

MEMORANDUM

Date: November 28, 2007
To: Water Right File 21-7133
From: medl
Re: note to file

ArcView shapes for 21-733 and 21-7190 were based on the family of maps in the file 21-7190 where each irrigated area had been outlined in different colors to differentiate different irrigation lines.

I verified the irrigation shapes with aerial photography from more than one year. Then I referred to Fremont County taxlot projections and adjusted the irrigated acreage to fit inside the claimant's property lines.

Some of the irrigated acreage was owned by the State of Idaho Dept of Lands. I verified with Pat Brown (Area Supervisor-Eastern Idaho Area Idaho Dept of Lands) that a lease agreement with the claimant was in place. Tracy Behrens (Dept of Lands Idaho Falls) confirmed that the location of irrigated acres in Dept of Lands records matched the location of irrigated acreage I had identified as belonging to the state in the IDWR database.

21-7190 has two independently pumped irrigation systems. The eastern pump is also known as site 3 in the field exam. The western pump is also known as site 2 on the field exam and the field exam contains theoretical calculations for both east and west systems. I used measured values for flow rate instead of theoretical values because they were more representative of the actual beneficial use. For the eastern pump an in-line flowmeter measurement of 657 gpm (1.46 cfs) was used for the diversion rate. For the western pump, the sum of the sprinkler head discharge, 1.89 cfs, was used. The total diversion rate for 21-7190 is $1.46 + 1.89 = 3.35$ cfs.

Volume D.R. is $3.35 \times 214 \text{ days} \times 1.9835 = 1421.9$ AF. Volume I.R., in the final amendment, is $340.6 \text{ acres} \times 3.5 \text{ cfs} = 1192.1$ AF. The later volume is the smaller of the two and so was used for the Max Diversion Volume.

21-7133 has a single pump from the storage pond to a single mainline. Both Volume I.R. and Volume D.R. are considerably greater than the storage capacity of the pond. The pond stores 20 AF and is the limiting factor for the Max Diversion Volume.