SCS ENGINEERS

Transmittal

Des Moines, IA

PROJECT: Des Moines Co,2024 Well Drill

DATE: 3/11/2025

Assist,IA 27224416.00

SUBJECT: Des Moines County Regional

TRANSMITTAL ID: 00001

Sanitary Landfill - 29-SDP-01-76P - Monitoring Well Installation

and Abandonment

PURPOSE: For your approval VIA: Info Exchange

FROM

| NAME | COMPANY | Y EMAIL | | | | | |
|---------------------------------|---------------|-------------------------|-----------------|--|--|--|--|
| Clayton Davis Des Moines, IA | SCS Engineers | CDavis@scsengineers.com | +1-515-415-9219 | | | | |

TO

| NAME | COMPANY | EMAIL | PHONE |
|---------------------------------|---------|-----------------------------|-------|
| Geoffrey Spain United States | | geoffrey.spain@dnr.iowa.gov | |

REMARKS: Dear Geoff,

Please find for your download the Des Moines County Regional Sanitary Landfill Monitoring Well Installation and Abandonment Report.

If you have any questions regarding this submittal, please let us know.

Thank you,

Clayton Davis, EIT, Associate Professional SCS Engineers 1690 All State Court, Suite 100 West Des Moines, IA 50265 515-631-6160 (O) 515-415-9219 (C) cdavis@scsengineers.com

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DESCRIPTION OF CONTENTS

| QTY | DATED | TITLE | NOTES |
|-----|----------|----------------------------------------------------------------|-------|
| 1 | 3/5/2025 | Des Moines County Well Installation and Abandonment Report.pdf | |

Transmittal

DATE: 3/11/2025 TRANSMITTAL ID: 00001

COPIES:

Becky Jolly Chris Ball

(Des Moines County) (Des Moines County) (SCS Engineers) (SCS Engineers) Eric Houtz Clayton Davis Sean Marczewski

Environmental Consultants & Contractors

SCS ENGINEERS

March 5, 2025 File No. 27224416.00

Mr. Geoff Spain lowa Department of Natural Resources Land Quality Bureau 6200 Park Ave, Suite 200 Des Moines, Iowa 50321

Subject: Monitoring Well Installation and Abandonment

Des Moines County Regional Sanitary Landfill

Permit No. 29-SDP-01-76P

Dear Geoff:

SCS Engineers, on behalf of the Des Moines County Regional Solid Waste Commission (Commission), is submitting the boring log/well construction and abandonment documentation following the well abandonment and installation of monitoring wells associated with the Des Moines County Regional Sanitary Landfill (Landfill).

As presented in correspondence dated June 16, 2022 (Doc #103436), monitoring wells MW-47, MW-48, and MW-49 were installed in October 2024 and MW-45R and MW-46R were installed in January 2025. The monitoring wells were installed to function as attenuation zone point of compliance (AZPOC) monitoring wells in the Corrective Action Groundwater Monitoring Program (CAMP) for the Landfill. Methane monitoring points LFGW-S1 was also installed in October 2024 to provide monitoring of the property boundary south of the Landfill for subsurface methane migration. LFGW-S2R was installed in January 2025 to replace LFGW-S2.

Monitoring wells MW-45 and MW-46 and monitoring point LFGW-S2 were abandoned in accordance with Iowa Administrative Code (IAC) 567-113.10 (2)"d" and replaced with monitoring wells MW-45R, MW-46R, and monitoring point LFGW-S2R, respectively, in January 2025.

Well abandonment documentation for abandoned monitoring wells MW-45, MW-46, and monitoring point LFGW-S2 are included in Attachment A. Boring log and well construction documentation for the newly installed monitoring wells is included in Attachment B. A site map including the locations of the new monitoring wells and monitoring points is included in Figure 1.

If you have any questions regarding this submittal, please contact Sean Marczewski at (712) 661-9682.

Sincerely,

Claytor Davis, E.I.T Associate Professional

SCS Engineers

Sean Marczewski Project Professional II SCS Engineers

en Moojis C

CJD/SAM

Copies: Chris Ball, Des Moines County Solid Waste Commission

Eric Houtz, Des Moines County Regional Sanitary Landfill

Attachment A Monitoring Well Abandonment Forms



IOWA DEPARTMENT OF NATURAL RESOURCES

Abandoned Water Well Plugging Record

| 1. Owner: | | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|
| Name: Des Moines County Regional Landfill | Phone: 319-753-8722 | | | | | | | | | | |
| Address: 13758 Washington Road | | | | | | | | | | | |
| City: West Burlington State: lo | wa zip: 52655 | | | | | | | | | | |
| If this was a Public Water Supply Well, please provide: | | | | | | | | | | | |
| PWSID Name: | PWSID Number: | | | | | | | | | | |
| 2. Location of Well (Cistern): | | | | | | | | | | | |
| SE ¼ of, SE ¼ of, NW ¼ of, Section | 22 , T 70 N, R 3 East X West | | | | | | | | | | |
| County: Des Moines Describe well location | on property: See Attached Map | | | | | | | | | | |
| GPS Well Location: Latitude: Longitude: | | | | | | | | | | | |
| 3. Well Description: Plugging Description: | | | | | | | | | | | |
| Well depth: 16 overdrilled and filled with | bentonite grout | | | | | | | | | | |
| Depth to water Dry ft. | | | | | | | | | | | |
| Casing depth: $\frac{5}{}$ ft. Casing Material: \square St | eel 🗵 Plastic 🗌 Concrete 🔲 Clay 🔲 Brick 🔲 Stone | | | | | | | | | | |
| Casing diameter: $\frac{2}{2}$ in. | | | | | | | | | | | |
| Year or decade constructed: 2024 Type of Construction: | ☑ Drilled ☐ Driven ☐ Bored ☐ Augured ☐ Dug | | | | | | | | | | |
| Is this a Monitoring Well? X Yes No Well ID: MW-45 | | | | | | | | | | | |
| Check if Cistern Depth: ft. Diameter: | ft. | | | | | | | | | | |
| I certify this well has been plugged as required by rule 567-39.8 of the additional information the county or department may need concern | · · · · · · · · · · · · · · · · · · · | | | | | | | | | | |
| | 4/00/2005 | | | | | | | | | | |
| Signature of Owner | Date Plugged: 1/29/2025 | | | | | | | | | | |
| If plugged by certified well contractor, complete this box: I have plugged this well as required by rule 567-39.8 of the Iowa Adr to the owner if seeking PWG funds: | ninistrative Code (IAC), and will provide an itemized paid invoice | | | | | | | | | | |
| Ry የታል Signature of Contractor: | Cert No: 10115 | | | | | | | | | | |
| Signature of Contractor. | Cert No | | | | | | | | | | |
| OR, if plugged by well owner, complete this box: The property owner has plugged this well following requirements in oversight and assistance of the designated county agent. | rule 567-39.8 of the Iowa Administrative Code (IAC) with the | | | | | | | | | | |
| Signature of County Agent: | Date Approved: | | | | | | | | | | |
| Eligible for Private Well Grants (PWG) cost share: Yes No | o (Determined by County Agent) | | | | | | | | | | |
| Complete one form for each well plugged and submit within 30 days to the local county agent: | OR, only if no county agent is available, to: | | | | | | | | | | |
| Greg Lemke | Water Supply Section Iowa Department of Natural Resources | | | | | | | | | | |
| 505 Curran Street | 6200 Park Ave St 200 | | | | | | | | | | |
| Burlington, Iowa 52601 | Des Moines IA 50321 | | | | | | | | | | |

11/2024 cmc DNR Form 542-1226



IOWA DEPARTMENT OF NATURAL RESOURCES

Abandoned Water Well Plugging Record

| 1. Owner: | | | | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|
| Name: Des Moines County Regional Landfill | Phone: 319-753-8722 | | | | | | | | | | |
| Address: 13758 Washington Road | | | | | | | | | | | |
| City: West Burlington State: Id | owa zip: 52655 | | | | | | | | | | |
| If this was a Public Water Supply Well, please provide: | | | | | | | | | | | |
| PWSID Name: | PWSID Number: | | | | | | | | | | |
| 2. Location of Well (Cistern): | | | | | | | | | | | |
| SE ¼ of, SE ¼ of, NW ¼ of, Section | 22 , T 70 N, R 3 East X West | | | | | | | | | | |
| County: Des Moines Describe well location | on property: See Attached Map | | | | | | | | | | |
| GPS Well Location: Latitude: Longitude: | | | | | | | | | | | |
| 3. Well Description: Plugging Description: | | | | | | | | | | | |
| Well depth: 25 ft Overdrilled and filled with | bentonite grout | | | | | | | | | | |
| Depth to water 22 ft. | | | | | | | | | | | |
| Casing depth: 15 ft. Casing Material: St | teel 🛛 Plastic 🗌 Concrete 🔲 Clay 🔲 Brick 🔲 Stone | | | | | | | | | | |
| Casing diameter: 2 in. | | | | | | | | | | | |
| Year or decade constructed: 2024 Type of Construction: | ☑ Drilled ☐ Driven ☐ Bored ☐ Augured ☐ Dug | | | | | | | | | | |
| Is this a Monitoring Well? X Yes No Well ID: MW-46 | | | | | | | | | | | |
| Check if Cistern Depth: ft. Diameter: | ft. | | | | | | | | | | |
| I certify this well has been plugged as required by rule 567-39.8 of the additional information the county or department may need concern | | | | | | | | | | | |
| · | | | | | | | | | | | |
| Signature of Owner | Date Plugged: 1/29/2025 | | | | | | | | | | |
| If plugged by certified well contractor, complete this box: I have plugged this well as required by rule 567-39.8 of the Iowa Add to the owner if seeking PWG funds: | ministrative Code (IAC), and will provide an itemized paid invoice | | | | | | | | | | |
| RymPto | 4045 | | | | | | | | | | |
| Signature of Contractor: | Cert No:10115 | | | | | | | | | | |
| OR, if plugged by well owner, complete this box: The property owner has plugged this well following requirements in oversight and assistance of the designated county agent. | rule 567-39.8 of the Iowa Administrative Code (IAC) with the | | | | | | | | | | |
| Signature of County Agent: | Date Approved: | | | | | | | | | | |
| Eligible for Private Well Grants (PWG) cost share: | o (Determined by County Agent) | | | | | | | | | | |
| Complete one form for each well plugged and submit within 30 days to the local county agent: | OR, only if no county agent is available, to: | | | | | | | | | | |
| Greg Lemke | Water Supply Section | | | | | | | | | | |
| 505 Curran Street | Iowa Department of Natural Resources 6200 Park Ave St 200 | | | | | | | | | | |
| Burlington, Iowa 52601 | Des Moines IA 50321 | | | | | | | | | | |

11/2024 cmc DNR Form 542-1226



1. Owner:

IOWA DEPARTMENT OF NATURAL RESOURCES

Abandoned Water Well Plugging Record

| Name: Des Moines County Regional Landfill | Phone: 319-753-8722 | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|
| Address: 13758 Washington Road | | | | | | | | | |
| City: West Burlington State: lo | owa Zip: <u>52655</u> | | | | | | | | |
| If this was a Public Water Supply Well, please provide: | | | | | | | | | |
| PWSID Name: | PWSID Number: | | | | | | | | |
| 2. Location of Well (Cistern): | | | | | | | | | |
| SE ¼ of, SE ¼ of, NW ¼ of, Section | 22 , T 70 N, R 3 East X West | | | | | | | | |
| County: Des Moines Describe well location | on property: See Attached Map | | | | | | | | |
| GPS Well Location: Latitude: | Longitude: | | | | | | | | |
| 3. Well Description: Plugging Description: | | | | | | | | | |
| Well depth: 10 ft Overdrilled and filled with | bentonite grout | | | | | | | | |
| Depth to water Dry ft. | | | | | | | | | |
| Casing depth: 5 ft. Casing Material: \square St | teel 🗵 Plastic 🗌 Concrete 🔲 Clay 🔲 Brick 🔲 Stone | | | | | | | | |
| Casing diameter: 2 in. | | | | | | | | | |
| Year or decade constructed: 2024 Type of Construction: X Drilled Driven Bored Augured Dug | | | | | | | | | |
| Is this a Monitoring Well? Yes No Well ID: B-37 | | | | | | | | | |
| Check if Cistern Depth: ft. Diameter: | ft. | | | | | | | | |
| I certify this well has been plugged as required by rule 567-39.8 of the additional information the county or department may need concern | | | | | | | | | |
| Signature of Owner | Date Plugged: 1/29/2025 | | | | | | | | |
| If plugged by certified well contractor, complete this box: I have plugged this well as required by rule 567-39.8 of the Iowa Adr to the owner if seeking PWG funds: | ministrative Code (IAC), and will provide an itemized paid invoice | | | | | | | | |
| Ryan P. to | 10115 | | | | | | | | |
| Signature of Contractor: | Cert No: ¹⁰¹¹⁵ | | | | | | | | |
| OR, if plugged by well owner, complete this box: The property owner has plugged this well following requirements in rule 567-39.8 of the Iowa Administrative Code (IAC) with the oversight and assistance of the designated county agent. | | | | | | | | | |
| Signature of County Agent: | Date Approved: | | | | | | | | |
| Eligible for Private Well Grants (PWG) cost share: Yes No | o (Determined by County Agent) | | | | | | | | |
| Complete one form for each well plugged and submit within 30 | | | | | | | | | |
| days to the local county agent: | OR, only if no county agent is available, to: Water Supply Section | | | | | | | | |
| Greg Lemke | water Juppiy Jection | | | | | | | | |
| | Iowa Department of Natural Resources | | | | | | | | |
| 505 Curran Street Burlington, Iowa 52601 | Iowa Department of Natural Resources 6200 Park Ave St 200 Des Moines IA 50321 | | | | | | | | |

11/2024 cmc DNR Form 542-1226

Attachment B

Boring Logs/Well Construction Documentation

| PWSID# (| or PWTS N | o | | | PWTS Permit No | VTS Permit No GeoSam WNumber (IGS use only) | | | | | | | |
|--------------------------------------------------------------------|----------------------------------------------|-----------------|-------------------------------|-------------|----------------------------------------------------|-----------------------------------------------|---------------------|--------------------|--------------|---------|----------|-------------|-----------------|
| | entification | | | | | Drill Method □ Rotary ☑ Auger □ Cable □ Other | | | | | | | |
| Property of | owner Des | Moines C | ounty Landf | ill | Other ID | | | | | | | _ | |
| Address | 13758 Wa | shington F | Road | c | City Burlington | Hole size hole size continued | | | | | | | |
| Tenant | | | | | | 8.25 | inch from(|) ft to | ft | inch | from | 1 | ft to ft |
| Well depth | າ <u>10</u> | ft | С | ate com | pleted 10 / 31 / 2024 | | inch from | ft to | ft | inch | from | 1 | ft to ft |
| | Location County Des Moines | | | | | | | nd/or Loop F | | | | | |
| GPS coord | dinates (NAD | 983 datum) | | | | Record | all depth measure | ements from grou | nd level (GL | · | | bove GL | measurements. |
| | | La | atitude | | Longitude | Size | Material | Depth | Depth | perfor | Slotted | | Screen |
| Decimal Degrees Degrees, Decimal Minutes Degrees, Minutes, Seconds | | | | | | (in) | Waterial | Top(ft) | Bottom(ft | Slotted | | | Corceri |
| NW _{1/4} | of the SW | / 1/4 of the | <u>SW_{1/4 of} </u> ; | Sec_22 | $\frac{2}{1}$ TWP $\frac{70}{8}$ RNG $\frac{3}{8}$ | 2" | Sch 40 riser | 0 | 5 | | | | size |
| | | | | | h map of well location on property. | 2" | Sch 40 Scree | en 5 | 10 | | | ☐ slot | size 0.010 |
| _ | N | | | | N | 2" | Sch 40 PVC | point 10 | 10.5 | | | ☐ slot | size |
| | · | _ | | | N | | | | | | | ☐ slot | size |
| w | <u>. </u> | E E | | | | | | | Ì | | | | size |
| | <u> </u> | | | | ı | | avel packed | | | amo | unt | variety | , 20/40 |
| 200 ft | | | | | | als/packers | 011 50 40 4 44 | 1 | type | | | | |
| | S | | | | 20011 | ■ Bottom capped with 2" PVC bottom point | | | | | | | |
| Formation Log | | | | Casir | ng Grout | | 1 | - 1 | method | | | | |
| From | То | Color | Hardness | | Formation description | | Туре | | <u>'</u> | | | | Amount (vol/wt) |
| | | | | Please | e see attached log | Bentor | nite Grout | | 0 3.5 | | | 5 | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | Pum | p Installatior | 1 Date/_ | | [| Depth t | o intake | ft |
| | | | | | | Type of pump G | | | | | | GPM | |
| | | | | | | Pump | diameter | in | F | inal Y | ïeld | | GPM |
| | | | | | | Well | Developme | nt and Wate | r Informa | ation | Date | | 1 |
| | | | | | | Į. | | Pumping Water I | | Yiel | | | Duration |
| | | | | | | | ft | | ft | | GPM | | hrs |
| | | | | | | Water | level measurem | ent: Sonic | Птаре | □Air | line [|]E-line | ☐Estimate |
| | | | | | | Water | yield measurem | ent: Г | Orifice | ∃Volu | metric | □Esti | mate |
| | | | | | | | - | e from | _ | _ | | ow GL | |
| | | | | | | Well | Developmer | nt completed by | SCS Engi | neers | i | | |
| | | | | | | i . | Disinfection | | | | | | |
| | | | | (use add | ditional sheets as needed) | | n Water Volume | | gal/ft³ Cher | nical | | | |
| Remark | S (including d | lepth of lost d | rilling fluids, ma | terials, or | tools) | 1 | cal Concentration | | mg/L Co | | Time_ | | hrs |
| | | | | | | | fied Well Dri | | - | | <u> </u> | | |
| | | | | | | Compa | any Terracon | | | | | | |
| Well Us | | | .bli= =/ | | □ Live ata ali | Name Ryan Peterson Certification no. 10115 | | | | | | | |
| □ Dome □ Heat p | | | ublic supply ommercial | _ | □ Livestock □ Irrigation | | fied Pump II anv | | | | | | |
| | ehole(s) | | onitoring | | ☐Other B-36R | Company Certification no | | | | | | | |





1) Public Water Supply wells

Email to: well.records@dnr.iowa.gov or, Submit a paper copy mailed to: Well Records, 502 E. 9th St., Des Moines, IA 50319-0034

2) For all remaining wells

- a. Submit electronically through the Private Well Tracking System (PWTS) database, or
- b. Submit a paper copy to the respective county sanitarian (permitting authority)

| SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM | | | | | | | | | | | |
|----------------------------------------------------------|------------------------|-------------------|---------------|---------------------|-------------|--------|------------------------------------------------------------------|--|--|--|--|
| Boring / Well Number: | Facility Name | | | Facility | Street Addı | ess: | | | | | |
| B-37R | Des Moines C | ounty Landfill | | d, Burlington, Iowa | | | | | | | |
| Boring Depth (ft) X Diamete | er (in): 10.0 x | 8.25 | | Drilling | Method: | Hollo | ow Stem Auger | | | | |
| Well Contractor Name: Te | rracon - Ryan I | Peterson | | Logge | Demarr | | | | | | |
| | 115 | | | | | | | | | | |
| Ground Surface | | | Top of Casing | | | | | | | | |
| Elevation (ASL): | | | Elevat | ion (ASL | .): | I | | | | | |
| Date: 1/29/2025 | Date: | 1/29/2025 | UST N | umber: | | LU | ST Number: | | | | |
| Start Time: | End Time: | T | | | | | | | | | |
| Depth Well Constructi | on Details | Blow Count | San | nple | PID / FID | Ro | ock Formations, Soil, Color and Classifications, Observations | | | | |
| (feet) | | if applicable | No.* | Type | Reading | | (moisture, odor, etc.) First column for USCS | | | | |
| | | | 1 | SS | | CL | Topsoil | | | | |
| - | | | | | | | Brown Sandy Lean Clay | | | | |
| - | | | 2 | SS | | | | | | | |
| - | | | | | | | | | | | |
| | | | 3 | SS | | | | | | | |
| 5— | | | | | | | | | | | |
| | | | 4 | SS | | | | | | | |
| | | | | | | | | | | | |
| | | | 5 | SS | | CL | Gray Glacial Till | | | | |
| | | | | | | | l cray crasial rill | | | | |
| 10 | | | | | | | | | | | |
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| | | | | | | | | | | | |
| | | | | | | | | | | | |
| * Sample submitted to lab ND-N | on detectable | DT-Direct push | SS-Sp | lit Spoon | <u> </u> | 1 | | | | | |
| Temporary monitoring well was re | | hole backfilled w | ith bento | nite chips | upon comple | tion c | of sampling. | | | | |
| Observations | Date: | | | | | | | | | | |

IOWA_DNR DNR 07247138.GPJ IA_DNR.GDT 1/31/25

Water Level (ASL)

Static Water Level Symbol

Level:

Time:

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM Boring / Well Number: Facility Name: Facility Street Address: MW-45R **Des Moines County Landfill** 13758 Washington Road, Burlington, Iowa Boring Depth (ft) X Diameter (in): 52.0 x 8.25 Drilling Method: **Hollow Stem Auger** Well Contractor Name: **Terracon - Ryan Peterson** Logged by: **Nate Demarr** Registration Number: 10115 **Ground Surface** Top of Casing Elevation (ASL): Elevation (ASL): Date: 1/29/2025 Date: 1/29/2025 **UST Number: LUST Number:** Start Time: End Time: PID / FID Rock Formations, Soil, Color and Depth Well Construction Details **Blow Count** Sample Classifications. Observations (moisture, odor, etc.) First column for USCS (feet) if applicable No.* Type Reading SS 1 Topsoil, Trace Gravel Brown Gray Lean to 2 SS Fat Clay, Trace 3 SS CL/I \Gravel 4 SS Brown Lean Clay 5 SS CH Gray Lean to Fat 10 6 SS CL Clay, Trace Gravel 7 SS Gray Lean Clay, 8 SS Trace Organics, 15 OL Trace Gravel 9 SS Gray Brown Organic 10 SS Lean Clay, Trace 20 11 SS CLT Gravel SS 12 Brown Gray Lean 13 SS 25 Clay, Trace Gravel 14 SS 15 SS 30 16 SS Dark Gray Sandy 17 SS CL Lean Clay 18 SS 35 Dark Gray Brown Fat CH 19 SS Clay, Trace Gravel 20 SS 21 SS 22 SS 23 SS Dark Gray Fat Clay, 45 Trace Gravel and 24 SS ∇ Sand 25 SS Dark Gray Lean Clay 50 26 SS With Sand, Trace Gravel

* Sample submitted to lab ND-Non detectable DT-Direct push SS-Split Spoon Temporary monitoring well was removed and borehole backfilled with bentonite chips upon completion of sampling.

IA_DNR.GDT 1/31/25

DNR 07247138.

IOWA_DNR

| Observations | Date: | 1/29/2025 | | |
|---------------------------|--------|-----------|--|--|
| Water Level (BGS) | Level: | ∑ 48 ft | | |
| Static Water Level Symbol | Time: | | | |

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DIAGRAM Boring / Well Number: Facility Name: Facility Street Address: MW-46R **Des Moines County Landfill** 13758 Washington Road, Burlington, Iowa Boring Depth (ft) X Diameter (in): 32.0 x 8.25 Drilling Method: Hollow Stem Auger Well Contractor Name: **Terracon - Ryan Peterson** Logged by: **Nate Demarr** 10115 Registration Number: Top of Casing **Ground Surface** Elevation (ASL): Elevation (ASL): Date: 1/29/2025 Date: 1/29/2025 **UST Number: LUST Number:** Start Time: End Time: **Blow Count** PID / FID Rock Formations, Soil, Color and Depth Well Construction Details Sample Classifications, Observations (moisture, odor, etc.) First column for USCS (feet) if applicable No.* Type Reading 1 SS CL Brown Gray Lean Clay 2 SS 3 SS 4 SS 5 SS SS 6 7 SS 8 SS Brown Gray Lean 9 SS Clay, With Gravel 10 SS 11 SS CLI Gray Glacial Till 12 SS SS 13 14 SS ∇ 15 SS 30 16 SS

DNR 07247138.GPJ IA_DNR.GDT 1/31/25 * Sample submitted to lab ND-Non detectable DT-Direct push SS-Spit Spoon Temporary monitoring well was removed and borehole backfilled with bentonite chips upon completion of sampling.

DNR IOWA_

| Observations | Date: | 1/29/2025 | | |
|---------------------------|--------|-----------|--|--|
| Water Level (BGS) | Level: | ∑ 28 ft | | |
| Static Water Level Symbol | Time: | | | |

| PWSID# (| or PWTS N | o | | | PWTS Permit No. | GeoSam WNumber (IGS use only) | | | | | | | |
|----------------------------------------------------------------------------------------------------|------------------|-------------|---------------------------|---------|---------------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|-------------------|---------------------|----------------------|----------|---------|-----------------|
| Site Identification Property owner Des Moines County Landfill Other ID | | | | | | Drill Method □ Rotary ☑ Auger □ Cable □ Other | | | | | | | |
| | | | | | | | | | | | | | |
| Address | 13/30 Wa | isnington F | Koau | c | Eity Burlington | Hole size hole size continued | | | | | | | |
| Tenant | | | | | | | | | | | | | |
| Well depth | 16 | ft | | | pleted 10 / 31 / 2024 | | inch from | ft to f | t i | nch | from | f | ft to ft |
| Location | n | | Cour | nty Des | Moines | Casing, Screen and/or Loop Pipe | | | | | | | |
| GPS coord | dinates (NAC | 983 datum) | | | | Record | all depth measure | ments from grour | id level (GL). | | | bove GL | measurements. |
| Decima | al Degrees | _ | atitude es, Decimal Mi | inutes | Longitude Degrees, Minutes, Seconds | Size (in) | Material | Depth Top(ft) | Depth Bottom(ft) | Slotted | | ; | Screen |
| NE 1/4 | of the NE | 1/4 of the | SE _{1/4 of} , | 21 | $_{\text{TWP}}$ 70 $_{\text{RNG}}$ 3 $_{\text{W}}^{\text{E}}$ | 2" | Sch 40 riser | 0 | 5 | | | ☐ slot | size |
| Show exact location of well in section grid with a dot (-). Sketch map of well location on propert | | | | | | 2" | Sch 40 screen | 5 | 16 | | V | | size 0.010 |
| | N | | • | . , | | 2" | Sch 40 PVC p | oint 16 | 16.5 | | | ☐ slot | size |
| N N | | | | | | | | | | | | ☐ slot | size |
| | + + + | <u> </u> | | | | | | | | | | ☐ slot | size |
| W E E | | | | | | ☑ Gra | avel packed | | | amou | ınt | variety | 20/40 |
| | + + + | | 1 | | I | ☐ Sea | als/packers | | | type | | | |
| | S | | | | 200 ft | ☑ Bottom capped with 2" PVC bottom point | | | | | | | |
| Formati | Formation Log | | | | | Casir | ng Grout | | Place | ment ı | method | d | |
| From | То | Color | Hardness | | Formation description | | Type | | Depth To | Depth Top Depth Bott | | | Amount (vol/wt) |
| | | | | Please | e see attached log | Bentor | nite Grout | | 0 3.5 | | | 5 | |
| | | | | | | | | | | | | | |
| | | | | | | | p Installation | | | | | | |
| | | | | | | Type o | of pump | | | | | | |
| | | | | | | Pump | diameter | in | Fi | nal Yi | eld | | GPM |
| | | | | | | 1 | Developmen | | 1 | tion | Date | / | |
| | | | | | | Static | Water Level P | umping Water L | evel | Yield | b | | Duration |
| | | | | | | | ft | _ | ft | | _GPM | | hrs |
| | | | | | | Water | level measureme | ent: Sonic | □Tape [| Airl | ine [| _E-line | ☐Estimate |
| | | | | | | | yield measureme | | | _ | | □Esti | mate |
| | | | | | | | water-supply zone | | ft to | | _ ft bel | ow GL | |
| | | | | | | Well Explai | Developmen n: None - to be | t completed by | SCS Engir | neers | | | |
| | | | | (| ditional phoeto on the state of | Well | Disinfection | | | | | | |
| | | | | , | ditional sheets as needed) | Systen | n Water Volume_ | | gal/ft³ Chem | ical | | | |
| | | | rilling fluids, ma | | tools) | Chemi | cal Concentration | <u> </u> | _mg/L Cor | ntact T | ime | | hrs |
| Scriedule | 40 PVC PI | ераскей 9 | screens were | ausea. | | | fied Well Dril | ler | | | | | |
| Well U | <u> </u> | | | | | | _{any} <u>Terracon</u> Ryan Peterson | | | Certific | ration r | no 1 | 0115 |
| Dome | | □Pu | ublic supply | I | Livestock | Name Ryan Peterson Certification no. 10115 Certified Pump Installer | | | | | | | |
| Heat | | | ommercial | - | ☐ Irrigation | | any | | | | | | |
| # of bor | ehole(s) | <u></u> М | onitoring | | Other MW-47 | Name Certification no | | | | | | | |





1) Public Water Supply wells

Email to: well.records@dnr.iowa.gov or, Submit a paper copy mailed to: Well Records, 502 E. 9th St., Des Moines, IA 50319-0034

2) For all remaining wells

- a. Submit electronically through the Private Well Tracking System (PWTS) database, or
- b. Submit a paper copy to the respective county sanitarian (permitting authority)

| PWSID# o | or PWTS N | o | | _ | PWTS Permit No. | GeoSam WNumber (IGS use only) | | | | | | | | |
|-------------------------------------------------------------------|---------------------|----------------------|---------------------------|-------------------|----------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------|-------------------|--------------------------|----------------|------------|---------------------|-----------------------|----------------|
| | entification | | | | | Drill Method □ Rotary ☑ Auger □ Cable □ Other | | | | | | | | |
| | | | ounty Landf | | Other ID | | | | | <u> </u> | | | | |
| Address | 13758 Wa | shington F | Road | 0 | Dity Burlington | Hole size hole size continued | | | | | | | | |
| Tenant | | | | | | 8.25 | inch from _ | <u>0</u> ft 1 | to <u>²⁰ </u> | i i | nch | from | 1 | ft to ft |
| Well depth | 1 <u>20</u> | ft | D | ate com | npleted 10 / 31 / 2024 | | inch from _ | ft 1 | to ft | ii | nch | from | 1 | ft to ft |
| Location | n | | Cour | nty Des | Moines | Casir | ng, Screen a | and/or | Loop P | ipe | | | | |
| GPS coordinates (NAD83 datum) | | | | | | Record | all depth measu | rements | from groun | | | | bove GL | measurements. |
| Latitude Longitude | | | | | | Size | Materia | ıl | Depth | Depth | perforated | Slotted | | Screen |
| Decimal Degrees Degrees, Decimal Minutes Degrees, Minutes, Second | | | | | | (in) | | - | Top(ft) | Bottom(ft) | ated | 166 | | |
| NE 1/4 | of the NE | : _ 1/4 of the _ | SE_ _{1/4 of \$} | _{Sec} 21 | $_{\text{TWP}} \frac{70}{\text{RNG}} \frac{3}{\text{W}}$ | 2" | Sch 40 riser | | 0 | 10 | | | ☐ slot | |
| Show exact | location of w | ell in section | grid with a dot | (•). Sketc | h map of well location on property. | 2" | Sch 40 scre | | 10 | 20 | | | ☐ slot | size 0.010 |
| _ | N | | | | N | 2" | Sch 40 PVC | point | 20 | 20.5 | | | | size |
| _ | + + + | _ | | | Ì | | | | | | 므 | | | size |
| W = E = | | | | | | | | | | | Ш | Ш | | size |
| | | | | | | | avel packed | | | | amou | unt | variety | 20/40 |
| | 200 ft | | | | | | als/packers | 2" F | PVC hottor | m noint | type | | | |
| | | | | | | Bottom capped with 2" PVC bottom point Casing Grout Placement method | | | | | | | | |
| Formation Log | | | | Casii | • | | I | Place Depth To | - 1 | | | Amount (vol/wt) | | |
| From | То | Color | Hardness | Please | Formation description e see attached log | D = =4 = = | Type | | | 0 | | Depth Bottom 8.5 | | Amount (volwi) |
| | | | | riease | e see allached log | Bentor | nite Grout | | | 0 | | 0.5 | | |
| | | | | | | | | | | | | | | |
| | | | | | | _ | | | | | | | | |
| | | | | | | Pum | p Installatio | n Dat | te/_ | | _ [| Depth to | o intake _. | ft |
| | | | | | | Туре | of pump | | | Rated | d capa | acity | | GPM |
| | | | | | | Pump | diameter | | in | Fi | nal Yi | eld | | GPM |
| | | | | | | Well | Developme | ent an | nd Water | Informa | tion | Date | | 1 |
| | | | | | | Static | Water Level | Pumpir | ng Water Le | evel | Yiel | d | | Duration |
| | | | | | | | ft | | | ft | | _GPM | | hrs |
| | | | | | | Water | level measurer | nent: | Sonic | <u></u> Таре ∣ | Air | ine [|]E-line | ☐Estimate |
| | | | | | | Water | yield measurer | nent: | | Orifice |]Volui | netric | □Esti | imate |
| | | | | | | Main v | vater-supply zo | ne from | 1 | ft to | | _ ft bel | ow GL | |
| | | | | | | Well | Developme n: None - to b | nt | ploted by | SCS Engir | oore | | | |
| | | | | | | , · | | | pieted by v | SCS Eligii | ieers | | | |
| | | | | (use add | ditional sheets as needed) | ĺ | Disinfection n Water Volum | | ~ | ıal/ff3 Chem | ical | | | |
| Remark | I S (including c | l lepth of lost d | l rilling fluids, ma | l terials, or | tools) | 1 | cal Concentrati | | | _mg/L Cor | | ime | | hrs |
| | | | creens were | | , | | fied Well Di | | | | | | | |
| | | | | | | Comp | any Terracon | | | | | | | |
| Well U | | | | | | | Ryan Peterso | | | (| Certific | cation r | no. <u> </u> | 0115 |
| □ Dome | | | iblic supply ommercial | | □Livestock □Irrigation | | fied Pump any | | ler | | | | | |
| | ehole(s) | | onitoring | | ☐Other MW-48 | Name | - | | | (| Certific | cation r | 10 | |





1) Public Water Supply wells

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2) For all remaining wells

- a. Submit electronically through the Private Well Tracking System (PWTS) database, or
- b. Submit a paper copy to the respective county sanitarian (permitting authority)

| PWSID# (| or PWTS N | o | | | PWTS Permit No | | | GeoSam WN | l umber (IGS | use onl | y) | | |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|-----------------|---------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------|-----------------|-------------------------------------------------------------------|--------------------------|---------------------|------------|-----------|----------|-----------------|
| | Site Identification | | | | Drill Method □ Rotary ☑ Auger □ Cable □ Other | | | | | | | | |
| Property owner Des Moines County Landfill Other ID | | | | | | | | | | | | | |
| Address 13758 Washington Road City Burlington | | | | Hole size hole size continued | | | | | | | | | |
| Tenant | | | | 8.25 inch from 0 ft to 12 ft inch from ft to ft | | | | | | | | | |
| Well depth 12 ft Date completed 10 / 31 / 2024 | | | | | inch from ft to ft inch from ft to ft to ft inch from ft to ft to ft | | | | | | | | |
| Location County Des Moines | | | | | Casing, Screen and/or Loop Pipe | | | | | | | | |
| GPS coord | dinates (NAC | 083 datum) | | | | Record | all depth measure | ments from grou | nd level (GL) | | | oove GL | measurements. |
| | al Dagraca | | atitude | in too | Longitude | Size (in) | Material | Depth Top(ft) | Depth Bottom(ft) | perforated | Slotted | ; | Screen |
| Decimal Degrees Degrees, Decimal Minutes Degrees, Minutes, Seconds | | | | | | | Sch 40 riser | 0 | 2 | | | slot | oizo |
| SE 1/4 of the NW 1/4 of the SW 1/4 of Sec 22 TWP 70 RNG 3 W | | | | | | | Sch 40 riser | | 12 | | | | size 0.010 |
| Show exact location of well in section grid with a dot (•). Sketch map of well location on property. N | | | | | | | Sch 40 PVC p | | 12.5 | | | _ | size |
| Ņ. | | | | | | | ЗСП 40 Г V С Р | 12 | 12.0 | | | | size |
| | | | | | | | | | | | | | size |
| $W \longrightarrow E \stackrel{E}{\stackrel{E}{\stackrel{E}{\stackrel{E}{\stackrel{E}{\stackrel{E}{\stackrel{E}{$ | | | | | | ☑ Gravel packed | | | | amou | | | 20/40 |
| | + + + | | 1 | | ı | ☐ Sea | als/packers | | type | | | | |
| | S 200 ft | | | ☑ Bottom capped with 2" PVC bottom point | | | | | | | | | |
| Formati | on Log | ı | | | | Casir | ng Grout | | Place | ment | method | <u> </u> | |
| From | То | Color | Hardness | | Formation description | | Туре | | Depth To | р | Depth E | Bottom | Amount (vol/wt) |
| | | | | Please | e see attached log | Bentor | nite Grout | | 0 | | 1 | | |
| | | | | | | | | | | | | | |
| | | | | | | Pum | p Installation | Date/ | <u> </u> | | Depth to | o intake | ft |
| | | | | | | Type o | of pump | | Rate | d capa | acity | | GPM |
| | | | | | | | Type of pump Rated capacity GPM Pump diameter in Final Yield GPM | | | | | | |
| | | | | | Well Development and Water Information Date / / | | | | | | | | |
| | | | | | | 1 | c Water Level Pumping Water Level Yield Duration | | | | | | |
| | | | | | | | ft | | _ft | | GPM | _ | hrs |
| | | | | Water level measurement: ☐Sonic ☐Tape ☐Airline ☐E-line ☐Estimate | | | | | | | | | |
| | | | Water yield measurement: ☐Orifice ☐Volumetric ☐Estimate | | | | | mate | | | | | |
| | | | | | | Main v | vater-supply zone | e from | ft to | | _ ft belo | ow GL | |
| | | | | | | Well Explai | Developmen n: None - to be | t completed by | SCS Engir | neers | | | |
| | | | | | | 1 | Disinfection | | | | | | |
| | | | | (use add | ditional sheets as needed) | | n Water Volume_ | | gal/ft³ Chem | nical | | | |
| Remark | S (including o | lepth of lost d | rilling fluids, ma | terials, or | tools) | Chemi | cal Concentration | 1 | mg/L Co | ntact 7 | īme | | hrs |
| Schedule | 40 PVC pi | repacked s | screens were | e used. | | Certi | fied Well Dril | ler | | | | | |
| | | | | | | | any Terracon | | | | | - | 0445 |
| | /ell Use Name_Ryan Peterson Certification no. 10115 Domestic | | | | | | | <u>0115</u> | | | | | |
| ☐ Heat p | | | ommercial | _ | ∐Irrigation | | fied Pump in any | | | | | | |
| | ehole(s) | | onitoring | _ | Other MW-49 | | arry | | | Certific | cation n | 10 | |





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- b. Submit a paper copy to the respective county sanitarian (permitting authority)



| DES MOINES COUNTY REGIONAL SANITARY LANDFILL WEST BURLINGTON, IOWA | | | | | | | | | |
|--------------------------------------------------------------------|-----------|----------------------------------|-----------------------|------------------------------------|------------------------|--|--|--|--|
| MONITORING WELL / | | NINATES UTH ZONE 1402 (NAD83) | ELEVATION (NAVD88) | | | | | | |
| GAS PROBE NUMBER | NORTHING | EASTING | TOP OF STEEL CASING | TOP OF 2" PVC PIPE (NORTH EDGE) | GROUND (NORTH EDGE) | | | | |
| LFGW-S1 (36) | 316340.71 | 2277215.63 | | 703.00 | 699.7 | | | | |
| LFGW-S2 (37) | 316251.60 | 2277889.35 | | 704.71 | 701.2 | | | | |
| MW-45 | 317831.00 | 2278940.26 | 632.80 | 632.57 | 628.5 | | | | |
| MW-46 | 317775.69 | 2279021.16 | 623.49 | 623.33 | 618.9 | | | | |
| MW-47 | 317185.44 | 2276226.61 | 697.45 | 697.32 | 694.0 | | | | |
| MW-48 | 317403.21 | 2276480.02 | 703.14 | 702.99 | 699.3 | | | | |
| MW-49 | 316490.95 | 2278077.31 | 705.50 | 705.34 | 702.0 | | | | |

1 of 1