



IGSHPA ACCREDITATION SEMINAR

IGSHPA DRILLERS TRAINING COURSE *PLUS*

RENO, NV MAY 17-19, 2011

REHAU is pleased to present this training course on vertical closed-loop piping design, soil and rock identification, equipment sizing, installation methods, and grouting for vertical ground source heat pump (GSHP) applications. This comprehensive three-day certification was developed to meet *International Ground Source Heat Pump Association (IGSHPA)* criteria.

This course is for both engineers and installers!

The IGSHPA Drillers Training Course *Plus* contains the same ten lessons that are in the IGSHPA Installers Training Course, *plus* additional lessons such as how to cost out and bid the vertical heat exchanger outside the building; new and retrofit water-to-water and water-to-air closed-loop geothermal heat pump systems; interior piping design; circulator pump selection; and flushing and purging of the system. This course will also explain crosslinked polyethylene (PEXa) pipe and ASTM F2080 compression-sleeve fittings, approved materials which were added to the IGSHPA *Design and Installation Standards Manual* in 2008.

Upon successful completion of the training course and passing the *IGSHPA Vertical Loop Installer* open-book exam, you will be issued an IGSHPA accredited vertical loop installer course certificate and wallet card. Certification training and testing for assembly of F2080 fittings will also be offered for no additional fee.

Registration deadline is May 9, 2011. Space is limited to 30 applicants, so please reserve now.

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Location:

Truckee Meadows Community College
IGT Applied Technology Center
475 Edison Way
Reno, NV 89502 Tel (775) 856-5300

Schedule:

7:30 am - 5:30 pm Tuesday, May 17
7:30 am - 5:30 pm Wednesday, May 18
7:30 am - 5:00 pm Thursday, May 19

Course overview:

1. Welcome and a preview of the course
2. Introduction and overview of geothermal heat pumps
3. Economics, marketing, and the new Federal Tax Credits
4. Soil and rock identification and thermal conductivity
5. Selecting, sizing, and designing the heat pump system
6. Designing the vertical ground heat exchanger
7. Installation of the ground heat exchanger
8. Grouting procedures for vertical boreholes
9. Interior piping and circulator pump selection
10. PEXa and HDPE piping systems
11. Hands-on socket, butt, and electrofusion training
12. F2080 compression-sleeve PEXa connection training
13. Flushing and purging the system
14. Heat pump system startup and checkout
15. Drilling project costing and bidding
16. Review lesson
17. REHAU certification for compression-sleeve connections
18. IGSHPA open-book exam

About the instructor: Dr. Todd Giddings, Ph.D., P.G.

Dr. Todd Giddings has over 33 years of experience designing and installing geothermal systems. He is a registered professional geologist and the principal hydrogeologist of Todd Giddings and Associates, Inc. He is an International Ground Source Heat Pump Association (IGSHPA) member, IGSHPA Accredited Installer, IGSHPA Accredited Vertical Loop Installer, and IGSHPA Accredited Trainer for both the IGSHPA Accredited Installer Training Course and the IGSHPA Accredited Driller Training Course.

The Geo-Tec Systems division of Todd Giddings and Associates, Inc. has designed and installed geothermal heat pump systems in new homes up to 8,000 square feet in size and in small commercial buildings up to 10,000 square feet in size. The water-to-air geothermal heat pump in his home operated for 32 years and required only two replacement parts, the fan motor and the electrical contactor. This longevity demonstrates the reliability of many geothermal heat pump systems. Todd replaced this original 32-year old geothermal heat pump to take advantage of the Federal Residential Geothermal Tax Credit and to have the increased economy of a two-speed unit with a much higher COP. His office building is 24 years old and has seven geothermal heat pump units that operate so efficiently that his electric power company routinely performs diagnostics on his building's electric meter. The electric utility's calculations of the kilowatt-hours per square foot per year for his office building are so far below the utility's expected values that their billing computer flags the electric meter as under-registering.

Dr. Giddings brings his experiences and case-history examples into the classroom using job-site photographs in animated PowerPoint presentations to illustrate the application of geothermal design principles and technology in the IGSHPA Accredited Installer Course and in his IGSHPA Accredited Drillers Training Course PLUS. He enjoys sharing tips and designs that optimize the performance of geothermal systems and that maximize the cost savings.

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Course fee:

This training course is offered to both new and returning REHAU customers at a charge of just **\$750 per person**.

Course fee includes IGSHPA training content, a book of all PowerPoint® lesson slides, IGSHPA five-manual set, three-year IGSHPA membership, exam grading fee, and IGSHPA accreditation upon successful completion of the open book IGSHPA Driller's exam.

A continental breakfast, lunches, and morning and afternoon breaks will be included on all three days.

REHAU will also host a group dinner event on the evening of May 17. Please let us know in advance if you will be joining us for this dinner.

Accommodations:

Accommodations are *not* included in the training course fee. If you require accommodations, we recommend the Holiday Inn Reno-Sparks nearby the course location. Special rates are available by calling the number below and mentioning "REHAU", but be sure to call soon before the hotel is booked.

Holiday Inn RENO-SPARKS
55 East Nugget Ave.
Sparks, NV 89431
Tel (775) 358-6900
Fax (775) 359-6065

Photos of PEXa ground source heat exchanger installation at REHAU's Leesburg headquarters, August 2009:



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Registration:

To register, complete this form and fax it to REHAU Academy, Attention: Kristi Cordesius at (951) 549-9018, or email to: kristi.cordesius@rehau.com

- Registration deadline is **May 6**
- Payment deadline is **May 9**
- A non-refundable \$250 fee will be charged for cancellations after **May 9**

Payment:

Please make checks payable to **REHAU Construction LLC** and send with a copy of this completed form to the following address:

REHAU Construction LLC
Re: Geothermal Accreditation Course
4254 Green River Rd.
Corona, CA
92880-1660

- Yes, please register me for the IGSHPA Accreditation Seminar, May 17-19, 2011 in Reno, NV**
- Yes, I will attend the REHAU dinner on May 17, 2011**

Name(s): _____

Company Name: _____

Mailing Address: _____

Phone No / Fax No: _____ / _____

E-mail Address: _____