



Geothermal Drilling Education Forum

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Agenda

- Our mindset, strategy, and approach
- How we got here & where GDA “fits”
- Representing geothermal drillers
- Our offerings & resources
- More voices & fundraising
- Discussion

Ground Rules (for this meeting)

We're excited for collaboration

- Starting with our overview, but no other readout
- Please share, mindful of comments being 2-3 minutes
- "Raise hands" and we will unmute

GDA: General Context

- Drillers, Contractors, Engineers, Regulators, Scientists, and Clients enter a powerful partnership that can drive the adoption and widescale acceptance of geothermal borefields
- Have been applying tribal knowledge to engineered & regulatory specifications
- Industry identified the need for a stronger voice for geothermal drillers, a notable gap in support & consistency at local & national levels



Our Mindset, Strategy, and Approach

- Founded by drillers for drillers
- Aim to unite geothermal drilling community in a purpose-driven organization – collaboration drives widescale adoption of geothermal
 - Offerings complementary to IGSHA offerings
- Devising our purpose & role
 - Draw from personal histories & experiences
 - Discussion with existing trade organizations, including NY-GEO, IGSHA, NGWA, NDA
 - Surveys – pre-membership to wide set of stakeholders; post-registration member surveys
 - Guidance from Board of Directors & new Advisory Board

Promoting professionalism in the geothermal drilling industry through access to education, safety, and business resources

- Ensure businesses and professionals have needed tools to continue driving scale, safety, and access to geothermal heating & cooling
- Strive to educate and connect industry professionals
- Provide resources that enhance best practices in geothermal drilling sector



How We Got Here

2024

- Established Geothermal Drillers Association – April
 - Dedicated to Geothermal Driller & borehole efficacy
 - Development, advocacy, consistency, & connection
- Delivered in 2024
 - First sponsor: *Thank you* to Republic Drill Co.
 - Advocacy and education in ten states
 - Geothermal Drilling Tutorial *pilot*, with HEET & IGSHPA
 - DOE funded
 - Several drill cos (future GDA members) participated – thank you
 - Built NGWA Geothermal Track curriculum
 - Invited for input to USGS geothermal mapping

2025

- Taught/field day at IGSHPA and NY-GEO conferences, various others
- Membership opened April 2025
 - Current membership: 35 companies, 8 institutions, 77 individuals
 - Sponsors: *Thank you* to Bore Logic, Supplied Energy
- Established partnerships:

HEET	IGSHPA	NY-GEO
GeoExchange	OGA	Geothermal Rising*
- Collaboration with many workforce agencies, government offices, clean energy councils, regulators
- Delivered site optimization training, collaboration with OE (IL)



Where GDA “fits” + Accomplishments

- Safety at the core – common goals as groundwater associations (educating industrial drillers, groundwater mgt)
- Complementary to IGSHA offerings
- Our training sessions are foundational “jumpstarts” -- companies and labor organizations train their people; we can accelerate readiness and onboarding (intensive basic training, standard SOPs, safety policy, etc.)
- Advocacy and education of drilling-related stakeholders, regulators, legislators – “all ships rise with the tide”

Example Accomplishments

- Geothermal drilling education within open-source MIT course (public release imminent)
- Defined competencies and apprenticeship framework (3 career points) for Urban Institute & Dept of Labor (release imminent)
- Mentorship in university student clean energy programs

And Activity Underway

- Partnering with International Association of Drilling Contractors and American Petroleum Institute to define best practices and standards for geothermal well control
- Actively discussing the establishment of a Geothermal Drilling Center of Excellence (GMCC)
 - Modeling student pipeline and cost per student as input to a detailed program outline
 - Awareness/outreach plan also underway
- Exploring co-cataloguing offerings with other orgs to ease access for prospective trainees
- Exploring how our drilling practice can deliver needed test boreholes for actual installations
- Always expanding our workforce partnerships
- Various efforts underway nationally to develop K-12 curricula.



POV: Growth of a Driller

Many pathways for new entrants + upskilling for existing crew

Old Skills→New Careers

A workforce development program built to recruit tradespeople with broad occupational knowledge and technical skills. The program will leverage their existing work experience to shorten the time between classroom training and working on active geothermal projects. The objective is to achieve a balance between short-term training intensives and long-term career development for the students.

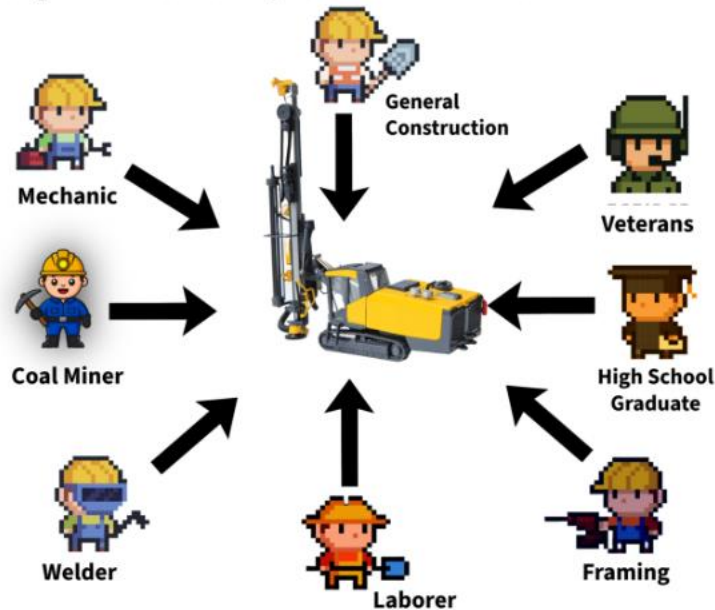
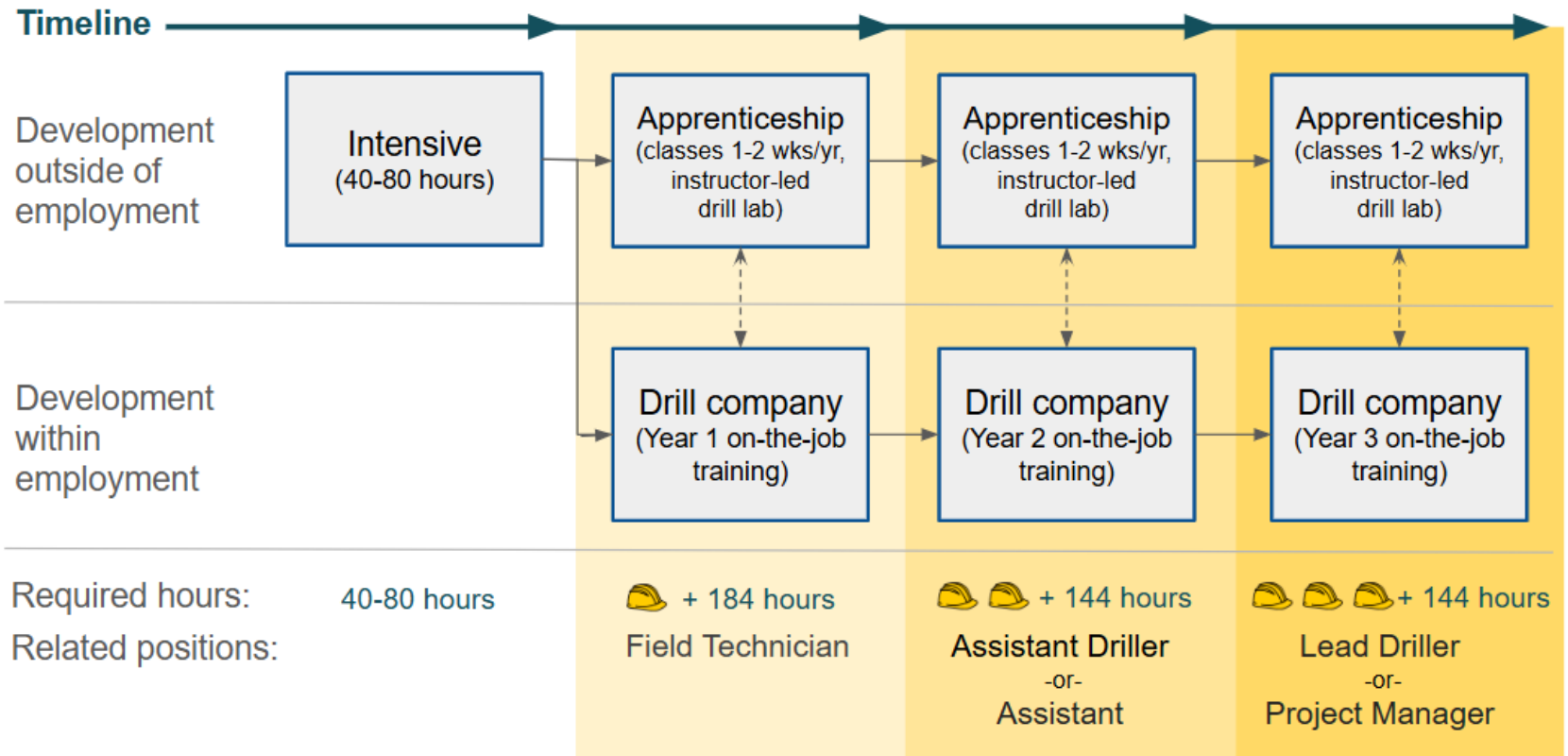


Figure 1: A Geothermal Driller's Development



POV: Roles & Responsibilities

Driller: Drill Team Supervisor, Drilling Program Management, Project Completion



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graph TD; A[Driller: Drill Team Supervisor, Drilling Program Management, Project Completion] --> B[Assistant Driller: Driller Support, Tooling Management, Project Completion]; B --> C[Field Technician: Driller & Assistant Driller Support, Support Tooling Management, Project Completion];
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Assistant Driller: Driller Support, Tooling Management, Project Completion

Field Technician: Driller & Assistant Driller Support, Support Tooling Management, Project Completion

Our services & offerings – collaboration is crucial

Driller Development & Training

- Access a range of individual, project team, or site-specific workforce and skill development opportunities
- Pool of available candidates

Networking

- Meet other aspiring and established geothermal drillers and industry-related professionals
- Network with regulators across various states
- Attend online and live events to share information and access lessons learned and best practices

Advocacy and Expertise

- Expert advocacy for the interests of our members, including testimony / representation in legislative and regulatory matters
- Our drilling experts know the industry; our boards have diverse geographic representation, ensuring comprehensive perspectives and advocacy in delivering GDA's mission

Resources

Range of resources to help members succeed in geothermal drilling, such as:

- Industry reports
- Standard operating procedure and RFP templates
- Licensing guidance by state

Offerings (detail)

FUNDAMENTALS INTENSIVES

- 40-80-hour **pre-apprentice** basic training (classroom + field)
 - Certificate & CEUs from GDA
 - Qualify new entrants to the field
 - Accelerate entry to the profession or a project site
 - Include classroom & field work
1. **Field Technician** - new to field work or onboarding for a project
 2. **Assistant** - Previously working professionals starting in construction as a long-term career
 3. **Lead** - Experienced or displaced fieldworkers expanding their skillset into geothermal drilling (e.g. construction workers, union workers, well or other drillers)

A LA CARTE TRAININGS

Project-specific (custom) training for organizations of any size

1. **Site Management** - introduction to local/state requirements, permitting, waste generation, disposal, and site restoration
2. **Advanced Drilling Techniques & Methods** - the latest drilling techniques, methods, and opportunities to diversify your program
3. **Drilling Program Management** - outlining the development of a project-specific drilling program used throughout the project lifecycle
4. **Professional Presence Training** - how geothermal drilling professionals interact with various project stakeholders, from client to engineer, regulator, or community
5. **Site-Specific Safety** - safety-specific courses on trenching, heights, confined spaces, rigging, and emergency action plans (i.e., considering safety through all aspects of a project)

Resources for members (detail)

General

- Membership page including:
 - Job postings
 - Pool of available candidates
 - Stakeholder Connection (SME, regulator, nonprofit, association)
- Forums (today's first, interactive, varying focus)
- Safety Certifications
- Insurance Standards
- Quality Installations
- Support in updating state driller license criteria aligned with industry standards and quality control

Library

- Boilerplate Standard Operating Procedures (SOPs)
- Boilerplate Safety Standards
- Boilerplate Subcontractor Agreement
- Boilerplate RFP
- Licensing Guidance by State
- Standard Glossary of Terms
- White Papers
- Topical Presentations
- Links to Related Curricula (external)



WE WANT YOU

The Geothermal Drillers Association

Thank you

Questions?

We have some
for you.

