

MEMORANDUM

Date: November 15, 2011
To: Water Right File 29-8226
From: cpalmer
Re: Licensing Memo

Permit Timeline

Application for Permit Received: May 6, 1998
Permit Approved: June 29, 1998
Application for Amendment: November 5, 1999 and approved February 11, 2000
Request for Extension: July 18, 2000 and new proof due date of July 1, 2001
Proof of Beneficial Use Received: January 24, 2005
Field Exam Conducted: January 25, 2007

Existing rights for the city of Mc Cammon are as follows:

Water Rights	PDs
29-13224--springs--1892 priority--0.70 cfs	Spring PD (both rights share PD)
29-224--springs--1902 priority--0.05 cfs	Well #1 (assoc. w/ 29-7370, transfer 70948 changed PD
29-7370--ground water--1977 priority--0.36 cfs	to Well #4 that was drilled in 2005)
29-7834--ground water--1987 priority--0.20 cfs	Well #2
29-8226--ground water--2005 priority--0.29 cfs	Well #3 (well drilled in 2000)

1.60 cfs total capacity of the system according to decreed rates and/or measured capacity

According to field examiner, the springs are the primary water source for the city. Note that there is a 300,000 gallon storage tank that is on a hill on the east side of town. Since there are two different sources for the city water, we can view the spring water as primary and groundwater is supplementing ground water in high demand times. Also, if the spring water is unavailable for some reason, ground water can be used entirely; so the two sources can be used together or entirely separately. To figure out if the diversion rate is reasonable to be added to the city's water right portfolio, I look to ground water rights:

29-7370	0.36 cfs
29-7834	0.20 cfs
29-8226	0.29 cfs (capacity as calculated by the field examiner)
	0.85 cfs total

It appears that 0.85 cfs is reasonable given the fact that the city is authorized to divert 0.75 cfs from a spring for the city's use. If 0.75 cfs can be diverted and put to beneficial use, 0.85 cfs isn't too far off. To further confirm the additional increment of beneficial use I can calculate a very rough estimate of water requirements for the city.

Generally the fill rate of the storage tank should be at least equal to the peak system demand; if the fill rate is way out of proportion compared to the demand further questions may need to be investigated.

Is the demand on the system ≥ 0.85 cfs? Yes, so 0.85 cfs is reasonable

- ~250 service connections based on phone conversation with city staff Larry Orgill on 11/15/11
- Peaking factor of 0.73 cfs¹ for 250 connections
- Irrigation requirements
 - $\frac{1}{4}$ acre per service connection = 63 acres x 0.02 cfs = 1.25 cfs possible rate
- 0.73 cfs + 1.25 cfs = 1.98 cfs total maximum diversion rate

In July of 2002, the city's mayor submitted a new service area boundary in connection with right 29-7370. This shape will be considered the most up-to-date service area for the city and will be used and this right's Large POU.

¹ IDWR Application Processing Memo No. 22, guidance for quantifying the rate of flow necessary for in-house use