



Jolly, Becky <becky.jolly@dnr.iowa.gov>

RE: [EXTERNAL] Re: Continental Well Construction Certification

1 message

Jack Attaway <jack.attaway@bowman.com>

Fri, Sep 4, 2026 at 8:25 AM

To: "Rath, Brian" <brian.rath@dnr.iowa.gov>

Cc: "Daniel.Watterson@dnr.iowa.gov" <Daniel.Watterson@dnr.iowa.gov>, "Struby, Sarah Lintecum"

<sarah.struby@stinson.com>, kincaid <kincaid@geohydros.com>, Mike Polacco <mpolacco@bowman.com>, Becky Jolly <becky.jolly@dnr.iowa.gov>, Bill Hilger <bill.hilger@quikrete-cement.com>, Ramsey McGrew <ramsey.mcgrew@quikrete-cement.com>

All,

We reviewed the documents further and identified the sources of error (mixing depth below ground surface and depth below top of casing, and some other minor arithmetic/transcription error from the field logs.)

Please let us know if you require anything further,

Thanks,

JACK ATTAWAYProject Geologist | **BOWMAN**

O: (518) 270-1620 | D: (518) 308-4355

jack.attaway@bowman.com | bowman.com

From: Rath, Brian <brian.rath@dnr.iowa.gov>**Sent:** Monday, August 31, 2026 17:57**To:** Jack Attaway <jack.attaway@bowman.com>**Cc:** Daniel.Watterson@dnr.iowa.gov; Struby, Sarah Lintecum <sarah.struby@stinson.com>; kincaid <kincaid@geohydros.com>; Mike Polacco <mpolacco@bowman.com>; Becky Jolly <becky.jolly@dnr.iowa.gov>**Subject:** Re: [EXTERNAL] Re: Continental Well Construction Certification

Good afternoon. We completed our review of the submitted well installation documents and provide the following comments.

First, it is noted that the facility name and permit number spaces on both forms are blank, please add this information.

For BMW-26-03, we note the following. Please review and revise these calculations as appropriate.

- The depth of the boring is recorded as 121' on page 1. On page 3 the bottom of the filter pack (Depth Z), bottom of the screen (BOS), and total depth of the well are all calculated or measured at 117.5' below the ground surface. Please confirm that the boring was overdrilled by 3.5'.
- Page 1 lists the "Length of casing" as 117' and the "Screen length" as 10'. On Page 3, the field-measured Total Depth (TD) from the Top of Well Casing (TOC) to the bottom is recorded as 117.5' and the well point (WP) is 0'. The formula given for the casing length above the screen is $TD - S - WP$, which calculates to 107.5' ($117.5' - 10' - 0'$). However, it is reported as 106.9 on page 3.
- Adding the Page 3 casing length (106.9') to the screen length (10') equals a total string of 116.9', which doesn't match the 117' casing length listed on Page 1.
- The well casing stick-up above ground is $586.33 - 584.24 = 2.09'$. Using the total depth from TOC of 117.5', the depth below ground surface should be $117.5 - 2.09 = 115.41'$. However, Page 3 lists the depth from the ground surface to the bottom of the well (A-BOS) as 117.5'.

For BWM-26-02CR there appears to be a systematic calculation offset potentially related to a misapplication of the Ground Surface and Top of Casing elevations. Please review and revise these calculations as appropriate.

Thanks,

Brian

Brian Rath, P.E.

Environmental Engineer Senior

Solid Waste and Contaminated Sites Section

Iowa Department of Natural Resources

6200 Park Ave, Suite 200

Des Moines, IA 50321

515-537-4051

brian.rath@dnr.iowa.gov

www.iowadnr.gov



On Mon, Aug 31, 2026 at 12:56 PM Rath, Brian <brian.rath@dnr.iowa.gov> wrote:

Thanks for catching that.

Brian Rath, P.E.

Environmental Engineer Senior

Solid Waste and Contaminated Sites Section

Iowa Department of Natural Resources

6200 Park Ave, Suite 200

Des Moines, IA 50321

515-537-4051

brian.rath@dnr.iowa.gov

www.iowadnr.gov

On Mon, Aug 31, 2026 at 12:53 PM Jack Attaway <jack.attaway@bowman.com> wrote:

Brian,

The well diagram for BMW-26-03 had a minor error which has now been corrected (see attached).

The Depth of the Bottom of Screen was erroneously entered as 97.5, rather than 117.5.

Thanks,

JACK ATTAWAY

Project Geologist | **BOWMAN**

O: (518) 270-1620 | D: (518) 308-4355

jack.attaway@bowman.com | bowman.com

From: Rath, Brian <brian.rath@dnr.iowa.gov>

Sent: Monday, August 3, 2026 16:30

To: Jack Attaway <jack.attaway@bowman.com>

Cc: Daniel.Watterson@dnr.iowa.gov; sarah.struby <sarah.struby@stinson.com>; Todd Kincaid (<kincaid@geohydros.com>) <kincaid@geohydros.com>; Mike Polacco <mpolacco@bowman.com>; Becky Jolly <becky.jolly@dnr.iowa.gov>

Subject: [EXTERNAL] Re: Continental Well Construction Certification

We have received your document. I'm copying Becky Jolly on this as she manages our electronic filing system. If you would, please copy her on future submittals, so that she can enter it in our system.

Thanks,

Brian

Brian Rath, P.E.

Environmental Engineer Senior

Solid Waste and Contaminated Sites Section

Iowa Department of Natural Resources

6200 Park Ave, Suite 200

Des Moines, IA 50321

515-537-4051

brian.rath@dnr.iowa.gov

www.iowadnr.gov



On Mon, Aug 3, 2026 at 10:09 AM Jack Attaway <jack.attaway@bowman.com> wrote:

Daniel and Brian,

Please see attached for the Well Construction Certifications completed for BMW-26-03 and BMW-26-02CR, and updated figure showing the location of the wells at the site.

Thanks,

JACK ATTAWAY

Project Geologist | **BOWMAN**

179 River Street, Troy, NY 12180

O: (518) 270-1620 | D: (518) 308-4355

jack.attaway@bowman.com | bowman.com



2 attachments

 **BMW-26-02CR IDNR Well Construction Certification.pdf**
833K

 **BMW-26-03 IDNR Well Construction Certification.pdf**
839K

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: _____ Permit No.: _____
Well/Piezometer No.: _____ Date Started: _____ Date Completed: _____
Applicable Requirements¹: ☐ 567 IAC 113 ☐ 567 IAC 115 ☐ Site Permit
☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other: _____

A. SURVEYED LOCATION² AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: _____ Top of Protective Casing: _____
Top of Well Casing: _____
Site Coordinates: Northing: _____ Easting: _____
World Coordinates: Latitude: _____ Longitude: _____
Elevation and Coordinate Systems: _____

B. SOIL BORING INFORMATION

Certified Well Contractor _____
Address _____ City, State, Zip Code _____
Name of driller _____ Cert No. _____
Drilling method _____ Drilling fluid _____ Bore hole diameter _____
Soil sampling method _____ Depth of boring _____

C. MONITORING WELL INSTALLATION

Casing material	Placement method: _____
Length of casing: _____	Quantity: _____
Casing diameter: _____	Backfill (if different from seal)
Casing joint type: _____	Material: _____
Casing/screen joint type: _____	Placement method: _____
Screen material: _____	Quantity: _____
Screen opening size: _____	Surface seal design
Screen length: _____	Material of protective casing: _____
Depth of Well	Material of grout between
Filter Pack: _____	protective casing and well casing: _____
Material: _____	Protective cap
Grain Size: _____	Material: _____
Quantity: _____	Vented?: ☐ Y ☐ N Locking?: ☐ Y ☐ N
Seal (minimum 3 ft. length above filter pack)	Well cap: _____
Material: _____	Material: _____
	Vented?: ☐ Y ☐ N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level _____ Stabilization time _____
Well development method _____
Average depth of frost line _____

¹ Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

² The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ **Certification #** _____ **Date** _____

Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers.

Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Daniel Watterson with the DNR's Water Supply Section at Daniel.Watterson@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well Diagram

Elevations: ± 0.01 ft. MSL

Depths: ± 0.1 ft from Ground Surface

Top of protective casing (TOP) $\longrightarrow$

Elevation C

Top of Well Casing (TOC) $\longrightarrow$

Elevation B

Ground surface (GS)

Elevation A

Depth Use 0

Top of backfill

Base of concrete plug and bentonite grout

Elevation A-W

Depth W

Base of Protective Casing

Elevation C-PC =

Depth PC-(C-A) =

Base of Backfill, Top of Seal

Elevation A-X =

Depth X

Top of Filter Pack, Base of Seal

Elevation A-Y =

Depth Y

Top of Screen (TOS)

Elevation B-(TD-S-WP) =

Depth A-TOS^{elev} =

Bottom of Screen (BOS)

Elevation B-TD =

Depth A-BOS^{elev} =

Bottom of Well

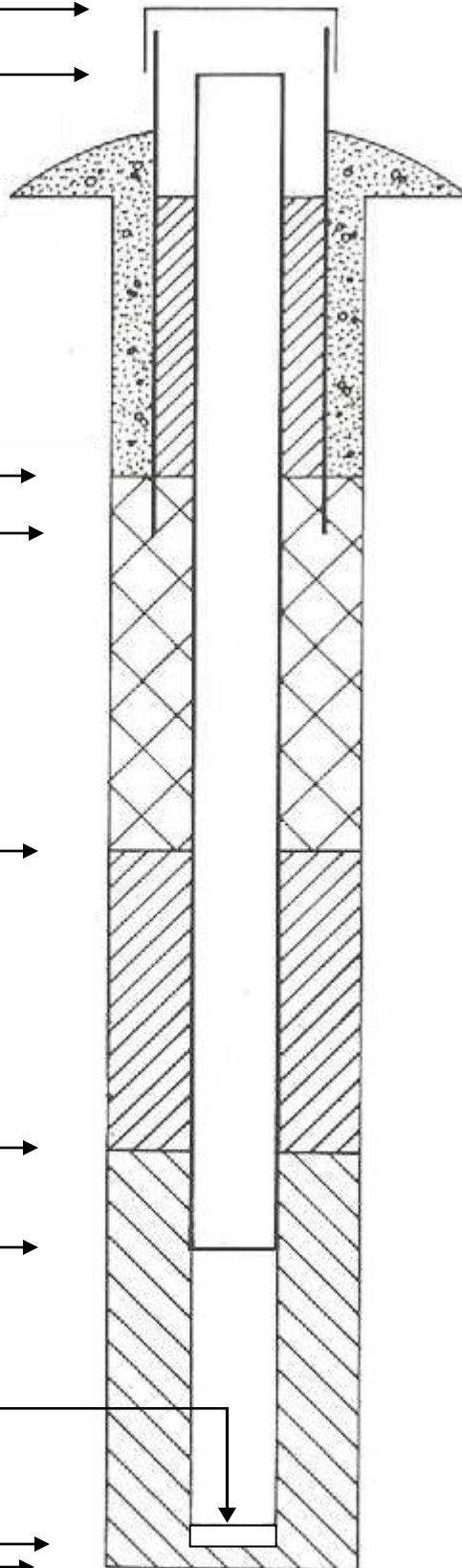
Elevation

Depth

Bottom of Filter Pack

Elevation A-Z =

Depth Z



Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: S:

WP: TD:

Well Casing Length TD-S-WP =

Backfill Thickness X-W =

Seal Thickness Y-X =

Filter Pack Thickness Z-Y =

MONITORING WELL / PIEZOMETER CONSTRUCTION DOCUMENTATION FORM

Disposal Site Name: _____ Permit No.: _____
Well/Piezometer No.: _____ Date Started: _____ Date Completed: _____
Applicable Requirements¹: ☐ 567 IAC 113 ☐ 567 IAC 115 ☐ Site Permit
☐ 567 IAC 114 ☐ 567 IAC 139 ☐ Other: _____

A. SURVEYED LOCATION² AND ELEVATION OF POINT

Elevations (MSL): Ground Surface: _____ Top of Protective Casing: _____
Top of Well Casing: _____
Site Coordinates: Northing: _____ Easting: _____
World Coordinates: Latitude: _____ Longitude: _____
Elevation and Coordinate Systems: _____

B. SOIL BORING INFORMATION

Certified Well Contractor _____
Address _____ City, State, Zip Code _____
Name of driller _____ Cert No. _____
Drilling method _____ Drilling fluid _____ Bore hole diameter _____
Soil sampling method _____ Depth of boring _____

C. MONITORING WELL INSTALLATION

Casing material	Placement method: _____
Length of casing: _____	Quantity: _____
Casing diameter: _____	Backfill (if different from seal)
Casing joint type: _____	Material: _____
Casing/screen joint type: _____	Placement method: _____
Screen material: _____	Quantity: _____
Screen opening size: _____	Surface seal design
Screen length: _____	Material of protective casing: _____
Depth of Well	Material of grout between
Filter Pack: _____	protective casing and well casing: _____
Material: _____	Protective cap
Grain Size: _____	Material: _____
Quantity: _____	Vented?: ☐ Y ☐ N Locking?: ☐ Y ☐ N
Seal (minimum 3 ft. length above filter pack)	Well cap: _____
Material: _____	Material: _____
	Vented?: ☐ Y ☐ N

D. GROUNDWATER MEASUREMENT (± 0.01 foot below top of inner well casing)

Water level _____ Stabilization time _____
Well development method _____
Average depth of frost line _____

¹ Refer to the site's permit to determine applicable requirements. Note that some sites may only be regulated by their permit versus current landfill chapters. If the permit and rule are silent regarding applicable requirements, then 567 IAC Chapter 39 shall apply, which requires use of the Well Log (Well Record) Form, not this form. If the applicable requirements have been modified and approved by the DNR, then note under Other.

² The location does not need to be surveyed by a licensed surveyor. A handheld GPS reading accurate to +/- 30 feet is acceptable when an aerial photograph showing the location (pin) is included with this form. The site coordinates should be the same coordinate system currently used for survey control and mapping of the site.

DRILLER'S CERTIFICATION

I certify under penalty of law I believe the information reported above is true, accurate, and complete.

Signature _____ **Certification #** _____ **Date** _____

Note: Attach well log, boring log, and map showing new monitoring well/piezometer location in relation to existing wells or piezometers.

Complete one form for each well plugged and submit within 30 days to the local county agent, DNR project officer, and Daniel Watterson with the DNR's Water Supply Section at Daniel.Watterson@dnr.iowa.gov. DNR prefers that the forms be completed and submitted electronically.

Well Diagram

Elevations: ± 0.01 ft. MSL

Depths: ± 0.1 ft from Ground Surface

Top of protective casing (TOP) $\longrightarrow$

Elevation C

Top of Well Casing (TOC) $\longrightarrow$

Elevation B

Ground surface (GS)

Elevation A

Depth Use 0

Top of backfill

Base of concrete plug and bentonite grout

Elevation A-W

Depth W

Base of Protective Casing

Elevation C-PC =

Depth PC-(C-A) =

Base of Backfill, Top of Seal

Elevation A-X =

Depth X

Top of Filter Pack, Base of Seal

Elevation A-Y =

Depth Y

Top of Screen (TOS)

Elevation B-(TD-S-WP) =

Depth A-TOS^{elev} =

Bottom of Screen (BOS)

Elevation B-TD =

Depth A-BOS^{elev} =

Bottom of Well

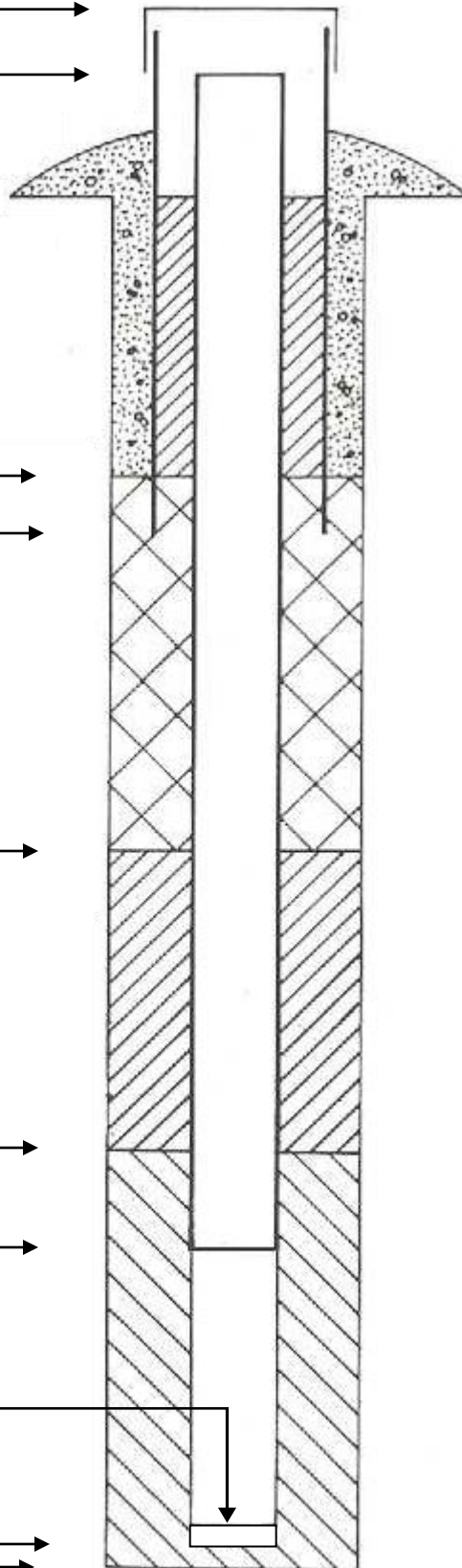
Elevation

Depth

Bottom of Filter Pack

Elevation A-Z =

Depth Z



Required Data:

- Elevations for A, B, and C shall be surveyed.
- Depths for W, X, Y, and Z shall be field measured following completion of each item.
- Lengths of the Protective Casing (PC), Screen (S), and Well Point (WP) shall be field measured prior to installation of each item.
- The total Depth (TD) from the Top of Well Casing to the Bottom of Well Point shall be field measured following installation.

PC: S:

WP: TD:

Well Casing Length TD-S-WP =

Backfill Thickness X-W =

Seal Thickness Y-X =

Filter Pack Thickness Z-Y =