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# **2019 District Lot 2250. Agrologist's Inspection Report.**

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**4860 Hoath Road. Falkland. BC. April 2019.**

**Prepared for:**

Agricultural Land Commission

133 – 4940 Canada Way

Burnaby. British Columbia.

V5G 4K6

**Prepared by:**

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## INTRODUCTION

The purpose of this document is to complete an Agrologist’s Inspection Report at 4860 Hoath Road (“subject property”). The property is designated as Agricultural Land Reserve (ALR). The report will determine the original agricultural capability of the 2.5-acre farm building footprint that has been prepared as part of the building construction process. The report will assess the impact of the farm building on the agricultural capability of the site and the land immediately around it.

The farm building had been previously approved. This report will address recent changes to ALC Regulations that modify the type and scope of operations for growing new specialty agricultural crops in the area. The unique aspects of the proposed building will be discussed in the context of yield and crop management.

## METHODS

The site was inspected on April 3, 2019. The construction & operating plan was reviewed with the landowner. A soil pit was dug by machine next to the NW corner of the footprint on undisturbed ground. The soil horizon data was described and recorded on the BC Ministry of Forests FS882 field form found in Appendix A. The data is used to calculate the agricultural capability. Pictures were taken of the farm building site, topsoil pile, soil pit and are found in Appendix A. A total of 1.5 hours was spent at the site.

## RESULTS

Figure 1 depicts the subject property showing the construction footprint, topsoil stockpiles and the soil test pit (TP1). Table 1 shows the soil description for TP1 and the main horizon attributes. The complete FS882 form is in Appendix A. The soil is classified as an Orthic Eutric Brunisol (CSSC, 1998) because of the presence of the Bm horizon. The Ckc horizon indicates the presence of carbonates and a compact hard-pan layer of high bulk density at a depth of 91cm.

Table 1. Soil description for test pit TP1 an Orthic Eutric Brunisol. NW corner of the footprint.

<b>HORIZON</b>	<b>DEPTH</b>	<b>COLOUR</b>	<b>TEXTURE</b>	<b>COARSE</b>	<b>FRAGMENT</b>	<b>CONTENT</b>	
	(cm)			<b>Gravel</b>	<b>Cobble</b>	<b>Stone</b>	<b>TOTAL</b>
LFH	2-0			(%)	(%)	(%)	(%)
Ah	0-4	10YR3/1	sandy loam	15	10	10	35
Bm	4-23	10YR3/3	sandy loam	35	20	10	65
BC1	23-70	10YR4/3	sand	45	20	10	75
BC2	70-91	10YR3/4	sand	45	20	10	75
Ckc	91-100	2.5Y3/2	sandy loam	20	15	10	45

### Figure 1. 4860 Hoath Road. Falkland.

Farm building footprint, soil test pit (TP), topsoil stockpiles (TS).

#### Legend

- Footprint Boundary
- ⚡ TP1. TS1. TS2.



## **DISCUSSION**

### **Agricultural Capability**

The agricultural capability rating of the original soil in the footprint area can be calculated from the site and soils data on the FS882 field form. The top 25cm of the mineral soil had 65% coarse fragments. Subtracting the gravel that is less than 2.5cm in diameter, the unimproved rating for stoniness would be 5P. The unimproved rating for soil moisture deficiency would be 5A (in a very gravelly sand). There is no improved rating for 5A or a poor 5P. Hence the combined rating for the footprint area in its original condition is:

**5<sup>P</sup><sub>A</sub>**

The farm building is climate controlled and will improve the climatic capability for agriculture at the site. A wider range of crops can be grown. The building will have no limitations due to stoniness or soil moisture deficiency; since the soil will have 0% coarse fragments, will be irrigated and have a loam texture. The farm building will improve the original footprint capability rating to:

**5<sup>P</sup><sub>A</sub> (1<sup>P</sup><sub>A</sub>)**

The net effect of the operation will be to improve the agricultural capability of this small part of the subject property. Additionally, it is anticipated that the operation will have negligible impact on the rest of the farm. The operation is in a closed building (not a greenhouse) and as such will have minimal light, smell and noise pollution.

It is expected to have minimal impact on surrounding farms for 2 reasons. The location is on an elevated bench near the extreme southeast corner of the property. It is situated the maximum distance it can be from Hoath Road. There is also a fringe of trees for visual and noise dampening.

### **Crop Yield and Management**

The landowner has proposed 4 vertically stacked layers of crop production inside the building. This will significantly increase the crop yield per m<sup>2</sup> of ground area. The yield will be up to 4x greater than that which can be grown on the original soil. The operation will employ over 40 workers and will be a major economic boost for the local economy. Agricultural output from the subject property is currently nil. The increased output will allow the landowner to become a full-time farmer.

There will be no toxic emissions or harmful waste products from this operation. The building's production waste will be used as a Health Canada approved Organic Fertilizer benefitting neighbouring farm production. Farm management will follow Agriculture Canada & Health

Canada Best Farm Practises Guidelines.

## CONCLUSION

It is the Agrologist's opinion that the farm building will improve the agricultural capability of the footprint area from 5<sup>P</sup><sub>A</sub> to (1<sup>P</sup><sub>A</sub>). The farm building & operations will have negligible impact on the agricultural capability of the rest of the subject property and surrounding farms due to its building type, location and conifer tree buffer.

The location at the back edge of the property and the fringe of trees on the north side of the clearing, obscures the building from Highway 97. There will be a few places where motorists may get a "peek-a-boo" view of the roof. Highway view factor was a topographic attribute the landowner considered when locating the building. Especially, along this important tourist route to the Okanagan. The setback and the trees will make this farm structure virtually invisible from the valley floor.

## REFERENCES

NRC. 1998. *The Canadian System of Soil Classification*. Agriculture Canada. Research Branch. Ottawa.

Respectfully Yours,

Seal:

Wayne Blashill, PAg

Wayne A. Blashill, PAg



**APPENDIX A**

**Photo Diary**

**FS882 Field Form**



Photo#1. The 2.5-acre farm building footprint with the fringe of trees for privacy (looking NE).



Photo#2. The topsoil pile (TP1) on the NW side of the footprint.



Photo#3. Soil test pit TP1 located next to the NW corner of the footprint on undisturbed land.



Photo#4. Close-up of TP1 showing the brown Bm (4-23) horizon in the upper soil.





# ECOSYSTEM FIELD FORM

MINISTRY OF FORESTS  
BC ENVIRONMENT

DATE Y M D  
19, 4, 3

PLOT NO. 01-07700

PROJECT ID. 48608 Hoath Rd. Falkland.

FIELD NO. TPI

SURVEYOR(S) Blashill

SITE DESCRIPTION

## LOCATION

GENERAL LOCATION - directly adjacent to 2 1/2 acre farm building footprint.

FOREST REGION MAPSHEET UTM ZONE LAT/NORTH LONG/EAST

AIRPHOTO NO. X CO-ORD. Y CO-ORD. MAP UNIT

## SITE INFORMATION

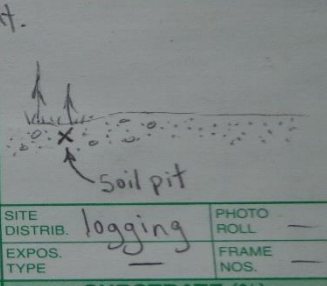
PLOT REPRESENTING - undisturbed soil right next to the footprint

BGC UNIT SITE SERIES TRANS./DISTRIB. ECOSECTION

MOISTURE REGIME NUTRIENT REGIME SUCCESS. STATUS STRUCT. STAGE REALM/CLASS

ELEV. 639 m. SLOPE 2% ASPECT 20°(N) MESO SLOPE POS. MID SURFACE TOPOG. straight

## SITE DIAGRAM



## NOTES

Topsoil has been stockpiled and the sandy gravel FG sediment has been smoothed on the farm building site, right next to the soil pit.

## SUBSTRATE (%)

ORG. MATTER	70	ROCKS	10
DEC. WOOD	20	MINERAL SOIL	-
BEDROCK	-	WATER	-

FS882 (1) HRE 98/5

SOIL DESCRIPTION

GEOLOGY BEDROCK - C. F. LITH. mixed SURVEYOR(S) Blashill PLOT NO. TPI

TERRAIN TEXTURE 1/ sg SURFICIAL MATERIAL 1/ FG SURFACE EXPR. 1/ t GEOMORPH. PROCESS 2/ 0

SOIL CLASS. O. EB HUMUS FORM - HYDROGEO. - 10

ROOTING DEPTH 30 cm ROOT RESTRICT. TYPE hard-pan WATER SOURCE - DRAINAGE WELL 20

R. Z. PART. SIZE - ROOT RESTRICT. DEPTH 91 cm SEEPAGE - cm FLOOD RG. - 30

ORGANIC HORIZONS/LAYERS		MYCEL		FECAL		ROOTS		pH		COMMENTS (consistency, character, fauna, etc):
HOR/LAYER	DEPTH	STRUCTURE	POST	AB.	AB.	AB.	SIZE			
LH	2-0									40
										50
										60
										70
										80
										90
										100

MINERAL HORIZONS/LAYERS

HOR/LAYER	DEPTH	COLOUR	ASP	TEXT.	% COARSE FRAGMENTS			TOTAL	SHAPE	ROOTS		STRUCTURE CLASS	pH	COMMENTS (mottles, clay films, effervesc., etc):
					G	C	S			AB.	SIZE			
Ah	0-4	10YR 3/1	-	sl	15	10	10	35	-	A	C			
Bm	4-23	10YR 3/3	-	sl	35	20	10	65	-	A	F			
BC1	23-70	10YR 4/3	-	s	45	20	10	75	-	F	F			
BC2	70-91	10YR 3/4	-	s	45	20	10	75	-	-	-			
Cxc	91-100	2.5Y 3/2	-	sl	20	15	10	45	-	-	-			- strong effervesc. with 10% HCl.

NOTES: - carbonates start at 91 cm. The Cxc horizon is also a hard-pan. [SOIL CLASSIFICATION = ORTHIC EURPIC BRUNISOL]

FS882 (2) HRE 98/5