

Lisa Goldberg

From: Khoa Tran
Sent: Friday, May 26, 2017 12:24 PM
To: Russ Wheeler
Cc: Frank Craighill; William Skrabak; Emilio Pundavela; Lisa Goldberg; vincent.maiden@deq.virginia.gov; 'Alexander.Wardle@deq.virginia.gov'
Subject: RE: RTN-SCR City Comments

Mr. Wheeler:

The City of Alexandria reviewed the Draft SCR for the former RTN Property and has the following comments. First, It is important to recognize that the complex history of industrial activity on and around the property leaves open the possibility of numerous impacts from petroleum and other sources of chemicals from both the prior RH Bogle and Standard Oil sites. The following comments address specific aspects of the investigation.

Soil Boring Results – The investigation provides substantial information regarding the subsurface stratigraphy including :

- Documentation of a substantial “fill” layer in the shallow subsurface and a deeper clay layer that appears laterally extensive beneath the entire site.
- The fill horizon, which is in some cases as much as ten feet thick, significant because it leaves open possibility that observed impacts could originate from extraneous sources related to the origin of the fill as well as post-fill activities.

Soil Results: Total Petroleum Hydrocarbons (TPH) – Based on the report’s compilation of recent and historical analyses, TPH-Gasoline Range Organics (TPH-GRO) were detected in subsurface soil at concentrations in excess of 100 mg/Kg in the 5-10 ft. horizon across the northeastern half of the site (501 parcel).

- Portions of this area correspond to the former location of USTs and 2 associated Pollution Complaints. One sample near the northeast corner of North Union and Oronoco Streets was measured above 1,000 mg/Kg and could indicate yet another – unspecified source but without more detailed analysis it is not possible to discern a particular origin.
- TPH impacts extending beneath the west warehouse (500 parcel) could be from any number of sources on the Bogle and/or Standard Oil sites. TPH-Diesel-Range Organics (TPH-DRO) impacts in the 0-5 and 5-10 foot horizons are more concentrated along the western border and northern half of the site where several of Bogles industrial activities took place. The distribution of impacts along the site’s western border are coincident with on-site historic petroleum and chemical handling activities documented by historic maps of both Bogle and Standard Oil operations on portions of the 500 parcel.

Benzene/Naphthalene– Maps indicating the distribution of petroleum hydrocarbon soil impacts including those for benzene and naphthalene are presented based on recent and past investigations. The distribution of petroleum impacts for these chemicals are not entirely coincident with the highest benzene concentrations occurring near the intersection of North Union and Oronoco Streets but are with the highest naphthalene concentrations centered near the intersection of North Union and Pendleton Street.

- This pattern suggests differing sources for these chemicals. Possible sources could be those associated with historic activities at the repair shops and warehouses on the Bogle and Standard Oil sites.
- Lower TPH concentrations associated with the former UST sites (northeast 501 parcel) indicate a closer source/impact relationship.

Arsenic. Impacts for metals including arsenic are also mapped.

- The area of arsenic impact in near-surface soils borders the western portion (current Dalton Wharf) of the former Bogle/Standard Oil site (500 parcel). The impact extends eastward and in the direction of the topographic gradient, suggesting the release was related to surface spills of materials containing arsenic.
- The arsenic soil iso-concentration contours do not appear coincident with those for petroleum impacts suggesting the releases were not coincident.

Groundwater Results: – Groundwater iso-concentration maps are presented from TPH-GRO, TPH-DRO, Benzene, Naphthalene and Arsenic for the shallow and deep aquifers beneath the site.

- The highest concentrations of TPH-GRO and TPH-DRO occur at the up-gradient edge of the property (500 parcel) adjacent to Dalton Wharf (former Bogle/Standard Oil) with another elevated concentration sample located near the intersection of North Union and Oronoco Streets.
- Concentrations of benzene and naphthalene are also higher in the up-gradient areas towards the western edge of the site closest to Bogle/Standard Oil but with higher concentrations somewhat closer to the southwest corner of the site.
- The lack of sample points closer to the ATG-Oronoco site makes it difficult to determine any connection between the plumes. The highest concentrations occur in near the intersection of North Union and Oronoco Street and adjacent to the ATG-Oronoco groundwater treatment system.
- Routine compliance monitoring of this area by the city of Alexandria has not detected significant groundwater contamination. All of the groundwater impacts appear confined to the water table aquifer. Samples taken within the deeper aquifer did not detect these compounds except for several detections in the downgradient area near the former UST sites on the 501 parcel.

In a section entitled: “Surrounding and Nearby Properties” the report concludes that the impacts documented by the SCR on the 500 parcel is the “former bulk storage of fuel” (presumably Standard Oil), “Bogle Chemical manufacturing facility” and the Alexandria Town Gas Oronoco Outfall treatment system boundary” However, no data are presented indicating a contiguous plume connecting the RTN 500 parcel with the ATG-Oronoco site. The basis for this conclusion is unclear.

Human Health Risk Assessment –The report indicates no groundwater exposure pathway exists because “the City of Alexandria restricts the use of groundwater for any purpose”. We suggest that the report reference the City of Alexandria code and the covenants attached to the development of the former Bogle parcel that address groundwater use. .

Soil Gas (Vapor Intrusion) – The report indicates VOCs were not detected in sub-slab and deep samples at levels in excess of current DEQ screening limits. Therefore the risk of indoor vapor risk was deemed “minimal”. The report further states that risks associated with future use scenarios can be minimized through remediation, engineering controls. We recommend these measures be specified in detail as a part of any future re-development plan.

Proposed Engineering and Institutional Controls – Engineering Controls are presented in the context of current and future land uses. Proposed Remedial Activities include addressing potential orphan USTs, proper handling and disposal of impacted soil and groundwater. These requirements appear appropriate for the circumstances but will need further detailing as more specific plans are developed. The proposal for a sub-slab depressurization system beneath buildings seems to be a prudent measure for future construction given the lack of the landowner’s control over the adjacent impacts. We also support the replacement of near-surface soil with clean fill to insure future site workers including construction and landscapers will not be exposed to arsenic or other impacts.

Conclusions – The site investigation concludes that impacts on the subject properties originates from a “significant contribution from adjacent and nearby properties” including the “city gas works”. The conclusions go on to express specific concern for the adjacent former Alexandria Town Gas Site and associated Oronoco Outfall treatment system. While it is acknowledged that there are soil and groundwater impacts associated with the ATG-Oronoco site, the report does not present data or evidence that supports the conclusion that the impacts delineated beneath the property originate from the town gas site. None of the compounds detected in the RTN site soils or groundwater are specific to town gas sites (TPH, VOCs, SVOCs, benzene, naphthalene) and all are ubiquitous in urban environments.

Arsenic impacts on the site appear to be related to the Bogle site and their distribution is consistent with past activity. Arsenic is not a contaminant of concern on the ATG-Oronoco site. Although the ATG-Oronoco site lies hydraulically up-gradient of the RTN site there are not sufficient data points to establish a contiguous plume connecting the two sites. The data points indicating influence more likely support connection with the adjacent Bogle/Standard Oil sites which overlap with the 500 parcel of the RTN site.

Earlier investigations of the area on behalf of the City for the ATG-Oronoco site found that the RH Bogle Chemical Company operations occupied the entire 500 parcel plus the adjoining parcel to the west (current Dalton Wharf) and that a “chemical warehouse” and “railcar repair and paint shop” were located along the up-gradient edge of the property (current boundary with Dalton Wharf). These locations coincide with some of the highest concentrations measured on site and are directly downgradient of the Bogle “chemical mixing warehouse”, “machine shop” and “chemical tanks”. Although the ATG-Oronoco site is also nearby, we suggest the Bogle-related sources are closer to the highest concentration areas on the 500 parcel and none of the detected compounds are MGP-specific. While MGP-related impacts cannot be entirely ruled out, we see no specific data in this report supporting this connection.

Sincerely,

Khoa D. Tran
Environmental Program Manager
Office of Environmental Quality
Transportation & Environmental Services Department
City of Alexandria, Virginia
Telephone: (703) 746-4076

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