

**Monzeglio, Hope, NMENV**

**From:** Chavez, Carl J, EMNRD  
**Sent:** Monday, May 08, 2006 11:56 AM  
**To:** Foust, Denny, EMNRD; Price, Wayne, EMNRD; Cobrain, Dave, NMENV; Monzeglio, Hope, NMENV  
**Subject:** FW: Giant Ciniza Lagoons Treatability Study

Any comments about this msg. that you have would be appreciated? Thnx.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
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Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/>  
(Pollution Prevention Guidance is under "Publications")

**From:** Jim Lieb [<mailto:jl Lieb@giant.com>]  
**Sent:** Monday, May 08, 2006 11:43 AM  
**To:** Chavez, Carl J, EMNRD  
**Cc:** Ed Riege; Cote Edward L.  
**Subject:** Giant Ciniza Lagoons Treatability Study

Carl:

We have been researching methods of conducting treatability studies on aeration lagoons. I have been in contact with an engineering firm that among other areas specializes in industrial waste water treatment. They are recommending that we perform dissolved oxygen uptake rate (DOUR) measurements on the aeration lagoons as a better method than BOD testing. One key advantage of the DOUR method is that the method uses a portable instrument that can yield immediate results as opposed to the week turn around on BOD5. Also, once we have established normal and proper operating DOUR levels, the instrument will yield immediate results we can use in performing regular checks to monitor lagoon treatment operation. I have attached their proposal including information on the DOUR meter we would acquire and use on the lagoons and ponds. Please review and let me know if this method would be acceptable to OCD in lieu of testing for BOD. If you have any questions, I can arrange a conference call with the HRC staff.

Regards,

Jim Lieb  
Environmental Engineer  
Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, NM 87347  
(505) 722-0227  
fax (505) 722-0210  
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5/8/2006

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May 4, 2006

Giant Industries, Inc.  
Ciniza Refinery  
I-40, Exit 39  
Jamestown, New Mexico 87347

Attention: Mr. James Lieb

Re: Proposal for Wastewater Engineering Services

HRC Job No. 20060375.86

Dear Mr. Lieb:

Thank you for contacting Hubbell, Roth and Clark, Inc. (HRC) regarding your wastewater treatment system. We are pleased to offer you this proposal based upon our telephone conversation and the information that you sent via e-mail.

**Background and Approach**

Giant provided HRC with several letters and e-mail correspondences with the State regarding concerns with BOD treatment capacity in your aerated lagoon system. The State specifically asked that Giant evaluate the pond's performance with a more "modern" approach from the original 1986 design calculations. Giant has performed sampling of the influent and effluent of the system as a first step in developing a response to the State.

The calculations that were originally used to size your pond appear to be sound but they relied upon literature values for the biological rate constants. This is appropriate when designing a new system since a sample of the actual wastewater is not available for testing. Giant has the opportunity to test the biological treatment system's performance in-situ.

The viability of a biological treatment system is best measured by performing dissolved oxygen uptake rate (DOUR) testing. This standardized test simply measures the rate of oxygen consumption of your wastewater's microbial population using samples taken directly from the pond. This testing must be performed on-site, immediately after taking the sample. This information will be used to calibrate the original calculations. HRC proposes to demonstrate this testing to your staff so that this tool may be used for any future troubleshooting.

Corporate Office: 555 Hulet Drive • P.O. Box 824 • Bloomfield Hills, MI 48303-0824 (Mailing – P.O. Box) – 48302-0360 (UPS Zip)  
Telephone: (248) 454-6300 • FAX: (248) 338-2592 or (248) 454-6312 • www.hrc-engr.com

**Scope of Services**

1. One, two day site visit by Ed Cote to perform the following:
  - a. Visit the wastewater treatment facility and review the process equipment including basin volumes and aerator sizing.
  - b. Review historical analytical data.
  - c. Perform DOUR testing and train Giant's personnel in this test. HRC will purchase a dissolved oxygen meter for this work and turn over to Giant.
2. Document HRC's findings in a letter report.
3. Respond to Giant's questions during negotiations via e-mail and telephone.

**Professional Fees**

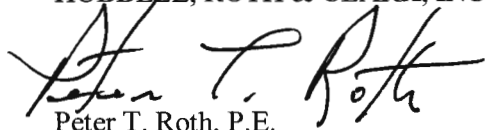
HRC proposes to perform this work on a not-to-exceed without prior approval basis as follows:

<u>Description</u>	<u>Amount</u>
• Travel expenses (estimated)	\$ 800
• Labor, estimated at 60 manhours @ \$135/hour	\$ 8,100
• Dissolved oxygen meter with self-stirring probe (see attached, Model YSI 5100)	\$ 2,100
<b>Total</b>	<b>\$ 11,000</b>

We look forward to working with you on this interesting project. Please feel free to contact Ed Cote at (248) 454-6387 if you need further information.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Peter T. Roth, P.E.  
Principal/Vice President

ELC/jjb  
pc: HRC; File

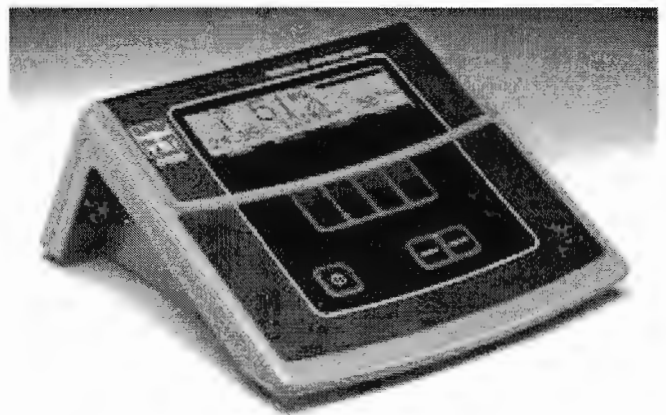
## YSI 5000/5100 DISSOLVED OXYGEN INSTRUMENTS

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YSI engineered the YSI 5000 Series to meet the expanding needs of laboratory instruments. These dissolved oxygen instruments feature: auto-calibration, large, graphic displays and low keypad profiles for maximum efficiency.

The full-featured YSI 5100 instrument offers even greater performance and flexibility with auto calibration and built-in SOUR software to meet U.S. EPA 503 regulations for safe use of biosolids. OUR (Oxygen Uptake Rate) and SOUR (Specific Oxygen Uptake Rate) are also valuable process control tools because they indicate the biological activity of microorganisms used in treatment.

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Microprocessor-based, the YSI 5000 will store 100 sets of data and is equipped with RS232 interface for direct link to your computer.

Both models are upgradeable by floppy disk, making it easy to take advantage of future software improvements.

**YSI 5000 and YSI 5100 both include:**

- Menu-driven software
- Dissolved oxygen and temperature measurement
- Large LCD display
- Automatic calibration
- 100 data-point memory with date/time stamp
- RS232 interface
- Performance of all required BOD calculations when used with YSI's BOD Analyst™ software
- Compatibility with all existing YSI probes (adapter may be required)
- Instrument-powered probe
- Computer interface control
- CE compliant

**YSI 5100 also includes:**

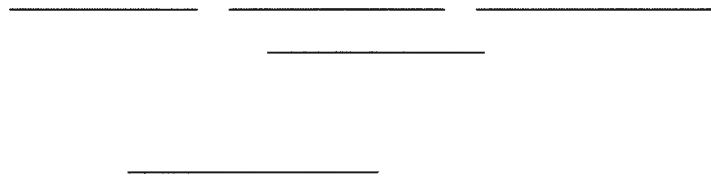
- On board SOUR software
- Graphical display and storage of OUR's and SOUR's
- Built-in barometer that can be calibrated
- Barcode scanner interface
- Port for computer keyboard

## **Barcode Scanner**

BOD analysis is even easier when you add a barcode scanner (YSI 5015). One scan records the BOD bottle number, DO concentration, temperature, and time and date. Available for use with the YSI 5100 DO Instrument only.

## **BOD Bottle Barcode Labels**

These waterproof, self-adhesive barcode labels (YSI 059160) make recording bottle numbers as easy as pressing a button! 1000 per pack. Available for use with the YSI 5100 DO Instrument only.





## SPECIFICATIONS - YSI 5000/5100 DISSOLVED OXYGEN INSTRUMENTS

### Dissolved Oxygen Performance Specifications

<b>Readout:</b>	LCD
<b>Accuracy:</b>	$\pm 0.1\%$ +1 lsd mg/L
	$\pm 0.1\%$ +1 lsd mg/L % air
	$\pm 0.1^\circ\text{C}$
<b>Range:</b>	0-60 mg/L
	0-600 % air
	-5 to + 50°C temperature
<b>Resolution:</b>	.01mg/L
	0.1% air
	0.01°C temperature
<b>Power:</b>	Bat & AC
<b>Salinity Compensation:</b>	Yes
<b>Temperature Compensation:</b>	Automatic
<b>Other Features:</b>	RS232
	YSI 5000 has BOD, YSI 5100 has OUR/SOUR
	Memory