially identifies 63-10034 as supplemental and says that if surface water is not available, then the max volume under this right that can be diverted is 2300 af which is the max af that can be generated by 4.48 cfs that is authorized for the 532 acres of new groundwater irrigation authorization. The limit of 4.5 af prevents the use of some or all of the 2300 af on top of an unlimited SW*)

- volume. If SW vol = 4.5 afa, then no vol diversion under this right)
10. 105 If the surface water right(s) appurtenant to the place of use is abandoned, forfeited, sold, transferred, leased or used on any other place of use, this right to divert ground water shall not be used for irrigation purposes without an approved transfer pursuant to Section 42-222, Idaho Code, or approval of the Department if a transfer is not required. (Standard supplemental conditions – Monica's review determined rights were developed as supplemental rights.)
 11. 065 The right holder shall make full beneficial use of all surface water rights available to the right holder for irrigation of the lands authorized to be irrigated under this right. The right holder shall limit the direct diversion of ground water for irrigation purposes under this right to those times when the surface water supply is not available or the surface water supply is not reasonably sufficient to irrigate the place of use authorized under this right. (Standard supplemental conditions – Monica's review determined rights were developed as supplemental rights.)
 12. WD8 The place of industrial use authorized by this approval includes land upon which wastewater may be applied to satisfy water quality requirements. (Carried over from Michele's draft licensing amendment)
 13. R65 This right when combined with all other rights shall provide no more than 0.02 cfs per acre.

TWP	RNG	Sec	QQ	Acres
04N	03W	7	SWSW	5.6
			SESW	2
		17	NESW	18
			NWSW	20
			SWSW	30
			SESW	38
			SWSE	10
		18	NWNE	14
			SWNE	14
			NENW	32
			NWNW	37
			SWNW	29
			SENW	33
			NESW	4.1
			NWSW	35
			SWSW	
			NESE	1.1
			NWSE	12
			SESE	26
		19	NENE	30
			NENW	24
			NWNW	30
			SWNW	40
			SENW	40
		20	NWNE	2
			NENW	40
			NWNW	40
			SWNW	40
			SENW	40
04N	04W	12	NESE	
			SESE	
			NESE Lot 10	2.2
			SESE Lot 10	31
		13	NENE	34
			NWNE	35
			SWNE	31
			SENE	33
			SWNW	30
			SENW	26
			NESW	34
			NWSW	28
			SWSW	27
			SESW	30
			NESE	40
			NWSE	35
			SWSE	40
			SESE	40
		24	NENE	35
			NWNE	25
			SWNE	30
			SENE	40
				1299

63-10034	GW PPU
Acres	
5.6	7
2	3
8.5	9
4.5	5
21	21
35	34
	14
14	
32	31
37	35
29	29
33	33
4.1	3
1.1	1
12	12
26	26
30	30
24	24
30	25
31	31
25	25
35	36
20	20
26	25
33	32
	1
	1
2.2	2
31	31
34	34
35	35
31	31
33	33
30	30
26	26
34	34
28	28
27	27
30	30
40	
35	
40	33
40	30
7	7
9	9
933	933

		SW right acreage that doesn't overlap GW PPU		GW & SW Overlap	
Total SW ac	63-10034	By Math	By Table	By Math	By GIS
	5.6				
	2				
18	8.5	9.5	9.8	8.5	8.2
20	4.5	15.5	15.5	4.5	4.5
30	21	9.0	9	21.0	21
38	35	3.0	4	35.0	35
10	0	10.0	10		
	0				
	14				
	32				
	37				
	29				
	33				
	4.1				
35		35.0	35		
	1.1				
	12				
	26				
	30				
20	24			20.0	20
30	24	6.0	6	24.0	24
40	31	9.0	7	31.0	33
40	25	15.0	15	25.0	25
2	0	2.0	2		
40	35	5.0	5	35.0	35
40	20	20.0	20	20.0	19
40	26	14.0	14	26.0	26
40	33	7.0	7	33.0	33
	0				
	0				
	2.2				
	31				
	34				
	35				
	31				
	33				
30	30			30.0	30
	26				
	34				
	28				
	27				
	30				
40	0	40.0	40		
35	0	35.0	35		
40	33	7.0	7	33.0	33
40	30	10.0	10	30.0	30
35	7	28.0	28.4	7.0	6.6
25	0	25.0	25		
30	0	30.0	30		
40	9	31.0	31.3	9.0	8.7
758	933	366	366	392	392

1299

C. S. Smith 3-4-11

Basin	Sequence	Su Process	Basis	Status	Dræ Priority Date	Diversion Rate	Volume	Total Acres	Acre Limit	Duty	Source List	Water Use List	Current Owner	12.48	5779.7	0.02	CFS Limit	All Rights	combine
63	5036	Water Right	Decreed	Active	N 3/10/1943	2.67	600.8	933.0	133.5	0.020	GROUND WATER	IRRIGATION	J R SIMPLOT CO	x	x	x			
						2.67	1146.9					INDUSTRIAL		x	x	x			
						2.67	1747.7												

63	5037	Water Right	Decreed	Active	N 6/14/1961	2.23	501.8	933.0	111.5	0.020	GROUND WATER	IRRIGATION	J R SIMPLOT CO	x	x	x			
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63	5038	Water Right	Decreed	Active	N 7/20/1944	1.34	301.5	933.0	67.0	0.020	GROUND WATER	IRRIGATION	J R SIMPLOT CO	x	x	x			
						1.34	575.6					INDUSTRIAL		x	x	x			
						1.34	877.1												

63	5039	Water Right	Decreed	Active	N 9/15/1947	1.78	400.5	933.0	89.0	0.020	GROUND WATER	IRRIGATION	J R SIMPLOT CO	x	x	x			
						1.78	764.6					INDUSTRIAL		x	x	x			
						1.78	1165.1												
Irrigation totals =							8.02	1804.6	933.0	401.0									
							12.48	4,291.7	933.0	933.0									

63	2731	Water Right	Decreed	Active	N 11/4/1948	2.37	1,551.3			GROUND WATER	INDUSTRIAL	J R SIMPLOT CO		x	x				
63	4968	Water Right	Decreed	Active	N 1/1/1942	0.67	438.6			GROUND WATER	INDUSTRIAL	J R SIMPLOT CO		x	x				
63	7678	Water Right	Decreed	Active	N 10/26/1972	0.40	134.0			GROUND WATER	STOCKWATER	SIMPLOT LIVESTOCK CO		x	x				
63	21537	Water Right	Decreed	Active	N 6/1/1949	0.67	87.1			GROUND WATER	COMMERCIAL, S	SIMPLOT LIVESTOCK CO		x	x				
63	21541	Water Right	Decreed	Active	N 1/1/1955	0.58	35.5			GROUND WATER	STOCKWATER	SIMPLOT LIVESTOCK CO		x	x				

63	290	Water Right	Decreed	Active	N 4/15/1882	1.84		92.0	92.0	0.020	BOISE RIVER	IRRIGATION	SIMPLOT LIVESTOCK CO			x			
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63	2239	Water Right	Decreed	Active	N 5/18/1914	3.80		190.0	190.0	0.020	UNNAMED STREAM	IRRIGATION	SIMPLOT LIVESTOCK CO				x		
						0.8						INDUSTRIAL					x		
						4.60													

63	2241	Water Right	Decreed	Active	N 5/18/1914	0.60		30.0	30.0	0.020	UNNAMED STREAM	IRRIGATION	SIMPLOT LIVESTOCK CO						
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63	2386	Water Right	Decreed	Active	N 1/17/1924	1.56		86.0	86.0	0.018	INDIAN CREEK	IRRIGATION	SIMPLOT LIVESTOCK CO				x		x
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63	2425	Water Right	Decreed	Active	N 8/26/1929	5.20		260.0	260.0	0.020	UNNAMED DRAIN	IRRIGATION	SIMPLOT LIVESTOCK CO				x		x
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63	2657	Water Right	Decreed	Active	N 1/5/1961	2.00		100.0	100.0	0.020	SOUTH DRAIN	IRRIGATION	SIMPLOT LIVESTOCK CO				x		x
						15.00		758.0		0.020									

63	10034	Water Right	License	Active	Y 3/17/1983	4.28	2,207	933.0	532.0		GROUND WATER, W, INDUSTRIAL, IRR	J R SIMPLOT CO				x			
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	CFS	AFA	AC
Total Diversion rate authorized for industrial use from ground water =	8.83	4477.0	
Total Diversion rate authorized for industrial use from GW & SW =	9.63	4477.0	
Vol for new GW acres within irr SOU (4.46 cfs * 1.9835 * 260)=		2300	
Volume for Indust use outside Irr SOU (1.9835 * 105 day * 8.83 cfs) =		1839	
Total acre limit between surface water and ground water rights =			1299
Total SW acres (both inside and outside the GW PPU) =			758
Total GW acres (POU for 63-10034 and PPU for all GW rights) =			933
Total overlap between GW and SW rights =			392
Acre limit for 63-10034 =			532
Total SW acres that do not overlap with the GW PPU =			366

But - the industrial use under this right is recycled water.

C. Sigurdson 3-4-11

S. Keen
12/7/2009

Irrigation Overlap for 63-10034

+ 1/29/2009

Source	WR #	Rate	Vol.	Pou	Acre Limit	Rate/Acre
✓ GW	63-5036	2.67	600.80	933	133.5	.02
✓ GW	63-5037	2.23	501.80	933	111.5	.02
✓ GW	63-5038	1.34	301.50	933	67.0	.02
✓ GW	63-5039	1.78	400.50	933	89.0	.02
GW Subtotal		8.02	1804.60	933	401	.02
		9.36				
GW	63-10034	~~9.36~~	2394.0	932.1	532	0.018
GW Total		~~9.36~~	4198.60	933	933	

12.48

OVERLA

UNStr. SW	63-2239	3.80	—	190	—	0.02	63
Ind. cr. SW	63-2386	1.56	—	86	—	0.018	57
S. Drain SW	63-2657	2.00	—	100	—	0.02	61
INDrain SW	63-2425	5.20	—	260	—	0.02	102
Boise R. SW	63-290	1.84	—	92	—	0.02	46
UN Str. SW	63-2241	0.60	—	30	—	0.02	30
		15.00		758			

Stockwater	63-7678 ✓
Industrial	63-4968 ✓
Industrial/Irr.	63-5036 ✓
Industrial/Irr.	63-5038 ✓
Industrial/Irr.	63-5039 ✓
Industrial	63-2731 ✓
Irr.	63-5037 ✓
Comm./Stock	63-21537 ✓
Stockwater	63-21541 ✓

12.48

5779.7

All uses - from combined limits
on partial decree

Examined in
Arc Map

No
overlap
with
each
other

359
Aaron
Found
389.6

366 sw
ac dont overlap
w/ GW
CS
p. 1 3-4.1

S. Keen
12/7/2007

Industrial Overlap for 63-10034

<u>WR #</u>	<u>Source</u>	<u>Rate</u>	<u>Vol.</u>
• 63-5036	GW	2.67	1146.9
63-5037	—	—	—
• 63-5038	GW	1.34	575.6
• 63-5039	GW	1.78	764.6
• 63-2731	GW	2.37	1551.3
• 63-4968	GW	0.67	438.6
63-2239	SW	0.80	
		<u>9.63</u>	<u>4477</u>

Irrigation overlap with Pioneer Ditch Co. :
Complete overlap except 30 acres in
T4N, R3W, S.20, SE NW.

Overlap Conditions for 63-10034

Cond.	WR#s	Rate	Vol.	Acres
X35	63-10034	~~Rate~~	—	~~433 + 758~~
	63-5036			933 GW
	63-5037			+ 758 SW
	63-5038			- ³⁹² ~~389.6~~ SW GW overlap
	63-5039			~~1301.4~~
	63-2386			1301.4 1299
~~X35~~	~~63-10034~~			~~933~~
	63-2239			
	63-2657			
	63-2425			
	63-290			
	63-2241			

SW	~~15.00 cfs~~	~~758 acres~~	~~9.63 Limit~~
Senior GW	~~8.02 cfs~~	~~401 acres~~	
63-10034	~~1.61 cfs~~	~~173 acres~~	
	<u>24.63</u>	<u>933</u>	

SW	15.00 cfs	758 acres	
GW	<u>9.63 cfs</u>	⁵⁴¹ ~~543.4~~ acres	(933 GW - ³⁹² ~~389.6~~ overlap)
	24.63	~~1301.4~~	
		1299	

Overlap Conditions for 63-10034 continued

<u>Cond.</u>	<u>WR #s</u>	<u>Rate</u>	<u>Vol.</u>	<u>Acres</u>
X35	63-10034	9.63	4477	N/A
Industrial	63-5036			
	63-5038			
	63-5039			
	63-2731			
	63-4968			
	63-2239			

This right authorizes re-use of water diverted under other rights, so it is not additive.

X35	63-10034	12.48	~~8173.7~~
	63-7678		8080
	63-4968		
	63-5036		
	63-5038		
	63-5039		
	63-2731		
	63-5037		
	63-21537		
	63-21541		

12.48
From prior
limit =
system
capacity

5779.7 Others combined
+ ~~2394.0~~ Irr. from 63-10034
~~8173.7~~ 8080

63-10034

Notes:

- ① The field examiner said, "Water from the wells can be discharged into the wastewater recovery system and used for irrigation when the processing plant is not operating." I interpret this to me we do not have to require the use of water for industrial purposes before it is used for irrigation.