

Mr. George Jacob
United States Environmental Protection Agency
Region 2 Emergency & Remedial Response Division
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Subject:
Response to Comments
Soil Vapor Screening Evaluation Work Plan
Colesville Landfill
Broome County, New York

ENVIRONMENT

Dear Mr. Jacob:

Date:
March 28, 2007

Broome County and ARCADIS are in receipt of the United States Environmental Protection Agency (EPA) e-mail dated January 16, 2007, the New York State Department of Environmental Conservation (NYSDEC) letter dated March 8, 2007, and the New York State Department of Health (NYSDOH) letter dated February 7, 2007, which provided comments on the August 16, 2006 Soil Vapor Screening Evaluation Work Plan (Work Plan) for the Colesville Landfill (Site) located in Broome County, New York. ARCADIS, on behalf of Broome County, had prepared and submitted the Soil Vapor Screening Evaluation Work Plan to the EPA in response to a recommendation that was provided in the EPA Second Five-Year Review Report for the Site dated April 2005. Please note that comments from the EPA and the NYSDOH are presented as exact quotes from the January 16, 2007 EPA e-mail and the February 7, 2007 NYSDOH letter. The EPA and the NYSDOH comments and the corresponding ARCADIS and Broome County responses are provided herein.

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Our ref:
NY000949.0020.00005

EPA

The January 16, 2007 EPA e-mail indicated that the Colesville Landfill Soil Vapor Screening Evaluation Work Plan had been reviewed and that the EPA Technical Support Group provided the following two comments.

Comment

1. One soil gas sample should be collected to the west of the North Stream. Although the stream is believed to intercept the plume, this has not been proven. A soil gas sample would provide information on whether

Imagine the result

contaminated groundwater is escaping the stream and whether the residences on that side of the stream could be impacted by vapor intrusion. The three samples to the west of the Scott residence can either be redistributed so that one is on the other side of the stream or a 7th sample could be planned for this area.

Response

ARCADIS will revise Figure 1 by redistributing the soil vapor sample locations. The SV-1 location will be relocated on the west side of the North Stream. The SV-2 and SV-3 locations will be redistributed to provide the appropriate spatial coverage between the relocated SV-1 and the current location of SV-4.

Comment

2. Page 6, Data Evaluation and Reporting: Please use Table 2c (values at the 10-6 risk level) to screen soil gas data so that no compounds are ruled out prematurely.

Response

ARCADIS will use both Tables 2a, as originally proposed in the Work Plan, and Table 2c to screen the soil vapor data. As indicated in Section 3.1 of the Work Plan, the EPA compared the maximum concentration of trichloroethylene (TCE) detected in a downgradient off-site monitoring well (W-18 at 19 ug/l) to the EPA Target Groundwater Concentration (5.3 µg/L) at a cancer risk of one in ten thousand (10^{-4}). This was the basis for the selection of Table 2a for screening soil vapor data. Nonetheless, ARCADIS will consider and evaluate the range of EPA Soil Gas Target Concentrations as a means to bracket the potential risk associated with the soil gas results. This information will aid in determining all available options varying from no further action to additional sampling.

NYSDOH**Comment****1 Introduction**

1. I understand that "the United States Environmental Protection Agency (USEPA) suggested that sub-slab soil vapor samples be collected beneath

homes located hydraulically downgradient of the Site to evaluate the potential for vapor intrusion." However, "based on follow up discussions with USEPA, it was mutually agreed that soil vapor samples would be collected..". Please explain the objectives of the soil vapor samples and the basis for this change.

Response

The objective of the soil vapor screening evaluation is to determine if there is a *potential* for the vapor intrusion pathway to be complete in the vicinity of the residences located hydraulically downgradient of the Site. Consistent with Section 2.2.2 of the October 2006 NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, sub-slab vapor samples can be collected after soil vapor characterization and/or other environmental sampling (e.g., soil and groundwater characterization) indicate they are warranted. Therefore, the soil vapor samples will be used as an initial step to determine if volatile organic compounds (VOCs) are present in soil vapor on parcels with occupied structures.

Moreover, past interactions with current residents indicates that it is extremely difficult to obtain access to residential properties in the vicinity of the Colesville Landfill, no less obtaining access into their homes. We anticipate that these homeowners will not provide access to their homes for sampling. The soil vapor sampling is an important first step to obtain data without unnecessarily approaching homeowners for access.

Comment**3.1 EPA Second Five-Year Review Evaluation**

1. When evaluating soil vapor intrusion in New York State, please be consistent with the State's guidance, which is available on-line at www.health.state.ny.us/nvsdoh/qas/svi guidance.
2. The State does not defer to the USEPA's Target Groundwater Concentrations for screening purposes. In general, if volatile chemicals are present in groundwater, then soil vapor samples are collected to determine the nature and extent of contamination.

Response

1. Comment noted. Section 3.3.1 of the October 2006 NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York indicates that New York State currently does not have any standards, criteria or guidance values for concentrations of compounds in soil vapor. Additionally, there are currently no databases available of background levels of volatile chemicals in soil vapor. In the absence of this information, soil vapor sampling results are reviewed "as a whole", in conjunction with the results of other environmental sampling and the site conceptual model, to identify trends and spatial variations in the data. ARCADIS will evaluate the soil vapor data in this context.
2. Comment noted.

Comment**3.2 Sampling Approach and Methodology**

1. Please provide a figure that includes the tax parcels for each residence and location of the proposed soil vapor points.

Response

The attached figure shows the tax parcels for each residence and the approximate locations of the soil vapor points.

Comment**3.2.2 Soil Vapor Sampling Methodology**

1. Please revise the workplan to indicate that tracer gas should be used at all sample locations.
2. Outdoor air samples should be collected concurrently with soil vapor samples.
3. Please note that information collected to date at sites throughout New York State indicate that soil vapor concentrations (in areas of grass, gravel, pavement, etc.) are not reliable tools for predicting soil vapor concentrations

immediately beneath a slab. Depending on the results of the soil vapor samples, it may be necessary to take additional actions.

4. Provisions should be put in place that if the vacant residences near the Colesville Landfill are occupied in the future, then soil vapor intrusion will be evaluated.
5. There are not sufficient data available to support the use of a targeted analyte list. Samples should be analyzed according to the laboratory's standard USEPA TO-15 list. Please provide this list and the corresponding MRL's (in micrograms per cubic meter) in the revised work plan.
6. The depth of each soil vapor point should be included in the work plan.
7. Please report the soil vapor findings in micrograms per cubic meter.

Response

1. Agreed.
2. It is assumed that this comment has been made to assist in the interpretation of the soil vapor data (i.e., potential outdoor air interferences). ARCADIS does not believe that outdoor samples are necessary to identify potential outdoor air interferences associated with infiltration of outdoor air into the sampling apparatus while the soil vapor samples are being collected since tracer gas testing will be conducted at all sample locations. The tracer gas testing will be used to ensure that the seal established around the temporary soil vapor sampling point is preventing the infiltration of outdoor air into the sampling apparatus.
3. ARCADIS and Broome County will review soil vapor sampling results "as a whole", in conjunction with the results of other environmental sampling and the site conceptual model, to identify trends and spatial variations in the data. This approach will be used to determine if additional sampling is warranted. See response to Section 3.1, Comment 1.
4. A Site Management Plan will be prepared that will require the evaluation of soil vapor intrusion if the vacant residences near the Colesville Landfill are occupied in the future, and groundwater and/or soil vapor sampling data at that time indicates that there is a potential for vapor intrusion.

5. ARCADIS will provide the standard USEPA Method TO-15 compound list and the corresponding reporting limits (in micrograms per cubic meter) in the revised Work Plan.
6. As discussed in the Work Plan, the depth to water in the vicinity of the residences ranges from 7 to 10 feet below the ground surface, and the samples will be collected approximately one foot above the water table (see Section 3.2.2). Therefore, it is anticipated that the soil vapor samples will be collected from depths approximately 6 to 9 feet below the ground surface depending on field conditions during sampling.
7. Agreed.

If you have any questions or comments regarding ARCADIS' and Broome County's responses, please do not hesitate to contact Steve Feldman at 631-391-5244. We would like to arrange a conference call to discuss the comments and responses. Following the conference call, and upon receipt of the EPA's and NYSDEC's written approval of the responses presented herein, ARCADIS will revise the Work Plan accordingly and resubmit it to the agencies.

Sincerely,

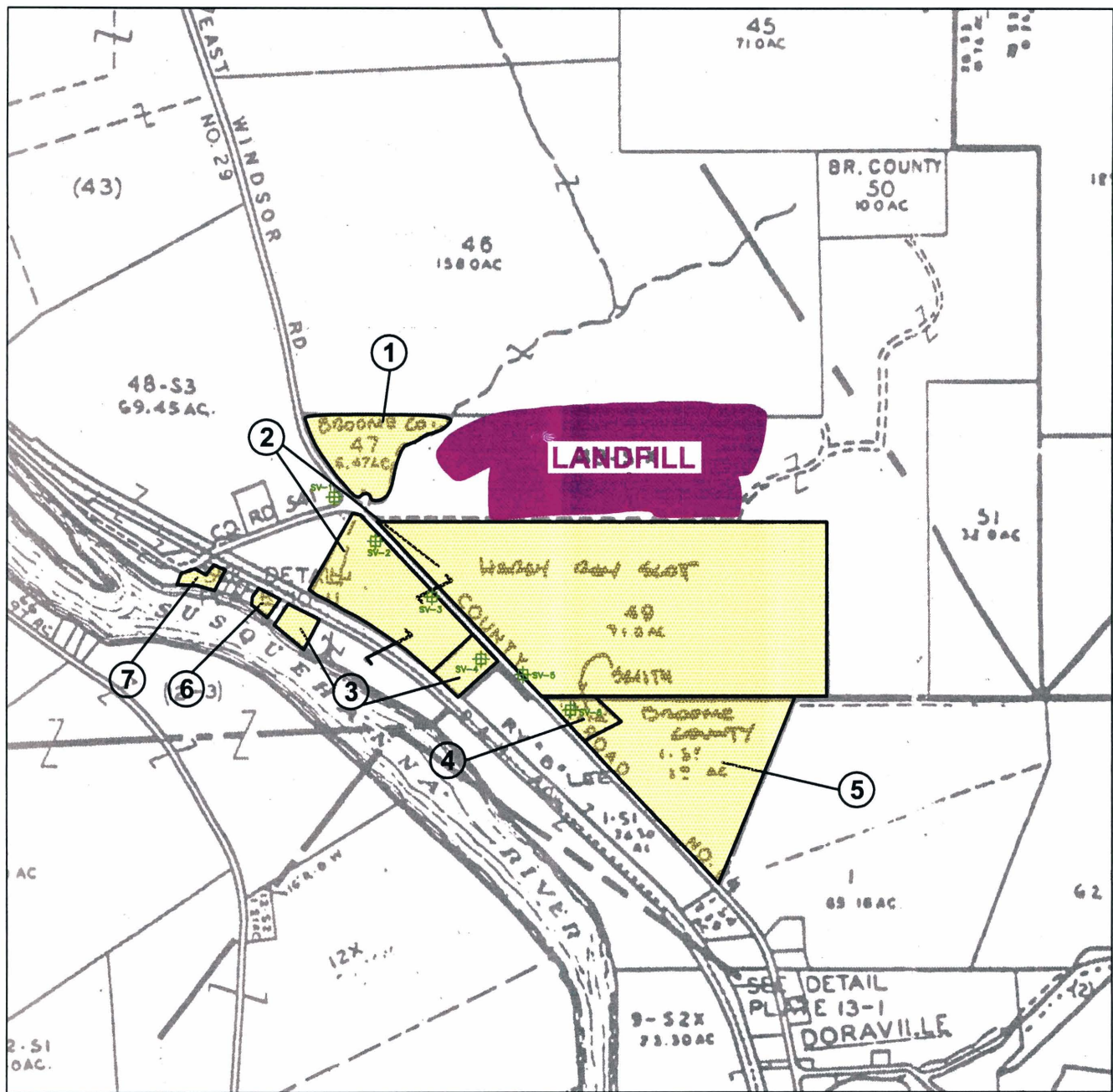
ARCADIS of New York, Inc.



Steven M. Feldman
Project Manager

Copies:

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Payson Long, NYSDEC
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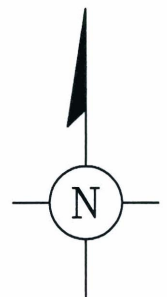
LEGEND

- ① The former DeFreitas parcel.
- ② The Harry Ray Scott parcel.
- ③ The Charles Scott Jr. parcel.
- ④ The former Smith parcel.
- ⑤ The former Lee parcel.
- ⑥ The Kitchen parcel.
- ⑦ The Mastellone parcel.

0 1000' 2000'
SCALE IN FEET

LEGEND:

SW-1-# LOCATION AND DESIGNATION
OF SOIL BORING AND
SOIL VAPOR SAMPLE POINT



NOTE: All other downgradient parcels are owned by Broome County.



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PROJECT MANAGER S. FELDMAN	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY C. KEEN
SHEET TITLE TOWN OF COLESVILLE TAX ASSESSMENT MAP SHOWING APPROXIMATE LOCATIONS OF PROPOSED SOIL VAPOR POINTS	TASK/PHASE NUMBER 00005	DRAWN BY A. SANCHEZ	DRAWING NUMBER 1
	PROJECT NUMBER NY000949.0020		