NATIONAL POLLUTANT DISCHARGE ATION SYSTEM (NPDES)

DISCHARGE MONITORING ... EPORT (DMR)

For DMB factors

Page ,

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

MAME:	EAGLE BUTTE- CITY OF	(E)
ADDRESS:	208 SOUTH MAIN EAGLE BUTTE, SD 57625	
FACILITY:	EAGLE BUTTE- CITY OF	
LOCATION:	208.SOUTH MAIN EAGLE BUTTE, SD 57625	

ATTN: HONORABLE JOHN BACHMAN, MAYOR



001A DISCHARGE NUMBER



DMR MAILING ZIP CODE: 57625 MINOR

FOURTH POND TO GREEN GRASS CRK External Outfalt

No Discharge

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COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

IF NO DISCHARGE OCCURS DURING THE REPORTING PERIOD, "NO DISCHARGE" SHALL BE REPORTED.

INDIAN-EPA

EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

NATIONAL POLLUTANT DISCHARGE

GF ATION SYSTEM (NPDES)

DISCHARGE MONITORING ... CPORT (DMR)

View

DMB to

Pana

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Offerent)

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ADDRESS:	208 SOUTH MAIN EAGLE BUTTE, SD 57625	
FACILITY:	EAGLE BUTTE- CITY OF	
LOCATION:	208 SOUTH MAIN EAGLE BUITE, SD 57625	

ATTN:HONORABLE JOHN BACHMAN, MAYOR

SD0020192 PERMIT NUMBER

001A DISCHARGE NUMBER



DMR MAILING ZIP CODE: 57625 MINOR

FOURTH POND TO GREEN GRASS CRK External Outlall

No Discharge

PARAMETER		QUANT	ITY OR LOADING		QU	ALITY OR CONC	ENTRATION		NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
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50050 1 0	PERMIT	Reg. Mon. 30DA AVG	Reg. Mon. DAILY MX	Mgal/d	42)++++		******			See Permit	INSTAL

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel property gather and		TEL	EPHONE			
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TYPED OR PRINTED	penalties for submitting faire information, methoding the psecificity of time and imprisonment for knowing. Violations	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA Code	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) III NO DISCHARGE OCCURS DURING THE REPORTING PERIOD, "NO DISCHARGE" SHALL BE REPORTED.

INDIAN-EPA

EPA Form 3320-1 (Rev.01/06) Previous editions may be used.

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Lagoon Inspection Form

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DIVISION OF ADMINISTRATION

Public Health Laboratory

615 East Fourth Street Pierre, South Dakota 57501-1700 605/773-3368 FAX: 605/773-6129 www.state.sd.us/doh/lab/index.htm

* Page 1 of 1* Date: 6/1/2009

Submitter copy to:

EAGLE BUTTE, CITY OF-0010 PO BOX 150 EAGLE BUTTE, SD 57625-0150

Spec #: E09EC002601
Subm #:
Lab: ENV CHEMISTRY
Tel #: (605)773-3368

Source

EAGLE BUTTE WWTF EFFLUENT

E.Coli

Date Rcvd: 5/26/2009 Time Rcvd: 1417 Date Coll: 5/26/2009 Time Coll: 1100 Spec Type: WATER Coll By: SHAWN EBERHARD Discharging?: Yes Flow-gpm: 2000 Site Location: #3 medium WATER

Final Results

Solids (Suspended) EPA METHOD 160.2

TSS SET UP ON 5-26-09 AF PH EPA Method 150.1

PH SET UP ON 5-27-09 AF AMMONIA/WW E COLI SM 9223B 24 mg/L

9.12 pH UNITS

1.59 mg/L 18.5 / 100 mL



DIVISION OF ADMINISTRATION Public Health Laboratory

615 East Fourth Street Pierre, South Dakota 57501-1700 605/773-3368 FAX: 605/773-6129 www.state.sd.us/doh/lab/index.ntm

* Page 1 of 1* Date: 6/1/2009

Submitter copy to:

EAGLE BUTTE, CITY OF-0010 PO BOX 150 EAGLE BUTTE, SD 57625-0150

> Spec #: E09EC002604 Subm #: Lab: ENV CHEMISTRY Tel #: (605)773-3368

_____ Source

EAGLE BUTTE WWTF EFFLUENT

Date Rcvd: 5/26/2009 Time Rcvd: 1417 Date Coll: 5/26/2009 Time Coll: 1115 Spec Type: WATER

Coll By: SHAWN EBERHARD Discharging?: No Site Location: #2 medium WATER

Final Results

Solids (Suspended) EPA METHOD 160.2

TSS SET UP ON 5-26-09 AF PH EPA Method 150.1

PH SET UP ON 5-27-09 AF AMMONIA/WW E COLI E.Coli SM 9223B 40 mg/L

8.98 pH UNITS

2.43 mg/L >2420 / 100 mL

sension 1 Portable pH Meter Quick Referen

Changing Meter Setup Options

All setup options have default settings (underlined in the table). To change the table below.

Setup	How To Get There	Description of Op
1	Turn the meter on and press SETUP. Press ENTER.	Choose between using the BNC or <u>5</u> toggles between the options. Press E complete.
2	Turn the meter on and press SETUP. Press the up arrow once. Press ENTER.	Turn display lock On or <u>Off</u> . ENTER to options. Press EXIT when selection is
3	Turn the meter on and press SETUP. Press the up arrow twice. Press ENTER.	Choose between <u>°C</u> or °F for displaye toggles between the options. Press E complete.
4	Turn the meter on and press SETUP. Press the up arrow three times. Press ENTER.	Select measurement resolution from t thousandths. ENTER toggles between EXIT when selection is complete.
5	Turn the meter on and press SETUP. Press the up arrow four times. Press ENTER.	Select pH 6.86 or 7.00 as the pH the n recognize during calibration. ENTER to options. Prèss EXIT when selection is

Calibration

- Prepare two or three pH buffers (choose from pH 4.01, 6.86, 7.0, and 10.C
- Press I/O/EXIT. Press CAL. The display will prompt for standard 1.
- Place the pH electrode in one of the buffers.
- Press READ/ENTER. Wait until electrode stabilizes.
- S ____ The display will prompt for standard 2. Rinse the electrode with deionize
- Place the electrode in the second buffer. Press READ/ENTER.
- Repeat steps 5 and 6 for the third buffer or press EXIT.
- S_ When the reading is stable, the slope and Store ? will appear.
- To save the calibration, press ENTER. To exit without saving the calibratio management



CD

SECTION 3, continued

3.2.1 Performing a Calibration Using pH 4, 6.86, 7, and 10 Buffers

- If using a probe without a temperature sensor, see Section 2.3.1 on page 22 and Section 2.5 on page 22 for information about obtaining and using a default temperature.
- Prepare two pH buffers, either 4.01 and 7.00 (or 6.86), or 7.00 (or 6.86) and 10.01, according to the electrode instruction manual.
- Note: Use a 6.86 or 7.0 pH buffer for the mid-range buffer. To view or change the setting for the mid-range buffer see Section 3.1.5.
- Note: The pH values for the buffers are given for 25 °C. If the sample temperature is not 25 °C, the pH values displayed for the buffers will reflect the correct pH value for the sample temperature.
- Press VO/EXIT to turn the instrument on. From the Reading mode, press CAL. CAL and flashing ? will appear in the upper display area, along with Standard and 1.
- Press READ/ENTER. The temperature and pH values will be updated until a stable reading is reached.
- Note: If the meter is measuring in pH mode, it automatically moves to the next calibration step when stabilization is reached (indicated by three beeps). If measuring in mV mode, the three beeps will still sound when the stabilization occurs, but ENTER must be pressed to accept the reading. This lets the operator control the acceptance point of the buffer.
- When the reading has stabilized or been accepted, the standard number will change to 2.
- Remove the probe from the first buffer and rinse with deionized water. Place the probe in the second buffer.
- 7. Repeat steps 5 and 6 for the third buffer and press EXIT.
- Press READ/ENTER. The temperature and pH values will be updated until a stable reading is reached.
- 9. When the reading has stabilized or been accepted, the slope value and the Store and ? icons will appear. Verify the slope value is within the ranges specified in the electrode manual.

SECTION 3, continued

 To save the calibration and return to the Reading mode, press ENTER. To exit the calibration without saving it and return to the reading mode, press EXIT.

3.3 Reviewing the Calibration

- 1. From the pH Reading mode, press the REVIEW key.
- The display will show the standard number, standard pH, and temperature (view mV value by pressing pH/mV). Press the up arrow once.
- The meter will continue to scroll through the standard information with each press of the up arrow key. When all the standards have been displayed, press the up arrow key again.
- The meter will display the slope and offset of the calibration curve.
- To exit Cal Review mode, press EXIT. To review any standard or slope information again, press the down arrow.

HAGH COMPANY

Cat. No. 51910-88

PLATINUM SERIES pH ELECTRODE

MACH

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OKLAHOMA COOPERATIVE EXTENSION SERVICE BAE-1501



Water Measurement Units and Conversion Factors

Delbert Schwab Extension Irrigation Specialist

Irrigation water management begins with knowing the quantity of water available. The purpose of this publication is to provide basic information on water measurement units and convenient conversion factors. Sometimes one will want to know only the volume of water used; while, at other times one will want to know the rate of flow. Conversion factors simplify changing from one unit of measurement to another.

Water Measurement Units

There are two conditions under which water is measured—water at rest and water in motion. Water at rest is measured in units of volume. Water in motion is measured in units of flow— unit of volume for a convenient time unit. It is important that the difference between a unit of volume and a unit of flow be kept in mind.

Volume Units

Water at rest; i.e., ponds, lakes, reservoirs, and in the soil, is measured in units of volume — gallon, cubic foot, acre-inch, and acre-foot.

- Cubic Foot The volume of water that would be held in a container one foot wide by one foot long by one foot deep.
- Acre-Inch The volume of water that would cover one acre (43,560 square feet) one inch deep.
- Acre-Foot The volume of water that would cover one acre one foot deep.

Flow Units

Water in motion; i.e., flowing in streams, canals, pipelines, and ditches, is measured in units of volume per unit of time—gallons per minute (gpm), cubic feet per second (cfs), acre-inches per hour and acre feet per day. Cubic feet per second, sometimes written second-feet (sec. ft. or cusec) is most commonly used for measuring flow of irrigation water moving by gravity from streams and reservoirs. Gallons per minute is most commonly used for measuring flow from pumps.

- Cubic foot per second The quantity of water equivalent to a stream one foot wide by one foot deep flowing with a velocity of one foot per second.
- Gallon per minute The quantity of water equivalent to a stream which will fill a gallon measure once each minute of time.

Oklahoma Cooperative Extension Fact Sheets are also available on our website at: http://osufacts.okstate.edu

A flow of one cubic foot per second is approximately equal to either 450 gallons per minute, one acre-inch per hour, or two acre-feet per day (24 hours).

List of Equivalents

The following equivalents are useful for converting from one unit to another and for calculating volumes from flow units.

Volume Units

- One gallon
- = 231 cubic inches
- = 0.13368 cubic foot weighs approximately 8.33 pounds

One cubic foot

- = 1,728 cubic inches
- = 7.481 gallons (7.5 for ordinary calculations) weights 62.4 pounds (62.5 for ordinary calculations)

One acre-inch

= 3.630 cubic feet

- = 27,154 gallons (27,200 for ordinary calculations)
- = 1/12 acre-foot weighs approximately 113.1 tons

One acre-foot

- = 43,560 cubic feet
- = 325,851 gallons
- = 12 acre-inches weighs approximately 1,357 tons

Rate of Flow Units

One gallon per minute

- = 0.00223 (approximately 1/450) cubic foot per second
- = 0.00221 acre-inch per hour
- = 0.00442 acre-foot per (24 hour) day
- = 1 acre-inch in 452.6 hours (450 for ordinary calculations)
- = 1 acre-foot in 226.3 days

One cubic foot per second

- = 448.83 gallons per minute (450 for ordinary calculations)
- acre-inch in 1 hour and 30 seconds (1 hour for ordinary calculations)
- acre-foot in 12 hours and 6 minutes (12 hours for ordinary calculations)
- = 1.984 acre-feet per (24 hours) day (2 acre-feet for ordinary calculations)

Conversion Table for units of flow.

Units	Cubic Feet Per Second	Gallons Per Minute	Million Gallons Per Day	Acre-Inches Per 24 Hours	Acre-Feet Per 24 Hours
Cubic Feet Per Second	1.0	448.8	0.646	23.8	1.984
Gallons Per Minute	0.00223	1.0	0.00144	0.053	0.00442
Million Gallons Per Day	1.547	694.4	1.0	36.84	3.07
Acre-Inches Per 24 Hours	0.042	18.86	0.0271	1.0	0.0833
Acre-Feet Per 24 Hours	0.504	226.3	0.3259	12.0	1.0

Million gallons per day (mgd)

- = 694.4 gallons per minute (695 for ordinary calculations) = 1.547 cubic feet per second (1.5 for ordinary calcula
 - tions)

Using Conversion Table

To use the above conversion table, first locate the know unit of measurement in the left hand column headed "Units." Next, moving to the right, select the appropriate conversion factor listed under the vertical column with the heading of the desired unit of measurement.

Example No. 1: A well yielding 750 gallons per minute will supply how many acre-inches in 24 hours?

- Step 1: Locate the line labeled "Gallons Per Minute" in the left-hand column labeled "Units."
- Step 2: Move to the right along the "Gallons Per Minute" line and read 0.053 under the column headed "Acre-Inches Per 24 Hours."
- Step 3: 750 x 0.053 = 39.75. The 750 gpm well will yield 39.75 acre-inches in 24 hours.

Example No. 2: How many cubic feet per second are required to make a 4 inch gross application on 40 acres of land in 72 hours?

- Step 1: 40 acres x 4" = 160 acre-inches gross application. The conversion table shows factors for converting acre-inches per 24 hours to cubic feet per second. 72 hours ÷ 24 hours = 3 days. 160 ÷ 3 = 53.33 acre-inch per 24 hours.
- Step 2: Locate the line labeled "Acre-Inches Per 24 Hours" in the left-hand column labeled "Units."
- Step 3: Move to the right and under the vertical column labeled "Cubic Feet Per Second" read 0.042.
- Step 4: 53.33 x 0.042 = 2.23986. It will require approximately 2 1/, cfs to apply 4" of water on 40 acres in 72 hours.

Conversion Formulas

The following formulas are handy for computing the approximate depth of water applied to a field.

Cubic feet per second x hours acres

=acre-inches per acre, or average depth in inches.

Gallons per minute x hours 450 x acres

=acre-inches per acre, or average depth in inches.

Example: What average depth of water would be applied to an 80 acre field if a farmer pumped 750 gpm for 8 days (pumping 24 hours a day)?

Solution:

450 x acres	=average depth in
	inches.

750 gpm x 8 days x 24 hours/day 450 x 80 =4 ii dept

=4 inches average depth.

Irrigation water management does begin with knowing how much water available and involves some arithmetic. The most common mistake when working with water measurement units is to accidentally substitute one flow unit or volume unit for another without proper conversion. Usually the final answer appears obviously wrong; however, this is not always true. When checking your arithmetic, also check the measurement unit to see they are correct.

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