

MEMO

TO: File 78-7324

FROM: CPadilla

DATE: March 28, 2011

RE: Licensing Review Memo

Time Line:

Application for Permit Received: 10/11/91

Permit Approved: 1/13/92

Proof of Beneficial Use Received: 4/29/92

Field Exam Conducted: 11/10/92

POU: The pond is located in the SWNW of Sec 22 22N1E according to 2009 Imagery. The pond is so close to crossing into other QQs but I cannot justify adding additional QQs to the POU because it would be contrary to my map. If the imagery or PLSS end up shifting, the legal description may no longer be correct, but for now it is correct.

POU Overlap Analysis: There are no other water rights that cover the pond for this right. There are a few domestic water rights for the home and one right for irrigation as pointed out by the field examiner.

PD Summary: There are no other rights that divert from the PD at the unnamed stream. There are some overlapping rights from the spring's PD; 78-7109 (irrigation), 78-7265 (domestic), and 78-10343 (domestic). The overall capacity of the spring PD appears to be 0.04 cfs based on the field exam for 78-7109. A combined limit will be added to restrict the overlapping rights from the spring to 0.04 cfs total.

Source: This area has been controversial in the past because the availability of the sources of water in the area. Since this right has been approved with two separate sources that don't share the same system, a condition will be added to the right that differentiates the sources and the capacity of each. This way the right holder cannot make a call for the whole licensed rate for the spring alone or conversely a call on the unnamed stream for the full rate.



Beneficial Uses: For licensing purposes, Fire Protection should be converted to Diversion to Storage. Water is diverted away from the PDs to the pond so it is necessary for the diversion to storage component. There may be a flow through during high flows but cannot be accounted for on this license without causing enlargement.

Volume and Diversion Rate: The licensed diversion rate will be the amount recommended by the field examiner of 0.10 cfs (0.06 from unnamed stream and 0.04 cfs from springs).

The volume will be calculated using the field examiners measurement of 0.5 af for the pond capacity. There will also be an allowance added into the overall volume to account for seepage and evaporation. Current practice is to use ET Idaho to estimate ET. See the attached worksheet that estimates the ET as 0.10 afa.

Seepage for this area can be estimated using the pond spreadsheet located on the Department's intranet. The value used in the spreadsheet for loam type soil is 1.5 ft/day or 31416 GPD. However, a seepage calculation is limited by the availability of water to replace the losses. In this case, it appears that water is not available at 0.1 cfs from November to April or is available 215 days a year (the field examiner reported no water in November and snow melt most likely begins in late March).

$$0.10 \text{ cfs} \times 1.9835 \times 215 \text{ days} = 42.6 \text{ afa}$$

OR

$$31416 \text{ gpd} \times 215 \text{ days} = 6754440 / 325850 = 20.7 \text{ afa}$$

Pond Capacity = 0.5 afa

Evaporation = 0.1 afa

Seepage = 20.7 afa* (smaller of the estimated volumetric limits)
21.3 afa

Because the permit only allowed the development of 1AF for pond storage, the license will be limited to 1AF. For future purposes, the right holder may want to file a new application for a live flow component with additional water to account for seepage.

Amendment Needed?: Yes. The PD and the POU need to be amended.

*In order to accurately calculate seepage, we need to know how much water is being dumped back into the unnamed stream annually. We do not have access to this type of information so be aware that this is only a rough estimate.

1) P/O i Plu A78-10206

2) P/O unv. stream 78-07324

3) P/O Spring 78-07324

4) P/O pond 78-07324 in

299

5) P/O 78-07304 - original as
spring to be pld at
#8

6) P/O stream 18-0732
(Elk R.)

7) P/O 18-07304 ; 8. 3

SEE
NOTE

8) Spring partly developed on
Alumna Trust land. SEE
photos + info pg. in file
78-07304.

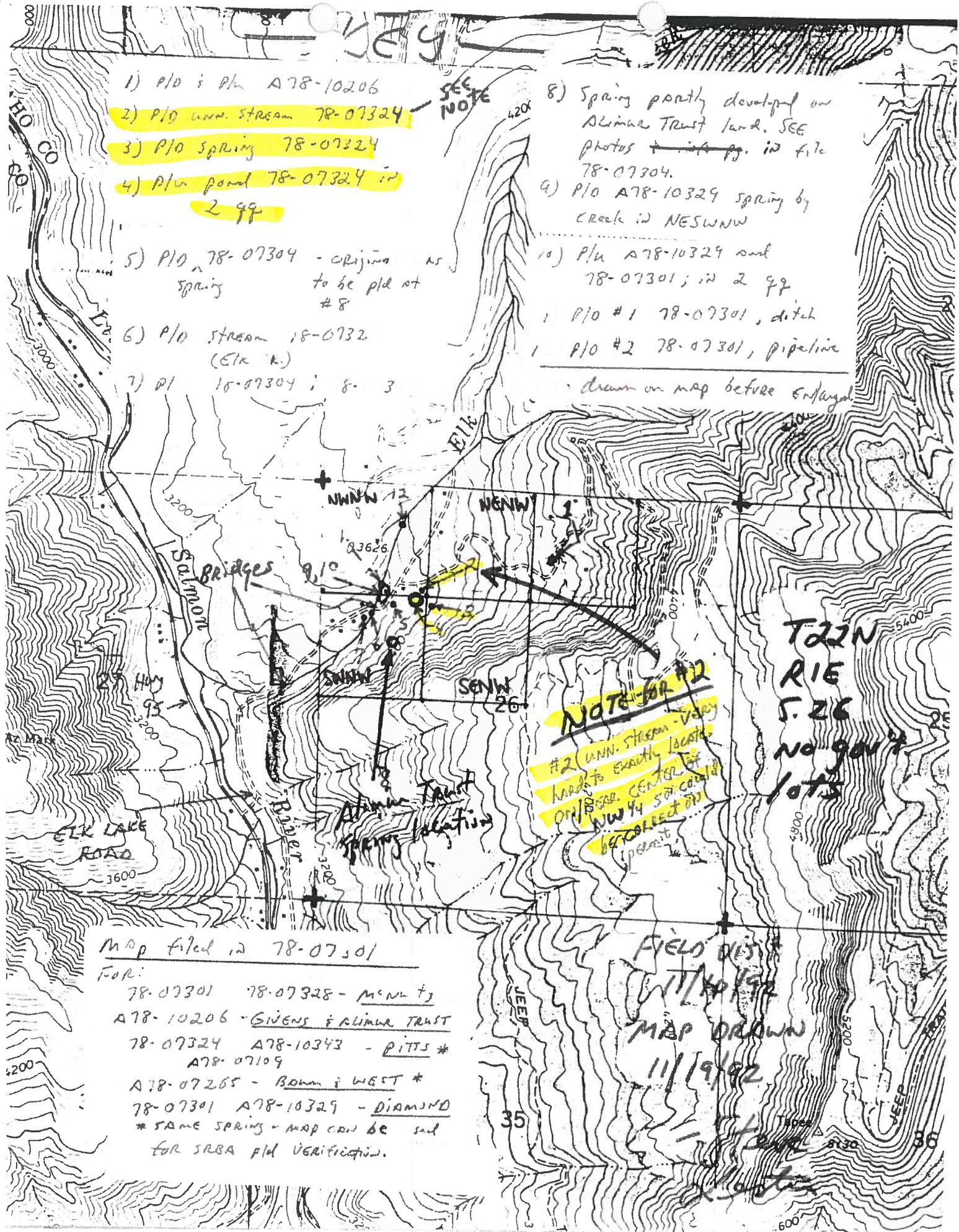
9) P/O A78-10329 spring by
creek in NESWN

10) P/O A78-10329 and
78-07301; in 2 99

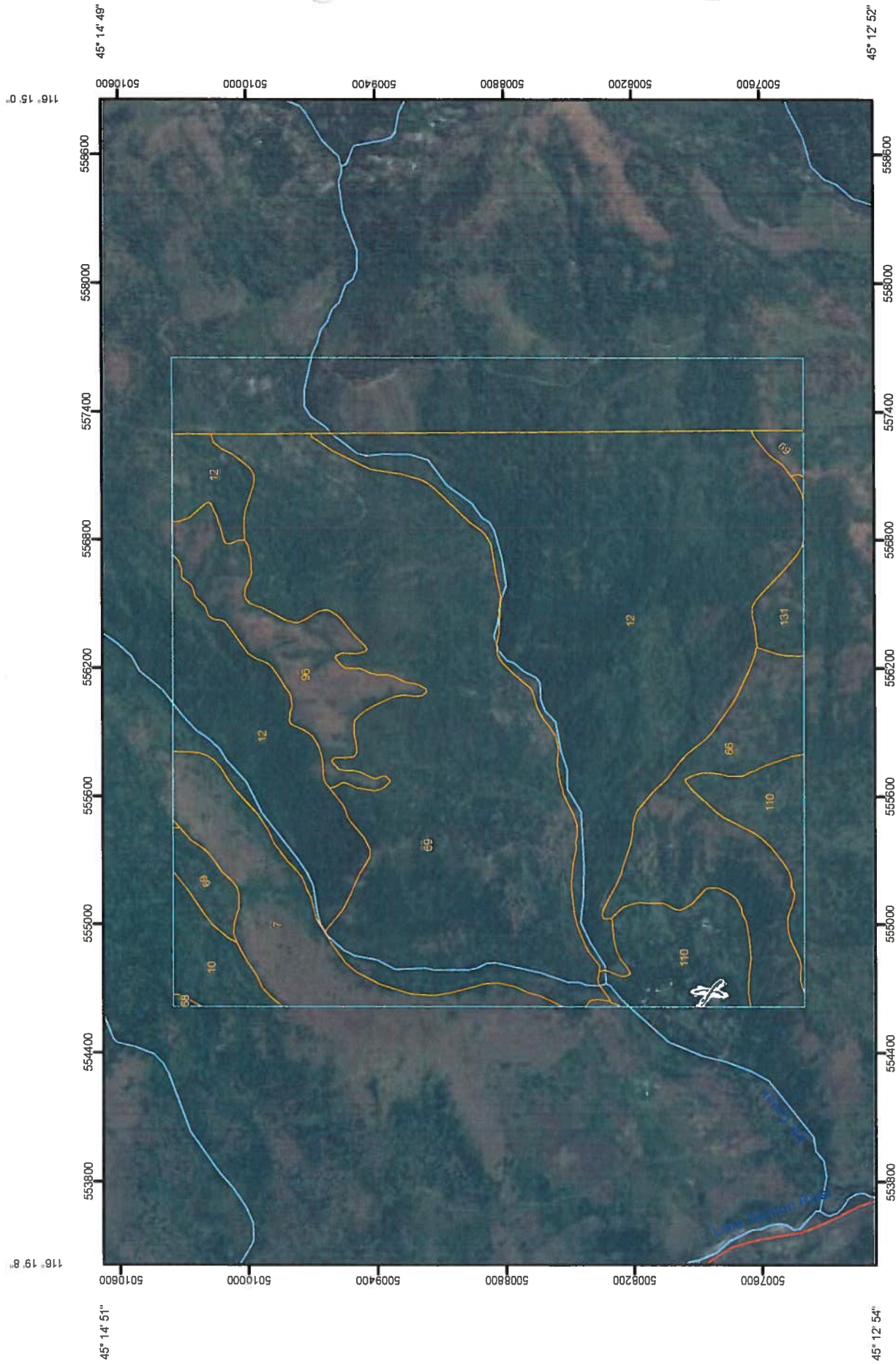
P/O #1 78-07301, ditch

P/O #2 78-07301, pipeline

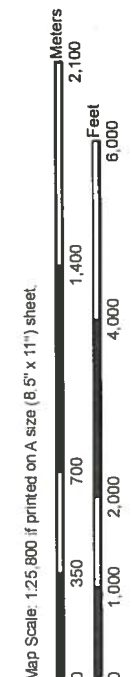
drawn on map before enlarged



Soil Map—Idaho County Area, Idaho, Western Part; and South Idaho Forests, Idaho



X-marks area of POI for
right 78-7324



MAP INFORMATION

Map Scale: 1:25,800 if printed on A size (8.5" x 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 11N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Idaho County Area, Idaho, Western Part
Survey Area Date: Version 8, Feb 7, 2011

Soil Survey Area: South Idaho Forests, Idaho
Survey Area Date: Not available

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Date(s) aerial images were photographed: 7/21/2004

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

MAP LEGEND

	Area of Interest (AOI)		Very Stony Spot
	Soils		Wet Spot
	Soil Map Units		Other
Special Point Features			
	Blowout	Special Line Features	
	Borrow Pit		Gully
	Clay Spot		Short Steep Slope
	Closed Depression		Other
	Gravel Pit	Political Features	
	Gravelly Spot		Cities
	Landfill	Water Features	
	Lava Flow		Oceans
	Marsh or swamp		Streams and Canals
	Mine or Quarry	Transportation	
	Miscellaneous Water		Rails
	Perennial Water		Interstate Highways
	Rock Outcrop		US Routes
	Saline Spot		Major Roads
	Sandy Spot		Local Roads
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		
	Spoil Area		
	Stony Spot		

Map Unit Legend

Idaho County Area, Idaho, Western Part (ID617)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
7	Bluesprin-Rock outcrop complex	126.7	5.7%
10	Brody cobbly loam, cool, 12 to 40 percent slopes	38.4	1.7%
12	Brody-Wapshilla association	747.5	33.7%
66	Klickson-Rock outcrop complex	159.3	7.2%
68	Klickson-Bluesprin association	1.2	0.1%
69	Klickson-Wapshilla association	636.5	28.7%
96	Rock outcrop-Klickson complex	106.8	4.8%
110	Suloaf cobbly silt loam, 7 to 40 percent slopes	124.0	5.6%
131	Zaza loam, 7 to 40 percent slopes	21.9	1.0%
Subtotals for Soil Survey Area		1,962.2	88.5%
Totals for Area of Interest		2,215.9	100.0%

South Idaho Forests, Idaho (ID700)			
No soil data available for this soil survey area.			
Totals for Area of Interest		2,215.9	100.0%

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2010, University of Idaho.

Riggins Ranger Stn (NWS --107706)

Statistics based on thirty

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)															
Precipitation Deficit (Click here for a graph)															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	0.77	0.27	0.00	1.05	1.82	2.53	3.69	3.29	1.79	0.57	0.84	1.02	361	0	361
15-Day Moving Average ^d	0.84	0.28	-0.01	1.02	1.90	2.45	3.83	3.23	1.67	0.63	0.85	0.98	= 1.48 afa/acre (1.48)(0.6 acres) = 0.09 afa round to 0.1 afa for ET allowance		
7-Day Moving Average ^e	0.80	0.30	-0.03	1.03	1.87	2.43	3.78	3.26	1.69	0.59	0.88	1.00			
3-Day Moving Average ^f	0.77	0.25	0.00	1.06	1.82	2.47	3.71	3.28	1.74	0.58	0.84	1.00			
Standard Deviation	mm/day												mm		
Monthly	0.82	0.55	0.95	1.00	1.55	1.08	1.44	1.12	1.04	1.09	0.81	0.91	106	0	106
15-Day Moving Average	0.88	0.72	0.93	1.16	1.68	1.67	1.20	1.18	1.46	1.02	1.14	0.93			
7-Day Moving Average	1.29	1.11	1.28	1.54	2.22	2.39	1.64	1.55	1.88	1.49	1.56	1.40			
3-Day Moving Average	1.75	1.56	1.87	2.27	3.04	3.18	2.59	2.11	2.47	2.14	2.24	2.08			
20% Exceedance	mm/day												mm		
Monthly	0.27	0.21	0.37	1.77	2.68	3.20	4.60	3.88	2.56	1.30	0.14	0.64	424	0	424
15-Day Moving Average	0.24	0.63	1.30	2.43	4.00	4.75	5.08	4.60	3.32	1.90	0.35	0.13			
7-Day Moving Average	0.43	1.12	1.89	3.37	4.77	5.29	5.32	4.83	3.74	2.31	0.69	0.18			
3-Day Moving															