GROUND PENETRATING RADAR SYSTEMS, INC.

EXPERTS IN GPR

Monday, January 11, 2016

Tamer International
27 Mott Drive
Alamo, CA 94507

Site: 295 139th Street, San Leandro, Ca
Attn: Erin Tamer

Re: GPR Investigation to Locate underground storage tanks (UST's)

We appreciate the opportunity to provide this report for our work completed on 1/7/16 at the above address in San Leandro, CA.

Purpose
The purpose of the survey was to scan for potential UST's.

Equipment

- **Ground Penetrating Radar (GPR), Manufacturer: GSSI, Model: SIR-3000 processing unit with 400 MHz antenna.** 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 electrcial conduction properties from the material it left. The strength of the reflection is determined by the contrast in conductivity between the two materials. The total depth achieved can be as much as 8' with this antenna but can vary widely depending on the dielectric properties of the materials. For more information, please visit: http://www.geophysical.com/Documentation/Brochures/GSSI-UtilityScanBrochure.pdf

- **RD7000 pipe locator, Manufacturer: Radiodetection.** The RD7000 can detect the electromagnetic fields from live power or radio frequency signals. It can also be used in conjunction with a trasmitter to connect directly to accessible, metallic pipes, risers, or tracer wires. A tone is sent through the pipe or tracer wire at a specific frequency which can then be detected by the receiver. For more information, please visit: http://www.spx.com/en/radiodetection/pd-rd7000/

- **Schonstedt GA-72Cd Magnetic Locator (Magnetometer).** The magnetometer detects the magnetic field of a ferromagnetic object. It responds to the difference in the magnetic field between two sensors. It is interpreted in the field by listening to changes in frequency as emitted by a speaker on the device. For more information, please visit: https://www.schonstedt.com/wp-content/uploads/2014/04/52_72_Sellsheet1231081.pdf

Process

Our process begins with collecting scans with GPR across the areas in a grid pattern. Scans are typically spaced 2'-3' apart depending on the size of the targets being searched for. The GPR data is interpreted in real time and anomalies in the data are located and marked on the surface with chalk, spray paint, pin flags, etc.

The magnetometer was also used to sweep the site for metallic objects.

Findings

During the scanning process, GPRS did not find evidence of an underground storage tank.

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, layers of 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 Dig Alert/Underground Service Alert. The site specific limitations were parked cars (see photos). GPRS was able to scan around the cars, but is unable to scan the area directly beneath any parked car.

The following pages will further explain the findings.

I appreciate the opportunity to have worked with you on this project. Please feel free to contact me if you have any additional questions.

Regards,

Jim Barney
Project Manager, San Jose
Ground Penetrating Radar Systems
408-201-4110
jim.barney@gp-radar.com

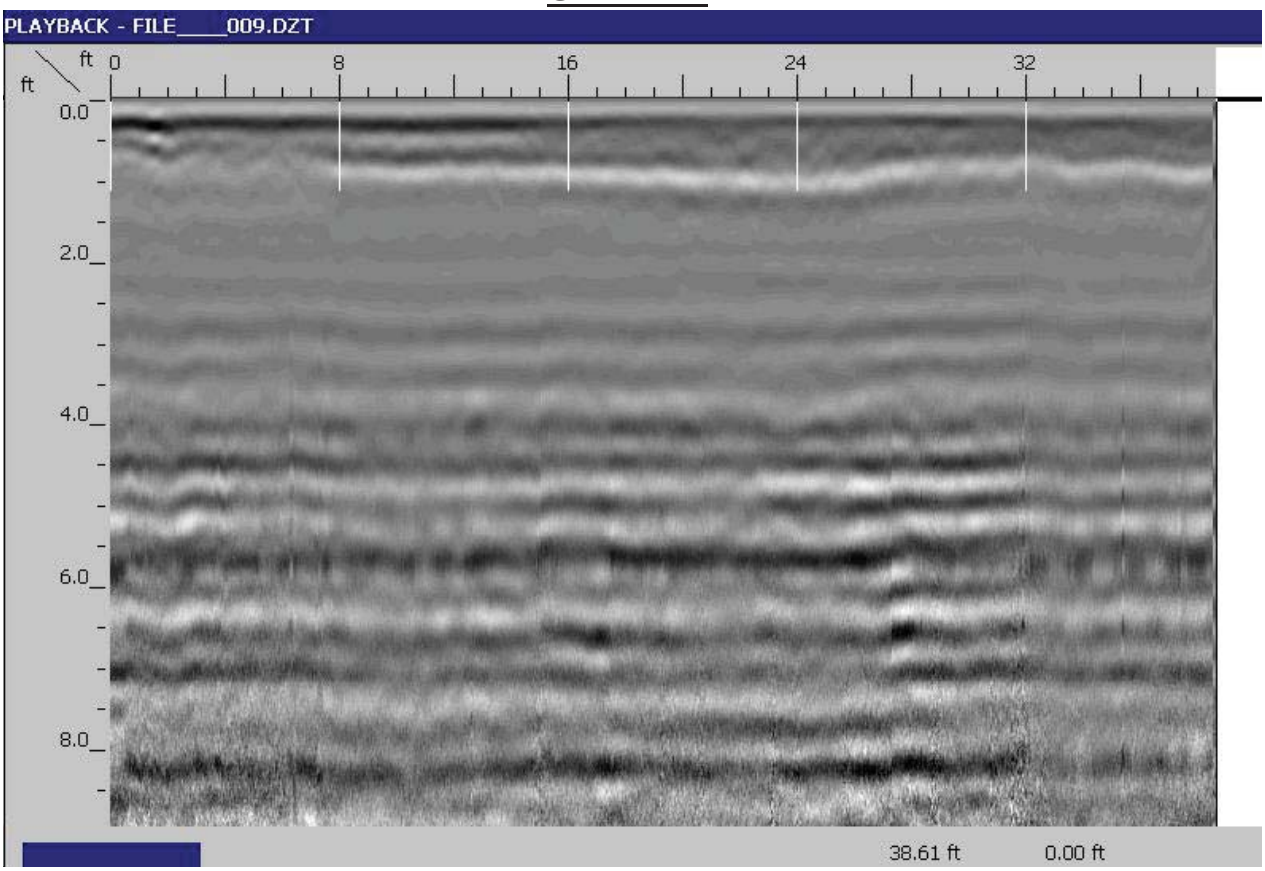
AERIAL IMAGE OF APPROXIMATE AREA SCANNED

The approximate limits of the area scanned are shown above.

SITE PHOTOS

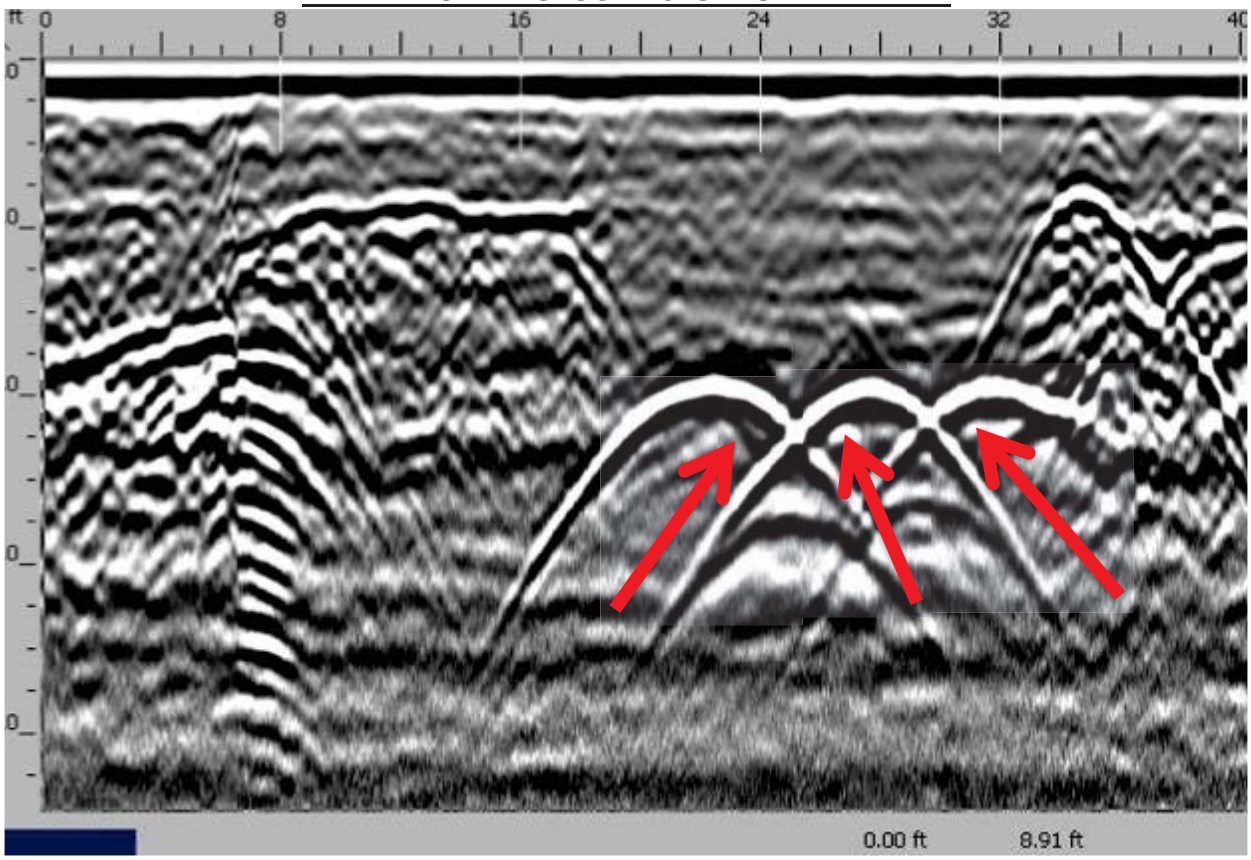
The red line above represents the path of one of the many scans; the GPR data for this particular scan is shown below.

GPR DATA



GPR data: here is a 40’ scan of the area; there are no anomalies found in the data.

EXAMPLE UNDERGROUND STORAGE TANK DATA



The above GPR data screen shot shows a scan across 3 tanks. The red arrows are pointing out these reactions. This scan was taken from a **different site** and is shown here as an example of how UST's might appear had they been found.