Appendix F

Boring and Monitoring Well Logs and Forms, and Geotechnical Test Reports

- F1 Drilling Locations 1 through 11
- F2 Drilling Locations 105 through 126
- F3 Drilling Locations 212 through 233
- F4 Wisconsin Well Information Form 4400-089

F4 Wisconsin Well Information Form 4400-089

State of Wisconsin Department of Natural Resources PO Box 7921, Madison WI 53707-7921 dnr.wi.gov

GROUNDWATER MONITORING WELL AND POINT INFORMATION

Form 4400-089 (R 04/19)

Page 1 of 7

Use the Groundwater Monitoring Well and Point Information Form to record identification, location and construction information for groundwater monitoring wells and any other sample "points," (e.g., gas probes, lysimeters, leachate collection systems, etc.), that are part of the environmental monitoring program. **NOTE:** Not all fields will be applicable to all point types. Only **one** coordinate reference system may be used per site. Allowable coordinate systems are listed below. (Coordinates for each system require a minimum number of digits as described below.) Local grid coordinates cannot be accepted. Identify the Coordinate Reference System, Datum and Method used.

Facility Name			County				Facility ID No. (FID) License, Pe			'ermit or Monitoring No.			Date Completed By (Name and Firm)			
Dane County Landfill Site No. 3		Dane				N/A N/A					01/19/2024 Jackie Rennebohm, SCS Engineers		S Engineers			
								Elevatior	ns msl (ft)		Well Cas	sing	Woll		Coordin	ates ^{6,7,8,9}
DNR Point ID No.	Point Name ¹	WUWN ² (if app.)	Type	Status	Gradient	Enf. Stds. Y/N.	Construction Date	Ground Surface	Well Top (of casing)	Type	Diam ³ (in)	Length ⁴ (ft)	Screen T Length Le	Total Length⁵ (ft)	Y / Lat / Northing	X / Long / Easting
	MW-1	WA434	11	Α		Yes	02/21/2022	875.5	878.17	Р	2.00	10.26	15.0	25.26	379849	2168438
	MW-2	WA433	11	А		Yes	02/21/2022	892.3	895.14	Р	2.00	6.17	10.0	16.17	378836	2169374
	MW-3	WA432	11	А		Yes	02/17/2022	896.0	898.64	Р	2.00	21.13	10.0	31.13	378218	2166911
	MW-4	WA431	11	Α		Yes	02/17/2022	911.7	914.34	Р	2.00	20.85	10.0	30.85	377202	2168283
	MW-105	WD850	11	Α		Yes	01/25/2023	869.8	872.23	Р	2.07	8.05	10.0	18.05	380063.97	2167905.88
	MW-105A	WD851	12	А		Yes	01/24/2023	869.7	872.25	Р	2.07	47.09	5.0	52.09	380068.71	2167909.41
	MW-106	WD852	11	А		Yes	01/25/2023	873.8	876.40	Р	2.07	10.13	10.0	20.13	380184.79	2168531.09
	MW-107	WD841	11	Α		Yes	01/26/2023	878.3	880.79	Р	2.07	10.19	10.0	20.19	379947.05	2169171.02
	MW-108	WD849	11	Α		Yes	01/24/2023	875.4	878.04	Р	2.07	10.20	10.0	20.20	379492.03	2167830.89
	MW-109	WD853	11	Α		Yes	02/01/2023	896.0	898.62	Р	2.07	28.30	10.0	38.30	379244.07	2168351.79
	MW-109A	WD837	12	А		Yes	03/09/2023	895.8	898.36	Р	2.07	68.25	5.0	73.25	379247.07	2168349.86
	MW-110	WD842	11	А		Yes	01/18/2023	895.5	897.88	Р	2.07	12.98	10.0	22.98	379206.01	2169102.01
	MW-110A	WD868	12	Α		Yes	03/01/2023	895.5	897.87	Р	2.07	52.00	5.0	57.00	379205.63	2169107.85
	MW-111	WD860	11	Α		Yes	01/27/2023	883.9	886.59	Р	2.07	10.49	10.0	20.49	379277.34	2169693.49
	MW-112	WD848	11	Α		Yes	01/23/2023	899.0	901.49	Р	2.07	7.65	10.0	17.65	378723.67	2168712.45
	MW-113	WD865	11	А		Yes	03/03/2023	916.4	919.37	Р	2.07	29.42	10.0	39.42	378409.94	2167782.39
	MW-113A	WD866	12	А		Yes	03/02/2023	916.6	919.31	Р	2.07	64.34	5.0	69.34	378412.05	2167779.20
	MW-114	WD847	11	А		Yes	01/23/2023	897.3	899.89	Р	2.07	8.02	10.0	18.02	378420.49	2168480.17
	MW-114A	WD859	12	А		Yes	03/06/2023	897.1	899.66	Р	2.07	47.15	5.0	52.15	378415.03	2168485.03
	MW-115	WD840	11	А		Yes	01/13/2023	896.3	899.25	Р	2.07	6.83	10.0	16.83	387503.89	2169031.39
	MW-116	WD843	11	А		Yes	01/19/2023	901.4	903.85	Р	2.07	18.35	10.0	28.35	378468.41	2169727.68
	MW-116A	WD858	12	A		Yes	03/07/2023	900.8	903.35	Р	2.07	57.21	5.0	62.21	378476.79	2169728.04

Completion of this form is mandatory under chs. 281, 289 and 292, Wis. Stats., and ss. NR 110.25, NR 507.14 and NR 716.15, Wis. Admin. Code

GROUNDWATER MONITORING WELL AND POINT INFORMATION

Form 4400-089 (R 04/19)

Page 2 of 7

								Elevatior	ns msl (ft)	Well Casing		\M/oll		Coordinates ^{6,7,8,9}		
DNR Point ID No.	Point Name ¹	WUWN ² (if app.)	Type	Status	Gradient	Enf. Stds. Y/N.	Construction Date	Ground Surface	Well Top (of casing)	Type	Diam ³ (in)	Length ⁴ (ft)	Screen Length (ft)	Total Length⁵ (ft)	Y / Lat / Northing	<u>X / Long / Easting</u>
	MW-117	WD846	11	Α		Yes	01/23/2023	899.8	902.35	Р	2.07	7.92	10.0	17.92	377912.89	2168366.81
	MW-117A	WD869	12	Α		Yes	03/02/2023	899.7	902.36	Р	2.07	47.95	5.0	52.95	377910.95	2168363.17
	MW-118	WD862	11	Α		Yes	01/27/2023	901.9	904.27	Р	2.07	7.52	10.0	17.52	377988.64	2169160.61
	MW-118A	WD864	12	Α		Yes	02/20/2023	901.8	904.26	Р	2.07	44.20	5.0	49.20	377985.41	2169163.59
	MW-119	WD861	11	Α		Yes	01/27/2023	919.3	921.70	Р	2.07	39.09	10.0	49.09	378018.99	2169755.57
	MW-120	WD844	11	Α		Yes	01/20/2023	907.2	909.91	Р	2.07	8.02	10.0	18.02	377642.07	2167842.43
	MW-120A	WD867	12	Α		Yes	03/02/2023	907.3	909.81	Р	2.07	47.25	5.0	52.25	377643.38	2167837.94
	MW-121	WD845	11	Α		Yes	01/20/2023	903.6	905.97	Р	2.07	7.29	10.0	17.29	377615.26	2168255.68
	MW-122	WD863	11	Α		Yes	01/27/2023	910.0	912.42	Р	2.07	8.18	10.0	18.18	377547.66	2169046.46
	MW-123	WD857	11	Α		Yes	03/07/2023	930.4	933.02	Р	2.07	44.13	10.0	54.13	377597.91	2169698.22
	MW-123A	WD836	12	Α		Yes	03/07/2023	930.5	933.15	Р	2.07	75.5	5.0	80.8	377590.64	2169697.70
	MW-123B	WD839	11	Α		Yes	05/19/2023	930.0	932.86	Р	2.07	58.30	10.0	68.30	377595.27	2169693.56
	MW-124	WD855	11	Α		Yes	02/02/2023	917.2	919.77	Р	2.07	15.60	10.0	25.60	377199.84	2167822.80
	MW-124A	WD838	12	Α		Yes	03/10/2023	917.0	919.52	Р	2.07	53.45	5.0	58.49	377202.11	2167830.16
	MW-125	WD856	11	Α		Yes	02/06/2023	914.7	918.10	Р	2.07	21.12	10.0	31.12	377275.19	2169006.25
	MW-125A	WD854	12	A		Yes	02/02/2023	915.6	918.36	Р	2.07	52.11	5.0	57.11	377276.27	2169010.00

GROUNDWATER MONITORING WELL AND POINT INFORMATION

Form 4400-089 (R 04/19)

⁶Identify Coordinate Reference System (only one system may be used per site): ⁹Y / Lat / Northing ⁸Identify the Method Used to Determine the Coordinates: ⁷Identify Projection Datum and ¹Include previous name units* as well if one exists. describe the GPS001-Survey grade vertical axis. Lat/Long (Decimal Degrees) WGS84 NAD83 ²Wisconsin Unique Well (min. 8 digits total w/ 6 right of decimal, ∩NAD27 GPS003-Mapping grade/real-time differential correction X / Long / Easting Number. e.g., -89.123456) () NAD83(91) describe the GPS004-Mapping grade/post processing ³Well Casing Diameter horizontal axis. State Plane (min. 2 digits right of decimal) **(x)** NAD83(11) measures inside diameter. () SRV001-Classical terrestrial surveying techniques (include "-" where Other North needed, e.g., ⁴Length of well casing Describe: -89.123456) from top of casing to () Central X OTH001 (Other), Describe: top of screen. (X) South RTK GNSS with corrections from WISCORS VRS Units used for State Plane, WTM ⁵Total length of well from top of casing to bottom of well. *Should equal* or County Coord. Sys: Remarks: Wisc. Transverse Mercator WTM91 O (meters (min. 2 digits right of decimal) ○ feet sum of well casing O Local County Coord. Sys. (WISCRS) length and screen (min. digits vary by county) *NOTE: A datum and units are length. not required for Lat/Long



When completed, this form provides a record of information for each well or sampling point that is part of a facility's environmental monitoring program. It provides the facility or consultant with a means of presenting point information required by the Department in a consistent format. This form should be updated as new points are added to the monitoring program or new information becomes available (e.g., re-surveyed elevation for existing points).

Complete the form with the necessary information as described below:

Facility Name: Enter the name of the site or landfill.

County: Enter the county the site or landfill is located.

Facility ID Number (FID): Enter the 9-digit Facility ID (FID) assigned to the site.

License/Permit/Monitoring Number: Enter the number assigned by the Department to the facility. If unknown, leave blank.

Date: Enter the date on which the form is completed (mm/dd/yyyy).

Completed By: Enter the name and firm of person completing the form.

DNR Point ID Number: Enter the 3-digit number assigned to the point by the Department, for use by the Department.

Point Name: Enter the common name given to the point by the facility or consultant; e.g. MW-2, GP-5. If the point had a previous name, please include and identify as such.

Wisconsin Unique Well Number (WUWN): Enter the Wisconsin Unique Well Number assigned to groundwater monitoring and private wells. WUWNs are available from the Department and are to be assigned to all newly installed monitoring and private wells.

Type: Enter the Numerical code describing the type of well or sampling point. Point type codes range from 11 to 99. *See list of Point Types beginning on page 4.*

Status: Enter the status of the well using the following codes:

- A <u>A</u>ctively monitored point
- I Inactive point (existing point not currently being monitored)
- P <u>P</u>ermanently abandoned point
- L P<u>L</u>anned.

Gradient Position: Enter the location of the well in the groundwater flow system relative to the disposal site, spill, etc. Use one of the six letters designated below. If gradient position is not known or does not apply to the type of point, leave blank.

U = Up gradient	D = Down gradient	Y = Side-to-down gradient
S = Side gradient	X = Side-to-up gradient	N = Not known

Enf. Stds. Apply: Enter "Y" if enforcement standards apply at this well. Enforcement standards apply to any well beyond the **D**esign **M**anagement **Z**one (DMZ) or the property boundary of the facility or to a water supply well. For spills, enforcement standards apply at every point at which groundwater is monitored. (For more information, see s. NR 140.22, Wis. Adm. Code.) *If the application of enforcement standards is not relevant to the type of point entered, leave blank.*

Construction Date: Enter the installation date of the point.

Elevations:

Ground Surface: The elevation, in feet, of the ground surface adjacent to the well using mean sea level (MSL) based on national geodetic vertical survey (i.e., NAVD88).

Well Top (of casing): The elevation, of the top of the well casing (not top of protective pipe), in feet using MSL based on national geodetic vertical survey (i.e., NAVD88).

Well Casing:

Type: The type of pipe used: plastic (P), steel (S), or other (O).

Diam: The inside diameter of the pipe used in the well construction, in inches.

Length: The length of the well casing from the top of the casing to the top of the screen, measured in feet.

Well Screen Length: The length of the screen measured in feet.

Well (Point) Total Length: The total length of the well (or point) from the top of the casing to the bottom of the well, measured in feet. *Should equal sum of well casing length and screen length.*

Point Coordinate Reference Systems: Only one coordinate reference system may be used on the form. Allowable coordinate systems are Lat/Long (in decimal degrees [DD] only), State Plane and Wisconsin <u>T</u>ransverse Mercator (WTM91). County coordinate systems (WISCRS) may also be used. Local grid coordinates are *not* accepted. The field named "Y / Lat / Northing" describe the vertical axis and the field "X / Long / Easting" describe the horizontal axis.

Identify the coordinate reference system used:

- Latitude/Longitude WGS84 (Decimal Degrees, minimum 8 digits total w/ 6 right of decimal)
- State Plane (min. 2 digits right of decimal):
 - o North
 - o Central
 - o South
- Wisc. Transverse Mercator (WTM91, min. 2 digits right of decimal)
- Local County Coordinate System (aka Wisconsin Coordinate Reference System (WISCRS), minimum digits vary by county)

Identify the projection datum used (listed below) by checking the appropriate box on the bottom of the form. NOTE: A datum is not required for Lat/Long.

- NAD83
- NAD27
- NAD83(91)
- NAD83(11)
- Other

Identify the units used, meters or feet, for State Plane, WTM or Local County Coordinate System.

Identify the method used to determine the coordinates by checking the appropriate box on the bottom of the form. The options are:

- GPS001-Survey grade GPS
- GPS003-Mapping grade GPS with real-time differential correction
- GPS004-Mapping grade GPS with post processing differential correction
- SRV001-Classical terrestrial surveying techniques
- OTH001 (Other)

Remarks: Include any comments applicable to the submittal (e.g., Re-surveyed top of well casing elevation).

List of Point Types

11 (mw) Water table observation well (monitoring well screen intersecting the water table) (non-Subtitle D well)

- 12 (pz) Piezometer (monitoring well with screen sealed below the water table (non-Subtitle D well)
- 13 (pw) Private well potable water supply
- 14 (ly) Lysimeter
- 15 (sp) Spring
- 16 (rp) Resistivity probe
- 17 (gc) Gradient control
- 18 (at) Aquifer test well
- 19 (pn) Private well-non potable
- 21 (fs) Flow or seep
- 22 (sw) Surface water
- 23 (Ic) Leachate collection system
- 24 (lh) Leachate head well
- 25 (lg) Leachate and gas combo
- 26 (ew) Groundwater extraction well
- 27 (he) Horizontal groundwater extraction well

- 28 (hw) Horizontal monitoring well
- 29 (ha) Horizontal vapor extraction well
- 31 (us) Upstream
- 32 (ms) Mid-site
- 33 (ds) Downstream
- 34 (ro) Run-off
- 35 (im) Impounded
- 36 (sg) Staff gauge
- 41 (tr) Treated
- 42 (pr) Pretreated
- 45 (pp) Private well primary treatment
- 46 (ps) Private well secondary treatment
- 49 (sh) Settlement hub
- 51 (gp) Gas probe
- 52 (nl) Non-landfill structure
- 53 (ge) Gas extraction system
- 54 (gu) Gas utilization or destruction
- 55 (gc) Gas condensate
- 56 (sc) Site conditions collection
- 57 (sv) Soil venting well (includes both soil vapor extraction and bioventing, includes both extraction and unsaturated zone gas phase injection wells installed in soil or fill, but not refuse)
- 58 (gm) Gas sample monitoring point
- 59 (sc) Stone column gas extraction well
- 61 (ij) Injection well (injection of liquids not gases)
- 62 (as) In situ air sparging well (injection well to inject gases into the aquifer
- 63 (uv) Unterdruck Verdampfer Brunnen (UVB) wells (sparging wells where the gases remain in the well and are not injected into the aquifer)
- 64 (le) Groundwater and light non-aqueous phase liquid (LNAPL) extraction well
- 65 (de) Groundwater and dense non-aqueous phase liquid (DNAPL) extraction well
- 66 (ve) Vacuum enhanced groundwater extraction wells
- 67 (vi) Vacuum enhanced groundwater and LNAPL extraction well
- 68 (vd) Vacuum enhanced groundwater and DNAPL extraction well
- 71 (dw) Subtitle D water table observation well (see 11/mw)
- 72 (dp) Subtitle D piezometer (see 12/pz)
- 80 (mc) Municipal water supply well: cities, villages, and sanitary districts
- 81 (oc) Community-other-than-municipal (OTM) water supply well: mobile home parks, apartments, subdivisions, and condominium complexes
- 85 (nn) Noncommunity-Nontransient water supply well (schools, day care centers, and industries) A Noncommunity water system that regularly serves at least 25 of the same persons over 6 months per year
- 86 (tn) Noncommunity-Transient water supply well (motels, restaurants, parks, taverns, churches, and campgrounds) A Noncommunity water system that serves at least 25 people at least 60 days of the year
- 99 (ot) Other