

Job Description

Title: Engineer I

Reports to: Chief Technology Officer

Background:

The umbrella corporation for 44 Energy houses 2 distinct business units: 1) 44 Energy Technologies and 2) Red Fox Resources.

44 Energy Technologies® is in the business of providing consulting services, advisory services, investments to other business entities and ventures, as well other business operations. 44 Energy Technologies specializes in vehicle aftertreatment and advanced powertrain technologies. Currently, 44 Energy has a significant contract requiring extensive emissions testing of passenger car and medium duty trucks.

Red Fox Resources® is in the business of collecting, through purchase and otherwise, new and used exhaust catalyst parts for resale and recycle. Red Fox maintains a vast database of part values that allows it to pay in advance for parts containing platinum group metals (PGM). Furthermore, Red Fox has developed and is developing new technologies to clean and refurbish diesel particulate filters and other components used in diesel aftertreatment. This process involves robotic cleaning, ceramic repair and materials engineering, OEM quality metal work, and significant R&D in diagnostics. These processes and equipment require improvement and additional work to move the prototypes to handle higher volumes and increase their sophistication. Red Fox is creating long term value by building an extensive network of customers and OEM relationships to improve the life and value of diesel aftertreatment parts. Red Fox approaches this business by engaging with OEMs and dealer networks at 1) the management level by engaging as engineers and industry veterans and 2) at the shop and fleet level by helping customers get value out spent parts and navigate hazardous waste issues.

44 Energy and Red Fox have identified the need for an engineer to assist in both consulting activities as well as research and development of cleaning technologies for Red Fox Resources

44 Energy/Red Fox is managed by industry veterans with significant engineering and business development expertise. A qualified candidate will enjoy a fast-paced environment that will develop skills in practical, hands on engineering; advanced troubleshooting and problem solving; project and personnel management; business development and cost-benefit analyses; cost studies and profitability analyses; and the ability to adapt to ever-changing market conditions. Over the long term, the position offers the opportunity to move into an engineering management position or possibly business development and engineering for the consulting business.

The overall goals of the position include:

- Generate and implement test plans for vehicle testing. Manage daily vehicle testing activity and report back to CTO.
- Work up to a level capable of managing entire projects and possibly develop new business.
- Perform research and development and commercialization activities for Red Fox non-recycling activities.

General Job Duties

- Consulting work
 - o Perform background technology and vehicle research to help qualify vehicles for testing
 - o Help acquire and check in vehicles for testing
 - o Set up vehicles for testing and perform in-field emissions testing according to test plan
 - This program will require extensive travel around California
 - o Help process and assemble data into reports and make recommendations for next steps
 - o Maintain and calibrate test equipment
- Red Fox work
 - o Automate cell by cell robotic cleaning system
 - o Collect and analyze diagnostic data to help qualify DPFs for pass/fail criteria and to understand effectiveness of all cleaning steps
 - o Help design and build dust management systems
 - o Develop bench-top system to assess the catalyst light-off performance of DPFs and oxidation catalysts
 - o Develop bench-top system to assess filtration efficiency of DPFs

Qualifications/Experience

- Bachelor's degree in relevant engineering field from top tier university
- Ability to run and maintain advanced measurement and test equipment
- Hand's on engineering experience with automation systems, test bench construction
- Hand's on experience setting up data acquisition and hardware control systems
- Ability to perform advanced engineering analysis of complex datasets and assemble analysis into sophisticated report
- Fluency in at least 1 programming language (Matlab, LabVIEW, or equivalent)
- Fluency in Excel, Word, and Power Point

Salary and Benefits:

Salary TBD. Company sponsored health benefits. 401(k) with employer matching. Paid vacation and holidays.