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	LA25022	NE 8-11-21 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.

March 21 /25
Date of signing

[redacted]
Signature

J-Bar Farms
Corporate name (if applicable)

Jamie Vandenberg
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)
barn		50 x 60
processing area		
corrals (1)	120 x 120	14,400 sq ft
(2)	80 x 180	16800 ft²
3	120 x 120 / 2 (triangular)	9600 ft²

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

~~Existing facilities~~ New CFO. Proposed facilties continued	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
shelter	160 x 60	
corral	100 x 180	
catch basin	30 m x 30 m x 2 m deep	

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

corral # 1 is mostly a rebuild with a small piece added

Construction completion date for proposed facilities Dec. 2025

Additional information

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**
300 feeders			
250 ewes.			

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DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING *WATER ACT* LICENCE
issued by Alberta Environment and Protected Areas (EPA) 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 EPA 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** EPA'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 EPA 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 EPA'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.
7. **Provide:** Water licence application number(s) _____

Signed this 21 day of March, 2025. [redacted]

Signature of Applicant or Agent

OPTION 3: Additional water licence not required

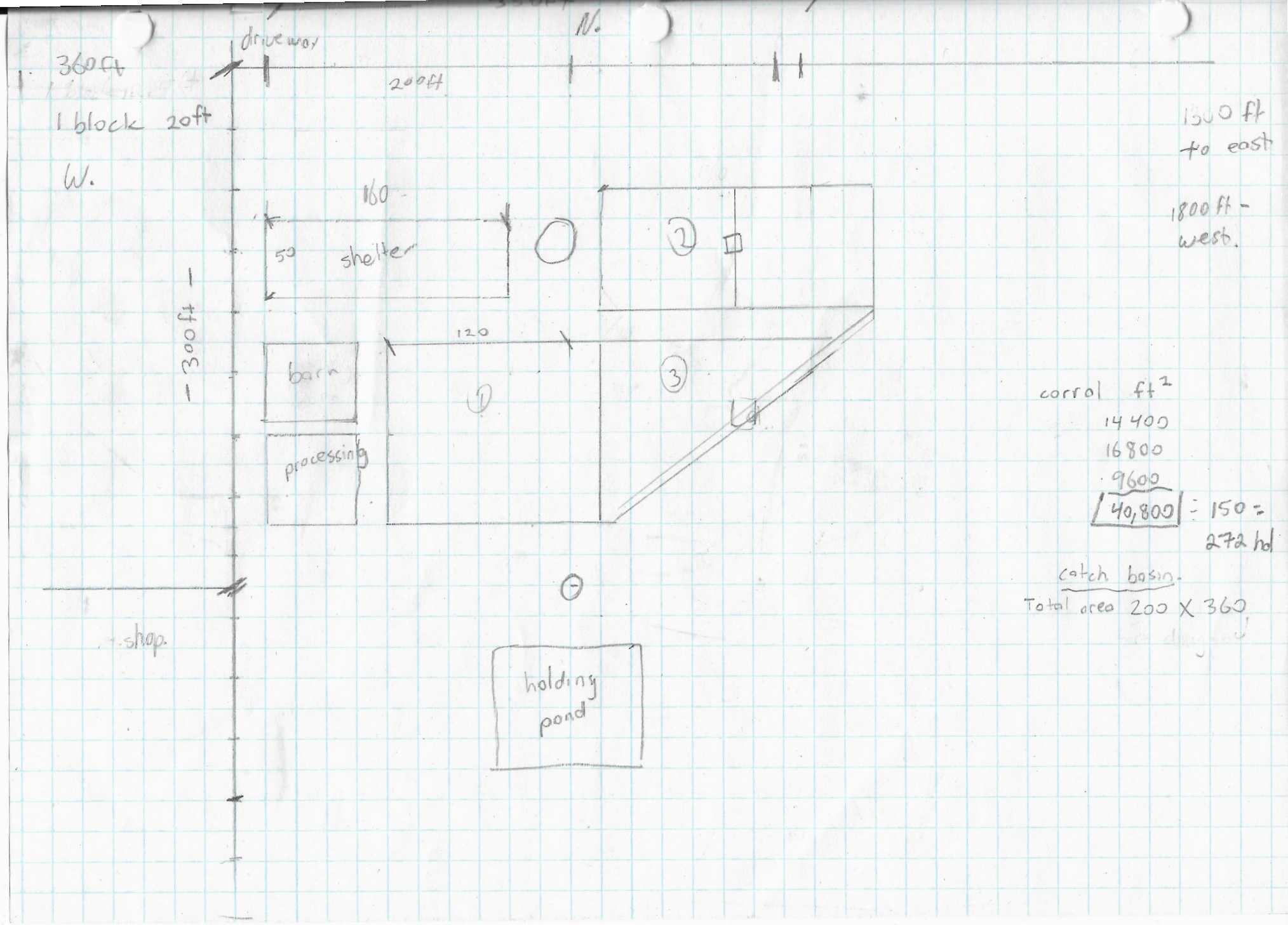
1. I (we) declare that the CFO will not need a new licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. **Provide**: Water license number(s) or water conveyance agreement details _____

_____

Signed this ____ day of _____, 20____. _____

Signature of Applicant or Agent

Last updated September 11, 2023



corrol ft²
14 400
16800
9600
40,800 ÷ 150 =
272 hd

catch basin.
Total area 200 X 360

Part 2 — Technical Requirements

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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**
Case Dunsbergen	SW-16-11-21	1300 ft					
Art Vande Bruinhorst	NW-8-11-21	1850					

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)**
J-Bar Farms	NE 8-11-21	70 acres			
			Total		

* 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)

20'

Part 2 — Technical Requirements

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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: _____ **Proposed 1:** shelter & corrals 1-3 and existing

Proposed 2: Barn **Proposed 3:** catch basin

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	
Surface water information	How many springs are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	☐ YES ☐ NO ☐ YES with exemption	
	How many water wells are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	☐ YES ☐ NO ☐ YES with exemption	
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	canal	2 miles	N		☐ YES ☐ NO ☐ YES with exemption	
Groundwater information	What is the depth to the water table?	2.2	2	2	2	☐ YES ☐ NO ☐ YES with exemption	
	What is the depth to the groundwater resource/aquifer you draw water from?	0	0	0	0	☐ YES ☐ NO ☐ YES with exemption	

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

Part 2 — Technical Requirements

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SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Naturally occurring protective layer

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

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

1. corral 1-3
2. shelter

Manure storage capacity

	Length (m)	Width (m)	Depth below ground level (m)	NRCB USE ONLY Estimated storage capacity (m^3)
1.	80 120	180 120	0	
2.	180 120 x 120 ÷2	60	0 0 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

catch basin.

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	2 (m)	Provide details (as required)	
Soil texture	35.4 % sand	26.6 % silt	38 % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested: 3 m. clay loam	Hydraulic conductivity (cm/s): 2.5×10^{-7}	Describe test standard used: modified falling head test

Additional information *(attach copies of soil test reports)*

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

Condition required: ☐ YES ☐ NO

Report attached: ☐ YES ☐ NO

Part 2 — Technical Requirements

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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)

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Naturally occurring protective layer

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

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

1. barn.
2. corral existing

Manure storage capacity

	Length (m)	Width (m)	Depth below ground level (m)	**NRCB USE ONLY** Estimated storage capacity (m^3)
1.	50	60	0	
2.	100	180	0	
			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

catch basin

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	2 (m)	Provide details (as required)	
Soil texture	35.4 % sand	26.6 % silt	38 % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested: 3m. clay loam	Hydraulic conductivity (cm/s): 2.5×10^{-7}	Describe test standard used: modified falling head test

Additional information *(attach copies of soil test reports)*

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

Condition required: ☐ YES ☐ NO

Report attached: ☐ YES ☐ NO

Last updated February 26, 2021

Part 2 — Technical Requirements

NRCB | Natural Resources Conservation Board

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RUNOFF CONTROL CATCH BASIN: Naturally occurring protective layer

*(complete a copy of this section for **EACH proposed** runoff control catch basin with a naturally occurring protective layer)*

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

1. catch basin -
2. _____
3. _____

Determination of runoff area

Provide a plan and show how you calculated the area contributing to runoff for each catch basin

Catch basin capacity

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Slope run:rise			NRCB USE ONLY
					Inside end walls	Inside side walls	Outside walls	Calculated storage capacity (excl. 0.5 m freeboard) (m^3)
1.	30 ~~40~~	30 ~~40~~	2m.	2m	3:1	3:1		
2.								
3.								
							TOTAL CAPACITY	

Naturally occurring protective layer details

Thickness of naturally occurring protective layer	2 (m)	Provide details (as required)	
Soil texture	39.2 % sand	26.8 % silt	34 % clay
Hydraulic conductivity - naturally occurring protective layer	Depth and type of soil tested: 6m clay loam	Hydraulic conductivity (cm/s): 8.0×10^{-9}	Describe test standard used: modified falling head

Catch Basin – Design and management requirements can be found in Technical Guideline Agdex 096-101

If soil info differs per facility include additional soils page.

NRCB USE ONLY

Requirements met: ☐ YES ☐ NO

Condition required: ☐ YES ☐ NO

Report attached: ☐ YES ☐ NO

JLECS

26 April 2025

J Lobbezoo Engineering & Consulting Services Ltd.
PO Box 96, Monarch, AB T0L1M0

JLECS File: P25037

J-Bar Farms
PO Box 951
Picture Butte, AB T0K 1V0

Attention: Mr. Jamie Vandenberg

Re: Geotechnical Review and Evaluation
NRCB Permitting of Pens & Catch Basin
NE-08-011-21-W4M, near Picture Butte, Alberta

As requested, J Lobbezoo Engineering & Consulting Services Ltd. (JLECS) has carried out a geotechnical review and evaluation of the above-captioned site relative to the required protection of the groundwater resource, as required by the Agricultural Operation Practices Act, AB Reg. 267/2001 (hereinafter referred to as "AOPA"). This letter describes the site soil conditions to support a permit application related to a proposed pens and a catch basin at the above captioned site (refer to Figure 1, attached).

In order to demonstrate the suitability of the naturally existing soils for consideration as a naturally occurring protective layer to the groundwater resource, six boreholes were advanced at the site on April 1, 2025. The boreholes were advanced at the approximate locations denoted as JB1-25 to JB6-25 on Figure 1, attached.

The boreholes were advanced by a truck-mounted drill rig owned and operated by Chilako Drilling Services and extended to depths of 3.0 m to 7.8 m below the existing grade. The boreholes were logged by Larry Delong of Chilako Drilling Services.

In general, the natural mineral soils encountered in the boreholes consisted of lacustrine clay and silty clay loam overlying stiff, medium plastic clay till below about 1.2 m to 1.5 m. While perched groundwater was identified in three of the boreholes, no groundwater resource (as defined by the AOPA) was encountered within the 7.8 m investigation depth at this site.

Samples of soil collected from the screened zones of boreholes JB2-25 and JB5-25, as well as samples from similar depths at the other boreholes were all subjected to grain size analyses, which was carried out by Down to Earth Laboratories in Lethbridge, Alberta. The lab report is attached, for reference. The results indicate a soil texture breakdown of:

Table 1: Soil Texture Analyses

Borehole/Depth	% Sand	% Silt	% Clay
JB1-25 / 2.5 – 3.0 m	35	27	38
JB2-25 / 2.5 – 3.0 m	38	32	30
JB3-25 / 2.5 – 3.0m	37	33	30
JB4-25 / 7.0 – 7.5m	40	31	29
JB5-25 / 5.0 – 6.0m	39	27	34
JB6-25 / 5.0 – 6.0m	38	29	33
Average:	*38*	*30*	*32*

Figure 1: Site Layout & Borehole Locations

Image Credit: Google

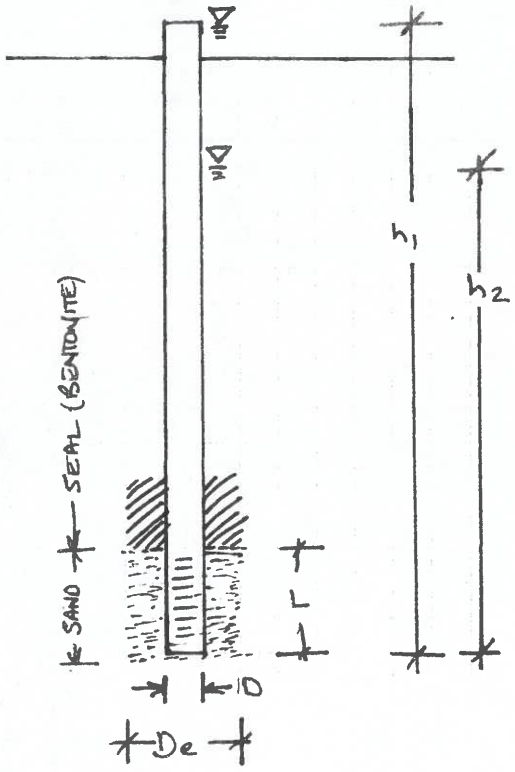
JB5-25

In Situ Permeability Test

Modified Falling Head Permeability Equation

$$K_s = \frac{r^2}{2\ell\Delta t}\left[\frac{\sinh^{-1}\frac{\ell}{r_e}}{2}\ln\left[\frac{2H_1-\ell}{2H_2-\ell}\right]-\ln\left[\frac{2H_1H_2-\ell H_2}{2H_1H_2-\ell H_1}\right]\right]$$

taken from USBR Engineering Geology Field Manual Volume 2 (2001)



JB5-25 - J-Bar Farms

JLECS File: P25037

INPUT VARIABLES	Terms	Value	Definition
	D	0.0520	diameter of standpipe (m)
	De	0.1500	diameter of borehole (m)
	L	3.20	length of sand section (m)
	h1	6.80	initial height of water above base of hole (m)
	h2	6.24	final height of water above base of hole (m)
	t	24.0	time of test (h)

k_s =	2.8E-08	cm/sec

Down To Earth Labs Inc.

The Science of Higher Yields

J. Lobbezoo Engineering + Consulting Services
Box 96
Monarch, Alberta T0L 1M0

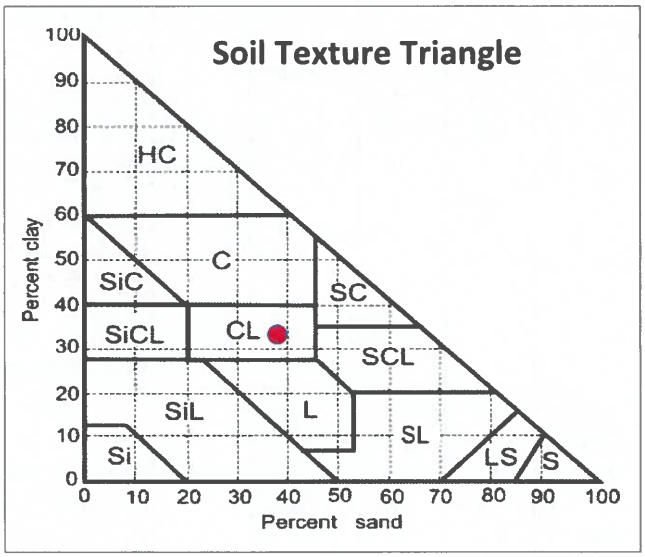
Report #: 205154
Report Date: 2025-04-25
Received: 2025-04-23
Completed: 2025-04-25
Test Done: ST

Project : J.Bar Farms

PO:

3510 6th Ave North
Lethbridge, AB T1H 5C3
403-328-1133
www.downtoearthlabs.com
info@downtoearthlabs.com

Sample ID:		250423L006
Cust. Sample ID:		JB 6-25
Analyte	**Units**	5.0-6.0
Sand	%	38.2
Silt	%	28.8
Clay	%	33.0
Soil Texture	-	Clay Loam



Raygan Boyce - Chemist