



U.S. DEPARTMENT OF ENERGY

American-Made Geothermal Manufacturing Prize **SUBMISSION FOR GEO!** Additively Manufactured Gas Sparger for Gas lift Geothermal Technologies

Lifting Geothermal Fluids with the Help of Gravity

Keywords: 3D Metal Printing, Topological Optimization, Geothermal Pump, Gas lift

TEAM PLUGs – Pneumatic Lift Using Gas Spargers

Dr. Terence Musho, PE West Virginia University, Morgantown, WV, USA. Mailing Address: P.O. Box 6106 Morgantown, WV 26506 Email: tdmusho@mail.wvu.edu Phone: 304-293-3256 Linkedin: https://www.linkedin.com/in/tmusho	Dr. Nigel Clark Research Professor, West Virginia University, Morgantown, USA. Linkedin: https://www.linkedin.com/in/nigelnc Clark
Mr. Dan Hand, PE President of Sustainable Engineering LLC, Puyallup, WA, USA. Linkedin: https://www.linkedin.com/in/daniel-hand-25a174a	Dr. Roy Mink President of Mink GeoHydro Inc, Worley, ID, USA Linkedin: https://www.linkedin.com/in/roy-mink-98a02b26

PARTNERS AND AMERICAN-MADE NETWORK SUPPORT

Oak Ridge National Laboratory (ORNL) – 3D printing and CT Scanning.

National Energy Technology Laboratory (NETL) – Corrosion Testing.

Xometry – 3D Metal Printing

[Link to 120-second video](#)