



FHP / Bosch Group – Fort Lauderdale FL

# Green Jobs Initiative Conference Retrofitting The Workforce – GHP Training Forum

Howard Newton – Catoosa Oklahoma



Green Jobs Initiative Conference

March 26, 2010



INTERNATIONAL GROUND SOURCE  
HEAT PUMP ASSOCIATION



DOWN TO  
EARTH ENERGY

# ***International Ground Source Heat Pump Association***



## International Ground Source Heat Pump Association

- **IGSHPA** is a non-profit, member-driven organization established in 1987 to advance ground source heat pump (GSHP) technology on local, state, national and international levels.
- Headquartered on the campus of **Oklahoma State University** in Stillwater, Oklahoma, IGSHPA utilizes state-of-the-art facilities for conducting GSHP system installation training and geothermal research. With its access to the most current advancements in the geothermal industry, IGSHPA is the ideal bridge between the latest technology and the people who benefit from these developments.





## International Ground Source Heat Pump Association

- ***IGSHPA*** Accredited Installer Program





## International Ground Source Heat Pump Association

- **IGSHPA** Accredited Installer Program
  - Program to be Split into Four Segments





## International Ground Source Heat Pump Association

- **IGSHPA Accredited Installer Program**
  - Program to be Split into Four Segments
    - Certified Master Designer
    - Certified Mechanical Installer (HVAC Geothermal Equipment)
    - Certified Loop Installer (Loop Headering)
    - Certified Driller (Drilling & Grouting)





## Accredited Drillers Training

October 2008, IGSHPA announces its first-ever **Accredited Drillers Training—Applications of Production Drilling and Borehole Construction for GeoExchange Systems** course.





## Accredited Drillers Training

Currently, drilling contractors searching for industry training on GeoExchange heat pumps must attend a full Accredited Installer workshop.





## Accredited Drillers Training

Because certain topics covered within the Accredited Installer course do not pertain to drilling contractors, IGSHPA has formed this training course to provide drilling contractors with information that's unique to them on a GeoExchange job site.





## Accredited Drillers Training

This new workshop will train individuals on proper construction and completion methods for vertical GeoExchange boreholes.

[www.igshpa.okstate.edu](http://www.igshpa.okstate.edu)





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All to be Certified by *North American Technician Excellence* “Nate”





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# *North American Technician Excellence*



[www.natex.org](http://www.natex.org)



- ***North American Technician Excellence headquartered in Arlington, VA., was founded in 1997 and is the nation's largest non-profit certification organization for heating, ventilation, air conditioning and refrigeration technicians.***
- ***NATE is the only technician certification organization governed, owned, operated, developed and supported by the HVACR industry.***



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# ***North American Technician Excellence***

**“Nate”**

**[www.natex.org](http://www.natex.org)**



# Certified GeoExchange Designer

- Certified through *Association of Energy Engineers (AEE)*



**The Certified GeoExchange  
Designer (CGD®) Program**



## The Certified GeoExchange Designer (CGD®) Program

*AEE's Certified GeoExchange Designer (CGD) program is designed to recognize professionals who have demonstrated high levels of experience, competence, proficiency, and ethical fitness in applying the principles and practices of geothermal heat pump design and related disciplines, as well as to raise the professional standards within the field, and to encourage those involved in the design process through a continuing education program of professional development. The CGD certification is granted by the Association of Energy Engineers and sponsored by the Geothermal Heat Pump Consortium® (GHPC). Associated training programs are presented by the International Ground Source Heat Pump Association (IGSHPA).*



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Oklahoma State University  
CENTER FOR INNOVATION &  
ECONOMIC DEVELOPMENT  
(CIED)  
Joe Alexander, President

Affiliations  
NREL ASHRAE  
NGWA AHRI  
DOE EPA  
NRECA EPRI  
ORNL

Oklahoma Technology  
and Research Park

Joe Alexander, Chairman  
Dan Galloway, Vice-Chairman  
Doug Major, Member  
Beth Buchanan, Member  
Stephen McKeever, Member  
Chuck Thomas, Member  
Larry Brown, Member-at-Large

## GSHP Industry

Meridian Technology Center  
Doug Major  
Center for Business Development

Career Tech  
Trade & Industrial Education  
Jim Bullington  
Multi-State Academic & Vocational  
Curriculum Consortium  
(MAVCC)

Chamber of Commerce  
Larry Brown - *President & CEO*  
  
Josh McKim  
Director of  
Economic Development

Oklahoma Tech Centers  
Air Conditioning  
& Refrigeration  
Training

Electric Utilities (IOU & RECs)  
Corporation Commission





- **IGSHPA Accredited Installer Program**
  - Fluid Power Training Facility



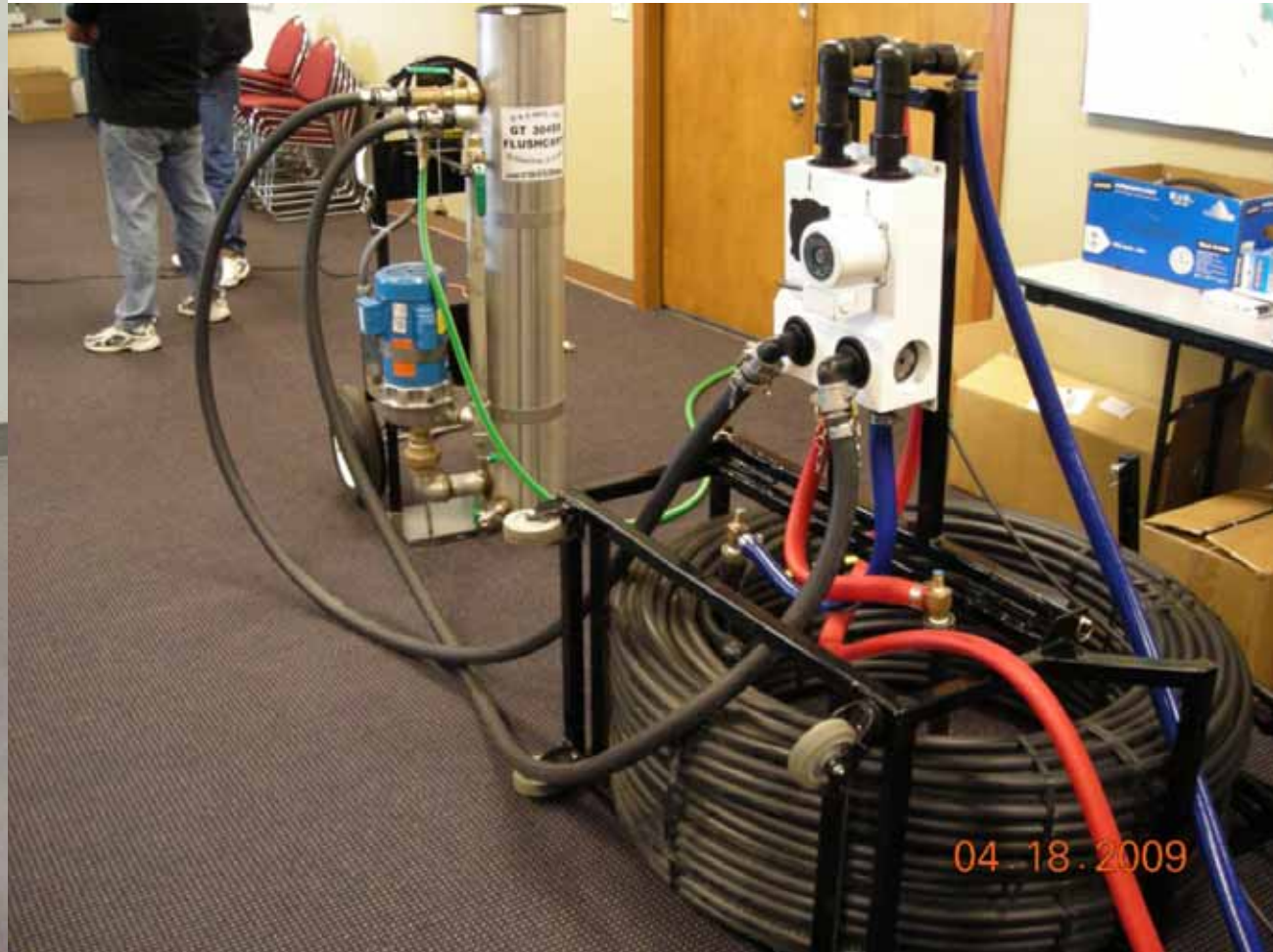
- **IGSHPA Accredited Installer Program**
  - Fluid Demonstration Training Aid



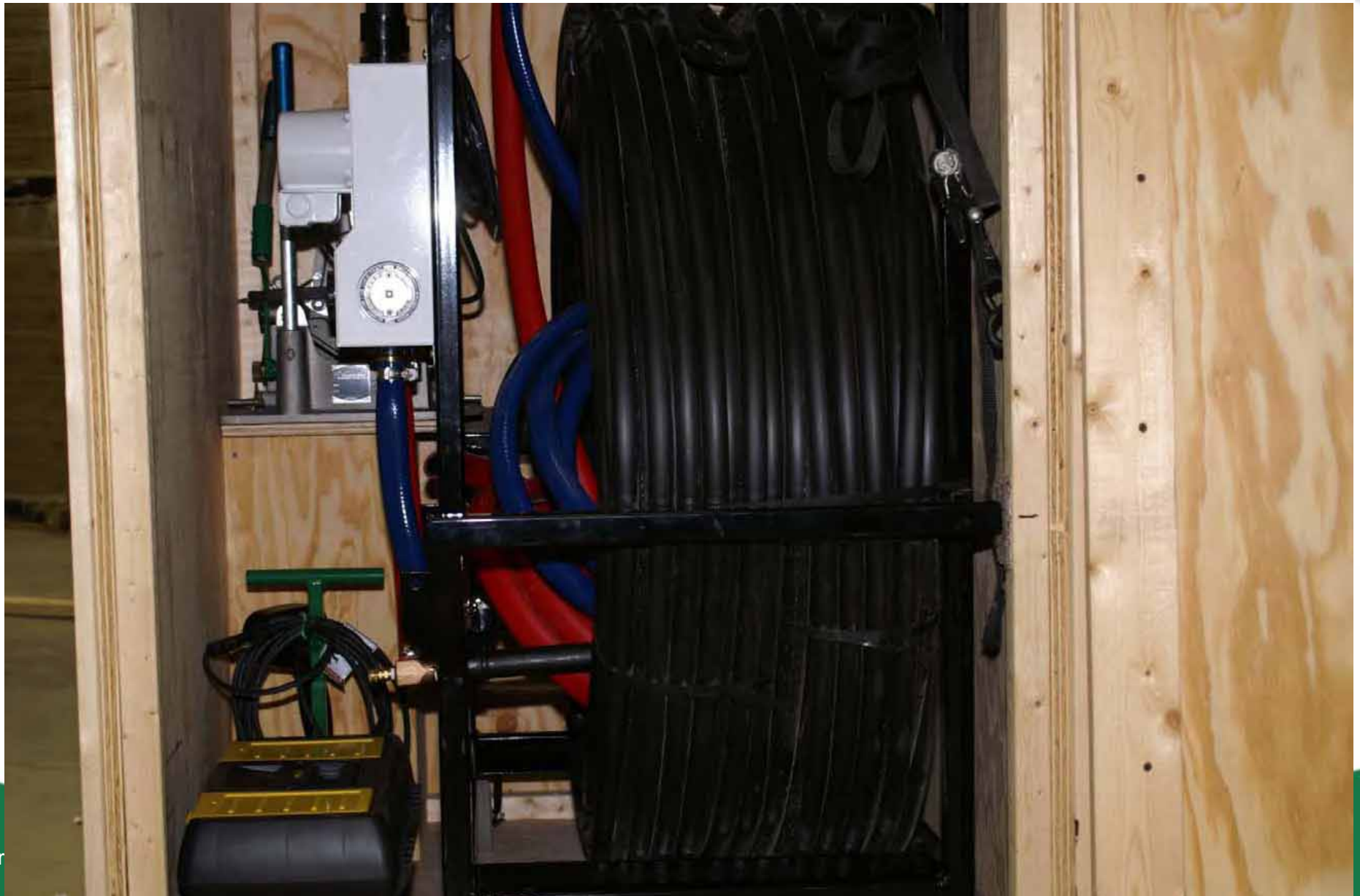
- **IGSHPA Accredited Installer Program**
  - Flushing & Purging Training System



- Portable Training System



- Portable Training System
  - Ready For Shipping



- Hydro Static Testing Unit





- ***IGSHPA's* Old Training Venue**

- **Inadequate For:**

- Increased Training Loads With More Frequent Schedule
- Permanent Operational Displays
- Integrated Training To Support Vocational, Community & Engineering Needs
- Template for State, National, & Regional Training Centers



**Michael B. Morgan**  
**Business Accelerator Building**  
1201 Innovation Way Drive  
Stillwater, Oklahoma



- ***Build to Your Spec's***



- ***Bay Areas Have Hot/Cold Water, Compressed Air & Floor Drains***



- ***Geothermal Heat Pump***

NO STACKING ABOVE THIS LINE  
BY ORDER OF COS BUILDING SAFETY



- ***Pond Loop  
Demonstration Area***



- ***Pond Loop  
Demonstration Area***





- ***IGSHPA's* New Training Venue**
  - Opportunities
    - All IGSHPA/Nate Training More Frequent Schedule
    - For Public to Observe Operational Displays
    - Vender Service Training
    - Templete for Regional Training Sites
    - Annual Trainer Conference



- ***IGSHPA's* New Training Venue**
  - Public Relations Value
    - Cooperative Program With Allied Training Programs and National Oversight Organizations
      - (DOE, NREL, EPA, NGWA, etc.)
    - Support The Relationship With State and Area Vocational Center/Programs