State of Idaho
DEPARTMENT OF WATER RESOURCES

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Phone: (208) 287-4800 • Fax: (208) 287-6700 • Web Site: www.idwr.idaho.gov

C. L. "BUTCH" OTTER
Governor

DAVID R. TUTHILL, JR.
Director

December 23, 2008

Randal Budge
Racine Olson, Nye Budge & Bailey
PO Box 1391
Pocatello, ID 83204

Re: Your Correspondence dated November 20, 2008 regarding Cub River Irrigation Company and IDWR Order dated 10/16/2008 Requiring Measuring Device

Dear Mr. Budge,

I have reviewed your correspondence dated November 20, 2008 regarding Cub River Irrigation Company's (Cub River) proposed measuring device for the Middle Ditch diversion from the Cub River. I apologize for the delay in responding to your letter. I believe I may have spoken with a representative from Cub River since the Department issued the October 16, 2008 measuring device order.

The Area Velocity Flow Meter (AVFM) proposed by Cub River is a measuring device that is acceptable to the Idaho Department of Water Resources (Department). The specific model identified in the material attached in your correspondence is also acceptable to the Department.

It is my understanding from talking to the vendor (Intermountain Environmental Inc.) that the AVFM was installed last week in the pipeline below the head gate and concrete flume structure. The device is connected to a data logger that has a display window located in a locked shed near the head gate or diversion heading. The watermaster may need access to the shed in order to record the flows as displayed from the data logger. It is our further understanding that Cub River will have phone line access to the data logger and measuring device, and that the measuring device and data logger will also be used for purposes of head gate automation. It may be possible therefore for the watermaster to either get phone access to the data logger/measuring device to assist with his recording of daily flows and/or that he can work out some protocol with Cub River to get daily and seasonal diversion data.

Again, I apologize for the formal delay in responding to your letter. We appreciate Cub River's prompt response in getting a measuring device installed for the Middle Ditch and we look forward to the watermaster working with Cub River in accessing the data to fulfill his responsibilities.

Please contact me directly at 208-287-4959 if your have further questions or need any additional assistance regarding this or other matters related to Cub River.

Regards,

Tim Luke
Water Distribution Section

Cc: Regan Wheeler, Cub River Irrigation Company
Troy Foster, WD13-A Watermaster
Jeff Peppersack, IDWR Water Allocations Bureau Chief
Ernie Carlsen, IDWR Eastern Region

WA

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LOUIS F. RACINE (1917-2005)
WILLIAM D. OLSON, OF COUNSEL

RECEIVED
NOV 26 2008
DEPARTMENT OF
WATER RESOURCES

November 20, 2008

Jeff Peppersack, Water Allocations Bureau Chief
Tim Luke, Water Distribution Section Manager
Idaho Department of Water Resources
P.O. Box 83720
Boise, Idaho 83720-0098

Re: Cub River Irrigation Company
10/16/08 Order Requiring Measuring Device

Dear Jeff and Tim:

We represent Cub River Irrigation Company ("Cub River") and are writing to respond to the Idaho Department of Water Resources' ("Department") October 16, 2008 letter and Preliminary Order. Cub River intends to comply with the Order and install a measuring device of a type acceptable to the Department on the Middle Ditch Diversion prior to diverting water during the 2009 irrigation season.

Cub River proposes to install an Area-Velocity Flow Meter ("AVFM") manufactured by Greyline Instruments, Inc., to measure flow, together with the optional built-in data logger to store time and date-stamped flow values from 1 second to 30 minute intervals. Enclosed please find the AVFM specifications and other information. Please review this plan and determine whether this measuring device is of a type acceptable to the Department. Arrangements will be made to purchase and install the measuring device as soon as acceptance has been provided. If the AVFM and data logger are not acceptable, please explain why so that any issues can be addressed by the manufacturer. In the event this measuring device is unacceptable, Cub River will alternatively install one of the weirs identified in the letter as an acceptable standard open channel flow measuring device commonly used in Idaho. The measuring device will be installed at the Middle Ditch point

of diversion from Cub River at NW1/4 SE1/4, Section 24, Township 15 South, Range 41 East, B.M., Franklin County, as identified on the enclosed map.

Additionally representatives from Cub River and Preston-Whitney Irrigation Company have met and are in the process of entering into an Exchange Agreement and Form 240 - Application for Exchange of Water as requested in the October 16, 2008 letter. This will be filed with the Department as soon as the necessary documents have been completed and executed by the parties.

Sincerely,

RANDALL C. BUDGE

RCB:rr
Enclosures
cc: Troy Foster, Water Master, Water District 13A (w/encls.)
Ernie Carlson, IDWR-Eastern Region (w/encls.)
Cub River Irrigation Company, Reagan Wheeler, Manager (w/encls.)
Preston-Whitney Irrigation Company, Lyle Porter, President (w/encls.)

Area-Velocity Flow Meter

for Open Channels and Pipes – No Flume or Weir required

New!

Area-Velocity Flow Meter

Model AVFM-II

Display, Transmit and Totalize Open Channel Flow in Pipes and Channels

Sales and Service:
Intermountain Environmental, Inc.
601 W. 1700 S., Suite B
Logan, UT 84321
(800) 948-6236
www.inmtn.com

Measures Velocity + Level to Calculate Flow

Area-Velocity Flowmeter

Monitor flow through open channels, partially full sewer pipes and surcharged pipes *without* a flume or weir. Ideal for municipal stormwater, combined effluent, raw sewage and irrigation water.

Streamlined Ultrasonic Sensor

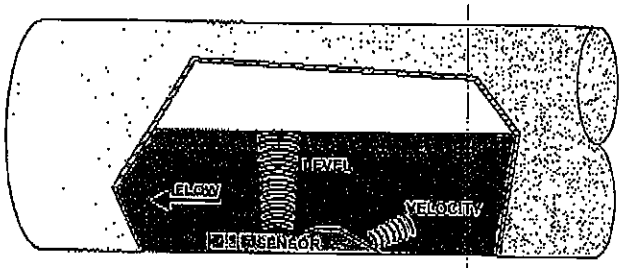
Uses a submerged ultrasonic sensor to continuously measure both Velocity and Level in the channel. The sensor is resistant to fouling, corrosion and abrasion. It is tolerant of turbulence and high approach velocity. Can be configured with the standard submerged velocity-level sensor, or with submerged velocity plus a separate non-contacting ultrasonic level sensor.

Greyline instruments inc.

RELIABLE MEASUREMENT AND CONTROL

Flow Monitor for Open Pipes & Channels

Easy Set-up and Calibration



SUBMERGED ULTRASONIC SENSOR
MEASURES LEVEL AND VELOCITY

The AVFM-II Area-Velocity Flow Meter measures both Level and Velocity to calculate flow volume in an open channel or pipe. Calibration is simple: enter the pipe ID or channel width and the AVFM-II automatically computes flow volume and displays the flow rate.

The AVFM-II sensor mounts inside the pipe or on the bottom of a channel. No special compounds, tools or hardware are required. The ultrasonic sensor is completely sealed with no orifices or ports

Recommended Pipe or Channel Conditions

Careful selection of sensor mounting location results in best performance and maintenance-free operation. Avoid locations where sediment builds up.

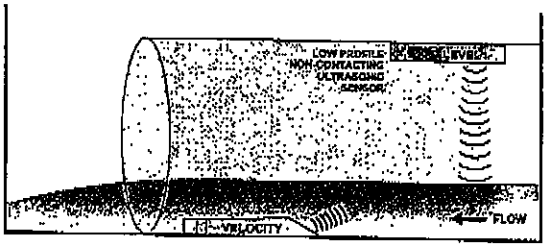
Best possible accuracy will result when the water is not highly turbulent and where velocity is evenly distributed across the channel. The channel should not have drops or direction changes immediately upstream of the sensor mounting location. Pipe or channel slope should not exceed 3%.

The AVFM-II can measure flow velocity up to 20 ft/sec (6 m/sec). The flowmeter's electronics and software sample and average flow rates continuously to provide stable readings. The submerged velocity/level sensor will measure flow in partially full and surcharged pipes with pressure up to 10 psi. No special set-up or adjustment is required.

Minimum recommended pipe diameter is 6" (150 mm).

Alternate Sensor Configurations

The standard sensor measures both velocity and level with a single submerged probe. It is installed in the pipe or channel floor with a set-screw through the stainless steel mounting bracket (supplied), or mounted with an optional stainless steel band for round pipes. Alternate sensor models are available for special applications: a separate non-contacting ultrasonic level sensor with a submerged velocity sensor. Sensor cable can be extended up to 500 ft (150 m).



Three 4-20mA Outputs

Transmit to external loggers, chart recorders, controllers or remote displays. AVFM-II 4-20mA outputs are configured to transmit Level, Velocity and Flow. Outputs can be turned off for reduced power consumption (2.9 Watts minimum) or factory-configured with 0-5VDC outputs for power consumption as low as 3.6 Watts.

No Calculations - No Programming Codes

Calibrate the AVFM-II by entering the pipe diameter or channel width and select your choice of measurement units from a simple menu. You can display water level, velocity or flow in gallons, liters, ft3 or m3. Calibration parameters are stored through power interruptions. The AVFM-II will resume normal operation as soon as power is restored.

Optional 50,000 point Data Logger

Choose the built-in data logger option if you want the AVFM-II to store time and date-stamped flow values from 1 second to 30 minute intervals. Or use the convenient 'Flow Report' format where total, minimum, maximum and average flow rates are stored in your choice of hourly or daily summaries. Transfer flow logs to your PC or laptop through the AVFM-II RS232 output (included with the data logger option). Use 'Greyline Logger' software for data retrieval by dial-up connection through modems and phone lines, or by direct connection to the AVFM-II. This powerful software displays data in both graph and table formats and exports to graphic or text file formats for use in other programs. Runs on any PC with Windows™ 98, 2000, NT or XP.

Optional Intrinsically Safe Sensor

The AVFM-II sensor and cable is rated Intrinsically Safe for installation in Class I,II,III Div. I,II, Groups C,D,E,F,G hazardous locations when connected through three optional Intrinsic Safety Barriers (factory-installed inside the AVFM-II electronics enclosure). Electronics can be mounted in a general purpose area up to 500 ft. (150 m) from the sensor.

AVFM-II Specifications

General Specifications — Greyline AVFM-II Area-Velocity Flow Monitor

Channel Types:	Round pipe, Rectangular, trapezoid or egg-shaped
Electronics Enclosure:	Watertight and dust tight NEMA4X (IP 66) polycarbonate with clear, shatterproof cover
Accuracy:	Level: ±0.25% of Range. Velocity: ±2% of Reading. Repeatability and Linearity: ±0.1%
Displays:	Numeric Values: large 4 digit LCD; Menu/Status/Totalizer: 16 digit alphanumeric
Programming:	3-button keypad with Menu selection. Calibration parameters are Password protected
Power Input:	100-130VAC 50/60Hz, 8.5 Watts maximum
Outputs:	3 isolated 4-20mA, 1000 ohm, (Flow, Level and Velocity)
Control Relays:	2 Relays, form "C" dry contacts rated 5 amp SPDT, programmable for flow proportional pulse (sampler/totalizer), flow and/or level alarm
Electrical Surge Protection:	Sensor, 4-20mA outputs and AC power input
Operating Temp. (electronics):	-5° to 140°F (-20° to 60°C)
Approximate Shipping Weight:	10 lbs. (4.5 kg)

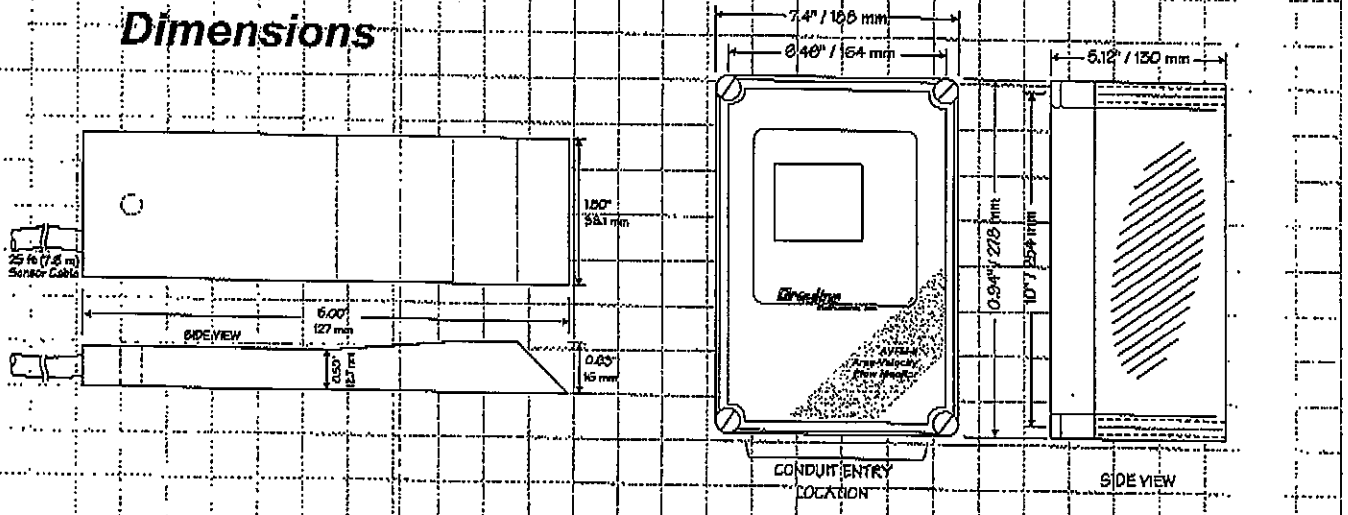
QZ02L Sensor

Velocity Measurement Range:	0.1 to 20 ft/sec (0.03 to 6.2 m/sec)
Level Measurement Range:	Minimum Head: 1 in (25.4 mm). Maximum Head: 15 ft. (4.57 m)
Operating Temperature:	5 to 150°F (-15 to 65°C)
Exposed Materials:	PVC, epoxy resin, polyurethane
Sensor Cable:	25 ft. (7.6 m) submersible polyurethane jacket, shielded, 3-coaxial
Sensor Mounting:	includes MB-QZ stainless steel mounting bracket
Temperature Compensation:	Automatic, continuous

Options

Data Logging:	Programmable 50,000 point data capacity, time and date stamped or formatted flow reports including Total, Average, Minimum, Maximum and Times of occurrence. Includes RS232 output, serial cable and Windows software
Sensor Cable:	50 ft. (15 m) or 100 ft. (30 m) submersible, continuous from Sensor - or splice up to total of 500 ft (150 m) length
Sensor Cable Junction Box:	Watertight NEMA4 steel with connection termina strip
Power Input:	200-250VAC 50/60Hz, or 9-36VDC (2.9 W min., 6.2 W max.)
Analog Outputs:	Factory configured for three 0-5VDC outputs
Enclosure Heater:	Thermostatically controlled - recommended for temperatures below 32°F (0°C)
Intrinsic Safety Barriers:	For Sensor mounting in Class I, II, III, Div. I, II, Groups C,D, E,F,G hazardous locations
Sensors:	Separate non-contacting ultrasonic level sensor and submerged velocity sensor
Sensor Mounting Bands:	Stainless steel sensor mounting bands for pipes 6" to 72" (150 to 1800 mm) diameter

Dimensions

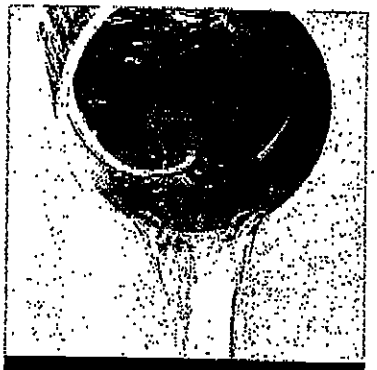


QZ02L VELOCITY/LEVEL SENSOR

ELECTRONICS ENCLOSURE

New Open Channel Flow Monitor

Measures Velocity + Level to calculate Flow



New AVFM-II Area-Velocity Flow Monitor

Recommended for:

- ☑ Sewer Flow Monitoring and Reporting
- ☑ Infiltration Studies
- ☑ Stormwater Monitoring
- ☑ Natural Streams
- ☑ Irrigation Water

New – AVFM-II Area-Velocity Flow Meter

- Flow measurement in pipes, rectangular, trapezoid and egg-shaped channels
- Ideal where flumes or weirs are difficult to install
- Sealed ultrasonic sensor resists fouling
- Works with water level 1" (25.4 mm) to 15 ft (4.57 m)

The AVFM-II Area-Velocity Flow Meter includes a submerged ultrasonic sensor that is installed at the bottom of an open pipe or channel. Exposed materials are all plastic so the sensor resists fouling and corrosion. It has no moving parts and no orifices, ports or electrodes.

The AVFM-II displays and totalizes flow. It includes three 4-20mA outputs (Flow, Level and Velocity), plus two control relays for level alarms or flow proportionate pulse output for samplers and chlorinators. It is easy to calibrate with the built-in, 3-button keypad and menu system. A built-in 50,000 point data logger with RS232 output is optional. Intrinsic Safety Barriers for sensor and cable installation in hazardous rated channels is also optional.

How to Order

Contact a Greyline sales representative in your area or phone one of our sales engineers. Describe your requirements and receive our prompt quotation.

Applications Support

Take advantage of Greyline's applications experience. Phone toll free 1-888-473-9546 for advice on applications, installation or service for Greyline instruments.

No Risk Appraisal

The Greyline AVFM-II Area-Velocity Flow Meter must meet your requirements. Discuss your application with a Greyline representative to arrange a 30-day trial.

The Greyline Guarantee

Quality of Materials and Workmanship - Each instrument manufactured by Greyline is warranted against defects in materials and workmanship for a period of one year from date of purchase. Refer to our limited warranty included with each product.

Greyline instruments inc.

RELIABLE MEASUREMENT AND CONTROL

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Tel: 613-938-9956 / 888-473-9546 Fax: 613-938-4857
USA: 105 Water St., Massena NY 13662
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Internet: www.greyline.com E-mail: info@greyline.com

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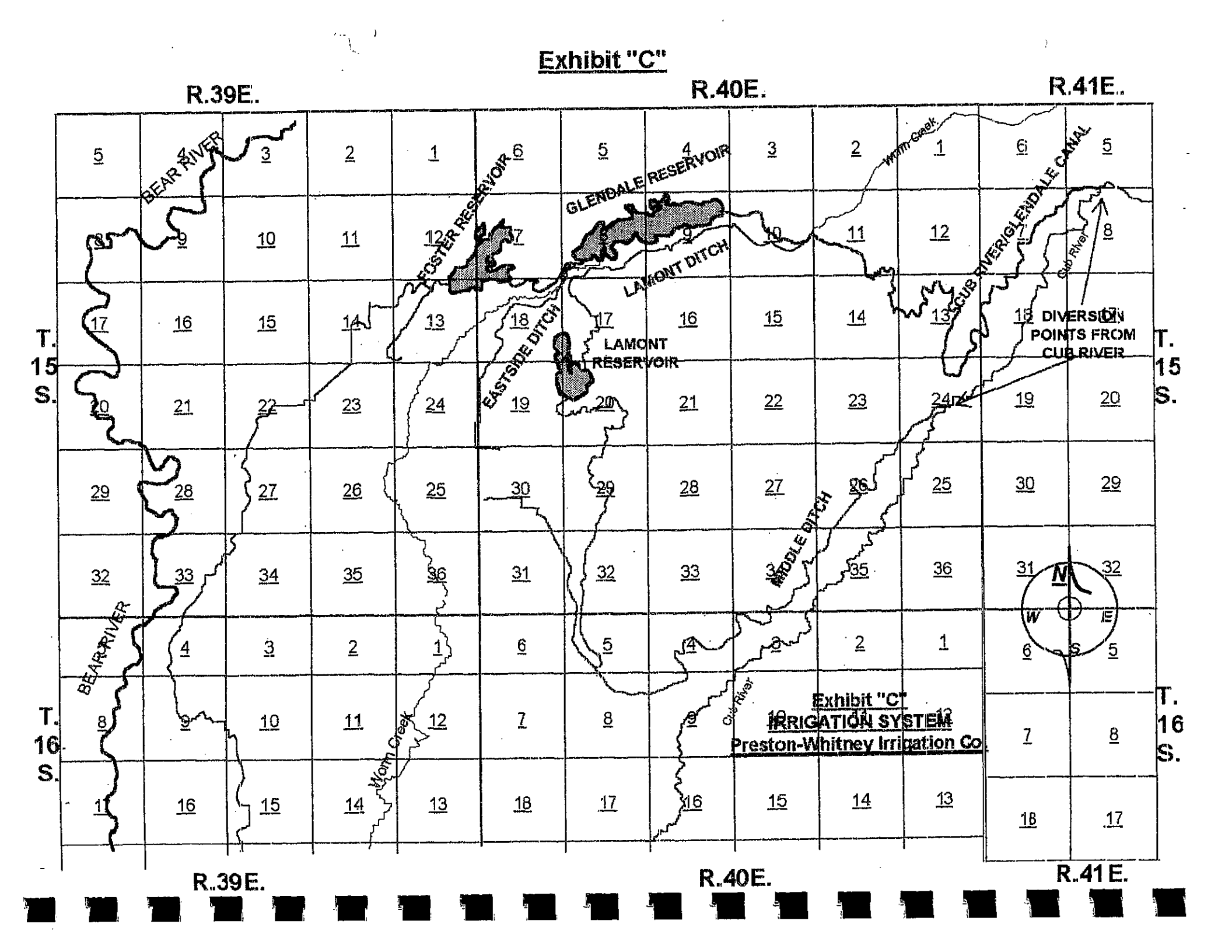
Exhibit "C"
R.39E.
R.40E.
R.41E.
T. 15 S.
T. 16 S.
BEAR RIVER
FOSTER RESERVOIR
GLENDALE RESERVOIR
LAMONT DITCH
EASTSIDE DITCH
LAMONT RESERVOIR
Worm Creek
Cub River
GLENDALE CANAL
DIVERSION POINTS FROM CUB RIVER
MIDDLE DITCH
N
W
E
S
Exhibit "C"
IRRIGATION SYSTEM
Preston-Whitney Irrigation Co.