

MEMORANDUM

To: 29-2301
29-2284
29-11342

Fr: Bryce Contor

Date: 6/22/01

Re: Capacity of Wells

Please see attached GIS layout for EWMO-reported well locations.

Well #1

No measurement, lack of straight pipe.

Motor horsepower 125, discharge pressure 58 psi. 1952 licensing exam reports static WL = 68 ft, drawdown 2 feet. Exam reports capacity = 1500 gpm but it is unclear if this is measured or from operator interview. "Proof of beneficial use" asserts "1800 gallons per minute. Measured with Orifice (sic)." (Copy in claim file 29-2284)

$$GPM = \frac{\text{Water HP} \times 3960}{TDM} = \frac{(125)(.75)(3960)}{(68 + 2 + 10 + 58 \times 2.31)}$$

(10 ft assumed friction, ^{75%}~~70%~~ assumed pump efficiency) = 1735 gpm

Well # 2

Apparently no longer used. Proof of Beneficial Use asserts 2000 gpm measured with orifice.

Well # 3

Not measured by EWMD. EWMD reports 100 psi, 65 ft depth to water. This is consistent w/ data for Well #1. License examiner states "Capacity is the same as well #1."

$$GPM = \frac{(150)(0.75)(3960)}{(65 + 2 + 10 + 100 \times 2.31)} = 1446 \text{ gpm}$$

Well # 4

Not measured by EWMD. Not running at time of EWMD exam, no discharge pressure recorded. Assume lower limit = same capacity as calc. for well #3 (same motor horsepower). Calculate upper limit at discharge pressure reported for well #1:

$$GPM = \frac{(150)(0.75)(3960)}{(65 + 2 + 10 + 58 \times 2.31)} = 2112 \text{ Gpm}$$

License exam 27-2301 appears to refer to well #4. Holder asserts 1800 gpm from calibrated orifice. Examiner reports motor = 150 hp but no Q data.

Memo 6/22/01 p3

Well #6

WMD has no record. Transfer 4128 acsents will be 150 horse power. Assume range of 1450-2100 gpm from calculations for well #3 and well #4.

Racetrack Well

No measurement, no pressure reported. EWMD reports 40 hp motor, <15 acres irrigation.

$$* GPM = \frac{(40)(1.75)(3960)}{(65 + 2 + 10 + 60 \times 2.31)} = 551 \text{ gpm}$$

$$15 \times 0.02 = 0.30 \text{ cfs} \quad 0.30 \text{ cfs} \times 448.8 = 135 \text{ gpm}$$

Pilot House Well

No meas, no pressure. EWMD reports 20 hp motor, <5 acres irrigation

$$* GPM = \frac{(20)(1.75)(3960)}{(65 + 2 + 60 \times 2.31)} = 276 \text{ gpm} \approx 0.6 \text{ cfs}$$

$$5 \times 0.03 = 0.15 \text{ cfs} \quad 0.15 \text{ cfs} \times 448.8 \approx 68 \text{ gpm}$$

* For small motors/pumps like these maybe pump eff. should be lower

Alamo 6/22/01

4

Total Capacity

Well #1	1735 GPM	} 11.8 cfs
Well #3	1446 GPM	
Well #4	2112 GPM	
Well #6	1450-2100 GPM	
Racetrack Well	551 GPM	
Pilot House Well	276 GPM	

$$7570 - 8220 \text{ GPM} = 16.9 - 18.3 \text{ cfs}$$

Total Licensed

29-2301 per T 4128	4.0 cfs	
29-2284 original license	4.5 cfs	(claimed 4.5 cfs)
29-2255E per T 2816	0.04 cfs	
Total	8.54 cfs	

Notes from FWMO record 200564 regarding
Parghall Flume reading of = 1200 cfm (2.7 cfs):

"All water use less evaporation flow through here in winter. During summer water is diverted before reaching flume for irrigation of company land scaping during visit approximately 65% of water being pumped was going through flume."
(Lewis Bonds exam 5/13/1998)

Memo 6/22/01 5'

$$\frac{1200 \text{ GPM}}{0.65} = 1850 \text{ GPM}$$

It appears not all wells were running at time of exam, or that Lewis' estimate of 65% is off. See attached e-mail.

Original Capacity from exams

License exam 22-2284, copy in AS file 29-2284

Well #1	1500 gpm (engineer)	1800 gpm (witnesses)
Well #2*	350 gpm (engineer)	
Well #3**	1500 gpm (engineer)	2000 gpm (witnesses)

License exam 22-2301, copy in AS file 29-2301

Well #4	1800 gpm (license)	1800 gpm (witnesses)
---------	--------------------	----------------------

License 29-2255 E

(remarking open x for 2916) 18 gpm

* See lower left corner of map page

** Affidavits call this #2 but I assume with purchase of SimpleT well, this was renumbered #3

Memo 6/22/01 p 6

Evidence of Ben Use in 29-13142

- Claim asserts this is Pocatello City Well #11, Old license 24451 gives cap. at 1.11 cfs
- Exhibit "A" is "Summary of Data Pertaining to City of Pocatello Well #11 Dec 1953 by James N. Scandino."
 - SWL 65.5 ft
 - Pumping test 220 gpm 1951, July 22
 - Pumping test 230 gpm July 24, 1951
- Affidavits indicate use in Pilot House Restaurant, Grubbs Sp. Service, & trailer home through 1960's - 1970's.
- Use "exhibit A" to evidence capacity of 230 gpm $\approx$ 0.51 cfs.
- Overlapping/competing claims review (see file 29-11342) proposes Pilot House be recommended at 0.5 cfs.

Memo 6/22/01 p 7

Original
Summary of Capacity

- 29-2255E stands alone based on transfer / on the fact that it is not connected to plant. (Race track well)
- 29-13142 stands alone based on history of purchase for City of Pocatello (see file) (Pilot House well).

- Wells associated with plant as follows:

# 1	1500 - 1800	GPM
# 2	350	GPM
# 3	1500 - 2000	GPM
# 4	1800	GPM
	5150 - 5950	GPM
	11.47 - 13.26	g/s

Proposal

- Invite Astaris to file new use claim for 11.47 - 8.54 (see p 4) = 2.93 g/s
- Invite Astaris to amend claim 29-13142 to show a nature of use to current uses. Require

Memo 6/22/01

pg

Documentation of irrigation as GIS is inconclusive.

- Invite Asteris to amend 29-2284 to include all current POOs.

Debra A. Contor

(Note that EWMD exams and GIS layouts are only included with copy in 29-2284)

Contor, Bryce

From: Contor, Bryce
Sent: Friday, June 22, 2001 8:18 AM
To: Rounds, Lewis
Subject: FMC exam, Parshall flume

In the EWMD files is a report of you inspecting a Parshall flume that handles the discharge of wells #1, #3, and #4. You reported about 1200 gpm which you said was "65% of what was being pumped."

Do you remember which of the pumps were running? The original licensing measurements were 1500 to 1800 gpm per pump, and this makes sense with a theoretical calculation. So my guess is only one pump was running? (65% of 1850 is 1200).

Also do you have any idea what annual volume would be? I've asked Terry to get me whatever is on WMIS and whatever pump card data they've returned.

Thaks.

Bryce Contor
Idaho Department of Water Resources
900 N Skyline Ste A
Idaho Falls, ID 83402
208 525 7161
bcontor@idwr.state.id.us

6/22/2001