

# Technical Document BA24010



## Part 2 – Technical Requirements

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

|   |                    |                        |
|---|--------------------|------------------------|
| <b>NRCB USE ONLY</b><br><input checked="" type="checkbox"/> Approval <input type="checkbox"/> Registration <input type="checkbox"/> Authorization<br><input type="checkbox"/> Amendment | Application number | Legal land description |
|   | BA24010            | W/2 9-55-14 W4         |

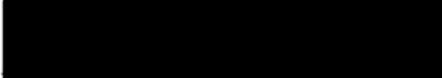
### APPLICATION DISCLOSURE

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.

Date of signing: Aug 27/24  
 Corporate name (if applicable): HBC of Hairy Hill

Signature:   
 Print name: Darius Hofer

### 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)<br>(length, width, and depth) |
| Layer Barn   | 100m x 26m | 330 Feet L<br>85 Feet W<br>14 Feet High      |
| Manure Pad   | 15m x 8m   | 50 x 26                                      |
| Attached and under roof  |            |  |

| Existing facilities: list ALL existing confined feeding operation facilities and their dimensions |  |               |
|---|--|---------------|
| Existing facilities   | Dimensions (m)<br>(length, width, and depth) | NRCB USE ONLY |
| See Previs  |  |               |
|   |  |               |

|  |
|--|
| <b>NRCB USE ONLY</b><br><br>Existing CFO |
|--|



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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

New hayen Barn

Construction completion date for proposed facilities edd 2026

**Additional information**

Applicant no longer has swine.

**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<br>(Available in the Schedule 2 of the Part 2 Matters Regulation) | Permitted number | Proposed increase or decrease in number (if applicable) | Total |
|---|------------------|---|-------|
| layers  | 11400            | 8600  | 20000 |
| beef feeders  | 500              | 0   | 500   |
| beef finishers  | 500              | 0   | 500   |
| pullets   | 5700             | 4300  | 10000 |
| broilers  | 4000             | 0   | 4000  |
| turkey  | 2000             | 0   | 2000  |
| ducks   | 1200             | 0   | 1200  |
| geese   | 200              | 0   | 200   |
| milk cows   | 5                | 0   | 5     |
| farrow to finish  | 300              | -300  | 0     |
|   |                  |   |       |

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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)

### **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 \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*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 30 day of May, 2024

\_\_\_\_\_  
*Signature of Applicant or Agent*

## Part 2 — Technical Requirements

### **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 EPA 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** 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 additional 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 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.
7. **Provide:** Water license number(s) or water conveyance agreement details \_\_\_\_\_

Signed this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*Signature of Applicant or Agent*

layer barn with pad





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Image © 2024 Maxar Technologies

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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: Old layer

Proposed 1: New layer

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? | <input checked="" type="checkbox"/> >1 m<br><input type="checkbox"/> ≤ 1 m                  | <input checked="" type="checkbox"/> >1 m<br><input type="checkbox"/> ≤ 1 m | <input type="checkbox"/> >1 m<br><input type="checkbox"/> ≤ 1 m | <input type="checkbox"/> > 1 m<br><input type="checkbox"/> ≤ 1 m | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption | Not in flood plain   |
|   | Surface water information  | How many springs are within 100 m of the manure storage facility or manure collection area? | 0  | 0   |  |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption |
|   | How many water wells are within 100 m of the manure storage facility or manure collection area?  | 1   | 0  |   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption | 2 wells within 100m of existing, none within 100 m of proposed   |
|   | What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)              | 300   | 300  |   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption | Seasonal drainage 890m NW  |
| Groundwater information                     | What is the depth to the water table?  |   | 4m   |   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption | Confirmed  |
|   | What is the depth to the groundwater resource/aquifer you draw water from?   | 200   | 200  |   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO<br><input type="checkbox"/> YES with exemption | 65m ID 289138  |

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



# Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 289138  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1998/01/22

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

|   |                  |                                   |           |   |               |          |                              |   |                        |                        |  |
|---|------------------|-----------------------------------|-----------|---|---------------|----------|------------------------------|---|------------------------|------------------------|--|
| <b>Well Identification and Location</b>                   |                  |                                   |           |   |               |          | <b>Measurement in Metric</b> |   |                        |                        |  |
| Owner Name<br>HAIRY HILL COLONY                           |                  | Address<br>P.O. BOX 35 HAND HILLS |           | Town  |               | Province |                              | Country   |                        | Postal Code<br>T0B 1S0 |  |
| Location  | 1/4 or LSD<br>NW | SEC<br>9                          | TWP<br>55 | RGE<br>14   | W of MER<br>4 | Lot      | Block                        | Plan  | Additional Description |                        |  |
| Measured from Boundary of<br>_____ m from<br>_____ m from |                  |                                   |           | GPS Coordinates in Decimal Degrees (NAD 83)<br>Latitude <u>53.740484</u> Longitude <u>-112.028207</u> |               |          |                              | Elevation _____ m<br>How Elevation Obtained<br>Not Obtained |                        |                        |  |

|                               |                          |
|-------------------------------|--------------------------|
| <b>Drilling Information</b>   |                          |
| Method of Drilling<br>Rotary  | Type of Work<br>New Well |
| Proposed Well Use<br>Domestic |                          |

| Formation Log               |               | Measurement in Metric         |
|-----------------------------|---------------|-------------------------------|
| Depth from ground level (m) | Water Bearing | Lithology Description         |
| 7.92                        |               | Clay                          |
| 48.46                       |               | Shale                         |
| 48.77                       |               | Hard Limestone                |
| 50.60                       |               | Shale                         |
| 51.82                       |               | Coal                          |
| 57.00                       |               | Shale                         |
| 57.61                       |               | Coal                          |
| 65.23                       |               | Shale                         |
| 70.71                       |               | Gray Sandstone                |
| 73.76                       |               | Shale                         |
| 81.08                       |               | Gray Medium Grained Sandstone |
| 82.30                       |               | Gray Shale                    |

|                           |                            |                        |                       |
|---------------------------|----------------------------|------------------------|-----------------------|
| <b>Yield Test Summary</b> |                            |                        | Measurement in Metric |
| Recommended Pump Rate     | <u>68.19 L/min</u>         |                        |                       |
| Test Date                 | Water Removal Rate (L/min) | Static Water Level (m) |                       |
| 1997/05/22                | 68.19                      | 19.81                  |                       |

|                                       |                     |                             |                  |                           |
|---------------------------------------|---------------------|-----------------------------|------------------|---------------------------|
| <b>Well Completion</b>                |                     |                             |                  | Measurement in Metric     |
| Total Depth Drilled                   | Finished Well Depth | Start Date                  | End Date         |                           |
| 82.30 m                               |                     | 1997/05/21                  | 1997/05/22       |                           |
| <b>Borehole</b>                       |                     |                             |                  |                           |
| Diameter (cm)                         | From (m)            | To (m)                      |                  |                           |
| 0.00                                  | 0.00                | 82.30                       |                  |                           |
| <b>Surface Casing (if applicable)</b> |                     | <b>Well Casing/Liner</b>    |                  |                           |
|                                       |                     | Plastic                     |                  |                           |
| Size OD :                             | <u>0.00 cm</u>      | Size OD :                   | <u>12.70 cm</u>  |                           |
| Wall Thickness :                      | <u>0.000 cm</u>     | Wall Thickness :            | <u>0.630 cm</u>  |                           |
| Bottom at :                           | <u>0.00 m</u>       | Top at :                    | <u>0.00 m</u>    |                           |
|                                       |                     | Bottom at :                 | <u>82.30 m</u>   |                           |
| <b>Perforations</b>                   |                     |                             |                  |                           |
|                                       |                     | Diameter or Slot Width (cm) | Slot Length (cm) | Hole or Slot Interval(cm) |
| From (m)                              | To (m)              |                             |                  |                           |
| 65.23                                 | 71.32               | 0.000                       |                  | 0.05                      |
| 74.37                                 | 80.47               | 0.000                       |                  | 0.00                      |
| Perforated by Machine                 |                     |                             |                  |                           |
| <b>Annular Seal</b> Shale Trap        |                     |                             |                  |                           |
| Placed from                           |                     | <u>0.00 m</u>               | to               | <u>64.01 m</u>            |
| Amount _____                          |                     |                             |                  |                           |
| Other Seals                           |                     |                             |                  |                           |
| Type                                  |                     | At (m)                      |                  |                           |
| <b>Screen Type</b>                    |                     |                             |                  |                           |
| Size OD :                             |                     | <u>0.00 cm</u>              |                  |                           |
| From (m)                              | To (m)              |                             | Slot Size (cm)   |                           |
| Attachment _____                      |                     |                             |                  |                           |
| Top Fittings _____                    |                     | Bottom Fittings _____       |                  |                           |
| <b>Pack</b>                           |                     |                             |                  |                           |
| Type _____                            |                     | Grain Size _____            |                  |                           |
| Amount _____                          |                     |                             |                  |                           |

|  |   |
|--|---|
| <b>Contractor Certification</b>  |   |
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 289138

GoA Well Tag No.

Drilling Company Well ID

Date Report Received 1998/01/22

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

| Well Identification and Location |                  |                                   |           |  |               |     |          |                        |                        | Measurement in Metric  |  |
|----------------------------------|------------------|-----------------------------------|-----------|--|---------------|-----|----------|------------------------|------------------------|------------------------|--|
| Owner Name<br>HAIRY HILL COLONY  |                  | Address<br>P.O. BOX 35 HAND HILLS |           |  | Town          |     | Province |                        | Country                | Postal Code<br>T0B 1S0 |  |
| Location                         | 1/4 or LSD<br>NW | SEC<br>9                          | TWP<br>55 | RGE<br>14  | W of MER<br>4 | Lot | Block    | Plan                   | Additional Description |                        |  |
| Measured from Boundary of        |                  |                                   |           | GPS Coordinates in Decimal Degrees (NAD 83)            |               |     |          | Elevation _____ m      |                        |                        |  |
| _____ m from                     |                  |                                   |           | Latitude <u>53.740484</u> Longitude <u>-112.028207</u> |               |     |          | How Elevation Obtained |                        |                        |  |
| _____ m from                     |                  |                                   |           | Map  |               |     |          | Not Obtained           |                        |                        |  |

| Additional Information                                 |  |  |  |  |                                 |  |  |  |                                       | Measurement in Metric                 |
|--|--|--|--|--|---------------------------------|--|--|--|---------------------------------------|---------------------------------------|
| Distance From Top of Casing to Ground Level _____ cm   |  |  |  |  |                                 |  |  |  |                                       |                                       |
| Is Artesian Flow _____                                 |  |  |  |  | Is Flow Control Installed _____ |  |  |  |                                       |                                       |
| Rate _____ L/min                                       |  |  |  |  | Describe _____                  |  |  |  |                                       |                                       |
| Recommended Pump Rate _____ 68.19 L/min                |  |  |  |  | Pump Installed <u>Yes</u>       |  | Depth _____ m                          |  |                                       |                                       |
| Recommended Pump Intake Depth (From TOC) _____ 54.86 m |  |  |  |  | Type <u>SUB</u>                 |  | Make _____                             |  | H.P. _____                            |                                       |
|  |  |  |  |  |                                 |  |  |  |                                       | Model (Output Rating) _____           |
| Did you Encounter Saline Water (>4000 ppm TDS) _____   |  |  |  |  | Depth _____ m                   |  | Well Disinfected Upon Completion _____ |  |                                       |                                       |
| Remedial Action Taken _____                            |  |  |  |  | Gas _____                       |  | Depth _____ m                          |  | Geophysical Log Taken <u>Electric</u> |                                       |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD _____               |
|  |  |  |  |  |                                 |  |  |  |                                       | Sample Collected for Potability _____ |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD _____               |
| Additional Comments on Well _____                      |  |  |  |  |                                 |  |  |  |                                       |                                       |

| Yield Test                         |            |                    |  | Taken From Ground Level |                             | Measurement in Metric |
|------------------------------------|------------|--------------------|--|-------------------------|-----------------------------|-----------------------|
| Test Date                          | Start Time | Static Water Level |  | Depth to water level    |                             |                       |
| 1997/05/22                         | 2:24 AM    | 19.81 m            |  |                         |                             |                       |
|                                    |            |                    |  | Pumping (m)             | Elapsed Time<br>Minutes:Sec | Recovery (m)          |
| <b>Method of Water Removal</b>     |            |                    |  |                         | 0:00                        | 54.86                 |
| Type <u>Air</u>                    |            |                    |  |                         | 1:00                        | 47.07                 |
| Removal Rate _____ 68.19 L/min     |            |                    |  |                         | 2:00                        | 37.49                 |
| Depth Withdrawn From _____ 54.86 m |            |                    |  |                         | 3:00                        | 30.96                 |
|                                    |            |                    |  |                         | 4:00                        | 27.20                 |
|                                    |            |                    |  |                         | 5:00                        | 24.92                 |
|                                    |            |                    |  |                         | 6:00                        | 23.83                 |
|                                    |            |                    |  |                         | 7:00                        | 22.99                 |
|                                    |            |                    |  |                         | 8:00                        | 22.35                 |
|                                    |            |                    |  |                         | 9:00                        | 21.67                 |
|                                    |            |                    |  |                         | 10:00                       | 21.41                 |
|                                    |            |                    |  |                         | 12:00                       | 21.13                 |
|                                    |            |                    |  |                         | 16:00                       | 20.75                 |
|                                    |            |                    |  |                         | 20:00                       | 20.65                 |

| Water Diverted for Drilling |              |                       |
|-----------------------------|--------------|-----------------------|
| Water Source                | Amount Taken | Diversion Date & Time |
|                             | L            |                       |

| Contractor Certification   |   |
|--|---|
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 199209  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1970/08/04

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

| Well Identification and Location |                  |                                   |           |           |  |     |          |      |                        | Measurement in Metric     |                        |  |
|----------------------------------|------------------|-----------------------------------|-----------|-----------|--|-----|----------|------|------------------------|---------------------------|------------------------|--|
| Owner Name<br>TOMA, ANDY         |                  | Address<br>P.O. BOX 35 HAIRY HILL |           |           | Town   |     | Province |      | Country                |                           | Postal Code<br>T0B 1S0 |  |
| Location                         | 1/4 or LSD<br>SW | SEC<br>9                          | TWP<br>55 | RGE<br>14 | W of MER<br>4  | Lot | Block    | Plan | Additional Description |                           |                        |  |
| Measured from Boundary of        |                  |                                   |           |           | GPS Coordinates in Decimal Degrees (NAD 83)            |     |          |      |                        | Elevation <u>627.89 m</u> |                        |  |
| _____ m from                     |                  |                                   |           |           | Latitude <u>53.733252</u> Longitude <u>-112.028204</u> |     |          |      |                        | How Elevation Obtained    |                        |  |
| _____ m from                     |                  |                                   |           |           | Map  |     |          |      |                        | Estimated                 |                        |  |

| Drilling Information                  |                          |
|---------------------------------------|--------------------------|
| Method of Drilling<br>Rotary          | Type of Work<br>New Well |
| Proposed Well Use<br>Domestic & Stock |                          |

| Formation Log               | Measurement in Metric   |
|-----------------------------|-------------------------|
| Depth from ground level (m) | Water Bearing           |
| 0.30                        | Topsoil                 |
| 5.18                        | Brown Till              |
| 11.58                       | Gray Clay & Sand        |
| 14.63                       | Dark Gray Shale         |
| 15.24                       | Gray Sandstone          |
| 20.73                       | Gray Shale              |
| 24.99                       | Light Brown Shale       |
| 25.30                       | Gray Sandstone          |
| 27.13                       | Gray Shale              |
| 28.65                       | Brown Shale             |
| 29.26                       | Light Gray Shale        |
| 29.87                       | Coal                    |
| 31.09                       | Light Brown Shale       |
| 33.83                       | Light Gray Shale        |
| 34.14                       | Bentonitic Sandstone    |
| 36.88                       | Gray Shale              |
| 39.01                       | Sandy Clay              |
| 39.62                       | Black Sandstone         |
| 40.54                       | Brown Shale             |
| 41.45                       | Brown Shale             |
| 42.06                       | Gray Hard Shale         |
| 44.81                       | Gray Sandy Clay         |
| 47.55                       | Gray Soft Clay          |
| 47.85                       | Gray Sandstone          |
| 50.60                       | Dark Gray Shale         |
| 50.90                       | Coal                    |
| 53.04                       | Gray Shale              |
| 53.95                       | Gray Sandstone          |
| 55.47                       | Shale & Sandy Stringers |
| 58.52                       | Gray Shale              |
| 59.44                       | Brown Soft Coal         |
| 71.93                       | Gray Shale              |

| Yield Test Summary    |                            |                        | Measurement in Metric |
|-----------------------|----------------------------|------------------------|-----------------------|
| Recommended Pump Rate | <u>0.00 L/min</u>          |                        |                       |
| Test Date             | Water Removal Rate (L/min) | Static Water Level (m) |                       |
| 1970/05/14            | 31.82                      | 26.52                  |                       |

| Well Completion                            |                     |                             |                  | Measurement in Metric     |
|--|---------------------|-----------------------------|------------------|---------------------------|
| Total Depth Drilled                        | Finished Well Depth | Start Date                  | End Date         |                           |
| 95.40 m                                    |                     |                             | 1970/05/14       |                           |
| <b>Borehole</b>                            |                     |                             |                  |                           |
| Diameter (cm)                              | From (m)            | To (m)                      |                  |                           |
| 0.00                                       | 0.00                | 95.40                       |                  |                           |
| <b>Surface Casing (if applicable)</b>      |                     | <b>Well Casing/Liner</b>    |                  |                           |
| Steel                                      |                     |                             |                  |                           |
| Size OD :                                  | <u>11.43 cm</u>     | Size OD :                   | <u>0.00 cm</u>   |                           |
| Wall Thickness :                           | <u>0.396 cm</u>     | Wall Thickness :            | <u>0.000 cm</u>  |                           |
| Bottom at :                                | <u>73.15 m</u>      | Top at :                    | <u>0.00 m</u>    |                           |
|  |                     | Bottom at :                 | <u>0.00 m</u>    |                           |
| <b>Perforations</b>                        |                     |                             |                  |                           |
|  |                     | Diameter or Slot Width (cm) | Slot Length (cm) | Hole or Slot Interval(cm) |
| From (m)                                   | To (m)              |                             |                  |                           |
| Perforated by                              |                     |                             |                  |                           |
| <b>Annular Seal</b> Driven                 |                     |                             |                  |                           |
| Placed from <u>0.00 m</u> to <u>0.00 m</u> |                     |                             |                  |                           |
| Amount _____                               |                     |                             |                  |                           |
| Other Seals                                |                     |                             |                  |                           |
| Type                                       |                     |                             |                  | At (m)                    |
| <b>Screen Type</b>                         |                     |                             |                  |                           |
| Size OD : <u>0.00 cm</u>                   |                     |                             |                  |                           |
| From (m)                                   | To (m)              | Slot Size (cm)              |                  |                           |
| Attachment _____                           |                     |                             |                  |                           |
| Top Fittings _____                         |                     | Bottom Fittings _____       |                  |                           |
| <b>Pack</b>                                |                     |                             |                  |                           |
| Type _____                                 |                     |                             |                  | Grain Size _____          |
| Amount <u>0.00</u>                         |                     |                             |                  |                           |

| Contractor Certification   |   |
|--|---|
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>BYRT, STAN & SONS LTD.   | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

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GIC Well ID 199209  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1970/08/04

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

|   |                         |  |                  |                  |                      |  |              |                 |                               |                               |                               |  |
|---|-------------------------|--|------------------|------------------|----------------------|--|--------------|-----------------|-------------------------------|-------------------------------|-------------------------------|--|
| <b>Well Identification and Location</b> |                         |  |                  |                  |                      |  |              |                 |                               | <b>Measurement in Metric</b>  |                               |  |
| <i>Owner Name</i><br>TOMA, ANDY         |                         | <i>Address</i><br>P.O. BOX 35 HAIRY HILL |                  |                  |                      | <i>Town</i>  |              | <i>Province</i> |                               | <i>Country</i>                | <i>Postal Code</i><br>T0B 1S0 |  |
| <i>Location</i>                         | <i>1/4 or LSD</i><br>SW | <i>SEC</i><br>9                          | <i>TWP</i><br>55 | <i>RGE</i><br>14 | <i>W of MER</i><br>4 | <i>Lot</i>   | <i>Block</i> | <i>Plan</i>     | <i>Additional Description</i> |                               |                               |  |
| <i>Measured from Boundary of</i>        |                         |  |                  |                  |                      | <i>GPS Coordinates in Decimal Degrees (NAD 83)</i> |              |                 |                               | <i>Elevation</i> 627.89 m     |                               |  |
| _____ m from _____                      |                         |  |                  |                  |                      | Latitude 53.733252 Longitude -112.028204           |              |                 |                               | <i>How Elevation Obtained</i> |                               |  |
| _____ m from _____                      |                         |  |                  |                  |                      | Map  |              |                 |                               | Estimated                     |                               |  |

| Depth from ground level (m) | Water Bearing | Lithology Description |
|-----------------------------|---------------|-----------------------|
| 77.42                       |               | Gray Soft Sandstone   |
| 86.56                       |               | Gray Shale            |
| 87.78                       |               | Black Sandstone       |
| 89.61                       |               | Gray Soft Sandstone   |
| 95.40                       |               | Gray Shale            |

|   |   |
|---|---|
| <b>Contractor Certification</b>   |   |
| <i>Name of Journeyman responsible for drilling/construction of well</i><br>UNKNOWN NA DRILLER | <i>Certification No</i><br>1  |
| <i>Company Name</i><br>BYRT, STAN & SONS LTD.   | <i>Copy of Well report provided to owner</i> <i>Date approval holder signed</i> |



# Water Well Drilling Report

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GIC Well ID 199209  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1970/08/04

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GOWN ID

|   |            |                        |     |     |  |     |          |      |                        |                              |             |  |
|---|------------|------------------------|-----|-----|--|-----|----------|------|------------------------|------------------------------|-------------|--|
| <b>Well Identification and Location</b> |            |                        |     |     |  |     |          |      |                        | <b>Measurement in Metric</b> |             |  |
| Owner Name                              |            | Address                |     |     | Town   |     | Province |      | Country                |                              | Postal Code |  |
| TOMA, ANDY                              |            | P.O. BOX 35 HAIRY HILL |     |     |  |     |          |      |                        |                              | T0B 1S0     |  |
| Location                                | 1/4 or LSD | SEC                    | TWP | RGE | W of MER   | Lot | Block    | Plan | Additional Description |                              |             |  |
|   | SW         | 9                      | 55  | 14  | 4  |     |          |      |                        |                              |             |  |
| Measured from Boundary of               |            |                        |     |     | GPS Coordinates in Decimal Degrees (NAD 83)            |     |          |      |                        | Elevation                    |             |  |
| _____ m from                            |            |                        |     |     | Latitude <u>53.733252</u> Longitude <u>-112.028204</u> |     |          |      |                        | <u>627.89</u> m              |             |  |
| _____ m from                            |            |                        |     |     | How Location Obtained                                  |     |          |      |                        | How Elevation Obtained       |             |  |
|   |            |                        |     |     | Map  |     |          |      |                        | Estimated                    |             |  |

|  |  |  |  |  |                                       |  |  |                              |                                       |                              |                             |  |
|--|--|--|--|--|---------------------------------------|--|--|------------------------------|---------------------------------------|------------------------------|-----------------------------|--|
| <b>Additional Information</b>                          |  |  |  |  |                                       |  |  |                              |                                       | <b>Measurement in Metric</b> |                             |  |
| Distance From Top of Casing to Ground Level _____ cm   |  |  |  |  |                                       |  |  |                              |                                       |                              |                             |  |
| Is Artesian Flow _____                                 |  |  |  |  | Is Flow Control Installed _____       |  |  |                              |                                       |                              |                             |  |
| Rate _____ L/min                                       |  |  |  |  | Describe _____                        |  |  |                              |                                       |                              |                             |  |
| Recommended Pump Rate _____ 0.00 L/min                 |  |  |  |  | Pump Installed <u>Yes</u>             |  | Depth _____ m                          |                              |                                       |                              |                             |  |
| Recommended Pump Intake Depth (From TOC) _____ 42.37 m |  |  |  |  | Type <u>SUB</u>                       |  | Make <u>JENSEN</u>                     |                              | H.P. <u>.5</u>                        |                              | Model (Output Rating) _____ |  |
| Did you Encounter Saline Water (>4000 ppm TDS) _____   |  |  |  |  | Depth _____ m                         |  | Well Disinfected Upon Completion _____ |                              |                                       |                              |                             |  |
| Remedial Action Taken _____                            |  |  |  |  | Gas _____                             |  | Depth _____ m                          |                              | Geophysical Log Taken <u>Electric</u> |                              |                             |  |
|  |  |  |  |  | Submitted to ESRD <u>Electric</u>     |  |  |                              |                                       |                              |                             |  |
| Additional Comments on Well                            |  |  |  |  | Sample Collected for Potability _____ |  |  | Submitted to ESRD <u>Yes</u> |                                       |                              |                             |  |
| DRILLER REPORTS "SOFT, SLIGHTLY SALTY WATER"           |  |  |  |  |                                       |  |  |                              |                                       |                              |                             |  |

|  |            |                    |  |  |                                |  |                              |  |  |
|--|------------|--------------------|--|--|--------------------------------|--|------------------------------|--|--|
| <b>Yield Test</b>                                  |            |                    |  |  | <b>Taken From Ground Level</b> |  | <b>Measurement in Metric</b> |  |  |
| Test Date  | Start Time | Static Water Level |  |  | Depth to water level           |  | Recovery (m)                 |  |  |
| 1970/05/14   | 12:00 AM   | 26.52 m            |  |  | Pumping (m)                    |  | Elapsed Time                 |  |  |
|  |            |                    |  |  |                                |  | Minutes:Sec                  |  |  |
| <b>Method of Water Removal</b>                     |            |                    |  |  |                                |  |                              |  |  |
| Type <u>Pump</u>                                   |            |                    |  |  |                                |  |                              |  |  |
| Removal Rate _____ 31.82 L/min                     |            |                    |  |  |                                |  |                              |  |  |
| Depth Withdrawn From _____ 0.00 m                  |            |                    |  |  |                                |  |                              |  |  |
| If water removal period was < 2 hours, explain why |            |                    |  |  |                                |  |                              |  |  |

|                                    |              |                       |
|------------------------------------|--------------|-----------------------|
| <b>Water Diverted for Drilling</b> |              |                       |
| Water Source                       | Amount Taken | Diversion Date & Time |
|                                    | L            |                       |

|  |   |
|--|---|
| <b>Contractor Certification</b>                                  |   |
| Name of Journeyman responsible for drilling/construction of well | Certification No  |
| UNKNOWN NA DRILLER   | 1   |
| Company Name   | Copy of Well report provided to owner Date approval holder signed |
| BYRT, STAN & SONS LTD.   |   |



# Water Well Drilling Report

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GIC Well ID 255294  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1995/04/11

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GOWN ID

|   |                  |                                    |           |  |               |     |          |                       |                        |                              |                        |  |
|---|------------------|------------------------------------|-----------|--|---------------|-----|----------|-----------------------|------------------------|------------------------------|------------------------|--|
| <b>Well Identification and Location</b> |                  |                                    |           |  |               |     |          |                       |                        | <b>Measurement in Metric</b> |                        |  |
| Owner Name<br>HAIRY HILL COLONY LTD     |                  | Address<br>P.O. BOX 357 HAIRY HILL |           |  | Town          |     | Province |                       | Country                |                              | Postal Code<br>T0B 1S0 |  |
| Location                                | 1/4 or LSD<br>SW | SEC<br>9                           | TWP<br>55 | RGE<br>14  | W of MER<br>4 | Lot | Block    | Plan                  | Additional Description |                              |                        |  |
| Measured from Boundary of               |                  |                                    |           | GPS Coordinates in Decimal Degrees (NAD 83)            |               |     |          | Elevation _____ m     |                        |                              |                        |  |
| _____ m from                            |                  |                                    |           | Latitude <u>53.733252</u> Longitude <u>-112.028204</u> |               |     |          | How Location Obtained |                        |                              |                        |  |
| _____ m from                            |                  |                                    |           | Map  |               |     |          | Not Obtained          |                        |                              |                        |  |

|                               |                          |
|-------------------------------|--------------------------|
| <b>Drilling Information</b>   |                          |
| Method of Drilling<br>Rotary  | Type of Work<br>New Well |
| Proposed Well Use<br>Domestic |                          |

| Formation Log               |               | Measurement in Metric |
|-----------------------------|---------------|-----------------------|
| Depth from ground level (m) | Water Bearing | Lithology Description |
| 3.05                        |               | Yellow Clay           |
| 3.66                        |               | Brown Sand            |
| 6.40                        |               | Gray Clay             |
| 70.71                       |               | Gray Shale            |
| 73.76                       |               | Gray Sandstone        |
| 76.20                       |               | Gray Shale            |

|                           |                            |                              |
|---------------------------|----------------------------|------------------------------|
| <b>Yield Test Summary</b> |                            | <b>Measurement in Metric</b> |
| Recommended Pump Rate     | <u>81.83 L/min</u>         |                              |
| Test Date                 | Water Removal Rate (L/min) | Static Water Level (m)       |
| 1994/08/27                | 45.46                      | 28.04                        |

|  |                     |                              |                           |
|--|---------------------|------------------------------|---------------------------|
| <b>Well Completion</b>                     |                     | <b>Measurement in Metric</b> |                           |
| Total Depth Drilled                        | Finished Well Depth | Start Date                   | End Date                  |
| 76.20 m                                    |                     | 1994/08/26                   | 1994/08/27                |
| <b>Borehole</b>                            |                     |                              |                           |
| Diameter (cm)                              | From (m)            | To (m)                       |                           |
| 0.00                                       | 0.00                | 76.20                        |                           |
| <b>Surface Casing (if applicable)</b>      |                     | <b>Well Casing/Liner</b>     |                           |
| Plastic                                    |                     | Plastic                      |                           |
| Size OD :                                  | <u>12.70 cm</u>     | Size OD :                    | <u>0.00 cm</u>            |
| Wall Thickness :                           | <u>0.630 cm</u>     | Wall Thickness :             | <u>0.000 cm</u>           |
| Bottom at :                                | <u>70.71 m</u>      | Top at :                     | <u>0.00 m</u>             |
|  |                     | Bottom at :                  | <u>0.00 m</u>             |
| <b>Perforations</b>                        |                     |                              |                           |
| From (m)                                   | To (m)              | Diameter or Slot Width (cm)  | Slot Length (cm)          |
|  |                     |                              | Hole or Slot Interval(cm) |
| Perforated by                              |                     |                              |                           |
| <b>Annular Seal</b> Shale Trap & Bentonite |                     |                              |                           |
| Placed from                                |                     | <u>6.10 m</u>                | to <u>70.71 m</u>         |
| Amount _____                               |                     |                              |                           |
| Other Seals                                |                     |                              |                           |
| Type                                       |                     | At (m)                       |                           |
| <b>Screen Type</b>                         |                     |                              |                           |
| Size OD :                                  |                     | <u>0.00 cm</u>               |                           |
| From (m)                                   | To (m)              | Slot Size (cm)               |                           |
| Attachment _____                           |                     |                              |                           |
| Top Fittings _____                         |                     | Bottom Fittings _____        |                           |
| <b>Pack</b>                                |                     |                              |                           |
| Type _____                                 |                     | Grain Size _____             |                           |
| Amount _____                               |                     |                              |                           |

|  |   |
|--|---|
| <b>Contractor Certification</b>  |   |
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

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GIC Well ID 255294  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1995/04/11

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

| Well Identification and Location    |                  |                                    |           |  |               |     |          |                        |                        | Measurement in Metric  |  |
|-------------------------------------|------------------|------------------------------------|-----------|--|---------------|-----|----------|------------------------|------------------------|------------------------|--|
| Owner Name<br>HAIRY HILL COLONY LTD |                  | Address<br>P.O. BOX 357 HAIRY HILL |           |  | Town          |     | Province |                        | Country                | Postal Code<br>T0B 1S0 |  |
| Location                            | 1/4 or LSD<br>SW | SEC<br>9                           | TWP<br>55 | RGE<br>14  | W of MER<br>4 | Lot | Block    | Plan                   | Additional Description |                        |  |
| Measured from Boundary of           |                  |                                    |           | GPS Coordinates in Decimal Degrees (NAD 83)            |               |     |          | Elevation _____ m      |                        |                        |  |
| _____ m from                        |                  |                                    |           | Latitude <u>53.733252</u> Longitude <u>-112.028204</u> |               |     |          | How Elevation Obtained |                        |                        |  |
| _____ m from                        |                  |                                    |           | Map  |               |     |          | Not Obtained           |                        |                        |  |

| Additional Information                                 |  |  |  |  |                                 |  |  |  |                                       | Measurement in Metric                 |
|--|--|--|--|--|---------------------------------|--|--|--|---------------------------------------|---------------------------------------|
| Distance From Top of Casing to Ground Level _____ cm   |  |  |  |  |                                 |  |  |  |                                       |                                       |
| Is Artesian Flow _____                                 |  |  |  |  | Is Flow Control Installed _____ |  |  |  |                                       |                                       |
| Rate _____ L/min                                       |  |  |  |  | Describe _____                  |  |  |  |                                       |                                       |
| Recommended Pump Rate _____ 81.83 L/min                |  |  |  |  | Pump Installed <u>Yes</u>       |  | Depth _____ m                          |  |                                       |                                       |
| Recommended Pump Intake Depth (From TOC) _____ 67.06 m |  |  |  |  | Type <u>SUB</u>                 |  | Make _____                             |  | H.P. _____                            |                                       |
|  |  |  |  |  |                                 |  |  |  |                                       | Model (Output Rating) _____           |
| Did you Encounter Saline Water (>4000 ppm TDS) _____   |  |  |  |  | Depth _____ m                   |  | Well Disinfected Upon Completion _____ |  |                                       |                                       |
| Remedial Action Taken _____                            |  |  |  |  | Gas _____                       |  | Depth _____ m                          |  | Geophysical Log Taken <u>Electric</u> |                                       |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD <u>Electric</u>     |
|  |  |  |  |  |                                 |  |  |  |                                       | Sample Collected for Potability _____ |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD _____               |
| Additional Comments on Well                            |  |  |  |  |                                 |  |  |  |                                       |                                       |

| Yield Test                          |            |                    | Taken From Ground Level |                             | Measurement in Metric |
|-------------------------------------|------------|--------------------|-------------------------|-----------------------------|-----------------------|
| Test Date                           | Start Time | Static Water Level | Depth to water level    |                             |                       |
| 1994/08/27                          | 7:12 AM    | 28.04 m            | Pumping (m)             | Elapsed Time<br>Minutes:Sec | Recovery (m)          |
| <b>Method of Water Removal</b>      |            |                    |                         | 1:00                        | 52.83                 |
| Type <u>Pump</u>                    |            |                    |                         | 2:00                        | 48.97                 |
| Removal Rate <u>45.46 L/min</u>     |            |                    |                         | 3:00                        | 46.53                 |
| Depth Withdrawn From <u>67.06 m</u> |            |                    |                         | 4:00                        | 42.77                 |
|                                     |            |                    |                         | 5:00                        | 41.09                 |
|                                     |            |                    |                         | 6:00                        | 39.40                 |
|                                     |            |                    |                         | 7:00                        | 38.58                 |
|                                     |            |                    |                         | 8:00                        | 37.64                 |
|                                     |            |                    |                         | 9:00                        | 36.65                 |
|                                     |            |                    |                         | 10:00                       | 35.89                 |
|                                     |            |                    |                         | 12:00                       | 34.80                 |
|                                     |            |                    |                         | 14:00                       | 34.04                 |
|                                     |            |                    |                         | 16:00                       | 33.10                 |
|                                     |            |                    |                         | 20:00                       | 32.13                 |
|                                     |            |                    |                         | 25:00                       | 31.42                 |
|                                     |            |                    |                         | 30:00                       | 30.84                 |
|                                     |            |                    |                         | 35:00                       | 29.95                 |
|                                     |            |                    |                         | 40:00                       | 29.36                 |
|                                     |            |                    |                         | 50:00                       | 28.86                 |
|                                     |            |                    |                         | 60:00                       | 28.65                 |
|                                     |            |                    |                         | 75:00                       | 28.40                 |
|                                     |            |                    |                         | 90:00                       | 28.25                 |
|                                     |            |                    |                         | 105:00                      | 28.04                 |

| Water Diverted for Drilling |              |                       |
|-----------------------------|--------------|-----------------------|
| Water Source                | Amount Taken | Diversion Date & Time |
|                             | L            |                       |

| Contractor Certification   |   |
|--|---|
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

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GIC Well ID 161956  
GoA Well Tag No.  
Drilling Company Well ID  
Date Report Received 1992/01/09

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

| Well Identification and Location |            |            |     |     |  |     |          |      |                        | Measurement in Metric |             |  |
|----------------------------------|------------|------------|-----|-----|--|-----|----------|------|------------------------|-----------------------|-------------|--|
| Owner Name                       |            | Address    |     |     | Town   |     | Province |      | Country                |                       | Postal Code |  |
| HAIRY HILL COLONY                |            | HAIRY HILL |     |     |  |     |          |      |                        |                       | T0B 1F0     |  |
| Location                         | 1/4 or LSD | SEC        | TWP | RGE | W of MER   | Lot | Block    | Plan | Additional Description |                       |             |  |
| WH                               |            | 9          | 55  | 14  | 4  |     |          |      |                        |                       |             |  |
| Measured from Boundary of        |            |            |     |     | GPS Coordinates in Decimal Degrees (NAD 83)            |     |          |      |                        | Elevation _____ m     |             |  |
| _____ m from                     |            |            |     |     | Latitude <u>53.736868</u> Longitude <u>-112.028206</u> |     |          |      |                        | How Location Obtained |             |  |
| _____ m from                     |            |            |     |     | Not Verified   |     |          |      |                        | Not Obtained          |             |  |

| Drilling Information          |  | Type of Work |  |
|-------------------------------|--|--------------|--|
| Method of Drilling<br>Rotary  |  | New Well     |  |
| Proposed Well Use<br>Domestic |  |              |  |

| Formation Log               |               |                               | Measurement in Metric |
|-----------------------------|---------------|-------------------------------|-----------------------|
| Depth from ground level (m) | Water Bearing | Lithology Description         |                       |
| 5.49                        |               | Yellow Clay                   |                       |
| 10.67                       |               | Gray Clay                     |                       |
| 28.04                       |               | Gray Shale                    |                       |
| 28.35                       |               | Coal                          |                       |
| 44.20                       |               | Shale                         |                       |
| 44.81                       |               | Limestone                     |                       |
| 49.99                       |               | Shale                         |                       |
| 50.29                       |               | Limestone                     |                       |
| 56.69                       |               | Shale                         |                       |
| 57.91                       |               | Limestone                     |                       |
| 62.79                       |               | Gray Shale                    |                       |
| 63.40                       |               | Limestone                     |                       |
| 70.71                       |               | Gray Hard Shale               |                       |
| 73.15                       |               | Gray Medium Grained Sandstone |                       |

| Yield Test Summary    |                            |                        | Measurement in Metric |
|-----------------------|----------------------------|------------------------|-----------------------|
| Recommended Pump Rate |                            | <u>90.92 L/min</u>     |                       |
| Test Date             | Water Removal Rate (L/min) | Static Water Level (m) |                       |
| 1991/08/30            | 45.46                      | 18.29                  |                       |

| Well Completion                             |                     |                             |                  | Measurement in Metric     |
|---|---------------------|-----------------------------|------------------|---------------------------|
| Total Depth Drilled                         | Finished Well Depth | Start Date                  | End Date         |                           |
| 73.15 m                                     |                     | 1991/08/30                  | 1991/08/30       |                           |
| <b>Borehole</b>                             |                     |                             |                  |                           |
| Diameter (cm)                               | From (m)            | To (m)                      |                  |                           |
| 0.00  | 0.00                | 73.15                       |                  |                           |
| <b>Surface Casing (if applicable)</b>       |                     | <b>Well Casing/Liner</b>    |                  |                           |
| Plastic                                     |                     |                             |                  |                           |
| Size OD :                                   | <u>12.70 cm</u>     | Size OD :                   | <u>0.00 cm</u>   |                           |
| Wall Thickness :                            | <u>0.711 cm</u>     | Wall Thickness :            | <u>0.000 cm</u>  |                           |
| Bottom at :                                 | <u>70.10 m</u>      | Top at :                    | <u>0.00 m</u>    |                           |
|   |                     | Bottom at :                 | <u>0.00 m</u>    |                           |
| <b>Perforations</b>                         |                     |                             |                  |                           |
| From (m)                                    | To (m)              | Diameter or Slot Width (cm) | Slot Length (cm) | Hole or Slot Interval(cm) |
|   |                     |                             |                  |                           |
| Perforated by                               |                     |                             |                  |                           |
| <b>Annular Seal</b> Shale Trap              |                     |                             |                  |                           |
| Placed from <u>0.00 m</u> to <u>70.10 m</u> |                     |                             |                  |                           |
| Amount _____                                |                     |                             |                  |                           |
| Other Seals                                 |                     |                             |                  |                           |
| Type  |                     |                             |                  | At (m)                    |
| <b>Screen Type</b>                          |                     |                             |                  |                           |
| Size OD : <u>0.00 cm</u>                    |                     |                             |                  |                           |
| From (m)                                    |                     | To (m)                      |                  | Slot Size (cm)            |
| Attachment _____                            |                     |                             |                  |                           |
| Top Fittings _____                          |                     | Bottom Fittings _____       |                  |                           |
| <b>Pack</b>                                 |                     |                             |                  |                           |
| Type _____ Grain Size _____                 |                     |                             |                  |                           |
| Amount <u>0.00</u>                          |                     |                             |                  |                           |

| Contractor Certification   |   |
|--|---|
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |



# Water Well Drilling Report

[View in Imperial](#) [Export to Excel](#)

GIC Well ID 161956

GoA Well Tag No.

Drilling Company Well ID

Date Report Received 1992/01/09

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

| Well Identification and Location |                  |                       |           |           |  |     |          |      |                        | Measurement in Metric  |                        |
|----------------------------------|------------------|-----------------------|-----------|-----------|--|-----|----------|------|------------------------|------------------------|------------------------|
| Owner Name<br>HAIRY HILL COLONY  |                  | Address<br>HAIRY HILL |           |           | Town   |     | Province |      | Country                |                        | Postal Code<br>T0B 1F0 |
| Location                         | 1/4 or LSD<br>WH | SEC<br>9              | TWP<br>55 | RGE<br>14 | W of MER<br>4  | Lot | Block    | Plan | Additional Description |                        |                        |
| Measured from Boundary of        |                  |                       |           |           | GPS Coordinates in Decimal Degrees (NAD 83)            |     |          |      |                        | Elevation _____ m      |                        |
| _____ m from                     |                  |                       |           |           | Latitude <u>53.736868</u> Longitude <u>-112.028206</u> |     |          |      |                        | How Elevation Obtained |                        |
| _____ m from                     |                  |                       |           |           | Not Verified   |     |          |      |                        | Not Obtained           |                        |

| Additional Information                                 |  |  |  |  |                                 |  |  |  |                                       | Measurement in Metric                 |  |
|--|--|--|--|--|---------------------------------|--|--|--|---------------------------------------|---------------------------------------|--|
| Distance From Top of Casing to Ground Level _____ cm   |  |  |  |  |                                 |  |  |  |                                       |                                       |  |
| Is Artesian Flow _____                                 |  |  |  |  | Is Flow Control Installed _____ |  |  |  |                                       |                                       |  |
| Rate _____ L/min                                       |  |  |  |  | Describe _____                  |  |  |  |                                       |                                       |  |
| Recommended Pump Rate _____ 90.92 L/min                |  |  |  |  | Pump Installed <u>Yes</u>       |  | Depth _____ m                          |  |                                       |                                       |  |
| Recommended Pump Intake Depth (From TOC) _____ 60.96 m |  |  |  |  | Type <u>SUB</u>                 |  | Make _____                             |  | H.P. _____                            |                                       |  |
|  |  |  |  |  |                                 |  |  |  |                                       | Model (Output Rating) _____           |  |
| Did you Encounter Saline Water (>4000 ppm TDS) _____   |  |  |  |  | Depth _____ m                   |  | Well Disinfected Upon Completion _____ |  |                                       |                                       |  |
| Remedial Action Taken _____                            |  |  |  |  | Gas _____                       |  | Depth _____ m                          |  | Geophysical Log Taken <u>Electric</u> |                                       |  |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD <u>Electric</u>     |  |
|  |  |  |  |  |                                 |  |  |  |                                       | Sample Collected for Potability _____ |  |
|  |  |  |  |  |                                 |  |  |  |                                       | Submitted to ESRD _____               |  |
| Additional Comments on Well                            |  |  |  |  |                                 |  |  |  |                                       |                                       |  |

| Yield Test   |                        |                               |             | Taken From Ground Level     |              | Measurement in Metric |
|--|------------------------|-------------------------------|-------------|-----------------------------|--------------|-----------------------|
| Test Date<br>1991/08/30                            | Start Time<br>12:00 AM | Static Water Level<br>18.29 m |             | Depth to water level        |              |                       |
|  |                        |                               | Pumping (m) | Elapsed Time<br>Minutes:Sec | Recovery (m) |                       |
| <b>Method of Water Removal</b>                     |                        |                               |             |                             |              |                       |
| Type <u>Pump</u>                                   |                        |                               |             |                             |              |                       |
| Removal Rate _____ 45.46 L/min                     |                        |                               |             |                             |              |                       |
| Depth Withdrawn From _____ 60.96 m                 |                        |                               |             |                             |              |                       |
| If water removal period was < 2 hours, explain why |                        |                               |             |                             |              |                       |

| Water Diverted for Drilling |              |                       |
|-----------------------------|--------------|-----------------------|
| Water Source                | Amount Taken | Diversion Date & Time |
|                             | L            |                       |

| Contractor Certification   |   |
|--|---|
| Name of Journeyman responsible for drilling/construction of well<br>UNKNOWN NA DRILLER | Certification No<br>1   |
| Company Name<br>EARNEST WATER WELL DRILLING LTD.                                       | Copy of Well report provided to owner Date approval holder signed |

**NRCB USE ONLY**  
**ENVIRONMENTAL RISK SCREENING INFORMATION**

**ERST** for proposed facilities

| Facility            | Groundwater score           | Surface water score | File number |
|---------------------|-----------------------------|---------------------|-------------|
| layer barn with pad | Meets all AOPA requirements | Low for GW and SW   | BA24010     |
|                     |                             |                     |             |
|                     |                             |                     |             |
|                     |                             |                     |             |
|                     |                             |                     |             |
|                     |                             |                     |             |

**ERST** for existing facilities

| Facility                       | Groundwater score | Surface water score | File number |
|--------------------------------|-------------------|---------------------|-------------|
| EMS                            | Low               | Low                 | BA24010     |
| Catch basin                    | Low               | Low                 | BA24010     |
| Feedlot                        | Low               | Low                 | BA24010     |
| Highest risk facilities scored |                   |                     |             |
|                                |                   |                     |             |
|                                |                   |                     |             |
|                                |                   |                     |             |
|                                |                   |                     |             |

**ERST related comments:**

**NRCB USE ONLY**

**WATER WELL AND SURFACE WATER INFORMATION**

Well IDs:           ID 161956 (shop)                     ID 289138 (old layer barn)          

\_\_\_\_\_

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 |
|--|-----------------------------|---------------------------|----------|
| Water well sampling condition already onsite from BA05007A, condition is continuing.<br>Proposed facilities not within 100 m of wells. |                             |                           |          |
|  |                             |                           |          |
|  |                             |                           |          |
|  |                             |                           |          |
|  |                             |                           |          |
|  |                             |                           |          |
|  |                             |                           |          |

**Groundwater or surface water related comments:**

## Part 2 – Technical Requirements

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

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

| Neighbour name(s) | Legal land description | Distance (m) | NRCB USE ONLY         |                    |              |                               |                   |
|-------------------|------------------------|--------------|-----------------------|--------------------|--------------|-------------------------------|-------------------|
|                   |                        |              | Zoning (LUB) category | MDS category (1-4) | Distance (m) | Waiver attached (if required) | Meets regulations |
| ① Kelvin Lonetz   | SE 9-55-14 W4          | 1000         | Ag                    | Cat 1              | 931 m        | N/A                           | Yes               |
| ② Ellen Dunn      | SW 10-55-14-W4         | 1200         | Ag                    | Cat 1              | 1278 m       |                               | Yes               |
| ③ Melvin Verenka  | NW 3-55-14-W4          | 1300         | Ag                    | Cat 1              | 1329 m       |                               | Yes               |
| ④ Barry Taylor    | SW 4-9-55-14           | 1800         | Ag                    | Cat 1              | 1495 m       |                               | Yes               |
| ⑤ Peter Fehr      | SE 4-9-55-14           | 1900         | Ag                    | Cat 1              | 1642 m       |                               | Yes               |

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

| Name of land owner(s)* | Legal land description | Usable area** (ha) | Soil zone *** | NRCB USE ONLY    |                                  |
|------------------------|------------------------|--------------------|---------------|------------------|----------------------------------|
|                        |                        |                    |               | Usable area (ha) | Agreement attached (if required) |
| Hairy Hill Colony      | NE 16-55-14-W4         | 155 acres          |               |                  |                                  |
| Hairy Hill Colony      | NW 16-55-14-W4         | 155                |               |                  |                                  |
| Hairy Hill Colony      | SE 16-55-14-W4         | 155                |               |                  |                                  |
| HBC of Hairy Hill      | NW 8-55-14 W4          | 155                |               |                  |                                  |
| HBC of Hairy Hill      | SE 8-55-14 W4          | 155                |               |                  |                                  |
| Total                  |                        |                    |               | 313 ha           |                                  |

\* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners. **Applicant has provided adequate land base**

\*\* 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)**

MDS



③ ④  
4 5

**NRCB USE ONLY**

**MINIMUM DISTANCE SEPARATION**

Methods used to determine distance (if applicable): Google earth

Margin of error (if applicable): N/A

Requirements (m): Category 1: 433 m Category 2: 577 m Category 3: 721 m Category 4: 1154 m

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: 177.5 ha

Land base listed: 313 ha

Applicant has provided adequate land base

Area not suitable: \_\_\_\_\_

Available area \_\_\_\_\_

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 Approval BA05007A

**NRCB USE ONLY**
**ALL SIGNATURES IN FILE**
 YES  NO

**DATES OF APPROVAL OFFICER SITE VISITS**

|                 |  |
|-----------------|--|
| May 30, 2024    |  |
| August 27, 2024 |  |
|                 |  |

**CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES**

 Date deeming letters sent: September 11, 2024
**Municipality:** Two Hills County
 letter sent    
  response received    
  written/email    
  verbal    
  no comments received

**Alberta Health Services:** N/A
 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:** \_\_\_\_\_  N/A

 letter sent    
  response received    
  written/email    
  verbal    
  no comments received

# Part 2 – Technical Requirements

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. hangers  
 2. Road (under roof)

### Manure storage capacity

|                | Length (m) | Width (m) | Depth below grade to the bottom of the liner (m) | NRCB USE ONLY<br>Estimated storage capacity (m <sup>3</sup> ) |
|----------------|------------|-----------|--|---|
| 1.             | 330 F      | 85 F      | 0  |   |
| 2.             | 50         | 26        | 0  |   |
| TOTAL CAPACITY |            |           |  | Adequate storage for solid manure on site                     |

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

Under Roof

### Liner protection

Describe how the physical integrity of the liner will be maintained

Fixed Concrete

NRCB USE ONLY  
 Requirements met:  YES  NO

# Part 2 – Technical Requirements

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 (cont.)

### Concrete liner details

|   |  |
|---|--|
| Concrete thickness<br><i>5.5 inches</i> | Method of sulphate protection:<br><i>Type 50</i>         |
| Concrete strength<br><i>25 mpa</i>      | Concrete reinforcement size and spacing<br><i>15 o/c</i> |

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:           >4 m           Requirements met:  YES  NO

Depth to Uppermost groundwater resource:           65 m           Requirements met:  YES  NO

ERST completed:  see ERST page for details

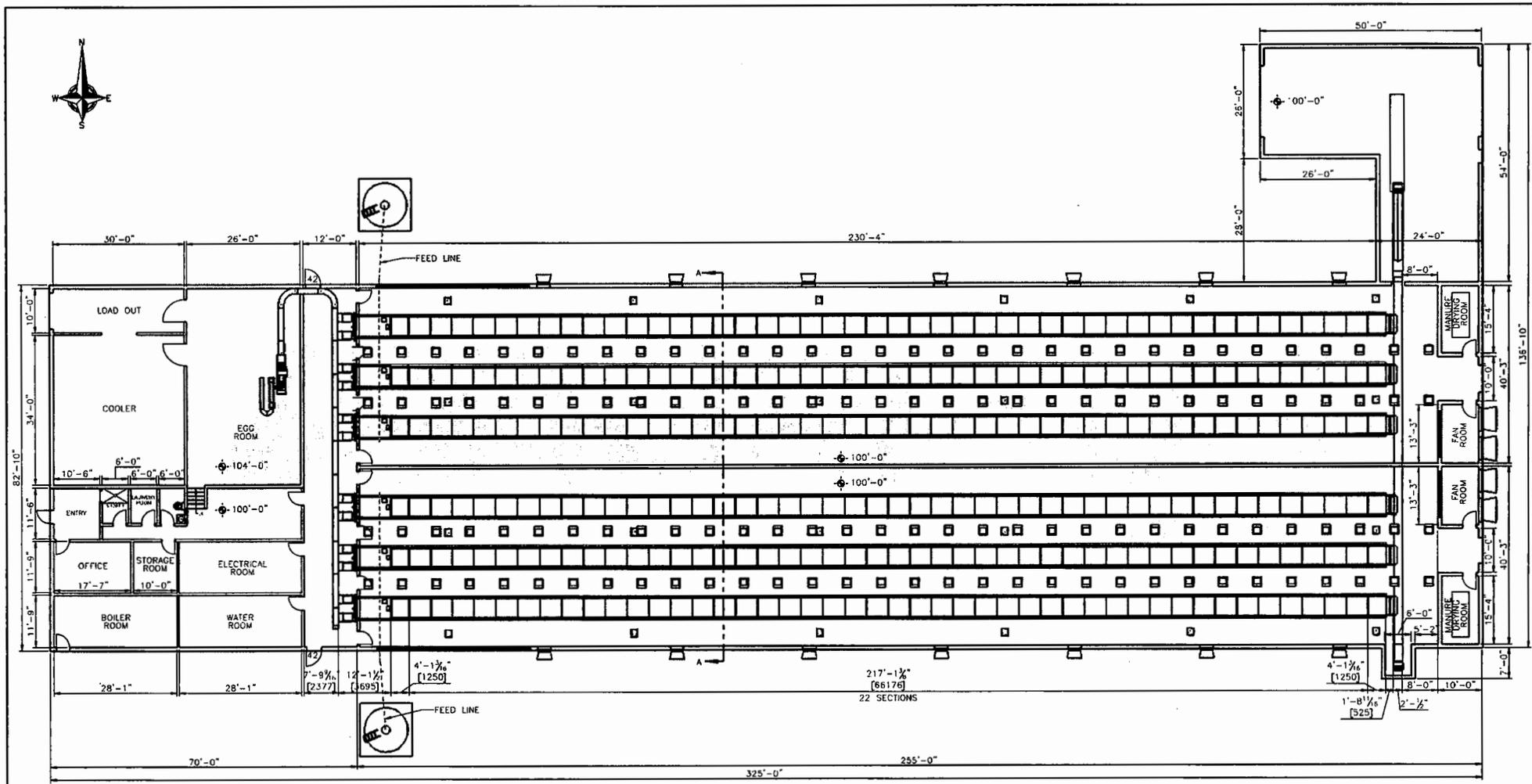
#### Surface water control systems

Requirements met:  YES  NO Details/comments:

#### Concrete liner details

Applicant to provide documentation confirming concrete information

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



PLAN VIEW

| ENGINEERING | STAMP |
|-------------|-------|
|             |       |

| REVISIONS |         |                               |        |
|-----------|---------|-------------------------------|--------|
| NO.       | DATE    | DESCRIPTION                   | BY     |
| 1         | 4/30/24 | ISSUED FOR REVIEW             | DJB TT |
| 2         | 5/15/24 | REVISED AS PER CLIENT CHANGES | DJB TT |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |
|           |         |                               |        |

**DENNER FARM SERVICES**  
 64-27211 HWY. 12 LACOMBE, AB T4J 0E3  
 TOLL FREE: 1-866-339-0000 PH: 1-403-782-0675

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|   |                      |                   |                |
|---|----------------------|-------------------|----------------|
| CLIENT:<br>HAIRY HILL COLONY<br>HAIRY HILL, ALBERTA |                      |                   |                |
| DRAWING TITLE:<br>LAYER BARN - PLAN VIEW            |                      |                   |                |
| SCALE:<br>1:128                                     | DATE:<br>APR/30/2024 | DRAWING NO.<br>A1 |                |
| DRAWN:<br>DJB                                       | CHECKED:<br>TT       | DRAWN BY:<br>DJB  | REVISION:<br>B |
| SHEET NO.:<br>1 OF 1                                |                      | REVISION:         |                |