

**DATE:** July 16, 2024

**TO:** Emily Brickman, P.G., *Senior Project Manager – Geologist, EnSafe*

**FROM:** Caleb Gourley, *Project Manager, Harbor*

**RE:** Bi-weekly Site Inspection  
NABORS Landfill  
Mountain Home, AR  
*Harbor Project No: ENSF-23299*

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Harbor visited the NABORS landfill in Mountain Home, Arkansas on July 10, 2024, to conduct the bi-weekly site visit to assess the condition of the leachate collection system. The leachate collection system was last fully repaired by Advanced Fluid Technologies (AFT) in October and November of 2022; however, within a few weeks of these repairs, the system began malfunctioning. By March 2023, most of the leachate collection points were malfunctioning. A quote was then requested and received from AFT to again repair the system. No authorization for the subsequent repairs was provided prior to the expiration of Harbor's contract with DEQ in June 2023.

Upon commencement of the subcontract with EnSafe, Inc. (EnSafe) in April 2024, Harbor retained Comfort Systems USA (CSUSA) to begin repairs of the leachate collection system. CSUSA conducted partial repairs of the system; however, they were unable or unwilling to conduct all of the repairs necessary and have since been terminated as the repair contractor. Harbor and EnSafe are in the process of finding a new contractor to complete the system repairs.

The leachate collection system remains largely unchanged from previous inspections. Findings and observations from the current landfill inspection are summarized below:

- Vertical leachate collection sump (VLCS)-1 appeared to be functioning correctly. The sump was not overflowing but the level of leachate in the sump was at approximately 75% capacity.
  - VLCS-2 appeared to be functioning correctly and the sump was at half capacity.
  - The display at leachate collection sump (LCS)-1 display is no longer functioning correctly. The display reads "FIRMWARE V4.6" and the display will not advance screens. No further information could be gathered (see photograph 1).
  - The panel display remains off at LCS-2.
  - LCS-3 appeared to be functioning in "hand" mode only, as the pump hours remained at 60 (as documented by Harbor in June 2023). As the hours haven't changed, the station is likely not starting automatically and is malfunctioning.
  - LCS-4, LCS-7 and LCS-9 had pump faults and were not functioning.
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- LCS-5 is not functioning correctly. The display is on and cycling, and the VFD activates, and pump starts when the station is placed in "hand mode." However, the "pump on" and "pump off" settings are set at 0.0" indicating that the station was not reset properly after repairs were made.
- LCS-6 appears to be functioning correctly.
- The display at LCS-8 is on but not functioning correctly. The display would not advance screens and displayed a strange message of unrecognizable characters (see photograph 2).
- The closure turf is damaged around several vent pipes near LCS-4. A turbine vent near LCS-8 has also detached (see photographs 3-5).
- Approximately 6" of stormwater was observed within the stormwater containment. The pH was measured at 8.81. Approximately 2" of stormwater was released while Harbor was on-site.

Attachment A is a map showing the LCS points. Photographs are included in Attachment B. Copies of the field notes and the LCS status form are included in Attachment C. Harbor collected a leachate sample from the leachate tank battery on July 10, 2024, at 0915. The sample was submitted to Arkansas Analytical, Inc. on July 10, 2024, at 1336. The chain-of-custody is included in Attachment D.

The repairs to the leachate collection system have been sufficient to allow leachate generation and tank filling. Harbor contracted 417 Services LLC (417 Services) to begin hauling leachate and began hauling leachate on July 2, 2024. As of 7/14/24, 417 Services hauled 18 loads of leachate totaling 62,900 gallons to the City of Springfield, Missouri wastewater treatment plant under wastewater contribution permit #593. The ending leachate tank battery level as of the above date was 21 inches.

**Attachments:**

*Attachment A – Site Map*

*Attachment B – Site Photographs*

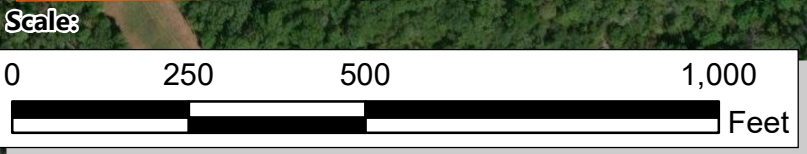
*Attachment C – Field Notes and Leachate Collection System Status Form*

*Attachment D – Leachate Analytical Sample Chain-of-Custody*

**Attachment A**

**Site Map**





**Legend**

- Landfill Boundary
- VLCS Points
- LCS Points





**Attachment B**

**Site Photographs**



**Photograph 1:** Error message displayed at LCS-1.



**Photograph 2:** Error message displayed at LCS-8.



**Photograph 3:** Damaged closure turf around vent pipe near LCS-4.



**Photograph 4:** Damaged closure turf around vent pipe near LCS-4.





**Photograph 5:** Damaged wind turbine near LCS-8.



**Photograph 6:** Damaged electrical part on top of VLCS-1 housing.





**Photograph 7:** Damaged electrical part on LCS-1 housing.



**Photograph 8:** Damaged electrical part on LCS-2 housing.

**Attachment C**

**Field Notes and Leachate Collection System  
Status Inspection Form**



Nabors Landfill

6/27/24

Bi-weekly leachate management

weather: 80's, sunny, light breeze

1032: C. Gouby on-site

1037: Arrive at VLCS-2

1040: Arrive at VLCS-1

1043: Arrive at leachate tank battery

- tank level @ 144.2"

- minimal stormwater in cont.  
none released

1048: Arrive at LCS-1

1053: Arrive at LCS-2

- station <sup>not</sup> operational

1055: Arrive at LCS-3

- station works in "hand" only

1057: Arrive at LCS-4

1101: Arrive at LCS-5

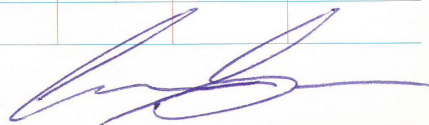
1105: Arrive at LCS-9

1110: Arrive at LCS-8

1112: Arrive at LCS-7

1114: Arrive at LCS-6

1130: C. Gouby off-site.



Nabors Landfill

7/10/24

Bi-weekly leachate management

weather: 70's, clear

845: C. Gouby + J. Klein on-site

853: Arrive at VLCS-2

856: Arrive at VLCS-1

901: Arrive at leachate tank battery

~6" of sw in containment

~57.4" of leachate in tank

915: Leachate sample collected

- stormwater pit @ 8.81

- leachate pit @ 6.65

931: Arrive at LCS-1

938: Arrive at LCS-2

941: Arrive at LCS-3

944: Arrive at LCS-4

949: Arrive at LCS-5

955: Arrive at LCS-9

1002: Arrive at LCS-8

1005: Arrive at LCS-7

1008: Arrive at LCS-6

1018: C. Gouby + J. Klein off-site.





## Leachate Collection System Status

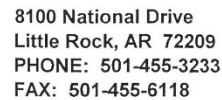
Date: 7/10/24 Arrival Time: 0845 Location: NABORS Landfill Leachate Tank Battery Level (inches): 57.4"  
 Weather Conditions: 70s, clear

Panel Number	Display Functioning (Yes/No)	Leachate Level (inches)	Green Flashing? (Yes/No)	Amber Flashing? (Yes/No)	Red Flashing? (Yes/No)	Working in Hand? (Yes/No)	Working in Auto? (Yes/No)	VFD Status	Hours	Alarm	Comments	
VLCS-1	N/A	N/A	N/A	N/A	✓	—	—	N/A	N/A	N/A	Sump status:	3/4 full
VLCS-2	N/A	N/A	N/A	N/A	✓	—	—	N/A	N/A	N/A	Sump status:	1/2 full
LCS-1	Y	—	—	—	—	—	—	—	—	—	Display will not advance	
LCS-2	✓	—	—	—	—	—	—	—	—	—	Station not operational	
LCS-3	Y	27.2	✓	✓	✓	Y	✓	—	60	✓	station ok - no "auto"	
LCS-4	Y	0.0	✓	✓	Y	✓	✓	—	210	Y	Pump fault	
LCS-5	Y	9.7	✓	✓	✓	Y	✓	—	0	✓	station not calibrated	
LCS-6	Y	9.4	✓	✓	✓	Y	Y	—	26	✓	station ok	
LCS-7	Y	0.0	✓	✓	Y	✓	✓	—	29	Y	Pump fault	
LCS-8	Y	—	—	—	—	—	—	—	—	—	Display on, not functional	
LCS-9	Y	0.0	✓	✓	✓	✓	✓	—	2101	Y	Pump fault	
General Comments:												



**Attachment D**

**Leachate Analytical Sample Chain-of-Custody**

[illegible]