

**From:** [Pallagi, Kenneth E.](#)  
**To:** [LaFranzo, Michael](#); [Smith, James](#)  
**Cc:** [Smetanka, Joseph W](#); [Kunowski, Michael](#); [Evers, William C.](#)  
**Subject:** [External\_Sender] NRC Region III Information Request and 03-23-2017 Public Call  
**Date:** Tuesday, March 21, 2017 8:30:35 AM  
**Attachments:** [NRC Region III Information Request Response 3-21-2017.pdf](#)

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Mike,

Please find attached the GPS coordinates and the depth excavation maps for LSA 08-02, LSA 08-03, LSA 08-11 and LSA 10-14 as requested. Additional information has been provided to assist in your soil sampling planning efforts.

Jim,

Westinghouse requests that the NRC proposed soil sampling event be placed on the agenda for the public call this week.

Westinghouse also requests that NRC feedback of FSSFR reports also be placed on the agenda.

Thanks,

Ken

Ken Pallagi  
Hematite Decommissioning Project  
Licensing

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**Westinghouse response to NRC Region III Information Request**

On March 13, 2017, NRC Region III communicated that it is planning a "Smart Sampling" activity at the Westinghouse HDP site in April of 2017. To support planning the activity the NRC Region III requested they be provided with the GPS coordinates and the excavation depth maps for survey units LSA 08-02, LSA 08-03, LSA 08-11 and LSA 10-14.

Westinghouse recognizes that the identified survey units are those survey units identified in a January 10, 2017 email from NRC (Smith) to Westinghouse (Pallagi) related to a violation of NRC requirements issued to Westinghouse related to the transfer of radioactive material from survey unit LSA 05-04 to LSA 02-01 after a storm event. The issue has been commonly referred to as "rain events" that could cause recontamination of a survey unit in which FSS had been previously completed.

During a subsequent publicly noticed conference call on February 2, 2017, in which NRC Region III identified a significant amount of information that could be provided to them to allow for the assessment of rain events at the site that would transfer radioactive material from a survey unit that had not been remediated into a survey unit in which Final Status Survey had been completed. Due to the nature of the request Westinghouse requested NRC provide a written description of the information the NRC Region III to address a path forward on resolution to the "rain events" issue to ensure that Westinghouse accurately understood the information requested by NRC Region III. On February 2, 2017, NRC (LaFranzo) provided to Westinghouse (Pallagi) by email the requested information.

Although the March 13, 2017, information request by NRC Region III was limited to a request for GPS coordinates and excavation depth maps for the indicated survey units Westinghouse is providing additional information which may be helpful in the NRC Region III planning for the soil sampling activity.

As communicated to NRC Headquarters as part of the communication regarding the routine weekly conference calls between Westinghouse and the NRC, Westinghouse provided its intention to submit to the NRC the information requested by NRC Region III at a later date (email Westinghouse (Pallagi) to NRC (Smith) March 7, 2017). Westinghouse expects to provide the NRC Region III requested information of February 2, 2017, the week of April 24, 2017, due to the extent of work necessary to compile and the requested information.

As the information provided herein is relevant to resolution of the "rain events" issue/violation, Westinghouse requests that in accordance with Title 10 of the Code of Federal Regulations (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this email, and this attachment, be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agency wide Documents Access and Management System (ADAMS). Westinghouse provides that there is no personal privacy or proprietary information contained within the email or this attachment.

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
March 21, 2017

Site Access – The site workdays and hours continue to be Monday through Thursday 6:30 AM to 5:00 PM. Please notify the site if NRC Region III wishes to work different hours to allow for scheduling of personnel to be present to allow access to the site.

Split Sampling – Westinghouse requests the opportunity to obtain split samples.

### Survey Unit LSA 08-02

GPS Coordinates - The GPS coordinates are provided on the figure that follows.

Excavation Depth Maps – For the purpose of providing the radiological status of a survey unit, in FSS reports Westinghouse provide's excavation depth maps utilizing 4 foot gradation increments. It is assumed that one of the objectives of the sampling event is to obtain a sample at the native soil-backfill interface, to assist the NRC in its planning effort the excavation maps are provided using a 1 foot gradation. The excavation depth map follows.

Hazard Analysis – Westinghouse has previously notified the NRC that remediation of the site was complete as of June 30, 2016. As such, Westinghouse no longer has a need to maintain active procedures for the proposed type of sampling event. Westinghouse is therefore reiterating the following information in regards to coring/push probe/drilling activities within LSA 08-02 to assist the NRC in planning the sampling activity.

The area has been backfilled and compacted as required by the work package for site restoration. Therefore the surface from entrance at a site gate to the sample locations within LSA 08-02 is amenable to use of heavy drill/coring equipment. The survey unit does not present any irregular surfaces.

As documented in correspondence to the MDNR, the report EO-16-002, "Remedial Action Completion Report for Operable Unit 1" provides that "*Prior to backfilling at LSA-08-01 and LSA-08-02, Westinghouse initiated a chemical oxidation application as part of a pilot treatability study for the remaining VOC-impacted soil.*" The chemical oxidation application utilized was PersulfOx which is a sodium persulfate-based technology that is used to enhance the oxidative destruction of both hydrocarbons and chlorinated contaminants in the subsurface.

There are no active or abandoned utilities within LSA 08-02.

Two monitoring wells are located in LSA 08-02. The wells were installed in May and June of 2016 for the purpose of collecting groundwater samples following the completion of remedial activities. Post-remediation groundwater monitoring well GW-II is installed to a depth of 35 ft and is screened in the sand/gravel hydrostratigraphic unit. Post-remediation monitoring well BR-16-JC is installed to a depth of 89.5 ft and is screened in the Jefferson City-Cotter hydrostratigraphic unit. The well coordinate have been included in the LSA 08-02 figure.

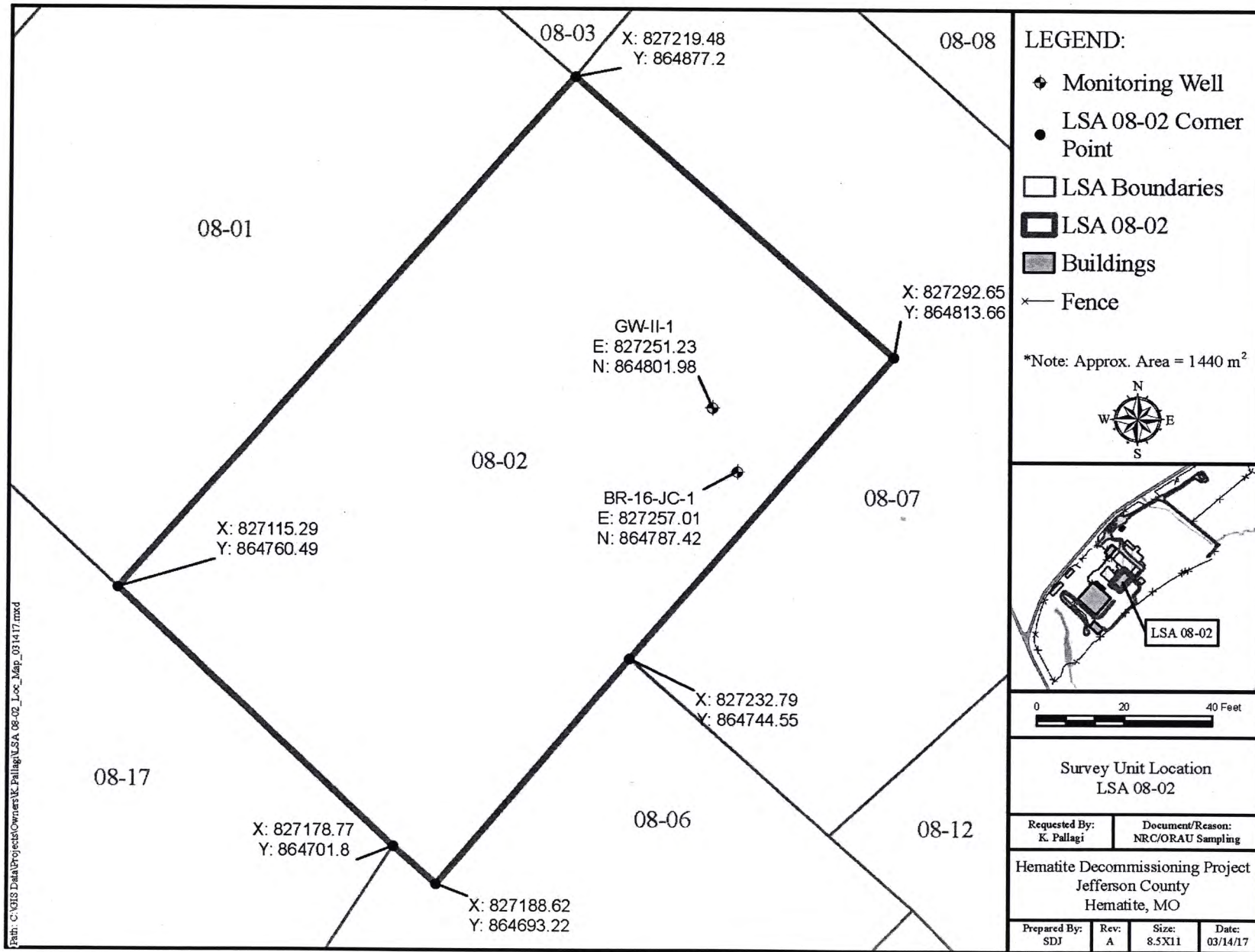
Remediation/Restoration History – In Westinghouse letter HEM-16-6 (Fussell) to NRC (Document Control Desk), dated January 18, 2016, Westinghouse submitted the required notification to the NRC that remediation of the site was completed. HDP-TBD-SEC-003 was provided as an attachment to the letter as the technical basis document provided the required information in regards to the fact that remediation of the site was complete as indicated by remedial action support survey of all land survey area survey units.

**Survey Unit LSA 08-02 Continued**

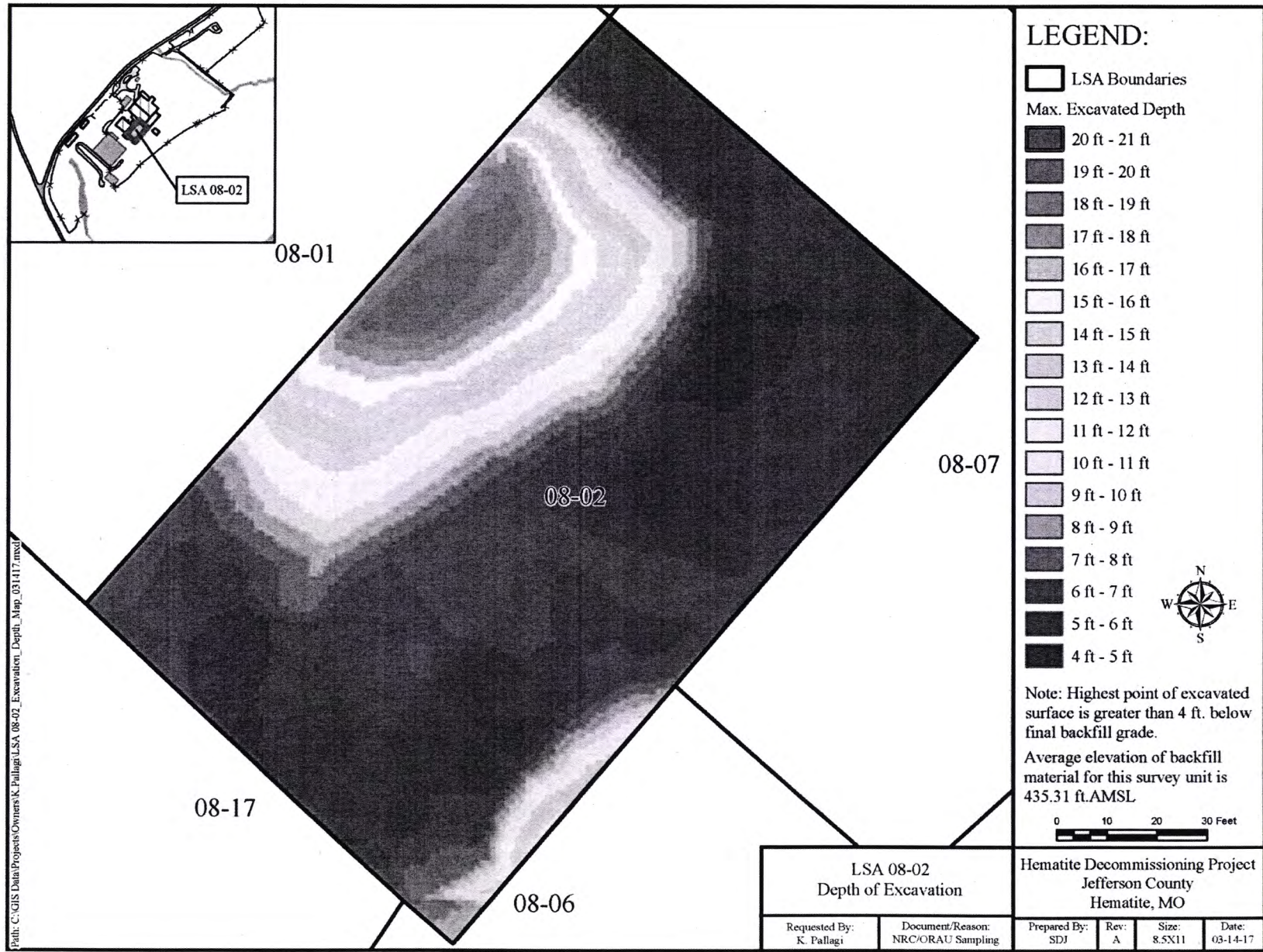
Subsequent to determination that LSA 08-02 and all adjacent survey units to LSA 08-02 were expected to meet the DCGL, FSS validated the radiological status of LSA 08-02 and all adjacent survey units. See the table in the attachment section which provides the FSS GWS completion dates for the survey units.

The Pre-backfill Confirmatory GWS was completed on February 11, 2016. Backfill of LSA 08-02 commenced on February 13, 2016 with soil from Combined Reuse Stockpile 4-7. There were no rain events from the completion of the GWS on February 11, 2017, to the start of backfill on February 13, 2017 ([www.usclimatedata.com](http://www.usclimatedata.com)). At the conclusion of the workday on February 13, 2017, 450 cubic yards of Combined Reuse Stockpile 4-7 soil was placed in LSA 08-02.

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Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
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Path: C:\GIS Data\Projects\Owners\K.Pallagi\LSA 08-02\_Excavation\_Depth\_Map\_031417.mxd

LSA 08-02 Depth of Excavation		Hematite Decommissioning Project Jefferson County Hematite, MO			
Requested By: K. Pallagi	Document/Reason: NRC/ORAU Sampling	Prepared By: SDJ	Rev: A	Size: 8.5X11	Date: 03-14-17

Hematite Decommissioning Project	Procedure HDP-PR-HP-311, <i>Radiological Surveys</i>	Revision: 1		
<b>FORM HDP-PR-HP-311-3</b>				
<b>RADIOLOGICAL SURVEY REPORT - WALKOVER SURVEYS</b>				
SURVEY LOCATION: LSA 08-02				
DATE: 2/11/2016	TIME: 15:45	RWP: RP-16-G002		
LOG NUMBER: 7013 C 160211				
PURPOSE OF SURVEY: Pre-Backfill Confirmatory GWS of LSA 08-02				
<u>Instrument Types(s)</u>	<u>Serial Number (meter/detector)</u>	<u>Cal Due Date: (meter-detector)</u>	<u>Background (CPM <math>\alpha/\beta</math>)</u>	<u>Efficiency (%) (<math>\alpha/\beta</math>)</u>
Lud 2221 44-10 B	290809 / PR 321874	9/29/2016	10,000	N/A
Lud 2221 44-10 BB	299524 / PR 321894	9/29/2016	10,000	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
<b>REMARKS: See Below</b>				
<p>The Confirmatory GWS results were found to be less than 3 Sigma of Perma-Fix's results.                  (Maximum count rate observed during Confirmatory GWS was 13,400 GCPM)</p> <p>Perma-Fix FSS Results:                  Mean: 10,318                  Standard Deviation: 1,150                  3 Sigma: 13,766                  Maximum Count Rate: 19,122                  Minimum Count Rate: 5,665                  Total Counts: 50,745</p>				
TECHNICIAN(S):	J. Boxdorfer <i>J. Boxdorfer</i> 2-12-16 Print Name/Sign/Date J. Hoffman <i>J. Hoffman</i> 02/12/2016 Print Name/Sign/Date			
REVIEWER:	Scott Follen <i>Scott Follen</i> 02/12/16 Print Name/Sign/Date			
Quality Record				





# U.S. climate data

Temperature - Precipitation - Sunshine - Snowfall

Home    United States    Missouri

Monthly    Daily    History    Geo & Map    Weather Forecast

2016    February

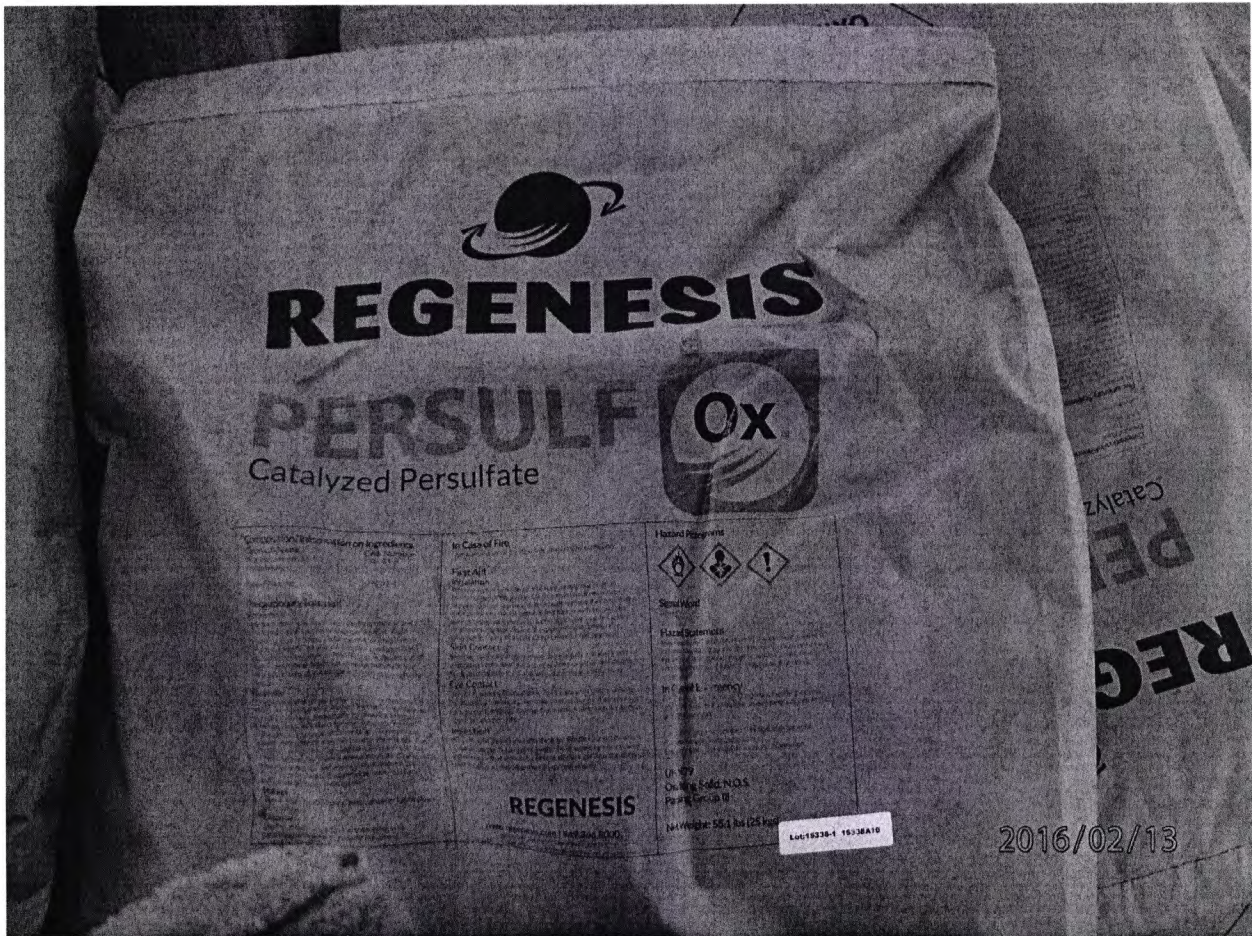
### Weather history Festus february 2016

Day	High (°F)	Low (°F)	Precip. (inch)	Snow (inch)	Snow depth (inch)
1 feb 2016	69.1	39.9	0.00	-	-
2 feb 2016	55.0	39.9	0.00	-	-
3 feb 2016	71.1	36.0	0.13	-	-
4 feb 2016	37.9	25.0	0.00	-	-
5 feb 2016	44.1	23.0	0.00	-	-
6 feb 2016	46.0	23.0	0.00	0.00	0.00
7 feb 2016	57.0	23.0	0.00	0.00	0.00
8 feb 2016	55.9	34.0	T	-	-
9 feb 2016	34.0	19.0	-	0.79	0.98
10 feb 2016	27.0	14.0	T	-	0.00
11 feb 2016	23.0	12.9	0.05	0.51	0.98
12 feb 2016	33.1	21.9	T	T	0.98
13 feb 2016	37.9	10.9	0.00	0.00	0.00
14 feb 2016	23.0	10.9	0.00	0.00	0.00
15 feb 2016	28.0	19.0	0.03	0.51	0.98
16 feb 2016	43.0	25.0	0.00	-	0.98
17 feb 2016	39.0	30.0	0.20	-	0.00
18 feb 2016	50.0	32.0	T	0.00	0.00
19 feb 2016	61.0	32.0	0.00	-	-
20 feb 2016	73.9	46.0	0.00	0.00	0.00
21 feb 2016	78.1	44.1	1.21	0.00	0.00
22 feb 2016	62.1	37.9	0.00	0.00	0.00
23 feb 2016	48.0	33.1	0.00	0.00	0.00
24 feb 2016	48.0	32.0	0.18	0.98	0.98
25 feb 2016	43.0	32.0	0.03	0.00	0.00
26 feb 2016	39.9	28.9	0.00	0.00	0.00
27 feb 2016	42.1	26.1	0.00	0.00	0.00
28 feb 2016	66.9	26.1	0.00	0.00	-

T = Trace



Application of Catalyzed Persulfate in LSA 08-02 completed using extended arm excavator for work safety. Bags remain in excavation to minimize exposure to workers.



Degradable bag of Catalyzed Persulfate.

### **Survey Unit LSA 08-03**

GPS Coordinates - The GPS coordinates are provided on the figure that follows.

Excavation Depth Maps – For the purpose of providing the radiological status of a survey unit, in FSS reports Westinghouse provide's excavation depth maps utilizing 4 foot gradation increments. It is assumed that one of the objectives of the sampling event is to obtain a sample at the native soil-backfill interface, to assist the NRC in its planning effort the excavation maps are provided using a 1 foot gradation. The excavation depth map follows.

Hazard Analysis – Westinghouse has previously notified the NRC that remediation of the site was complete as of June 30, 2016. As such, Westinghouse no longer has a need to maintain active procedures for the proposed type of sampling event. Westinghouse is therefore reiterating the following information in regards to coring/push probe/drilling activities within LSA 08-03 to assist the NRC in planning the sampling activity.

The area has been backfilled and compacted as required by the work package for site restoration. Therefore the surface from entrance at a site gate to the sample locations within LSA 08-03 is amenable to use of heavy drill/coring equipment. The survey unit does not present any irregular surfaces.

There are energized electric lines in LSA 08-03. There is a portion of the abandoned storm drain piping within LSA 08-03. Westinghouse request sampling not be within 5 feet from the eastern most electric line west to Building 110.

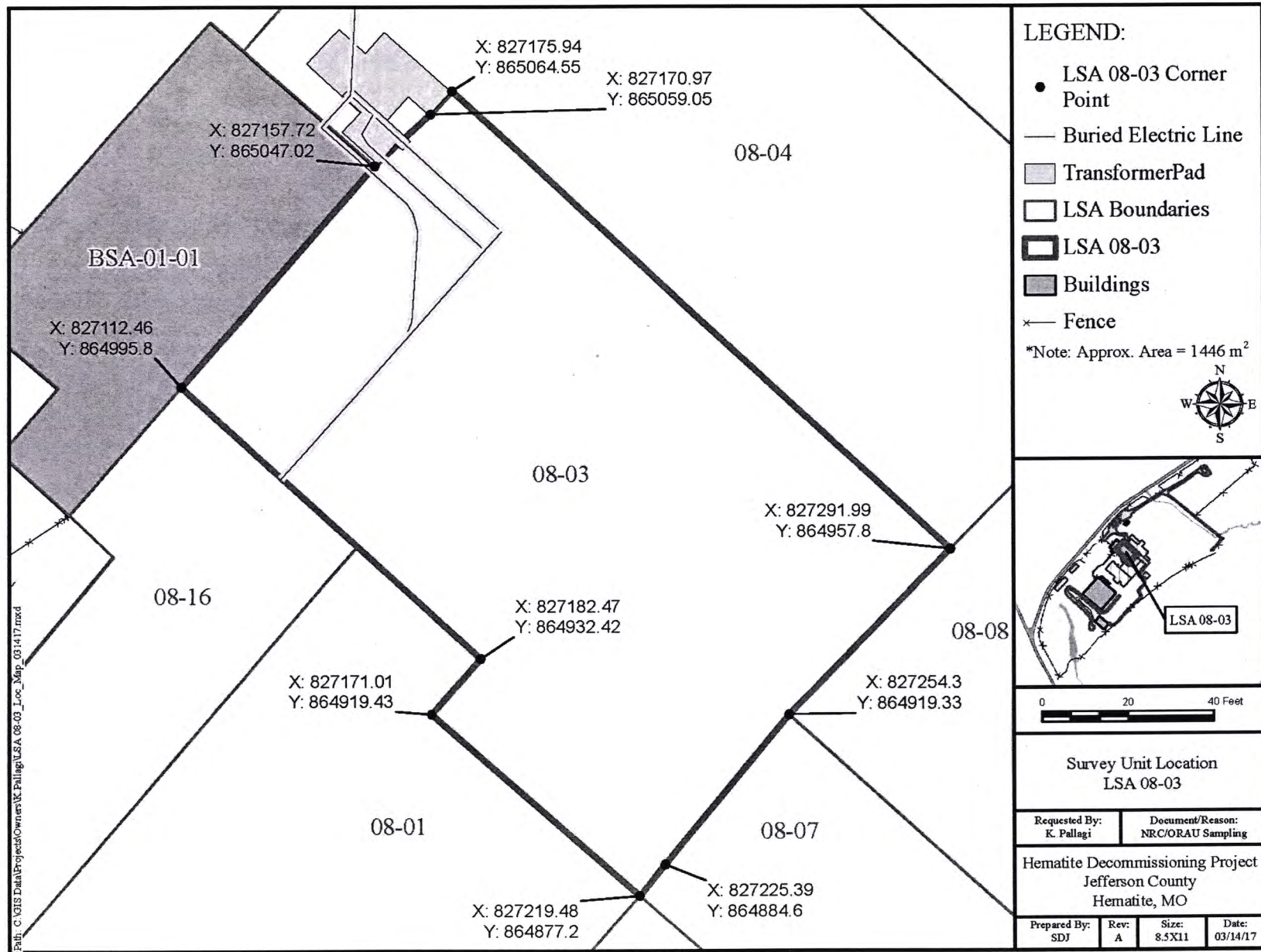
There are no monitoring wells within LSA 08-03.

Remediation/Restoration History – In Westinghouse letter HEM-16-6 (Fussell) to NRC (Document Control Desk), dated January 18, 2016, Westinghouse submitted the required notification to the NRC that remediation of the site was completed. HDP-TBD-SEC-003 was provided as an attachment to the letter as the technical basis document provided the required information in regards to the fact that remediation of the site was complete as indicated by remedial action support survey of all land survey area survey units.

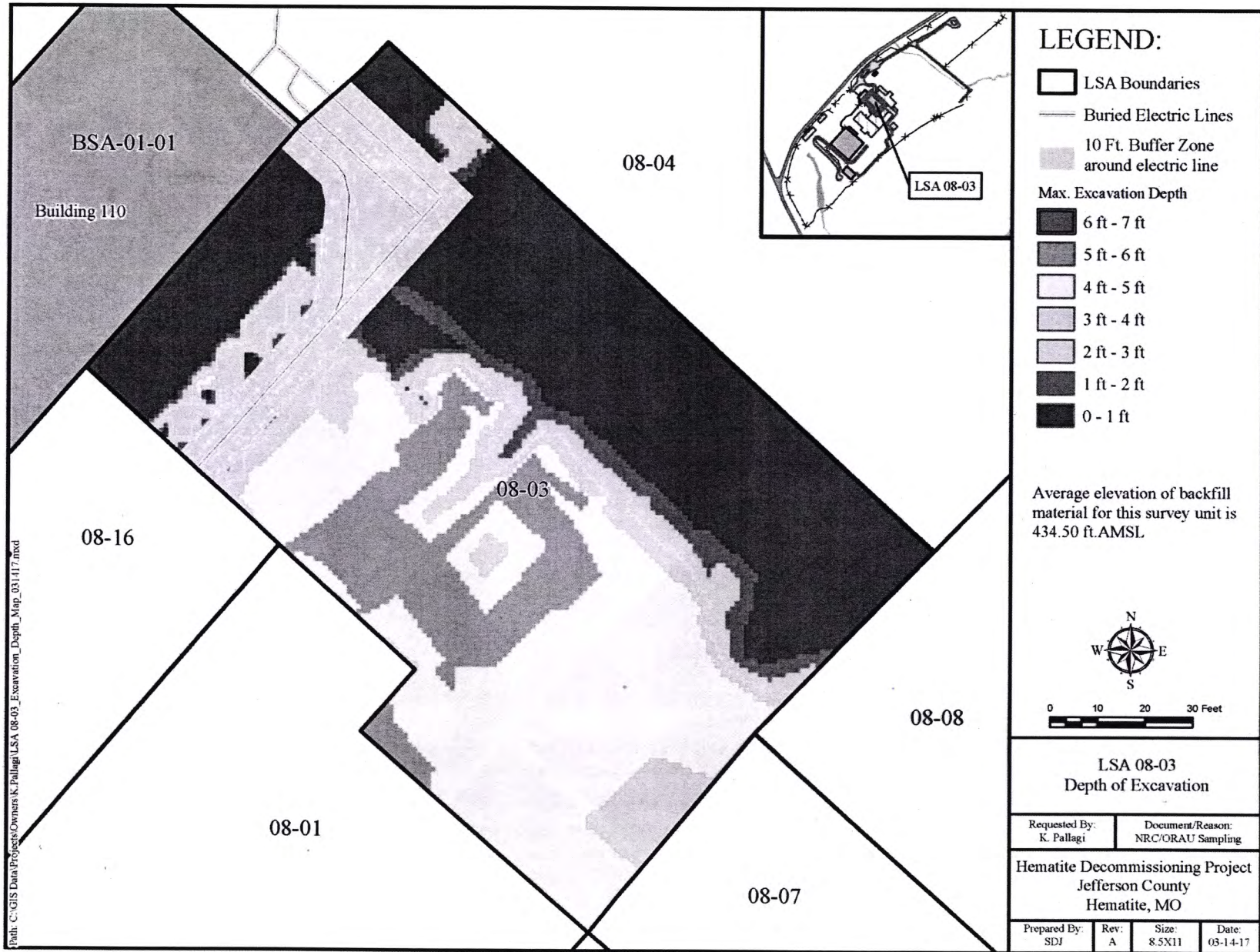
Subsequent to determination that LSA 08-03 and all adjacent survey units to LSA 08-03 were expected to meet the DCGL, FSS validated the radiological status of LSA 08-03 and all adjacent survey units. See the table in the attachment section which provides the FSS GWS completion dates for the survey units.

The Pre-backfill Confirmatory GWS was completed on April 6, 2016. Backfill of LSA 08-03 commenced on April 7, 2016 with off-site soil. Backfill of LSA 08-03 was completed on April 8, 2016. There was 0.35 inches of rain on April 7, 2016 after backfill operations had begun.

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
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Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
 March 21, 2017



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Hematite Decommissioning Project	Procedure HDP-PR-HP-311, <i>Radiological Surveys</i>	Revision: 1
<b>FORM HDP-PR-HP-311-3</b>		
<b>RADIOLOGICAL SURVEY REPORT - WALKOVER SURVEYS</b>		
SURVEY LOCATION: LSA 08-03		
DATE: 4/6/2016	TIME: 10:10	RWP: RP-G-009      LOG NUMBER: 7297 C 160406
PURPOSE OF SURVEY: Pre-Backfill Confirmatory GWS of LSA 08-03		
<u>Instrument Types(s)</u>	<u>Serial Number (meter/detector)</u>	<u>Cal Due Date: (meter-detector)</u>
<u>Background (CPM α/βγ)</u>	<u>Efficiency (%) (α/βγ)</u>	
Lud 2221 44-10 G	234985 / PR 263817	2/9/2017
11,000	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
<b>REMARKS:</b>		
Perma Fix Readings: Mean: 9,674 Std Dev: 1,689 Mean + 3 Std Dev: 14,741 Minimum: 5,586 Maximum: 13,918 Total Measurements: 65,259  All GWS readings were consistent with Perma Fix readings. Max 2X2 readings were 12,600 cpm		
TECHNICIAN(S):	Donte Love / <i>Donte Love</i> 4-6-16 Print Name/Sign/Date  _____ Print Name/Sign/Date	
REVIEWER:	J. Bushman / <i>J. Bushman</i> 4/6/16 Print Name/Sign/Date	
Quality Record		



Home United States Missouri

Monthly Daily History Geo & Map Weather Forecast

2016 April

Weather history Festus april 2016

Day	High (°F)	Low (°F)	Precip. (inch)	Snow (inch)	Snow depth (inch)
1 apr 2016	77.0	46.0	0.00	-	-
2 apr 2016	55.9	37.0	0.00	0.00	0.00
3 apr 2016	61.0	36.0	0.00	0.00	0.00
4 apr 2016	75.9	37.9	0.00	-	-
5 apr 2016	71.1	35.1	0.00	-	-
6 apr 2016	60.1	35.1	0.00	-	-
7 apr 2016	64.0	45.0	0.35	-	-
8 apr 2016	59.0	37.9	0.05	-	-
9 apr 2016	55.9	30.9	0.00	0.00	0.00
10 apr 2016	52.0	30.0	0.00	0.00	0.00
11 apr 2016	66.9	51.1	0.42	-	-
12 apr 2016	60.1	37.0	0.43	-	-
13 apr 2016	57.9	35.1	0.00	-	-
14 apr 2016	64.9	36.0	0.00	-	-
15 apr 2016	72.0	42.1	0.00	-	-
16 apr 2016	75.9	51.1	0.00	0.00	0.00
17 apr 2016	75.0	50.0	0.00	0.00	0.00
18 apr 2016	80.1	51.1	0.00	-	-
19 apr 2016	82.0	51.1	0.00	-	-
20 apr 2016	72.0	55.9	T	-	-
21 apr 2016	66.9	55.9	0.45	-	-
22 apr 2016	75.0	51.1	T	-	-
23 apr 2016	75.9	50.0	0.00	-	-
24 apr 2016	73.9	48.0	0.00	0.00	0.00
25 apr 2016	82.0	57.0	0.00	-	-
26 apr 2016	84.9	57.9	0.00	-	-
27 apr 2016	82.9	57.0	0.94	-	-
28 apr 2016	78.1	54.0	0.10	-	-
29 apr 2016	75.9	51.1	0.00	0.00	0.00
30 apr 2016	64.9	51.1	0.32	0.00	0.00

T = Trace



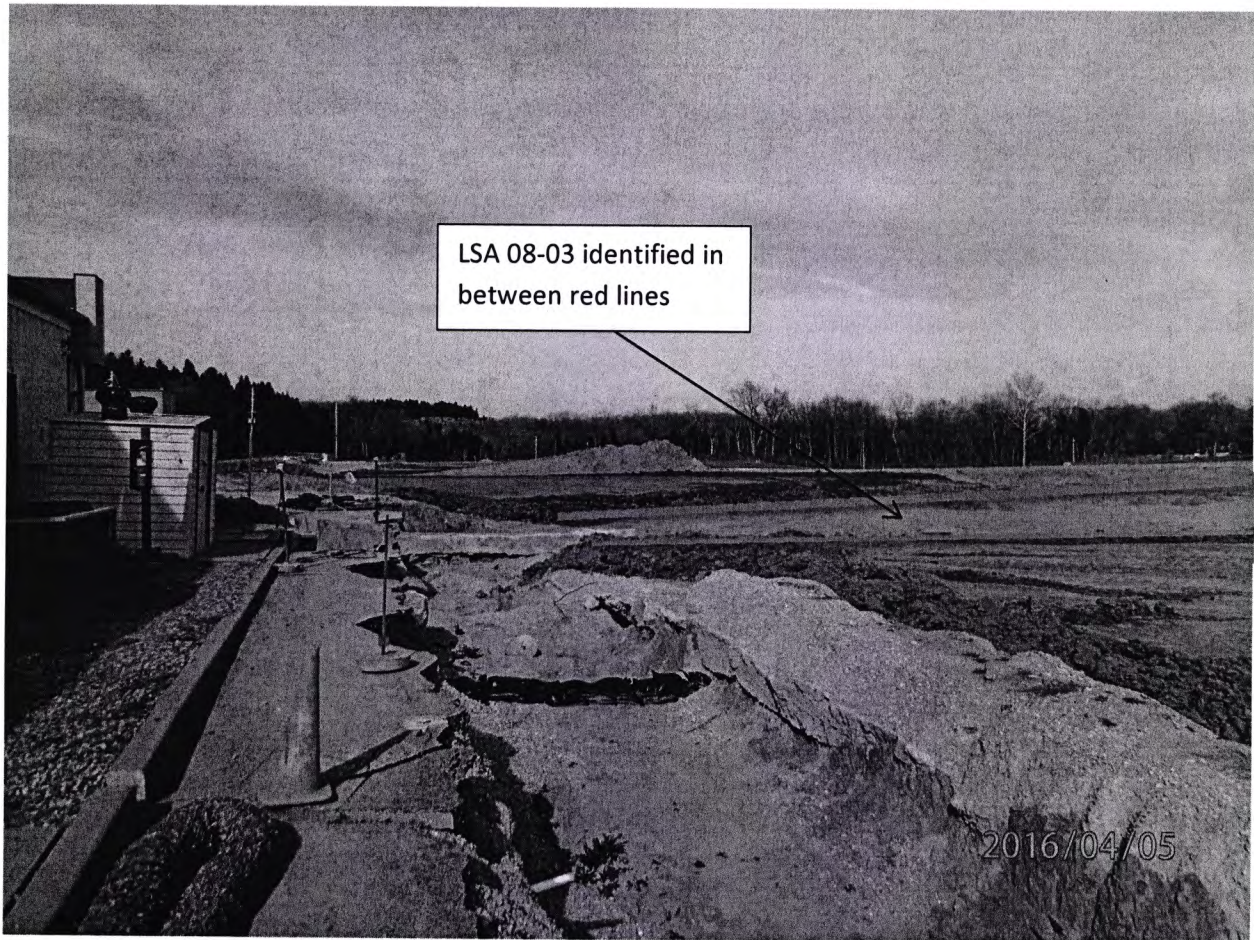


Photo indicates LSA 08-03 not yet receiving backfill on 04/05/2016. Section of LSA 08-03 not amenable to soil sampling due to buried energized electrical,



LSA 08-03 in the foreground 04/05/2016 the day prior to Pre-backfill Confirmatory GWS conducted on 04/06/2016.

**Survey Unit LSA 08-11**

GPS Coordinates - The GPS coordinates are provided on the figure that follows.

Excavation Depth Maps – For the purpose of providing the radiological status of a survey unit, in FSS reports Westinghouse provide's excavation depth maps utilizing 4 foot gradation increments. It is assumed that one of the objectives of the sampling event is to obtain a sample at the native soil-backfill interface, to assist the NRC in its planning effort the excavation maps are provided using a 1 foot gradation. The excavation depth map follows.

Hazard Analysis – Westinghouse has previously notified the NRC that remediation of the site was complete as of June 30, 2016. As such, Westinghouse no longer has a need to maintain active procedures for the proposed type of sampling event. Westinghouse is therefore reiterating the following information in regards to coring/push probe/drilling activities within LSA 08-11 to assist the NRC in planning the sampling activity.

The area has been backfilled and compacted as required by the work package for site restoration. Therefore the surface from entrance at a site gate to the sample locations within LSA 08-11 is amenable to use of heavy drill/coring equipment. The survey unit does not present any irregular surfaces.

The Laclede Gas Company Natural Gas Pipeline runs through LSA 08-11. Contact Laclede Gas before drilling/coring in the vicinity of the natural case pipeline.

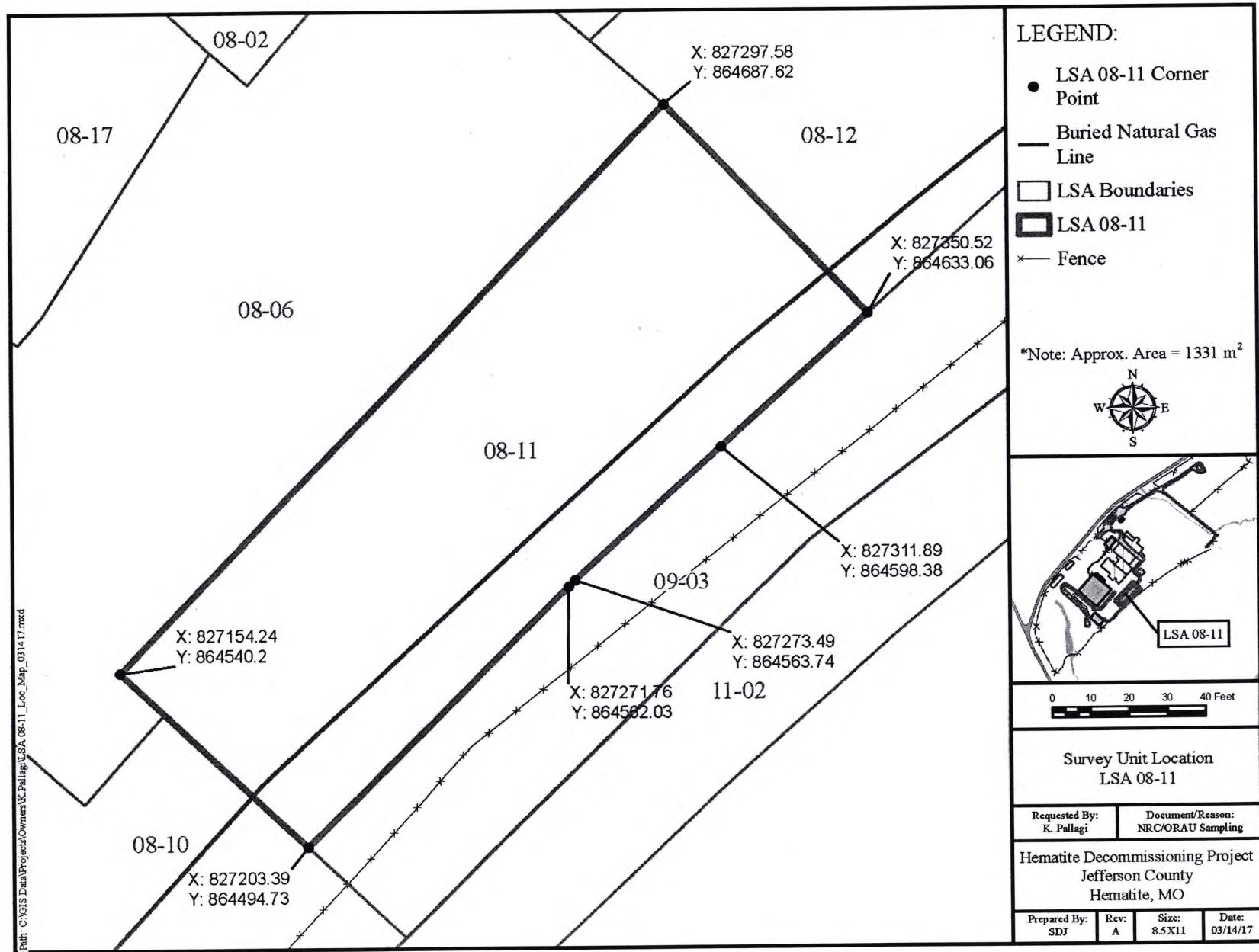
There are no monitoring wells, energized utilities or abandoned piping in within LSA 08-11.

Remediation/Restoration History – In Westinghouse letter HEM-16-6 (Fussell) to NRC (Document Control Desk), dated January 18, 2016, Westinghouse submitted the required notification to the NRC that remediation of the site was completed. HDP-TBD-SEC-003 was provided as an attachment to the letter as the technical basis document provided the required information in regards to the fact that remediation of the site was complete as indicated by remedial action support survey of all land survey area survey units.

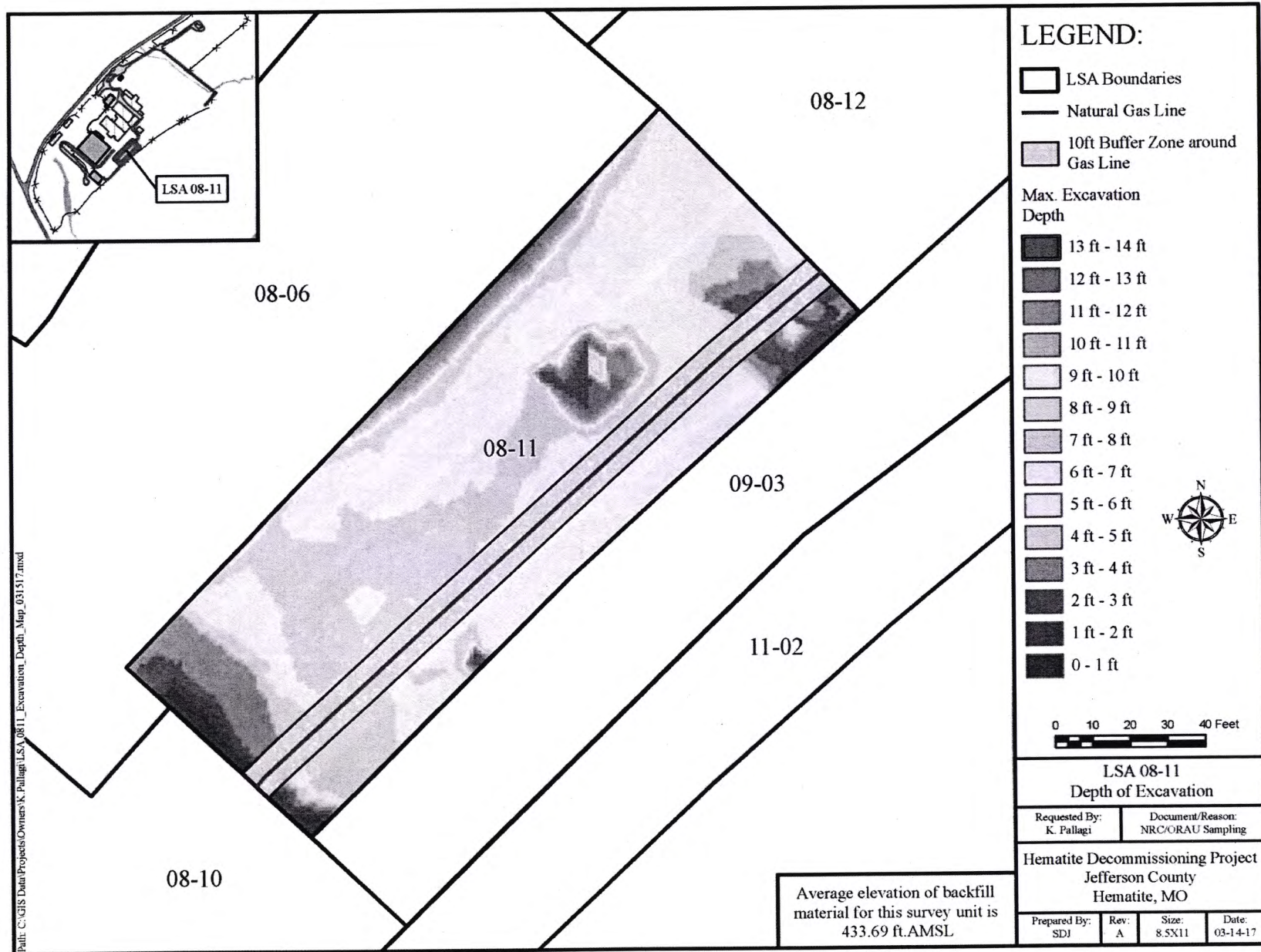
Subsequent to determination that LSA 08-11 and all adjacent survey units to LSA 08-11 were expected to meet the DCGL, FSS validated the radiological status of LSA 08-11 and all adjacent survey units. See the table in the attachment section which provides the FSS GWS completion dates for the survey units.

The Pre-backfill Confirmatory GWS was completed on January 31, 2016. Backfill of LSA 08-11 commenced on February 1, 2016, with 1,710 cubic yards of off-site soil placed in the survey unit. Backfill of the survey unit was completed on February 9, 2016. There was no rain between January 31, 2016 and February 1, 2016.

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 March 21, 2017



Hematite Decommissioning Project	Procedure HDP-PR-HP-311, <i>Radiological Surveys</i>	Revision: 1

**FORM HDP-PR-HP-311-3  
 RADIOLOGICAL SURVEY REPORT - WALKOVER SURVEYS**

SURVEY LOCATION: LSA-08-11  
 DATE: 1/31/2016 TIME: 15:30 RWP: RP-16-G009 LOG NUMBER: 6911 C 160131  
 PURPOSE OF SURVEY: GWS for Pre-Backfill Confirmation of LSA-08-11

<u>Instrument Types(s)</u>	<u>Serial Number (meter/detector)</u>	<u>Cal Due Date: (meter-detector)</u>	<u>Background (CPM <math>\alpha/\beta</math>)</u>	<u>Efficiency (%) (<math>\alpha/\beta</math>)</u>
Lud 2221 44-10 B	290809 / PR 321874	9/29/2016	11,000	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A

Remarks: GWS verified that conditions in LSA-08-11 did not change since the FSS was conducted.

TECHNICIAN(S): Jeff Hoffman *Jeff A. Hoffman 02/01/2016*  
 Print Name/Sign/Date

REVIEWER: J. Bushman *jeff 2/1/16*  
 Print Name/Sign/Date

Quality Record

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
 March 21, 2017



**U.S. climate data**

Temperature - Precipitation - Sunshine - Snowfall

Home United States Missouri

Monthly Daily History Geo & Map Weather Forecast

2016 January

Weather history Festus january 2016

Day	High (°F)	Low (°F)	Precip. (inch)	Snow (inch)	Snow depth (inch)
1 jan 2016	33.1	25.0	0.00	-	-
2 jan 2016	42.1	24.1	0.00	0.00	0.00
3 jan 2016	50.0	28.0	0.00	0.00	0.00
4 jan 2016	43.0	26.1	0.00	-	-
5 jan 2016	35.1	18.0	0.00	-	-
6 jan 2016	43.0	17.1	0.00	-	-
7 jan 2016	48.0	27.0	0.00	-	-
8 jan 2016	45.0	36.0	0.20	-	-
9 jan 2016	54.0	39.9	0.10	0.00	0.00
10 jan 2016	39.9	7.0	0.45	0.00	0.00
11 jan 2016	21.9	7.0	0.00	-	-
12 jan 2016	46.0	17.1	0.00	-	-
13 jan 2016	37.9	14.0	0.00	-	-
14 jan 2016	46.9	14.0	0.00	-	-
15 jan 2016	64.0	36.0	0.00	-	-
16 jan 2016	51.1	27.0	0.05	-	-
17 jan 2016	37.9	19.0	T	T	0.00
18 jan 2016	21.0	9.9	-	-	-
19 jan 2016	19.9	3.0	0.00	-	-
20 jan 2016	21.9	14.0	0.33	2.01	2.01
21 jan 2016	26.1	15.1	0.00	-	0.98
22 jan 2016	25.0	16.0	0.00	-	0.98
23 jan 2016	33.1	21.0	0.00	-	0.98
24 jan 2016	37.0	23.0	0.00	0.00	0.98
25 jan 2016	50.0	25.0	0.00	-	0.00
26 jan 2016	52.0	32.0	0.00	-	-
27 jan 2016	37.9	28.0	0.00	-	-
28 jan 2016	45.0	28.0	0.00	-	-
29 jan 2016	57.9	28.0	0.00	-	-
30 jan 2016	51.1	26.1	0.00	0.00	0.00
31 jan 2016	69.1	46.0	0.00	0.00	0.00

T = Trace



## U.S. climate data

Temperature - Precipitation - Sunshine - Snowfall

Home

United States

Missouri

Monthly

Daily

History

Geo & Map

Weather Forecast

2016

February

### Weather history Festus february 2016

Day	High (°F)	Low (°F)	Precip. (inch)	Snow (inch)	Snow depth (inch)
1 feb 2016	69.1	39.9	0.00	-	-
2 feb 2016	55.0	39.9	0.00	-	-
3 feb 2016	71.1	36.0	0.13	-	-
4 feb 2016	37.9	25.0	0.00	-	-
5 feb 2016	44.1	23.0	0.00	-	-
6 feb 2016	46.0	23.0	0.00	0.00	0.00
7 feb 2016	57.0	23.0	0.00	0.00	0.00
8 feb 2016	55.9	34.0	T	-	-
9 feb 2016	34.0	19.0	-	0.79	0.98
10 feb 2016	27.0	14.0	T	-	0.00
11 feb 2016	23.0	12.9	0.05	0.51	0.98
12 feb 2016	33.1	21.9	T	T	0.98
13 feb 2016	37.9	10.9	0.00	0.00	0.00
14 feb 2016	23.0	10.9	0.00	0.00	0.00
15 feb 2016	28.0	19.0	0.03	0.51	0.98
16 feb 2016	43.0	25.0	0.00	-	0.98
17 feb 2016	39.0	30.0	0.20	-	0.00
18 feb 2016	50.0	32.0	T	0.00	0.00
19 feb 2016	61.0	32.0	0.00	-	-
20 feb 2016	73.9	46.0	0.00	0.00	0.00
21 feb 2016	78.1	44.1	1.21	0.00	0.00
22 feb 2016	62.1	37.9	0.00	0.00	0.00
23 feb 2016	48.0	33.1	0.00	0.00	0.00
24 feb 2016	48.0	32.0	0.18	0.98	0.98
25 feb 2016	43.0	32.0	0.03	0.00	0.00
26 feb 2016	39.9	28.9	0.00	0.00	0.00
27 feb 2016	42.1	26.1	0.00	0.00	0.00
28 feb 2016	66.9	26.1	0.00	0.00	-

T = Trace



**Survey Unit LSA 10-14**

GPS Coordinates - The GPS coordinates are provided on the figure that follows.

Excavation Depth Maps – For the purpose of providing the radiological status of a survey unit, in FSS reports Westinghouse provide's excavation depth maps utilizing 4 foot gradation increments. It is assumed that one of the objectives of the sampling event is to obtain a sample at the native soil-backfill interface, to assist the NRC in its planning effort the excavation maps are provided using a 1 foot gradation. The excavation depth map follows.

Hazard Analysis – Westinghouse has previously notified the NRC that remediation of the site was complete as of June 30, 2016. As such, Westinghouse no longer has a need to maintain active procedures for the proposed type of sampling event. Westinghouse is therefore reiterating the following information in regards to coring/push probe/drilling activities within LSA 10-14 to assist the NRC in planning the sampling activity.

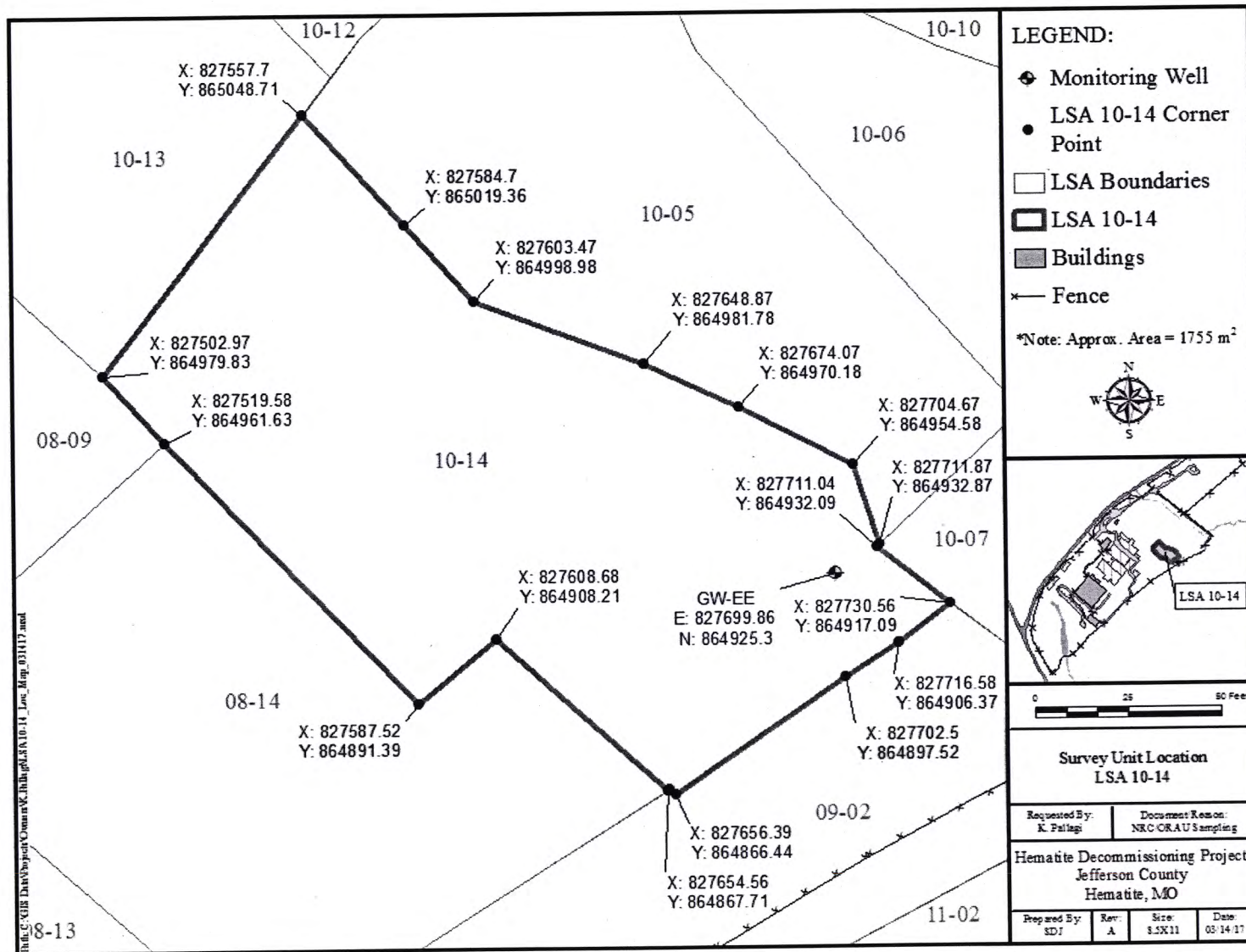
The area has been backfilled and compacted as required by the work package for site restoration. Therefore the surface from entrance at a site gate to the sample locations within LSA 10-14 is amenable to use of heavy drill/coring equipment. The survey unit does not present any irregular surfaces.

There are no ground water monitoring wells, energized utilities or abandoned piping in within LSA 10-14.

Remediation/Restoration History – In Westinghouse letter HEM-16-6 (Fussell) to NRC (Document Control Desk), dated January 18, 2016, Westinghouse submitted the required notification to the NRC that remediation of the site was completed. HDP-TBD-SEC-003 was provided as an attachment to the letter as the technical basis document provided the required information in regards to the fact that remediation of the site was complete as indicated by remedial action support survey of all land survey area survey units.

HDP personnel are still in the process of reviewing site records to provide additional information for the NRC February 2, 2017, information regarding rain events and specifically LSA 10-14.

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
 March 21, 2017



Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
 March 21, 2017



ATTACHMENTS

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
March 21, 2017

**Pallagi, Kenneth E.**

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**From:** Smith, James <James.Smith@nrc.gov>  
**Sent:** Tuesday, January 10, 2017 3:05 PM  
**To:** Pallagi, Kenneth E.  
**Cc:** Parks, Leah; LaFranzo, Michael; Chapman, Gregory; Smith, Theodore; Guo, Lifeng  
**Subject:** Topics for discussion on January 12 weekly meeting  
**Attachments:** James Smith.vcf

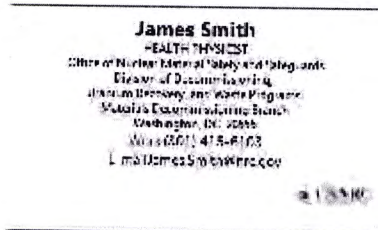
Hey Ken-

I only have one item that we are ready to discuss for Thursday.

- **Resolution of Effects of Flooding Events on Integrity of Measurements of Contamination of Final Status Surveys of Excavated areas.** The radioisotopes of interest at the site include uranium (including total enrichment), radium, thorium, and Tc-99. The locations of interest are any and all Land Survey Units (LSA's) where rain occurred between the times that the FSS was performed and backfill was completed which include, but not limited to, 08-02, 08-03, 08-11, and 10-14.
- **We can also further discuss the background issues that Greg mentioned last week if we require additional clarification, but I am not sure that Greg will be available.**

Thanks,

Jim



Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
March 21, 2017

**Pallagi, Kenneth E.**

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**From:** LaFranzo, Michael <Michael.LaFranzo@nrc.gov>  
**Sent:** Friday, February 03, 2017 7:15 AM  
**To:** Pallagi, Kenneth E.  
**Cc:** Smetanka, Joseph W; Evers, William C; Kunowski, Michael; Giessner, John; Smith, James; Lee, Peter; Bonano, Eugenio  
**Subject:** NRC submittal of Comments/Questions to Westinghouse/Hematite  
**Attachments:** NRC Questions to Hematite - LSA water-sediment-material intrusion - email attachment.docx

Ken,

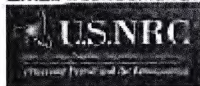
As requested in the Public Meeting held today (February 2, 2017), the attached is a document summarizes NRC comments and questions associated with documents provided in your emails to NRC dated January 25, 2017 and February 1, 2017.

The comments and questions contained within the attachment should not be considered NRC's final points on this matter. The NRC reserves the right to ask additional questions or provide comments on the referenced documents submitted and any future documents associated with this topic. If there is any information contained within the NRC document that the licensee believes is unclear, you are encouraged to contact the NRC to gain clarification.

In accordance with Title 10 of the *Code of Federal Regulations* (CFR) 2.390 of the NRC's "Rules of Practice," a copy of this email, its attachment, and you're your emails and attachments referenced above will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>. It is our understanding that there is no personal privacy or proprietary information contained within the emails or attachments submitted to NRC.

Please contact the NRC if you have any questions. Thank you

Michael LaFranzo  
Senior Health Physicist  
United States Nuclear Regulatory Commission  
Region III Office  
2443 Warrenville Road  
Lisle, Illinois 60532  
Phone (630) 829-9865  
Fax (630) 829-1259  
Email [michael.lafranzo@nrc.gov](mailto:michael.lafranzo@nrc.gov)



Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
March 21, 2017

**Pallagi, Kenneth E.**

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**From:** Pallagi, Kenneth E.  
**Sent:** Tuesday, March 07, 2017 12:48 PM  
**To:** 'Smith, James'  
**Subject:** RE: RE: HDP - NRC call 3-9-2017

We are good to cancel the meeting. Thanks for waiting.

Ken

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**From:** Smith, James [<mailto:James.Smith@nrc.gov>]  
**Sent:** Tuesday, March 07, 2017 12:26 PM  
**To:** Pallagi, Kenneth E.  
**Subject:** RE: RE: HDP - NRC call 3-9-2017

Fine. Let me know by COB if you can.

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**From:** Pallagi, Kenneth E. [<mailto:pallagke@westinghouse.com>]  
**Sent:** Tuesday, March 07, 2017 11:41 AM  
**To:** Smith, James <[James.Smith@nrc.gov](mailto:James.Smith@nrc.gov)>  
**Subject:** [External\_Sender] RE: HDP - NRC call 3-9-2017

Jim,

Westinghouse has placed the work on the response to RIII issue further back in the schedule. The available resources are focused on completing as many reports as possible that do not interface or are impacted by the RIII issue. A response will be provided at a later date.

If NRC does not have any agenda items, Westinghouse also does not have any items for this week I suspect it would be OK to cancel the call.

Please let me contact Joe Smetanka before canceling the call. I will get back to you as soon as I can.

Thanks Ken

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**From:** Smith, James [<mailto:James.Smith@nrc.gov>]  
**Sent:** Tuesday, March 07, 2017 9:48 AM  
**To:** Pallagi, Kenneth E.  
**Subject:** RE: HDP - NRC call 3-9-2017

Ken-

I had no plans to provide any feedback on the submitted reports this week, both Leah and Greg are pretty tied up with other projects; however, RIII would like a status report "licensee response to NRC questions posed in

1

Information Request by NRC Region III for Soil Sampling Activities Planned for April 2017  
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Information regarding radiological status of survey units adjacent to LSA 08-02, LSA 08-03 and LSA 08-11 at the time of backfill.

Survey Unit	Description	GWS for FSS Complete Date	GWS (72hour) Prior to Backfill	Backfill Start Date	Backfill Finish Date	Comment
LSA-08-01	Process Building Area Section 1	02/15/2016	03/15/2016	03/18/2016	03/23/2016	
LSA-08-02	Process Building Area Section 2	01/14/2016	02/11/2016	02/13/2016	03/18/2016	
LSA-08-03	Process Building Area Section 3	02/23/2016	04/06/2016	04/07/2016	04/08/2016	
LSA-08-04	Process Building Area Section 4	03/18/2016	04/06/2016	04/09/2016	04/09/2016	
LSA-08-06	Process Building Area Section 6	12/10/2015	01/23/2016	01/25/2016	04/06/2016	Entry area for backfill trucks and equipment. Indicated as complete on 04/06/2016 for that reason. Bottom of excavation covered and filled on 01/25/2016.
LSA-08-07	Process Building Area Section 7	12/12/2015	02/11/2016	02/11/2016	04/06/2016	Entry area for backfill trucks and equipment. Indicated as complete on 04/06/2016 for that reason. Bottom of excavation covered and filled on 02/11/2016.
LSA-08-08	Process Building Area Section 8	03/09/2016	04/05/2016	04/05/2016	04/19/2016	
LSA-08-10	Process Building Area Section 10	06/15/2016	N/A	No Backfill	No Backfill	
LSA-08-11	Process Building Area Section 11	12/17/2015	01/31/2016	02/01/2016	02/09/2016	
LSA-08-12	Process Building Area Section 12	03/29/2016	04/25/2016	04/26/2016	05/23/2016	
LSA-08-14	Process Building Area Section 14		05/05/2016	05/05/2016	05/25/2016	
LSA-08-16	Process Building Area Section 16	02/22/2016	04/29/2016	04/29/2016	06/22/2016	Long duration backfill. Completed on an as time allowed basis due to need to backfill with and excavator. Configuration did not allow backfill by bulldozer.
LSA-08-17	Process Building Area Section 17	11/03/2015	02/08/2016	02/10/2016	03/30/2016	