



Qualifications and Experience

**Talon Drilling Company
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STATEMENT OF QUALIFICATIONS

Talon Drilling Company was formed in 1999 as an environmental and geotechnical drilling company. The company is a full service provider of cost effective and quality drilling services to engineering and environmental consulting firms.

Talon drillers have conducted subsurface investigations for a wide variety of clients in New Jersey, Pennsylvania, Maryland, Delaware, New York, Virginia, North Carolina, Connecticut, Ohio, and West Virginia.

Talon's environmental drilling experience includes monitoring well installations, following the most stringent guidelines, as specified by U.S. Environmental Protection Agency, New Jersey Department of Environmental Protection, Pennsylvania Department of Environmental Protection, Delaware DNREC, and Maryland Department of Environmental Protection.

Talon's drillers are experienced in well installation using the hollow stem auger, mud rotary (single-, double- and triple-cased wells), water rotary and air percussion rotary drilling methods. Their experience includes rock coring (NX, NQ and HQ), use of the odex casing under reaming in difficult drilling conditions. In addition, Talon crews are experienced in installing, packer testing, surveying and refurbishing monitoring / production water wells, and drilling test borings for sampling of soils and ground water. Talon also offers a variety of injection services as well as cathodic protection installation services. They are also experienced in conducting geotechnical investigations for consulting and engineering firms throughout Talon's service area.

Talon drillers and assistants have completed the forty (40) hour OSHA CFR 1910.120 followed by eight (8) hour annual updates and maintain Commercial Driver License (CDL) certification. In addition, Talon has drillers and administrators trained in Loss Prevention Schemes (LPS), Bechtel, railroad, refinery, port, and nuclear power plant courses. All employees participate in a Company-sponsored medical monitoring program.

What sets Talon apart is the breadth of our experience and service. Talon is truly a full-service drilling company. If you don't see what you're looking for in the following pages; please contact us. Chances are we have the capability and experience to meet your needs.

TALON DRILLING - LICENSES AND CERTIFICATIONS

Delaware - Talon has drillers licensed to drill in Delaware.

Maryland - Talon has drillers licensed to drill in Maryland and is familiar with the permitting and licensing requirements unique to each county and township in the state.

New Jersey - Talon has drillers licensed to drill all types of wells and borings in New Jersey. Talon works closely with the NJDEP maintaining an excellent relationship to ensure that all Talon projects are completed swiftly and according to regulation.

New York - Talon has drillers licensed in New York.

Pennsylvania - Talon is registered to drill in Pennsylvania and has drillers licensed to drill in Chester County (the only county in PA where it is a requirement).

Virginia – Talon has drillers licensed in Virginia.

RESUMES OF KEY INDIVIDUALS

Charles A. Bandoian, Ph.D., P.G. President-Talon Drilling Company

Fields of Competence

Planning, management, and quality assurance of subsurface drilling investigations and ground water studies related to landfills, hazardous waste disposal sites, railroads and industrial facilities

Drilling investigations related to siting, planning, and construction of facilities and hazardous and non-hazardous waste management and disposal facilities

Regional geologic mapping and interpretation.

Chief operating officer of an environmental drilling company, environmental equipment rental business, and a mobile and fixed base chemical analytical service.

Experience Summary

More than 30 years of diversified experience in planning, execution, and management of geologic and hydrogeologic drilling projects in areas of broad geographic and geologic diversity.

Manager of diverse businesses providing services to environmental engineering and consulting firms.

Registration

Certified Professional Geologist in Indiana and Pennsylvania

Credentials

B.A., Government, Tufts University, 1963

M.S., Geology, University of New Mexico, 1969

Ph.D., Geology, Rutgers University, 1973

Professional Affiliations

American Association of Petroleum Geologists

National Ground Water Association

New Jersey Ground Water Association

Pennsylvania Ground Water Association

Publications

Author of several papers dealing with Pleistocene geology, marine and stream erosion, carbonate geology and petrology, and low level radioactive waste disposal.

Jeffrey M. Jaworski
General Manager, Talon Drilling Company

(1993 to Present)

**PROFESSIONAL
EXPERIENCE:**

Mr. Jaworski is Talon Drilling Company's general manager. He has over 30 years of experience as a driller and manager performing geotechnical and environmental drilling. Mr. Jaworski is skilled in the use of specialty drilling and testing techniques including angle hole drilling, air and mud rotary drilling, air hammer drilling, pressure testing, permeability testing, grouting and installation of monitoring wells and piezometers. Mr. Jaworski is current in OSHA Health and Safety training and updates. He also has a class "A" CDL driver's license.

**AQUIFER DRILLING & TESTING MID
ATLANTIC (1993-1998)**

EMPIRE SOIL INVESTIGATION (1983 to 1993)

**GLEN DRILL
Glenwood, NY (1983)**

REPRESENTATIVE DRILLING PROJECTS

1. **Elkton, Maryland.** Talon Drilling Company installed six double cased wells to depths of 360 feet below ground surface using air rotary drilling methods. These monitoring wells were installed to assist our client in monitoring ground water conditions and water quality at depth on this property which appears on the US EPA's National Priorities List. Talon worked with its client to facilitate site access through procurement and placement of road material for temporary access roads. Talon also worked with the client to perform packer tests to provide information regarding ground water flow beneath the property.
2. **Hatfield, PA.** Talon Drilling Company installed a ground water monitoring well to a depth of 700 feet below ground surface (BGS) at this industrial facility using air rotary drilling methods. This well was installed to provide additional information regarding deep hydrogeologic conditions beneath the property in response to a request for additional information from a regulatory agency. The well was developed after installation and purge water was transported to an on-site treatment facility. The new well may be utilized as a recovery well in the future. Talon Drilling Company had earlier installed several shallower wells on the property to aid the client in delineating hydro-geologic conditions and to define water quality at depths ranging from approximately 200 to 400 feet BGS.
3. **Franklin, New Jersey.** Talon Drilling Company installed 2-inch diameter PVC monitoring wells to depths of approximately 80 feet below ground surface using the mud rotary drilling method. The wells were installed in an area where subsurface rock conditions and drilling were difficult in order to allow definition of hydrogeologic conditions and water quality at this former commercial property.
4. **Sinking Springs, Pennsylvania.** Talon Drilling Company installed 4-inch diameter open-hole bedrock ground water monitoring wells utilizing the air rotary drilling method. The monitoring wells were installed for a Talon client to investigate ground water conditions on this property in southeastern, Pennsylvania.
5. **Bethlehem, Pennsylvania.** Talon Drilling Company installed nine 2-inch

diameter PVC monitoring wells using hollow stem auger and air rotary drilling methods. These wells were installed by Talon so that our client could further delineate the hydrogeologic conditions and ground water quality beneath this property where monitoring wells had previously been installed.

6. Somerville, New Jersey. Talon Drilling Company installed 4-inch diameter PVC monitoring wells to a depth of approximately 25 feet each utilizing the hollow stem auger drilling method. These shallow ground water monitoring wells were installed by Talon to aid its client in initially defining hydrogeologic conditions and water quality beneath this former industrial property.
 7. Williamstown, New Jersey. Talon Drilling Company installed twenty-four 4-inch diameter air sparge wells to a depth of 30 feet below ground surface to be used for soil vapor extraction. The sparge wells were installed using the air rotary drilling method. The wells are to be used to aid in removal of volatile organic chemicals from ground water.
 8. Chester County, Pennsylvania. Talon Drilling Company installed 2- and 4-inch diameter PVC monitoring wells to a depth of 25 feet below ground surface using the hollow stem auger drilling method. Prior to installation of the monitoring wells, Talon provided two days of Geoprobe services collecting soil samples to determine the nature of subsurface soil conditions and to identify optimum locations and screen depths for monitoring wells on this industrial property. Direct-push sampling methods were utilized to collect representative soil samples from the shallow subsurface.
 9. Greenbelt, Maryland. Talon Drilling Company installed soil borings in Coastal Plain sediments to depths of approximately 375 feet using mud rotary drilling techniques. Talon assisted in grouting grounding rods for microwave transmission towers in the borings using a special conductive grout to cement the grounding rods in place.
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DRILLING SERVICES

- **HOLLOW STEM AUGER DRILLING - 3 1/4- to 12 1/4-inch ID**
- **MUD ROTARY DRILLING - 6- to 16-inch ID**
- **AIR ROTARY DRILLING - 6 to 16-inch ID**
- **AIR PERCUSSION ROTARY DRILLING (DOWN-THE-HOLE HAMMER) - 6- to 16-inch ID**
- **WASH / WATER ROTARY DRILLING - 6 to 16-inch ID**
- **GEOPROBE DIRECT-PUSH SAMPLING**
 - **Track-mounted Geoprobe 7720DT**
 - **Geoprobe 4220 on a tracked Bobcat**
 - **DT45 sampling system**
- **ALL-TERRAIN RIGS (ATV)**
 - **Geoprobes**
 - **Hollow Stem Auger and Rotary**
 - **Rock Coring**
- **ODEX - 4-, 6-, 8-, and 12-inch ID**
- **HYDROPUNCH SAMPLING**
- **ROCK CORING (NQ and HQ)**
- **SOIL SAMPLING**
 - **Split Spoon (2-inch, 3-inch)**
 - **Shelby Tube**
 - **Pitcher Sampler**
 - **Macro core (2-inch, 3-inch)**
- **GROUND WATER SAMPLING**

- **WELL DEVELOPMENT AND REDEVELOPMENT**
 - **WELL INSTALLATION**
 - **Monitoring Wells**
 - **Recovery Wells**
 - **Water wells/Production Wells**
 - **Vapor Extraction Points**
 - **Cathodic protection wells**
 - **WELL SEALING AND ABANDONMENT**
 - **DOWNHOLE CAMERA SURVEYS**
 - **INJECTION SERVICES**
 - **WELL REPAIRS**
 - **VACUUM EXCAVATION**
 - **PACKER TESTING SERVICES**
 - **VANE SHEAR TESTING**
 - **GPS WELL LOCATING SERVICES**
 - **GIS POST PROCESSING SERVICES**
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EXAMPLE SUPPORT EQUIPMENT (not all inclusive)

- Large variety of flat bed, box, roll off and dump trucks of all sizes
- International Rack Truck with Flat Water Bed and crane
- Auto Car Flat Bed with 6-ton crane
- 900-350 Ingersoll Rand compressors
- 825-125 Ingersoll Rand compressors
- 185-125 Leroy compressor
- 350 cfm Leroy compressor
- Alkota Steam Cleaners
- Miller Bobcat Welder Generators 8000 Watt
- Jackhammers: Electrical and Pneumatic
- Cutoff Saws
- Odex drilling - 4-inch, 6-inch, 8-inch and 12-inch diameter
- Direct push dual-tube systems (Geoprobe)
- Variety of submersible pumps
- Variety of water and trash pumps, both gas and pneumatic power driven
- Concrete coring machine
- NQ rock coring equipment 1000 feet (wire line)
- HQ rock coring equipment 400 feet (wire line)
- Soil sampling 2-inch and 3-inch diameter split spoons
- Pitcher sampler, Shelby tube samplers - 3-inch diameter
- Hydropunch sampling
- 6 and 8-inch Straddle packers
- Hollow stem augers, 2 1/4-inch to 12 1/4-inch diameter
- Mud rotary tools up to 16-inch diameter
- Air rotary tools up to 16-inch diameter
- Diverter tee cyclone for drill cutting containment
- Variety of mud tubs and water tanks to support all drilling activities
- Grout plant
- Magellan Mobile Mapper CX
- Down hole camera system with SD card recording ability

DRILLING EQUIPMENT



Acker Soil XLS ATV

Rubber track-mounted all-terrain drill rig. This rig is capable of drilling; hollow stem auger, mud rotary, air rotary, and air hammer techniques. The rig has a full function radio remote control. The structural steel mast can be as little as 10 feet tall to allow access to low-overhead areas. The mast mounting allows for angle drilling as well as vertical drilling. The rig is also equipped with a cathead for hoisting and performing standard penetration tests. The rig carries a 160-gallon onboard welded steel water tank.



Reichdrill T650 W II

The Reichdrill is a powerful air rig with a 900 CFM and 350 PSI compressor. The rig is capable of drilling a 6-inch diameter hole to a depth of approximately 2,000 feet, or an 8 inch up to 16 inch diameter hole to a lesser depth. Talon has drilled bedrock to a depth of 1450 feet for a geothermal heat ground loop and the rig will do more.



Mobile B-90

This rig is capable of drilling auger, air, and mud rotary **without** a tag a-long compressor. Utilizing its large onboard air compressor, it's able to switch between hollow stem auger and rotary drilling in minutes. In addition, its 25-foot stroke will have your well installed in no time. This drill rig is extremely useful in the Mid-Atlantic region where there is often a need to install and sample wells through overburden into rock. Talon's Mobile B-90 is one of the only rigs of its kind with its capabilities in the entire country.



Failing F-10

This Multi-purpose rig has 15,000/30,000 foot pounds of torque utilizing a 10-foot stroke. This makes the drill easy to convert from hollow stem augering to mud rotary drilling; Utilizing an auxiliary air supply and is capable of 6, 8, and 10-inch air hammer drilling.



Mobile B-59

This rig is a versatile medium-duty drill rig. It can run hollow stem augers or perform using mud rotary, air rotary or down-the-hole hammer drilling techniques. This drill rig has 12,000 foot pounds of torque enabling it to drill with up to 12 V4-inch diameter hollow stem augers capable of sampling soils and rock coring up to a depth of 1,000 feet, installing 2-inch and 4-inch diameter monitoring wells and recovery wells to 10-inch diameter.



GeoProbe 7720DT

This track mounted unit is capable of advancing probe holes, taking soil, ground water and vapor samples. In addition, the 7720DT can auger in small diameter wells as well as sample formations that would have previously caused refusal. At just five feet wide the 7720DT can go almost anywhere. Utilizing a roller bit and tag a long compressor, Talon has successfully used this rig to perform air rotary drilling to power through tough conditions. This rig will be capable of collecting two and three inch macro core samples as well as advancing a cased hole utilizing the latest DT45 sampling system.



Geoprobe 4220 mounted on an ATV Bobcat

Mounted on a 4-wheel drive Bobcat fitted with rubber tracks, this unit is capable of drilling probe holes, taking soil/water samples in a variety of rough terrain environments. The 4220 is especially useful in low clearance situations as it can drill in locations with only six feet of overhead clearance.



Vacmasters System 1000

This vacuum trailer advances borings and clears utilities in minutes using air or water. The trailer is equipped with an onboard 200 gallon spoils tank and can be operated from up to 200 feet away for hard to access areas.