

“ This gave us full curve
and lateral EM
capability in our
Delaware Basin assets ”



Underground
Area Network

DEPLOYMENT

When deploying the underground network service and its proprietary, and patented, QNECT System every precaution is taken to ensure a safe, effective and trouble free installation.

In addition to using a 15k PSI mechanical pack-off, whose pass through diameter is smaller than the cable end on the antenna, a safety "T" style clamp is used to prevent the QNECT probe and cable from going farther in the wellbore than intended. The cable we use is purposely oversized at ¼" diameter. This ensures the cable can be deployed in even the highest chloride brines without worry of conductor breakdown due to corrosion during the multi-well use of the underground network service, as well as the added weight of the underground network service cable aiding in getting the depth required to achieve maximum signal reception without the need for any downhole wireline tractor.

In areas where we may have the presence of harsh environment gases we will schedule routine inspection of the cable during drilling downtimes such as rig moves, for this reason we ask that we are informed of the possibility of such conditions.

We have had excellent results with underground network service in all North American basins but particularly in the Permian Basin we have seen consistent game changing results. Our current clients in the area are seeing telemetry signal strengths increase from a typical signal of .4-.6 millivolt to a signal of 4-8 millivolts while reducing their output tool power from 20 watts to just 2 watts. All while receiving signal at a now very high and reliable SNR of 20+. Some instances SNR as high as 30 have been experienced! That's 10X's more signal while using 10X's less battery power. In addition the QNECT System can be used in conjunction with bi-directional communication needed for electronic downlinking. All at over 10k' TVD in the Permian, which has never been the case until now.

COST EFFICIENT

QNECT'S network system allows for minimal onsite footprint, rapid deployment and low HSE risk that enables the use of EM telemetry to TD in every major North American Basin. This means major cost savings for your well drilling operations.

One System can be used for an entire pad of wells

EM tool battery usage is minimized as less tool power is required to achieve clear decodable signal to surface.

SERVICE QUALITY ASSURANCE

Clear and Consistent signal quality

Signal acquisition is removed from the main source of noise and interference- THE RIG

VERSATILITY

Proven to work to TD in every North American Basin

Works with all EM tools on the market

Simultaneous Multi-frequency capability allows for multiple users of one QNECT System

Can be used for downlinking to your EM tool as well

PRE-JOB OR CALLOUT REQUEST

If you choose to use our service we will need the following items to arrange for a QNECT System to be deployed at your location:

- An offset well for antenna deployment with a wellcap that includes a (2-7/8" 8-round) BOX connection
- Wellsite directions
- Well name for deployment well and rig name
- Casing depth and size of the deployment well
- On location contact
- A survey report of the deployment well for depth control purposes
- How many feet from the well we are deploying in to surface gear hookup

We also request a 48 hour notification period for deployment.

PRICING

Call for details on pricing, which we do as an all-in day price.



APPENDIX



A 5 BY 5 Antenna Deployment Unit will arrive at your location. This specialized wireline deployment truck has been designed to use a minimal footprint with multiple styles of deployment. Whether we are able to back up over the wellhead and deploy via the boom or if your location requires remote tripod deployment the 5 BY 5 Antenna Deployment Unit is capable of getting the job done despite any onsite obstacles. Versatility and maximum safety is what the Deployment Unit was designed to achieve.



A 10K PSI Pack-Off is installed on the provided Nightcap Flange



A compression style T-Clamp is installed on the antenna cable **above** the pack-off



The pack-Off is then pressurized to 3000 PSI, sealing the wellhead from gasses escaping. T-Clamp is tightened with fourteen 3/8" Grade 8 bolts. Antenna cable is now secure and remaining cable is safely stored on surface. Cable can be run to the MWD shack or standard EM cables can be ran to the antenna wellhead location.