July 2, 2014

New Mexico Environment Department
Petroleum Storage Tank Program
1301 Siler Road, Building B
Santa Fe, New Mexico 87507

Attn: Ms. Susan von Gonten, CPG
Phone: (505) 476-4389
E-mail: lmroybal@sandia.gov

Re: Report of Geophysical Survey
Fairview Station
1626 North Riverside Drive
Espanola, New Mexico
Facility # 28779 / Release ID # 4657 / WPID #: 17158
Terracon Project No. 66127029.5

Dear Ms. von Gonten:

Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit the attached geophysical survey of the Dairy Queen property adjoining the above-referenced site to the north. Based on the results of the geophysical survey, anomalies consistent with relic underground storage tanks (USTs) or excavations of historical USTs were not identified.

Relic piping was identified in the southwest portion of the property. Based on the locations of the piping relative to historical dispensers and a suspected aboveground storage tank (AST), the relic pioping extending north from the southern property boundary and turning to the west, may have been associated with the on-site petroleum storage tank system. Based on the planned locations of propsed soil borings in the locations of the historical dispensers and ASTs, adjustment of the boring locations based on the results of the geophysical survey does not appear warranted. Historical aerial photographs depicting the location of the historical dispensers and AST is included as Exhibits 1 and 2.

If you should have any questions or comments regarding the attached Work Plan, please contact Mark Hillier at (505) 797-4287.

Sincerely,
Terracon

Mark R. Hillier, P.G.
Department Manager

Attachments – Exhibits 1 and 2
Geophysical Survey

Aerial photo source: NMDOT

Project Mngr:	MRH
Drawn By:	MRH
Checked By:	MRH
Approved By:	

Project No	66127029.5
Scale	
File No.	
Date:	JULY 2014

Terracon
Consulting Engineers & Scientists
4905 Hawkins, NE
Albuquerque, New Mexico 87109
505.797.4287 Fax: 505.797.4288

1969 AERIAL PHOTOGRAPH

FAIRVIEW STATION
1626 NORTH RIVERSIDE DRIVE
Espanola, New Mexico

Exhibit

1

Aerial photo source: NMDOT

Project Mngr:	MRH
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1993 AERIAL PHOTOGRAPH

FAIRVIEW STATION
1626 NORTH RIVERSIDE DRIVE
Espanola, New Mexico

Exhibit

2

SUNBELT GEOPHYSICS P.O. Box 208 Socorro, New Mexico 87801 (575) 838-2941

Geophysical Investigation for Abandoned USTs
1702 North Riverside Drive
Espanola, New Mexico

Prepared for:
Terracon Consultants, Inc.
4905 Hawkins NE
Albuquerque, New Mexico 87109

David A. Hyndman

June 2014

Introduction

A geophysical investigation has been conducted over most of the property identified as 1702 N. Riverside Drive Espanola, New Mexico. The objective of the investigation was to determine if abandoned underground storage tanks (USTs) remained from previous land use.

The investigation consisted of a high-resolution metal detection survey and a ground penetrating radar (GPR) survey. The field work for the geophysical investigations was conducted on 18 June 2014. Labor, instrumentation, and technical expertise for the surveys were provided by Sunbelt Geophysics of Socorro, New Mexico. Guidance and coordination were provided by Terracon Consultants Inc. of Albuquerque, New Mexico.

Methods

Geophysical surveying was conducted over a spatial control and data acquisition grid which was placed using a transit and tape. The grid established parallel north – south acquisition lines separated by 4 feet which were marked with small dots of spray paint. The grid was oriented with respect to N. Riverside Drive and the current building. The grid covered the west, south and east sides of the building.

An initial survey was conducted using a Geonics EM-61 metal detector with the 1-m antenna set. The EM-61 is a time domain electromagnetic instrument capable of detecting concentrations of buried metal, such as a UST, to a depth of approximately 10 ft with this antenna. The EM-61 data were acquired every 0.65 feet along the parallel traverses.

A second survey was performed over portions of the property using a Sensors & Software 250 MHz ground penetrating radar (GPR) system. GPR traces were acquired every 0.16 ft along the parallel lines.

Qualitative screening was performed with a Schonstedt magnetic locator over those areas not covered by the survey grid.

Data from the EM-61 and GPR were transferred to a computer for analysis and mapping. The DAT61 program (Geonics Ltd.) and Ekko_View Deluxe and Ekko_Interp programs (Sensors & Software Inc.) were used for data processing and the Oasis montaj mapping package (Geosoft Ltd.) was used for image preparation.

Results

Qualitative screening with the Schonstedt magnetic locator revealed no significant features in the drive-through lane to the north of the building or the area immediately to the east of the building.

An image of the EM-61 data acquired along the north – south lines is given on Figure 1. The EM-61 provides a response in milliVolts (mV) that is proportional to the mass and distance to both buried metal and metal at the surface. Small metallic objects generate a low response;

larger objects generate stronger response depending on the size and depth of burial. An abandoned UST would be expected to generate a strong (red to pink) response on this color scale. There is a strong response from the water meter cover and the sign near the western edge of the survey and the drive-up sign to the east of the building. No subsurface features consistent with a UST are observed.

Subsurface buried metal is observed in the southwest corner of the survey. A relatively long and uniform feature is observed entering the property from the south, taking a 90 degree turn, and then running for approximately 50 ft. to the west. This feature is interpreted to be a relic pipe at a depth of approximately 2 ft. and is presumably from an earlier generation of building on this site.

A series of somewhat disjoint and non-uniform features run from the water meter cover toward the current building. These subsurface objects are approximately 1.5 ft. deep and may be remnant pieces of pipe from an earlier water line repair. A few occurrences of subsurface debris are seen near the eastern edge of the survey.

The GPR survey detected no additional subsurface features and detected no obvious disturbed ground suggestive of an excavation of former USTs.

Conclusions

The geophysical investigation at the property identified as 1702 North Riverside Drive found no subsurface features consistent with a UST.

A buried pipe was found in the southwest corner of the property that has no apparent connection to the current building. This pipe is assumed to be from an earlier generation of build at this site.

Unconnected buried metallic object are found between the water meter and the current building. These may be remnant pieces of pipe from a water line repair.

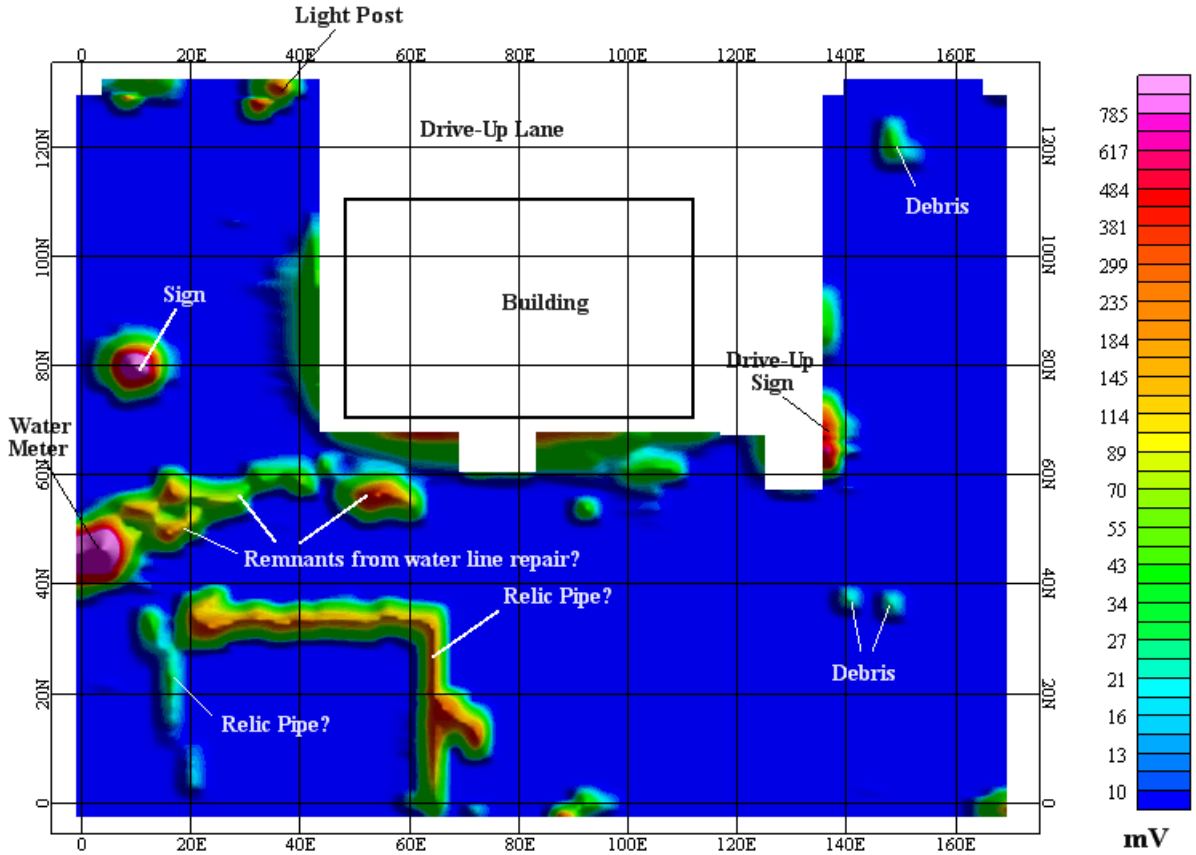

Figure 1. 1702 North Riverside Drive, Espanola, NM

EM-61 Response