GPRS SUBSURFACE SCANNING SOLUTIONS

Subsurface Investigation for Storage Tanks/Anomalies

Prepared For: [redacted]

Prepared By:

[redacted]

9/18/2019

GPRS SUBSURFACE SCANNING SOLUTIONS

September 18, 2019

[redacted]
Attn: [redacted]
Site: [redacted]

[redacted]

We appreciate the opportunity to provide this report for our work completed on September 16th, 2019 at the above address in [redacted].

PURPOSE

The purpose of this project was to search for any underground storage tanks (USTs), UST-related piping, and/or evidence of former UST basins on the property (refer to page 3 of this report for the location of the scan area). [redacted] directed GPRS to investigate the northern portion of the parking lot, where a former fueling station was identified during historical research of the property.

EQUIPMENT

400 MHz GPR Antenna. The antenna is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed in order to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. GPR works by sending pulses of energy into a material and recording the strength and the time required for the return of the reflected signal. Reflections are produced when the energy pulses enter into a material with different electrical properties from the material it left. The strength of the reflection is determined by the contrast in signal speed between the two materials. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the conductivity of the materials. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link

PROCESS

Initial GPR scans were collected in order to evaluate the data and calibrate the equipment. Based on these findings, a scanning strategy is formed, typically consisting of scanning the entire area in a grid with 3'-5' scan spacing in order to locate any potential UST's that may remain at the subject property. The GPR data is interpreted in real time and anomalies in the data are located and marked on the surface along with their depths using spray paint, etc. Depths are dependent on the dielectric of the materials being scanned so depth accuracy can vary throughout a property. Relevant scan examples were saved and will be provided in this report.

LIMITATIONS

Please keep in mind that there are limitations to any subsurface investigation. The equipment may not achieve maximum effectiveness due to soil conditions, above ground obstructions, reinforced concrete, and a variety of other factors. No subsurface investigation or equipment can provide a complete image of what lies below. Our results should always be used in conjunction with as many methods as possible including consulting existing plans and drawings, exploratory excavation or potholing, visual inspection of above ground features, and utilization of services such as One Call/811.

No project specific limitations were noted at the time of the UST scan. Refer to the photographs on pages 4 and 5 of this report for the site conditions at the time of the scan.

FINDINGS

GPRS found that the soil allowed for a maximum GPR penetration depth of 5.0 feet.

One large isolated anomaly (9 feet in length and width) was identified in the southern-central portion of the scan area at approximately 4 feet below ground surface (bgs). GPRS recommends additional investigation of this area to determine the nature of the anomaly (i.e. test pitting and/or hand augering).

No other large isolated anomalies were identified within the scan boundaries. The possibility exists that a potential UST could still be identified on the property if it were located outside of the scan area.

The following pages provide photographs and further explanation of our findings.

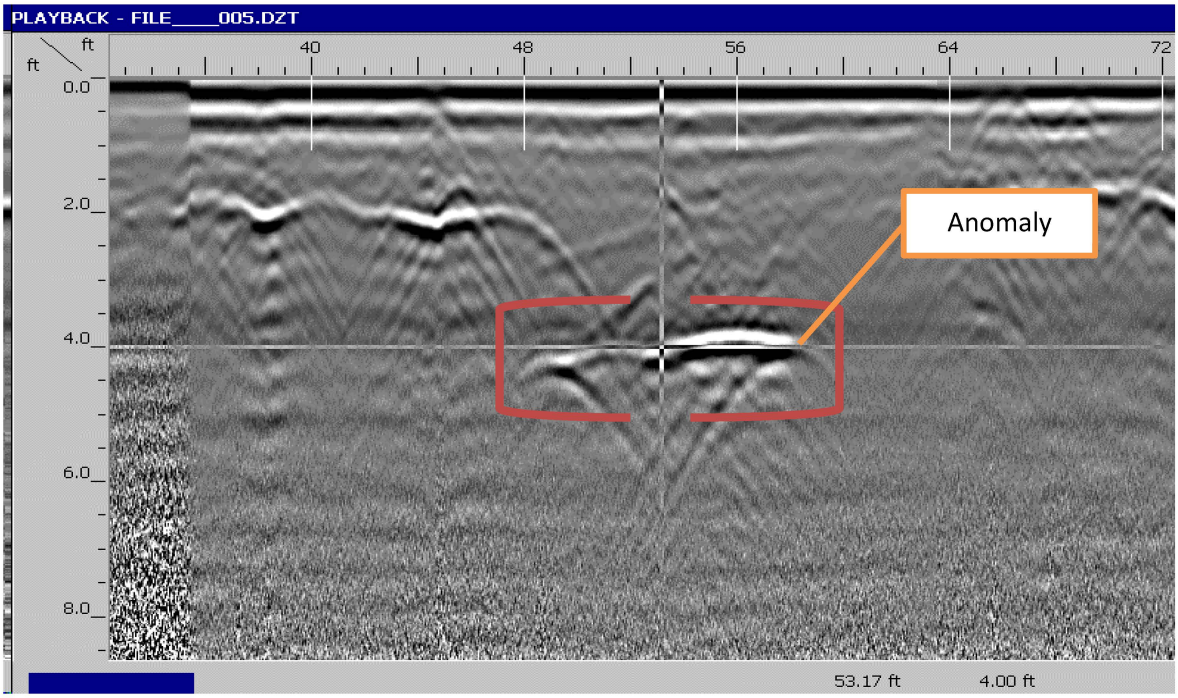

Approximate location of historical filling station
Legend
Anomaly
UST Scan Area
Anomaly
Google Earth
100 ft
N
UST Scan Area
N
[redacted]
GPRS

View of the GPR scan area facing west.

Additional view of the GPR scan area facing south.

Photographs from the GPR Scan	[redacted]	GPRS

View of the identified anomaly, facing north.



View of the identified anomaly at approximately 4 feet bgs. Note that the GPR signature was observed to be the same in both directions (i.e. north/south and east/west), which indicates that the anomaly is primarily flat.

Photographs from the GPR Scan and GPR Data Screenshot	[redacted]	GPRS

CLOSING

On Monday, September 16th, 2019 GPRS was onsite to conduct a GPR scan to search for any USTs, UST-related piping, and/or evidence of former UST basins on the property.

One large isolated anomaly was identified in the southern-central portion of the scan area at approximately 4 feet bgs. GPRS recommends additional investigation of this area to determine the nature of the anomaly (i.e. test pitting and/or hand augering).

No other large isolated anomalies were identified within the scan boundaries. The possibility exists that a potential UST could still be identified on the property if it were located outside of the scan area.

GPRS appreciates the opportunity to offer our services, and we look forward to continuing to work with you on future projects. Please feel free to contact us for additional information or with any questions you may have regarding this report.

Signed,

[redacted]

[redacted]

[redacted]

GPRS SUBSURFACE SCANNING SOLUTIONS

Direct: [redacted]

[redacted]

www.gprsinc.com