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January 28, 2016

Mr. Michael Towle
U.S. Environmental Protection Agency
203 Larchwood Road
West Chester, PA 19382

**Re: Buried Linear Feature Survey
Hal. H. Clark Park's Delaware Canal Footer Drain and vicinity
Centerbridge Facility
Bucks County, Solebury Township, Pennsylvania**

Dear Mr. Towle:

On behalf of Shell Oil Products US (SOPUS), AECOM Technical Services, Inc. (AECOM) is providing this update for survey activities completed at Hal H. Clark Park (the "Park") and vicinity. The survey activities were completed to identify the potential presence of any buried linear features at and near the Delaware Canal footer drain located in the southwestern portion of the Park. The survey focused on the footer drain and vicinity based on previous reports of odors in the general area.

The field survey was conducted by Rettew Associates, Inc. (Rettew) of Pittsburgh, PA using Ground Penetrating Radar, M-scope, Electro Magnetic Locator, and dowsing rods. Areas at the Park previously noted as odorous and/or containing exposed piping were included in the survey. A private property located northwest of the Park was also surveyed based on its location between areas of known historical releases and the footer drain. Three buried linear features were detected at and near the Park footer drain. No linear features were detected on the private land between the footer drain and nearby areas of known historical releases. Rettew noted that the private land is significantly higher than areas at the Park, and any potentially buried linear features would be difficult if not impossible to detect if they are at depth.

A summary of Rettew's findings is provided in the attached memorandum, including a figure illustrating potential locations of buried linear features. Please note that the memorandum text and figure indicate "pipelines" were identified. It should not be assumed that these are petroleum pipelines. While buried pipe or related cavities may have been detected, it is possible that these features are associated with the canal, footer drain system, or historic or current utilities. Excavation and visual observation of the buried linear features were not performed, and their purpose and usage have not been determined.

As indicted in previous correspondence, a human health and ecological risk assessment will be conducted for the footer drain area. Access has been requested but not received for the private properties located immediately northwest and southeast of the Park. For this reason, samples may be limited to the Park boundaries and the risk assessments may be completed using a "worst case" scenario.



Thank you for your cooperation on this project, and should you have any questions regarding this letter, please contact Pam Tetarenko (SOPUS) at [REDACTED] or myself at [REDACTED].

Sincerely,

[REDACTED]

[REDACTED]
Principal, Project Manager

Enclosure

cc: Pam Tetarenko, SOPUS

Attachment



Date: 10/19/15

Bill To: 087303003

Technician

Type of Equipment

EM Locator/ M Scope/ GPR/ Dowsing Rod

Utilities Located

Product Lines, Foreign Lines

Project Notes

10/19/15: RETTEW arrived at the Hal H. Clark Park and met with [REDACTED] of AECOM at 0800. [REDACTED] and RETTEW went through the health and safety plan and the job safety analysis, then performed a walk-through of the job site while reviewing the maps. RETTEW began by scanning the towpath with the Ground Penetrating Radar (GPR) through the entire Area of Interest (AOI). Since the towpath is located on a hilltop beside the canal, potential lines in the area will be at their greatest depth under the towpath. Despite the greater depth, a few locations along the towpath reflected an anomaly on the GPR at the deepest point the GPR was able to investigate. Two of the anomaly locations were very close to where the received maps indicated the three target lines were located. RETTEW placed pink flags at the anomaly locations as a reference for further troubleshooting. RETTEW also found the line running along the towpath that [REDACTED] of AECOM said was possibly a water line. After completing a few GPR passes both parallel and perpendicular with the towpath, [REDACTED] and RETTEW went to [REDACTED] property. Per [REDACTED] directions, RETTEW focused on the northwestern portion of the property, as well as the areas where the GPR detected linear anomalies heading across the canal towards [REDACTED] property. The GPR only reflected [REDACTED] private facilities due to them being shallow enough for the GPR to detect them. The GPR did not detect anything underneath the known private utilities on the property. [REDACTED] personally walked [REDACTED] and RETTEW through the property and pointed out where all of his private subsurface infrastructure is located throughout his entire property. Due to the property sitting so high above the canal, any petroleum pipelines heading under the property from the canal will be very deep (approximately 20-30 feet) and extremely difficult to detect and/or trace. RETTEW and [REDACTED] observed the west side of the canal north of [REDACTED] property and determined that it is not possible to safely push the GPR on the west side of the canal north of [REDACTED] property due to the topography, trees, and dense vegetation in that area. [REDACTED] and RETTEW then completed a visual scan in the woods, searching for signs of the target petroleum pipelines, such as line markers or old test stations. The scan was conducted along the swath of the canal and the swath along the river. There were no signs of any lines in the area. While performing the visual scan, RETTEW used the M Scope to perform a blind sweep of the area as well as the Electric-Magnetic (EM) locator's induction mode (Attachment C). These methods are used and designed to detect any metallic subsurface infrastructure once in close proximity with the equipment. Nothing was detected, so RETTEW used dowsing rods in the areas northeast of the towpath where the pink flags from the GPR scan were located. Consistent bumps in a row were received in the area closest to the property line of 41-18-130 and 41-28-57 (Attachment C). RETTEW attempted to trace the line using the EM locator and M Scope in the targeted area but was unable to yield results. If pipelines exist underground, they are probably very corroded. This would result in any EM signal emitted on the line to dissipate quickly, making the line untraceable with EM locators. **See additional notes...**

RETTEW, strives to provide quality and accurate locating services to all of its customers, but due to the nature of underground facilities, RETTEW, will not be held liable for any damaged facilities. All customers are advised that they are required to follow their state's One-Call-Law before beginning excavation. RETTEW, will not guarantee the longevity of utility markings, due to activities on site that may destroy, or otherwise alter, the markings that were placed on the ground by RETTEW, if the marks have been altered or destroyed, the customer is advised to contact RETTEW, for remarkings. If the customer fails to pay the balance in full by the due date, the customer shall be obligated to pay reasonable interest, and shall be responsible for all costs of collection that RETTEW, incurs, including attorney fees, court costs, and other costs of collection. Any electronically determined depths provided to the client are estimates only and due to limitations of equipment can not be guaranteed. Client acknowledges that due to the limitations of the equipment used, safe exposure and measurements are the only methods which can precisely determine location and depth of structures marked. I hereby acknowledge the satisfactory completion of the above work and that I have received and understand the documents describing the limitations of the technologies employed, and agree to pay for charges indicated above.

Received By: _____

Date: _____

Signature: _____

THANK YOU FOR YOUR BUSINESS!

Additional Notes

Lastly, [REDACTED] and RETTEW marked the pipelines exposed in the creek. RETTEW directly connected with the EM locator and was able to tone the two lines across the towpath but each signal stopped at the canal. The lines were shown to be very deep, and the tones only traveled approximately 100 feet east and west from where they are exposed. Troubleshooting options were limited as RETTEW only had access to two properties.

*While using the GPR, Rettew pushes the unit in all directions, north, south, east, west, and diagonal, due to the GPR only able to reflect any subsurface infrastructure or object while travelling perpendicular to the object. By performing this type of thorough sweep, all angles are accounted for giving the highest chance of finding anything underground that the GPR can detect.

ATTACHMENT A
GOOGLE EARTH MAP



Site: 40.394287, -74.968698

Chelsea Dr

32

Marshall Ln

River Rd

29

N Main St

Ely Rd

Hillside Ln

Google earth

ATTACHMENT B
PHOTO DOCUMENT

**RETTEW Field Services
Photo Documentation**

CLIENT: AECOM - URS

SITE LOCATION: SR 32, New Hope,
Bucks County, Pennsylvania

PROJECT NAME: Center Bridge

PROJECT NUMBER: 087303003

DATE:
October 19, 2015

COMMENTS:
PHOTO 1
View of the towpath
facing southeast.



DATE:
October 19, 2015

COMMENTS:
PHOTO 2
View of the path of the
exposed steel pipeline
facing Dr. Hill's property.



**RETTEW Field Services
Photo Documentation**

CLIENT: AECOM - URS

SITE LOCATION: SR 32, New Hope,
Bucks County, Pennsylvania

PROJECT NAME: Center Bridge

PROJECT NUMBER: 087303003

DATE:
October 19, 2015

COMMENTS:
PHOTO 3
View of the path of the
exposed pipe from the
towpath facing
northeast.

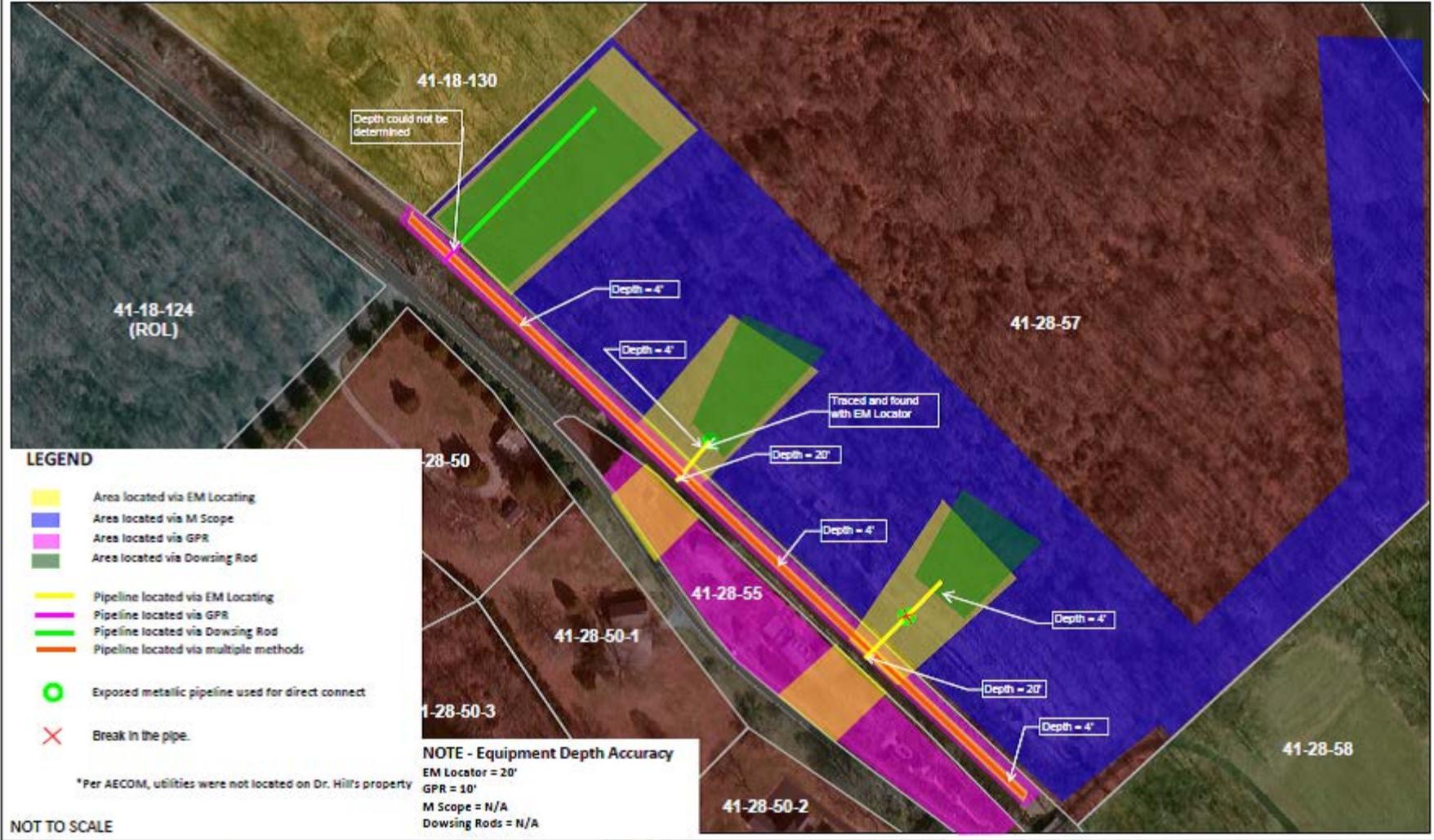


DATE:
October 19, 2015

COMMENTS:
PHOTO 4
View of the area where a
potential line was traced
near the property line of
41-28-57 and 41-18-130
(Attachment C).



ATTACHMENT C
SITE SKETCH



Legend	
	Tax Parcel Boundary
	Shell Owned
	Neither Shell nor Exxon
	Shell & Standard Oil owned, Exxon - Right of Way (ROW)
	Shell, Exxon, & Standard Oil owned
	41-28-53 Parcel Tax ID Number
	(ROL) Release of Liability Received

CLIENT: AECOM			
PROJECT: Hill/H Clark Park Center Bridge DB7303003			
SCALE: 1"=40'	DRAWN: MC	DATE: 12/15/015	
0 50 100 Feet	CHECKER: BS	DATE: 12/15/015	
Base map provided by AECOM			



Utility Map

RETTEW One Robinson Plaza, Ste 200
Pittsburgh, PA 15205

FIGURE 1