

RESOLUTION NO 20-03 OF THE  
BOARD OF DIRECTORS OF THE INTERIM BORREGO SPRINGS WATERMASTER Establishing Criteria for  
Verification of Meter Calibration, Installation, and Accuracy

WHEREAS, the Settlement Agreement, Stipulated Judgment and Rules & Regulations of the Interim Borrego Springs Watermaster (“Watermaster”) require pumpers with Baseline Pumping Allocations to install Watermaster approved meters.

WHEREAS, the Watermaster adopted Resolution No. 20-02 establishing a list of approved meters on March 30, 2020.

WHEREAS, the Stipulated Judgment and Rules & Regulations require that upon installation, and annually thereafter, each pumper shall arrange for the manufacturer or qualified installer of such approved meters to provide written verification to the Watermaster of the ongoing accuracy of the meter readings and meter calibration.

WHEREAS, per section 5.1 of the Watermaster Rules & Regulations, the Watermaster or its designee shall provide forms to submit proof of meter installations.

WHEREAS, the first meter reading will be collected by October 1, 2020 and written verification of meter accuracy for existing and new wells must be submitted to Watermaster prior to the first meter read .

NOW, THEREFORE, be it resolved by the Board of Directors of the Interim Borrego Springs Watermaster, as follows:

1. The Board of Directors hereby approves the attached Exhibit 1 as the list of information that must be submitted to the Watermaster as qualifying proof of meter calibration and installation.
2. The Board of Directors hereby approves the attached Exhibit 2 as the list of information that must be submitted to the Watermaster to verify the accuracy of meter readings.
3. The Board of Directors hereby directs the Technical Consultant to maintain and publish to the Watermaster website a list of approved third-party vendors that can provide verification of meter installation and accuracy when these services are not performed by the manufacturers of the approved meter types.

**PASSED AND ADOPTED** at a regular meeting of the Board of Directors of the Interim Borrego Springs Watermaster held on the 27th day of August 2020, by the following vote:

**AYES:**

**NOES:**

**ABSENT:**

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President  
Board of Directors

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Secretary  
ATTEST

**Exhibit 1**  
**Requisite Information to Demonstrate Proof of Meter Calibration and Installation  
to the Borrego Springs Watermaster**

For all new meter installations, the following information must be submitted to the Watermaster as proof of meter calibration and proper installation for each well owned by pumpers with a Baseline Pumping Allocation. The information can be submitted in any format, but all information is required to be considered complete. In the event that a required item cannot be provided, please provide a detailed explanation. All personal information, including well locations, will be kept confidential.

**Pumper and Well Information:**

- Pumper Name
- Well ID
- Well Name
- GPS Coordinates of well location

**Meter Information:**

- Manufacturer
- Meter Type
- Meter Model
- Meter Size
- Serial Number
- Installation Date
- Certificate of factory calibration

Attachments A1 and A2 are examples of factory calibration forms.

**Verification of Proper Installation**

- Photographs of the well and meter that clearly show:
  - The meter make, model, and serial number
  - The meter read face
  - That there are no valves or other devices upstream of the meter that could divert water before being read by meter
- A signed letter from the manufacturer or qualified vendor verifying that:
  - There are no valves or other devices upstream of the meter that could divert water before being read by meter
  - The meter is accessible for meter reading
  - The meter has been installed according to good design practices

Attachment B is an example of an appropriate photographic log of well and meter.



# Attachment A1 to Exhibit 1

## Badger Meter

Order {[Order Number]}-{[Order Line Number]}

BMI Serial #:	51626244	BME Serial #:	1905-035
BMI Item #:	100-0072	BME Part #:	9010306
BMI Catalog String:	M2-030-P1-A-MWW-S-XXGF-STD		

### Detector Type 2

Nominal Size:	3 Inches or 80 DN	Pressure Rating:	150 ASA
Connection:	Type 2	Material:	C-Steel
Liner:	PTFE	Max Temperature:	212 °F or 100 °C
Electrode:	Hastelloy C22	Protection Class:	IP 67
Detector Housing:	C-Steel painted	Detector Offset:	-0.0046 m/s
Detector Constant:	1858.7		

### Amplifier: M2000

Mounting:	Detector mounted	Protection Class:	IP 67
Amplifier Housing:	Cast aluminium	Cable Length:	N/A
Flow Range:	2.4 to 956 GPM	Flow Direction:	Bi-directional
Full Scale Flow (Qn):	200 GPM	Power Supply:	85-265 VAC
Min/Max Alarm:	Min = 0% Max = 100%	Low Flow Cut Off:	0.2%
Empty Pipe Detection Active:	Yes	Pulse Rate:	1 pulse / Gallon
Analog Output:	4...20 mA	Pulse Width:	1:1
Pulse Output:	Active (Open Collector)	Full Scale Flow:	200 GPM
Software	1.19 ES		

	<u>Flow Rate (% of Qn)</u>	<u>% Deviation</u>
Measure Point 1:	25	0.08
Measure Point 2:	50	-0.02
Measure Point 3:	75	-0.08

The calibration of the Badger Meter ModMag M1000, M2000, M3000, M4000, M5000 and 7600P meters, sizes ¼ inch through 20 inches, are traceable to the International Systems of units using the services of the Czech Metrology Institute (CMI). The National Institute of Standards and Technology (NIST) recognizes the validity of CMI's calibration and measurement certificates.

# Attachment A2 to Exhibit 1



## CERTIFIED TEST REPORT

CUSTOMER: FAIN DRILLING  
MODEL NO: MW503  
METER SERIAL NO: 20-00488

### CONFIGURATION

METER INSIDE DIAMETER: 2.988  
METER OUTSIDE DIAMETER: \_\_\_\_\_  
TEST DATE: 1/17/2020  
TEST FACILITY: Volumetric  
IDEAL TEST CONSTANT: 6000

### CALIBRATION DATA

	<u>Tested TC</u>	<u>GPM</u>	<u>Accuracy</u>
1	6008	261	100.1

CERTIFIED BY: Robert Galusha ID#: 176785 DATE: 1/17/2020

\* This calibration was performed on a gravimetric or volumetric test facility, traceable to the National Institute of Standards and Technology, USA. The estimated flow measurement uncertainty of the calibration facilities are:  
Gravimetric +/- 0.15%      Volumetric +/- 0.5%



**McCROMETER**

3255 WEST STETSON AVENUE  
HEMET, CA 92545 USA

PHONE (951) 652-6811 / FAX (951) 652-3078

WEB SITE: <http://www.mccrometer.com> E-MAIL: [customerservice@mccrometer.com](mailto:customerservice@mccrometer.com)



20-00488

1/17/2020 10:04:32 AM  
Version 1.2 (4/18/2007)

# Attachment B to Exhibit 1

## Photographs 1 to 4: Flow meter installation



Photograph 1



Photograph 2



Photograph 3



Photograph 4

## Exhibit 2

### Requisite Information to Verify Accuracy of Meters to the Borrego Springs Watermaster

The accuracy of the pumping meters installed at each well owned by pumpers with a Baseline Pumping Allocation, whether existing or new, must be verified annually by the Watermaster prior to the first meter read of every Water Year, which starts on October 1.

The following information must be submitted to the Watermaster to verify the meter accuracy. The information can be submitted in any format, but all information is required to be considered complete. In the event that a required item cannot be provided, please provide a detailed explanation.

#### Pumper and Well Information:

- Pumper Name
- Well ID
- Well Name

#### Verification of Meter Accuracy

- A form prepared by a qualified vendor documenting the results of the meter accuracy test. The form must include and demonstrate:
  - The meter test date
  - The meter information (make, model, size, serial number, units of reporting)
  - The test information: test method, meter reads before and after test, metered flow, actual flow, accuracy of meter read.
  - The average accuracy result of at least two tests that measured meter accuracy.
- Photographs of the well meter that verify the make, model and serial number
- A signed letter or email from the manufacturer or qualified vendor that:
  - Reports the average accuracy (+/- %) of each meter tested
  - Indicates meters where the variability between at least two meter accuracy test results is greater than +/-5%. These meters require calibration to meet accuracy standards.
  - If a calibration is performed, submit forms documenting the calibration results and additional information from the vendor certifying the post-calibration accuracy. Calibration must be completed within 30 days of a finding that the meter does not meet the accuracy standards.

Attachments C1 and C2 are examples of meter accuracy tests performed by qualified vendors.



# Attachment C1 to Exhibit 2

## PUMP CHECK

Pumping Systems Analysts

Hydraulic Test Report

(951) 684-9801 • Lic. 799498 • Fax (951) 684-2988

### CERTIFICATE OF ACCURACY

Customer: [Redacted]  
Location: [Redacted]  
Identification: [Redacted]  
System: [Redacted]

Test Date: 09/17/2018

Meter Size: 6"                      Make: Water Specialties  
Meter No: 973969-06              Register: CuFt x 100

### General Data

Meter read before test: 401457                      Meter read after test: 401473

Pipe ID: 8.0625 (Inch)    Pipe area: 51.054 (sq.in.)    Pressure: 5.0 (Lbs/sq.in.)

### Test Data

#### Test Before Inspection

Test Equipment			Totalizer		Volume			Metered GPM	Percent of Flow
Test No.	Mano Read	Actual GPM	Second Read	First Read	Diff.	Convert to Gallons	Time in Seconds		
1	11.20	572	401461	401457	4	2,992	316.70	567	99.1%
2	11.15	569	401466	401461	5	3,740	397.50	565	99.2%
3	11.10	567	401472	401466	6	4,488	478.85	562	99.2%
Avg.		569.3					Avg.	564.6	99.2%

### Remarks

34.07.466n117.43.232w  
PC 3122/SCE 41078

Rhonda Steward  
cn=Rhonda Steward, o=Pump  
Check, ou,  
email=rhonda@pumpcheck.c  
om, c=US  
2018.09.25 09:08:20 -07'00'

Approved \_\_\_\_\_

P.O. Box 5646, Riverside, California 92517

*"Pump Testing, The Service That Pays For Itself"*

# Attachment C2 to Exhibit 2

**McCall's Meters Inc.**

**Field Test Report**

1498 Mesa View Street  
 Hemet, CA 92543  
 Tel: 951-654-3799 Fax: 951-654-3991

Utility: XXXXX  
 XXXXX  
 XXXXX

Date: 11-26-18  
 Tech: TD & ND

Account Number: XXXX  
 Meter Location:

Size: 8"  
 Manuf: Water Specialties  
 Type: Prop w/ transmitter  
 Ser No: 20070812-06

Test Point: Remove 1" sampler before meter and outside shed

Pipe I.D. 6.000 inches  
 Pipe Area: 28.27 sq. inches  
 Pressure: NA psi

Meter Readings:  
 Meterhead: 718122 Units: Gals x 1000  
 Remote: Units:

	Meter	Trans
Drive Gear	NA	
Driven Gear	NA	

**TEST BEFORE REPAIR**

Test No.	Pitot Data		Subject Meter Data						
	Mano. Diff.	Pitometer Flow GPM	Totalizer Units Gals x 1000		Test Run Volume Gallons	Test Run Time		Meter Flow GPM	Indicated Meter Accuracy
			Stop Read	Start Read		Min.	Sec.		
1	5.9	166.8	614316	614315	1000.0	5	47.6	172.6	103.5 %
2									
3									
4									
5									

	Meter	Trans
Drive Gear		
Driven Gear		

**TEST AFTER REPAIR**

1									
2									
3									
4									
5									

Remarks: The test results indicate proper meter accuracy.

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