Technical Document LA22029

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

NRCB USE ONLY	Application number	Legal land description
☒ Approval ☐ Registration ☐ Authorization ☐ Amendment	LA22029	SW 32-15-26 W4M

APPLICATION DISCLOSURE

This information is collected under the authority of the *Agricultural Operation Practices Act* (AOPA), and is subject to the provisions of the *Freedom of Information and Protection of Privacy Act*. This information is public unless the NRCB grants a written request that certain sections remain private.

Any construction prior to obtaining an NRCB permit is an offence and is subject to enforcement action, including prosecution.

I, the applicant, or applicant's agent, have read and understand the statements above, and I acknowledge that the information provided in this application is true to the best of my knowledge.

Mar 10 - 2022
Date of signing

Arnold Waldner
Signature

The Hutterian Brethren of Parkland
Corporate name (if applicable)

Arnold Waldner
Print name

GENERAL INFORMATION REQUIREMENTS

Proposed facilities: list all proposed confined feeding operation facilities and their dimensions. Indicate whether any of the proposed facilities are additions to existing facilities. (attach additional pages if needed)

Proposed facilities	Dimensions (m) (length, width, and depth)
Layer Barn	84m x 13.5m
Additional Manure Storage for Layer Barn	10.7m x 13.5m
Pullet Barn	72.6m x 13.5m
Additional Manure Storage for Pullet Barn	10.7m x 13.5m

On the site plan on page 7 these two barns and their associated manure storages will be connected as one overall facility that will be 30.6 m x 108 m.

Existing facilities: list **ALL** existing confined feeding operation facilities and their dimensions

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
none - new CFO		

NRCB USE ONLY

8 April 2022

The Hutterian Brethren of Parkland
P.O. Box 729
Nanton, Alberta T0L 1R0

Att: Mr. Arnold Waldner

RE: Landowner Consent for NRCB Application

As you are aware, the Hutterian Brethren of Parkland will be applying for a NRCB permit for a Confined Feeding Operation on the parcel legally described as SW-32-015-26-W4M (M.D. of Willow Creek), Land Title No.: 111 092 113.

In order for this application to proceed, written consent from yourself as the registered landowner is required.

If you are in agreement with this, please provide your consent by signing below.

Regards,

John Lobbezoo, P.Eng.
Lethbridge Area GEM Lead
Wood Environment & Infrastructure Solutions

Arnold Waldner

Arnold Waldner
The Hutterian Brethren of Parkland

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Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

If a new facility is replacing an old facility, please explain what will happen to the old facility and when. ☑ **N/A**

Construction completion date for proposed facilities November 1, 2025

Additional information

Construction will start on the barn within one year of approval from the NRCB, but the completion date is unknown at this time.

Livestock numbers: Complete only if livestock numbers are different from what was identified in the Part 1 application. Note: if livestock numbers increase in your Part 2 application, a new Part 1 application must be submitted which may result in a loss of priority for minimum distance separation (MDS).

Livestock category and type (Available in the Schedule 2 of the Part 2 Matters Regulation)	**Permitted number**	**Proposed increase or decrease in number (if applicable)**	**Total**
chickens (layers)	0	18,000	18,000
chickens (pullets)	0	24,000	24,000

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NRCB Natural Resources Conservation Board

Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING *WATER ACT* LICENCE

issued by Alberta Environment and Parks (AEP) for a confined feeding operation (CFO)

Date and sign one of the following four options

OPTION 1: Applying through the NRCB for both the AOPA permit and the *Water Act* licence

I **DO** want my water licence application coupled to my AOPA permit application.

Signed this ____day of ___, 20____. _____

Signature of Applicant or Agent

OPTION 2: Processing the AOPA permit and *Water Act* licence separately

1. I (we) acknowledge that the CFO will need a new water licence from AEP under the *Water Act* for the development or activity proposed in this AOPA application.
2. I (we) request that the NRCB process the AOPA application **independently of** AEP's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by AEP as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to AEP's consideration of whether to grant the *Water Act* licence application.
5. I (we) acknowledge that any such construction or livestock populating will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.

Signed this 10 day of March, 20 20. Arnold Waldner

Signature of Applicant or Agent

OPTION 3: Additional water licence not required

1. I (we) declare that the CFO will not need a new licence from AEP under the *Water Act* for the development or activity proposed in this AOPA application.

Signed this ____ day of ___, 20____. _____

Signature of Applicant or Agent

OPTION 4: Uncertain if *Water Act* licence is needed; acknowledgement of risk (for existing CFOs only)

1. At this time, I (we) do not know whether a new water licence is needed from AEP under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, I (we) request that the NRCB process the AOPA application **independently of** AEP's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by AEP as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with additional livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to AEP's consideration of whether to grant my *Water Act* licence application, if a new water licence is needed.
5. I (we) acknowledge that any such construction or livestock increase will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.

Signed this ____ day of ___, 20____. _____

Signature of Applicant or Agent

Part 2 — Technical Requirements

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NRCB USE ONLY

ALL SIGNATURES IN FILE ☒ YES ☐ NO

DATES OF APPROVAL OFFICER SITE VISITS

July 15, 2022	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: May 11, 2022

Municipality: M.D. Willow Creek

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

Alberta Health Services:

☒ letter sent ☐ response received ☐ written/email ☐ verbal ☒ no comments received

Alberta Environment and Parks: ☐ N/A

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

Alberta Transportation: ☐ N/A

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received

Alberta Regulatory Services: ☒ N/A

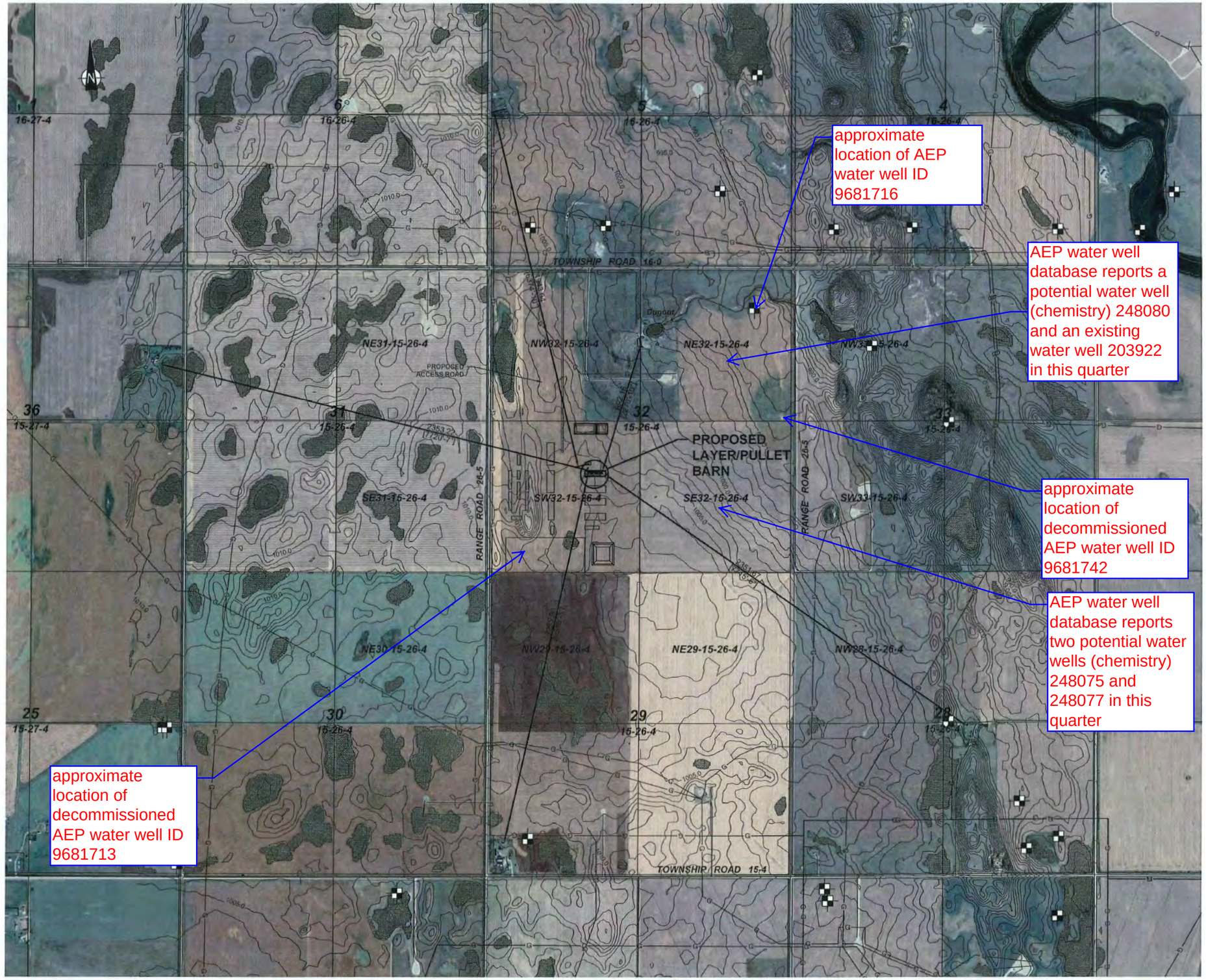
☐ letter sent ☐ response received ☐ written/email ☐ verbal ☐ no comments received

Other: _____ ☒ N/A

☐ letter sent ☐ response received ☐ written/email ☐ verbal ☐ no comments received

Other: Vulcan County ☐ N/A

☒ letter sent ☒ response received ☒ written/email ☐ verbal ☐ no comments received



LEGEND

- WATER WELL
- GASLINE
- WETLANDS

SCALE

0 300 600

1:10000 Meters

This document may have been reduced. Do not scale this document. All measurements must be obtained from stated dimensions

PROFESSIONAL AUTHENTICATION

I/R	YY	MM	DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	RVW
A	22	03	08	ISSUED FOR				

wood.

CLIENT: THE HUTTERIAN BRETHREN OF PARKLAND

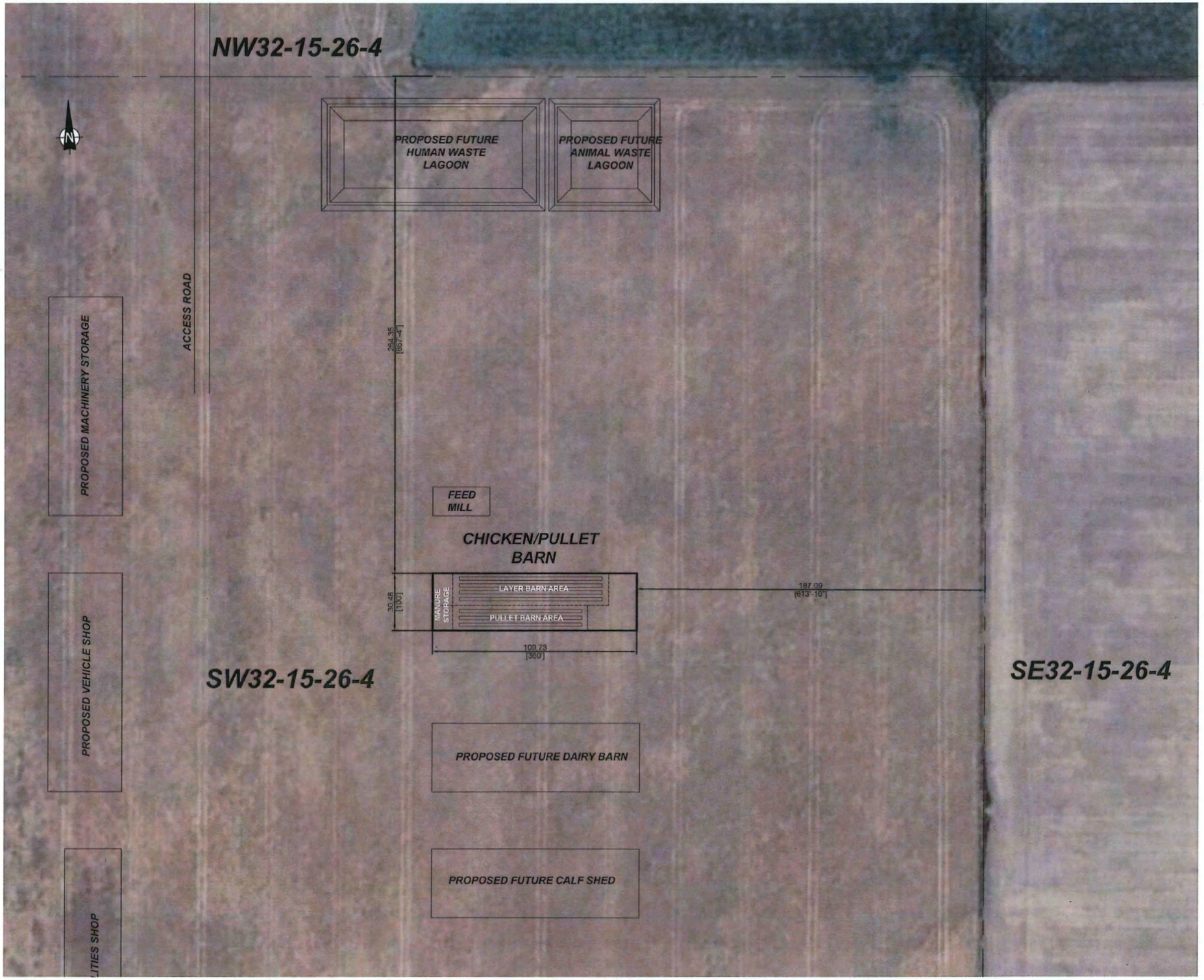
PROJECT NAME: PROPOSED IVY RIDGE COLONY

PROJECT NUMBER: BX20178

SHEET TITLE: NRCB PERMIT APPLICATION AREA PLAN CHICKEN / PULLET BARN

DRAWING NUMBER: FIG 1

ISSUE/REVISION: A



LEGEND

- WATER WELL
- GASLINE

SCALE

0 25 50
1:1000 Meters

This document may have been reduced. Do not scale this document. All measurements must be obtained from stated dimensions.

PROFESSIONAL AUTHENTICATION

I/R	YY	MM	DD	ISSUE/REVISION DESCRIPTION	DRN	CHK	DES	RVW
A	22	03	08	ISSUED FOR				

wood.

CLIENT

THE HUTTERIAN BRETHREN OF PARKLAND

PROJECT NAME

PROPOSED IVY RIDGE COLONY

PROJECT NUMBER

BX20178

SHEET TITLE

NRCB PERMIT APPLICATION
DETAILED SITE PLAN
CHICKEN / PULLET BARN

DRAWING NUMBER

FIG 2

ISSUE/REVISION

A

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GENERAL ENVIRONMENTAL INFORMATION

(complete this section for the worst case of the existing facility which is the closest to water bodies or water wells and for each of the proposed facilities)

Facility description / name *(as indicated on site plan)*

Existing: n/a (new CFO) **Proposed 1:** Combined Layer/Pullet Barn (includes 2x storages)

Proposed 2: _____ **Proposed 3:** _____

Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	☐ >1 m ☐ ≤ 1 m	☑ >1 m ☐ ≤ 1 m	☐ >1 m ☐ ≤ 1 m	☐ > 1 m ☐ ≤ 1 m	☒ YES ☐ NO ☐ YES with exemption	not in known flood plain
Surface water information	How many springs are within 100 m of the manure storage facility or manure collection area?		0			☒ YES ☐ NO ☐ YES with exemption	none observed or reported during site inspection
	How many water wells are within 100 m of the manure storage facility or manure collection area?		0			☒ YES ☐ NO ☐ YES with exemption	see comment 1 on next page
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)		800m			☒ YES ☐ NO ☐ YES with exemption	270 m from barn to apparent wetland to the northeast
Groundwater information	What is the depth to the water table?		>10m			☒ YES ☐ NO ☐ YES with exemption	see comment 2 on next page
	What is the depth to the groundwater resource/aquifer you draw water from?		30m			☒ YES ☐ NO ☐ YES with exemption	see comment 3 on next page

Additional information (attach supporting information, e.g. borehole logs, records, etc. you consider relevant to your application)

*Water well reports from NE-32-015-26-W4M and SE-32-015-26-W4M attached, for reference.

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NRCB USE ONLY

WATER WELL AND SURFACE WATER INFORMATION

Well IDs: see below

Surface water related concerns from directly affected parties or referral agencies: ☒ YES ☐ NO

Groundwater related concerns from directly affected parties or referral agencies: ☒ YES ☐ NO

Water wells ☒ N/A

If applicable, exemption for 100 m distance requirements applied: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO

Surface water ☒ N/A

If applicable, exemption for 30 m distance requirements applied: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO

Water Well Exemption Screening Tool ☒ N/A

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility

Groundwater or surface water related comments:

1 A water well was drilled and subsequently decommissioned (AEP 9681713) 550 m to the southwest of the proposed barn. Otherwise, the closest AEP reported water wells are located in NE and SE of 32-15-26 W4M, more than 187 m from the proposed barn.

2 AEP water well ID 248075, in SW 32-15-26 W4, reports groundwater as shallow as 0.6 m in 1975 (NOTE: this is not direct information for the application site). The static water level in a decommissioned water well 9681713 was not reported but the log indicated brown (oxidized) clay or shale to 3.7 m (suggesting that this material was not wet).

3 AEP water well 203922's log indicates that the uppermost ground water resource may be as shallow as 10 m.

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NRCB USE ONLY

ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
New CFO facilities that clearly meet AOPA requirements are automatically assumed to pose a low potential risk to surface water and groundwater.			

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
No existing facilities			

ERST related comments:

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NRCB Natural Resources Conservation Board

DISTANCE OF ANY MANURE STORAGE FACILITY (EXISTING OR PROPOSED) TO NEIGHBOURING RESIDENCES

			NRCB USE ONLY				
Neighbour name(s)	**Legal land description**	**Distance (m)**	**Zoning (LUB) category**	**MDS category (1-4)**	**Distance (m)**	**Waiver attached (if required)**	**Meets regulations**
HODOREK, PETER J. & ROSEMARY	Part NE-32-015-26-W4M	693m	RG	1	775	n/a	yes
POFFENROTH, ROBERT L. & MARY	SW-29-015-26-W4M	1996m	RG	1	2,110	n/a	yes
HOSKER, BLAINE M.	Part NW-05-016-26-W4M	1940m	RG	1	1,970	n/a	yes

LAND BASE FOR MANURE AND COMPOST APPLICATION (complete only if an increase in livestock or manure production will occur)

				NRCB USE ONLY	
Name of land owner(s)*	**Legal land description**	**Usable area** (ha)**	**Soil zone *****	**Usable area (ha)**	**Agreement attached (if required)**
The Hutterian Brethren of Parkland	NW-32-015-26-W4M	50	brown zone	29 ha	
The Hutterian Brethren of Parkland	SW-05-016-26-W4M	60	brown zone	51 ha	
The Hutterian Brethren of Parkland	SE-05-016-26-W4M	60	brown zone	54 ha	
The Hutterian Brethren of Parkland	NE-05-016-26-W4M	50	brown zone	46 ha	
			Total	180 ha	

180 ha accounts for manure spreading setbacks and non-cultivated areas

* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners.

** Available manure spreading area (excluding setback areas from residences, common bodies of water, water wells, etc. as identified in Agdex 096-5 Manure Spreading Regulations)

*** Brown, dark brown, black, grey wooded, or irrigated

Additional information (attach any additional information as required)

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NRCB USE ONLY

MINIMUM DISTANCE SEPARATION

Methods used to determine distance (if applicable): Scaled air photo from Google Earth (Sept 2019)

Margin of error (if applicable): _____

Requirements (m): Category 1: 295 Category 2: 393 Category 3: 491 Category 4: 786

Technology factor: ☐ YES ☒ NO

Expansion factor: ☐ YES ☒ NO

MDS related concerns from directly affected parties or referral agencies: ☐ YES ☒ NO

LAND BASE FOR MANURE AND COMPOST APPLICATION

Land base required: 177 ha brown

Land base listed: 220 ha brown

Area not suitable: _____

Available area 180 ha Requirement met: ☒ YES ☐ NO

Land spreading agreements required: ☒ YES ☐ NO

Manure management plan: ☐ YES ☒ NO If yes, plan is attached: ☐

PLANS

Submitted and attached construction plans: ☒ YES ☐ NO

Submitted aerial photos: ☒ YES ☐ NO

Submitted photos: ☐ YES ☒ NO

GRANDFATHERING

Already completed: ☐ YES ☐ NO ☒ N/A

If already completed, see new proposed

Part 2 — Technical Requirements

NRCB Natural Resources Conservation Board

Application under the *Agricultural Operation Practices Act* for a confined feeding operation, manure collection area and/or manure storage facility(ies)

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Concrete liner

*(complete a copy of this section for **EACH** barn, feedlot, and storage facility for solid manure, composting materials, or compost with a concrete liner)*

Facility description / name *(as indicated on site plan)*

1. Layer Barn ~~see note below~~

2. Pullet Barn

Manure storage capacity

	Length (m)	Width (m)	Depth below grade to the bottom of the liner (m)	**NRCB USE ONLY** Estimated storage capacity (m³)
1.	108	17.1	0	
2.	108	13.5	0	
	(see Figure depicting proposed barn layout)		TOTAL CAPACITY	

☐ I plan to use a short-term solid manure storage (STMS) as part of my manure storage and handling plan for this CFO. The AOPA requirements for STMS are set out in the NRCB Short-Term Solid Manure Storage Requirements Fact Sheet.

Surface water control systems

Describe the run-on and runoff control system

Enclosed barn and solid manure storage areas. Surface runoff will be shed off of metal roof, and directed away from the building by the site grading.

Liner protection

Describe how the physical integrity of the liner will be maintained

Concrete barn floors are designed to provide liner integrity between the solid manure storage and underlying soil strata for the life of the facility.

NRCB USE ONLY

Requirements met: ☒ YES ☐ NO

The above stated dimensions are larger than what is provided on page one an do not reflect the proposed manure storages (10.7 m x 13.5 m each, x2). I am considering that there will be portions of these barns that will not be used to collect and store manure (ancillaries) such as utility rooms, feed storages, egg handling area, etc. When combined the barns and their storages will be able to store > 9 months of manure.

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Concrete liner (cont.)

Concrete liner details

Concrete thickness 125mm	Method of sulphate protection: Type HS, HSb, HSLb, or HSe cement (CSA A23.1:19)
Concrete strength 25 MPa @ 28 days	Concrete reinforcement size and spacing 10M reinforcing steel @ 400mm o.c., both ways

Concrete requirements can be found in Technical Guideline Agdex 096-93
Guideline minimums:
Solid manure: 25MPa (D)
Solid manure (wet): 30MPa (C)
Method of sulphate protection:
Type 50 or Type 10 with fly ash or equivalent

NRCB USE ONLY

Requirements met:	☒ YES	☐ NO
Condition required:	☒ YES	☐ NO
Report attached:	☐ YES	☒ NO

Additional information *(attach as required)*

NRCB USE ONLY

Nine month manure storage volume requirements met ☒ YES ☐ YES With STMS ☐ NO

Depth to water table: >3.7 m Requirements met: ☒ YES ☐ NO

Depth to Uppermost groundwater resource: 10 m Requirements met: ☒ YES ☐ NO

ERST completed: ☐ see ERST page for details

Surface water control systems

Requirements met: ☒ YES ☐ NO Details/comments:

Concrete liner details

Leakage detection system required: ☐ YES ☒ NO If yes, please explain why.

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 203922
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1993/05/13

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
CHOUINARD, L.	P.O. BOX 62 DE WINTON				T0L 0X0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NE	32	15	26	4	1	1	921887	

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.306246 Longitude -113.535345
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Drilling Information

Method of Drilling: Rotary

Proposed Well Use: Domestic & Stock

Type of Work: New Well

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description
2.00		Brown Sandy Clay & Rocks
7.00		Brown Sand & Rocks
11.00		Brown Clay & Rocks
15.00		Brown Clay
21.00		Gray Clay
26.00		Gray Shale
34.00		Gray Sandstone
35.00		Gray Shale
69.00		Gray Sandstone
72.00		Gray Shale

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate 6.00 igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)
1992/10/08	8.00	0.00

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
72.00 ft		1992/10/05	1992/10/08

Borehole

Diameter (in)	From (ft)	To (ft)
0.00	0.00	72.00

Surface Casing (if applicable)
Steel
Size OD : 5.56 in
Wall Thickness : 0.188 in
Bottom at : 33.00 ft

Well Casing/Liner
Plastic
Size OD : 4.50 in
Wall Thickness : 0.250 in
Top at : 26.00 ft
Bottom at : 72.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)
30.00	69.00	0.125		4.00

Perforated by: Saw

Annular Seal: Driven & Bentonite
Placed from 0.00 ft to 33.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type
Size OD : 0.00 in

From (ft)	To (ft)	Slot Size (in)

Attachment
Top Fittings
Bottom Fittings

Pack
Type
Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well: UNKNOWN NA DRILLER
Certification No: 1
Company Name: BIRKNESS DRILLING LTD.
Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 203922
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 1993/05/13

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
CHOUINARD, L.	P.O. BOX 62 DE WINTON				T0L 0X0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	NE	32	15	26	4	1	1	921887	

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.306246 Longitude -113.535345
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow Yes
Rate 0.50 igpm
Is Flow Control Installed
Describe

Recommended Pump Rate 6.00 igpm
Recommended Pump Intake Depth (From TOC) 65.00 ft
Pump Installed
Type
Depth ft
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken
Submitted to ESRD
Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

Yield Test

Taken From Ground Level
Depth to water level

Measurement in Imperial

Test Date	Start Time	Static Water Level
1992/10/08	12:00 AM	0.00 ft

Pumping (ft)	Elapsed Time Minutes:Sec	Recovery (ft)

Method of Water Removal

Type Bailer
Removal Rate 8.00 igpm
Depth Withdrawn From 32.00 ft

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
BIRKNESS DRILLING LTD.

Copy of Well report provided to owner

Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

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GIC Well ID 248077
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

GOWN ID

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HENRY, JF	P.O. BOX 303 NANTON				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	32	15	26	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.299015 Longitude -113.535344
How Location Obtained
Not Verified

Elevation ft
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Unknown

Proposed Well Use
Domestic

Type of Work
Chemistry

Formation Log

Measurement in Imperial

Depth from ground level (ft)	Water Bearing	Lithology Description

Yield Test Summary

Measurement in Imperial

Recommended Pump Rate igpm

Test Date	Water Removal Rate (igpm)	Static Water Level (ft)

Well Completion

Measurement in Imperial

Total Depth Drilled	Finished Well Depth	Start Date	End Date
127.00 ft			1975/10/18

Borehole

Diameter (in)	From (ft)	To (ft)
0.00	0.00	127.00

Surface Casing (If applicable)

Size OD : 0.00 in
Wall Thickness : 0.000 in
Bottom at : 0.00 ft

Well Casing/Liner

Size OD : 0.00 in
Wall Thickness : 0.000 in
Top at : 0.00 ft
Bottom at : 0.00 ft

Perforations

From (ft)	To (ft)	Diameter or Slot Width(in)	Slot Length (in)	Hole or Slot Interval(in)

Perforated by

Annular Seal

Placed from 0.00 ft to 0.00 ft
Amount

Other Seals

Type	At (ft)

Screen Type

Size OD : 0.00 in

From (ft)	To (ft)	Slot Size (in)

Attachment
Top Fittings
Bottom Fittings

Pack

Type
Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
UNKNOWN DRILLER

Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Metric | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 248077
GoA Well Tag No.
Drilling Company Well ID
Date Report Received

Well Identification and Location

Measurement in Imperial

Owner Name	Address	Town	Province	Country	Postal Code
HENRY, JF	P.O. BOX 303 NANTON				

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	SE	32	15	26	4				

Measured from Boundary of
ft from
ft from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.299015 Longitude -113.535344
How Location Obtained: Not Verified

Elevation ft
How Elevation Obtained: Not Obtained

Additional Information

Measurement in Imperial

Distance From Top of Casing to Ground Level in
Is Artesian Flow Yes
Rate 0.00 igpm
Is Flow Control Installed
Describe

Recommended Pump Rate igpm
Recommended Pump Intake Depth (From TOC) ft
Pump Installed
Type
Depth ft
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth ft
Gas
Depth ft
Well Disinfected Upon Completion
Geophysical Log Taken
Submitted to ESRD
Sample Collected for Potability
Submitted to ESRD Yes

Additional Comments on Well

Yield Test

Taken From Ground Level | Measurement in Imperial

Test Date	Start Time	Static Water Level
		ft

Method of Water Removal

Type
Removal Rate igpm
Depth Withdrawn From ft

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken	Diversion Date & Time
	ig	

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
UNKNOWN NA DRILLER

Certification No
1

Company Name
UNKNOWN DRILLER

Copy of Well report provided to owner | Date approval holder signed

Water Well Drilling Report

View in Imperial | Export to Excel

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GOWN ID

GIC Well ID 9681713
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2022/05/30

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY	P.O. BOX 729	NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	4	32	15	26	4				WELL #1

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.296013 Longitude -113.549961
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary - Air

Proposed Well Use
Observation

Type of Work
Test Hole-Decommissioned
View Decommissioning Report

Formation Log

Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
3.05		Brown Clay & Rocks
3.66		Brown Shale
9.14		Brown Sandstone
16.76		Gray Sandstone
65.53		Gray Shale
71.63		Gray Sandstone
73.76		White Bentonite
91.44		Gray Shale

Yield Test Summary

Measurement in Metric

Recommended Pump Rate L/min

Test Date	Water Removal Rate (L/min)	Static Water Level (m)

Well Completion

Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
91.44 m		2022/02/08	2022/02/28

Borehole

Diameter (cm)	From (m)	To (m)
12.07	0.00	91.44

Surface Casing (if applicable)
Size OD : cm
Wall Thickness : cm
Bottom at : m

Well Casing/Liner
Size OD : cm
Wall Thickness : cm
Top at : m
Bottom at : m

Perforations

From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)

Perforated by

Annular Seal
Placed from m to m
Amount Unknown

Other Seals

Type	At (m)
Driven	6.40
Shale Trap	21.34

Screen Type
Size OD : cm

From (m)	To (m)	Slot Size (cm)

Attachment
Top Fittings Bottom Fittings

Pack
Type Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner Date approval holder signed

Water Well Drilling Report

View in Imperial | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 9681713
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2022/05/30

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY	P.O. BOX 729	NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	4	32	15	26	4				WELL #1

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.296013 Longitude -113.549961
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Additional Information

Measurement in Metric

Distance From Top of Casing to Ground Level cm
Is Artesian Flow
Rate L/min
Is Flow Control Installed
Describe

Recommended Pump Rate L/min
Recommended Pump Intake Depth (From TOC) m
Pump Installed
Type
Depth m
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth m
Gas
Depth m
Remedial Action Taken
Well Disinfected Upon Completion
Geophysical Log Taken
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well
7 GPM AT 55'.

Yield Test

Taken From Ground Level Measurement in Metric

Test Date	Start Time	Static Water Level
		m

Method of Water Removal
Type
Removal Rate L/min
Depth Withdrawn From m

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken		Diversion Date & Time
ALDERSYDE FILL STATION	6819.14	L	2022/02/08 7:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner
Date approval holder signed

Water Well Drilling Report

View in Imperial | Export to Excel

The driller supplies the data contained in this report. The Province disclaims responsibility for its accuracy. The information on this report will be retained in a public database.

GOWN ID

GIC Well ID 9681716
GoA Well Tag No. A3680
Drilling Company Well ID
Date Report Received 2022/04/06

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY	P.O. BOX 729	NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	16	32	15	26	4				WELL #8

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.308397 Longitude -113.530183
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary - Air

Proposed Well Use
Co-ops (Colonies)

Type of Work
New Well

Formation Log

Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
6.10		Brown Clay & Rocks
16.76		Gray Shale
18.29		Gray Coarse Grained Sandstone
22.86		Gray Shale
24.38		Gray Coarse Grained Sandstone
35.05		Gray Shale
36.58		Gray Coarse Grained Sandstone
39.62		Gray Shale
41.15		Red Shale
54.86		Gray Shale
60.96	Yes	Gray Coarse Grained Sandstone
70.10		Gray Shale
71.63		Gray Coarse Grained Sandstone
78.64		Gray Shale
82.30		Gray Coarse Grained Sandstone
88.39		Gray Shale
91.44		Gray Coarse Grained Sandstone
106.68		Gray Shale
109.73		Gray Sandstone
124.97		Gray Shale

Yield Test Summary

Measurement in Metric

Recommended Pump Rate 27.28 L/min

Test Date	Water Removal Rate (L/min)	Static Water Level (m)
2022/03/28	42.60	1.85

Well Completion

Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
124.97 m	65.53 m	2022/02/25	2022/02/26

Borehole

Diameter (cm)	From (m)	To (m)
20.00	0.00	6.40
14.29	6.40	65.53
11.43	65.53	124.97

Surface Casing (if applicable)
Steel
Size OD : 16.83 cm
Wall Thickness : 0.478 cm
Bottom at : 6.71 m

Well Casing/Liner
Plastic
Size OD : 12.55 cm
Wall Thickness : 0.630 cm
Top at : 4.57 m
Bottom at : 65.53 m

Perforations

From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)
54.86	60.96	0.318	20.32	30.48

Perforated by Saw

Annular Seal Bentonite Chips
Placed from 0.00 m to 6.40 m
Amount 50.00 Pounds

Other Seals

Type	At (m)
Driven	6.71
Shale Trap	54.86

Screen Type
Size OD : cm

From (m)	To (m)	Slot Size (cm)

Attachment
Top Fittings Bottom Fittings

Pack
Type Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner
Yes

Date approval holder signed
2022/04/06

Water Well Drilling Report

View in Imperial | Export to Excel

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GOWN ID

GIC Well ID 9681716
GoA Well Tag No. A3680
Drilling Company Well ID
Date Report Received 2022/04/06

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY	P.O. BOX 729	NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	16	32	15	26	4				WELL #8

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.308397 Longitude -113.530183
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Additional Information

Measurement in Metric

Distance From Top of Casing to Ground Level 60.96 cm
Is Artesian Flow
Rate L/min
Is Flow Control Installed
Describe

Recommended Pump Rate 27.28 L/min
Recommended Pump Intake Depth (From TOC) 53.34 m
Pump Installed
Type
Depth m
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth m
Gas
Depth m
Remedial Action Taken
Well Disinfected Upon Completion Yes
Geophysical Log Taken
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well

AIR TEST 10 IGPM FROM 180' - 200'. PUMP TEST WAS STARTED WITH A PUMPING RATE OF 12 IGPM AND AT 53.35 METERS(PUMP INTAKE FOR THE FLOW TEST) PUMP RATE WAS 9.37 IGPM FROM 90 MINS TO 120 MINS. ADDED GOA WELL TAG NUMBER AT REQUEST OF DRILLER 2022-05-30.

Yield Test

Taken From Top of Casing
Depth to water level

Measurement in Metric

Test Date 2022/03/28
Start Time 11:00 AM
Static Water Level 1.85 m

Method of Water Removal

Type Pump
Removal Rate 42.60 L/min
Depth Withdrawn From 53.34 m

If water removal period was < 2 hours, explain why

Pumping (m)	Elapsed Time Minutes:Sec	Recovery (m)
1.85	0:00	
4.42	1:00	50.18
8.15	2:00	47.85
10.50	3:00	46.10
12.54	4:00	43.99
13.30	5:00	41.65
13.79	6:00	39.66
15.20	7:00	37.60
16.95	8:00	35.65
18.32	9:00	33.73
19.70	10:00	31.93
22.30	12:00	28.72
24.53	14:00	25.76
26.45	16:00	23.04
28.30	18:00	20.57
29.87	20:00	18.45
33.48	25:00	14.44
36.72	30:00	11.78
39.60	35:00	9.93
41.46	40:00	8.64
45.29	50:00	6.77
47.18	60:00	5.72
50.78	75:00	4.61
53.35	90:00	4.03
53.35	105:00	3.50
53.35	120:00	3.28

Water Diverted for Drilling

Water Source	Amount Taken		Diversion Date & Time
ALDERSYDE FILL STATION	6819.14	L	2022/02/25 7:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner
Yes

Date approval holder signed
2022/04/06

Water Well Drilling Report

View in Imperial | Export to Excel

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GOWN ID

GIC Well ID 9681742
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2022/06/06

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY		NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	9	32	15	26	4				

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.302725 Longitude -113.529848
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Drilling Information

Method of Drilling
Rotary - Air

Proposed Well Use
Co-ops (Colonies)

Type of Work
Test Hole-Decommissioned
View Decommissioning Report

Formation Log

Measurement in Metric

Depth from ground level (m)	Water Bearing	Lithology Description
3.05		Brown Clay & Rocks
3.96		Brown Mudstone
13.72		Gray Shale
16.76		Gray Coarse Grained Sandstone
27.43		Gray Shale
41.15	Yes	Gray Coarse Grained Sandstone
65.53		Gray Shale
68.58		Gray Coarse Grained Sandstone
73.15		Gray Shale
82.30		Gray Coarse Grained Sandstone
83.21		Gray Shale
85.34		Gray Coarse Grained Sandstone
91.44		Gray Shale

Yield Test Summary

Measurement in Metric

Recommended Pump Rate L/min

Test Date	Water Removal Rate (L/min)	Static Water Level (m)

Well Completion

Measurement in Metric

Total Depth Drilled	Finished Well Depth	Start Date	End Date
91.44 m		2022/03/11	2022/03/11

Borehole

Diameter (cm)	From (m)	To (m)
12.07	0.00	91.44

Surface Casing (if applicable)
Size OD : cm
Wall Thickness : cm
Bottom at : m

Well Casing/Liner
Size OD : cm
Wall Thickness : cm
Top at : m
Bottom at : m

Perforations

From (m)	To (m)	Diameter or Slot Width (cm)	Slot Length (cm)	Hole or Slot Interval(cm)

Perforated by

Annular Seal
Placed from m to m
Amount

Other Seals

Type	At (m)

Screen Type
Size OD : cm

From (m)	To (m)	Slot Size (cm)

Attachment
Top Fittings Bottom Fittings

Pack
Type Grain Size
Amount

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner Date approval holder signed

Water Well Drilling Report

View in Imperial | Export to Excel

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GOWN ID

GIC Well ID 9681742
GoA Well Tag No.
Drilling Company Well ID
Date Report Received 2022/06/06

Well Identification and Location

Measurement in Metric

Owner Name	Address	Town	Province	Country	Postal Code
PARKLAND COLONY		NANTON	ALBERTA	CANADA	T0L 1R0

Location	1/4 or LSD	SEC	TWP	RGE	W of MER	Lot	Block	Plan	Additional Description
	9	32	15	26	4				

Measured from Boundary of
m from
m from

GPS Coordinates in Decimal Degrees (NAD 83)
Latitude 50.302725 Longitude -113.529848
How Location Obtained
Differential corrected handheld GPS 5-10m

Elevation m
How Elevation Obtained
Not Obtained

Additional Information

Measurement in Metric

Distance From Top of Casing to Ground Level cm
Is Artesian Flow
Rate L/min
Is Flow Control Installed
Describe

Recommended Pump Rate L/min
Recommended Pump Intake Depth (From TOC) m
Pump Installed
Depth m
Type
Make
H.P.
Model (Output Rating)

Did you Encounter Saline Water (>4000 ppm TDS)
Depth m
Gas
Depth m
Remedial Action Taken
Well Disinfected Upon Completion
Geophysical Log Taken
Submitted to ESRD

Sample Collected for Potability
Submitted to ESRD

Additional Comments on Well
5 GPM AT 125' - 130'.

Yield Test

Taken From Ground Level | Measurement in Metric

Test Date	Start Time	Static Water Level
		m

Method of Water Removal
Type
Removal Rate L/min
Depth Withdrawn From m

If water removal period was < 2 hours, explain why

Water Diverted for Drilling

Water Source	Amount Taken		Diversion Date & Time
ALDERSYDE FILL STATION	5455.31	L	2022/03/11 7:00 AM

Contractor Certification

Name of Journeyman responsible for drilling/construction of well
CHAD NIEMANS

Certification No
46340A

Company Name
NIEMANS DRILLING & SONS LTD.

Copy of Well report provided to owner
Date approval holder signed