

SITE INFORMATION FORM FOR MANURE FACILITIES AT CFOs

VERSION 1.2 - June 2015

(Information on how to complete this form is available in a companion document.)

CFO name: Muilwijk, Arie & Willemiek		Legal Land Location: NE 10-9-27 W4	
Date of Site Visit: November 4, 2020		Staff completing assessment: Scott Cunningham, Andy Cumming	
Who was interviewed: Arie Muilwijk			
Permit and Manure Information Permit Available: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Permit #: LA10054N			
Operation Type: <input checked="" type="checkbox"/> Swine <input checked="" type="checkbox"/> Feedlot <input type="checkbox"/> Dairy <input type="checkbox"/> Poultry <input type="checkbox"/> Cow/Calf <input type="checkbox"/> Mixed <input type="checkbox"/> Other_____			
Livestock:	Quantity/Type:	Annual Manure Production (tonnes):	Manure type:
Swine	250 sows farrow to wean	7.4x250=1850	<input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Beef	3000 feeder calves	0.54x3000=1620	<input type="checkbox"/> Liquid <input checked="" type="checkbox"/> Solid
Dairy			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Poultry			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Horses			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Sheep			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Goats			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
			<input type="checkbox"/> Liquid <input type="checkbox"/> Solid
Total Manure Production: Liquid (tonnes): 1850 Solid (tonnes): 1620			
Monitoring Wells and Borehole Logs		Facilities Monitored:	
<input checked="" type="checkbox"/> No monitoring wells		# of monitoring wells:	
<input type="checkbox"/> No borehole logs		# of borehole logs: 4	
Uppermost Groundwater Resource (UGR)			<input type="checkbox"/> Not Applicable
Reference(s) for UGR (ie. Well I.D., borehole #'s): Borehole AM4-19			
Depth to UGR (m): 2.7	Predominant Geology: VF sandy loam	Subsoil Texture: Coarse	
Protective Layer (PL)			<input type="checkbox"/> Not Applicable
Reference(s) for PL (eg. Well I.D. borehole #'s): AM4-19			
Thickness of PL: see ERSTs	Predominant Geology: VF sandy loam	Subsoil Texture: Coarse	
PL measured From (eg. surface, at specific depth): 1.0		To: 2.7	

Infiltration Potential and Surface Water Runoff				
Average Annual Precipitation (mm): 450-500			Soil Texture at surface: Coarse	
Notes: Application includes conversion of hogs to beef feeder calves, so both current and proposed livestock are listed above.				
Solid Manure Storage Facility (SMSF) #1				<input type="checkbox"/> Not Applicable
SMSF Facility #1 Name: Covered pens (proposed)				
Liner Type: Roller compacted concrete		Runoff control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Run-on Control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Liner Thickness (m): 0.18	Storage Dimensions (m): L: 82 W: 15		Storage Area (m ²): 1230	Depth below grade (m): 0
Liner Meets AOPA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Liner May Meet AOPA <input type="checkbox"/> Concrete no specs				
Visible Condition of liner: <input type="checkbox"/> Good <input type="checkbox"/> Damaged <input checked="" type="checkbox"/> Uninspectable				
Notes: Applicant has not demonstrated that RCC liner meets AOPA. "Liner May Meet AOPA" chosen as "best case" scenario.				
Surface Water Issue Identified: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable (no SW Bodies within 800m)				
Name / Type / Distance to SW Body (m): Unnamed/ Slough on SW15/ 350		<input type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Name / Type / Distance to SW Body (m): Unnamed/Dugout on NE10/131		<input type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Name / Type / Distance to SW Body (m):		<input type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Runoff from facility: <input checked="" type="checkbox"/> Dispersed <input type="checkbox"/> Channelled		Vegetated during runoff event: <input checked="" type="checkbox"/> > 50% <input type="checkbox"/> < 50%/frozen		
Approximate Slope to Surface Water (%): 3		Located less than 1m above the 1 in 25 year floodplain: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Location and Method of Sealing of Water Wells (within 400 m) <input type="checkbox"/> Not Applicable				
Reference Point: SW corner of proposed pens (used measuring tool on http://groundwater.alberta.ca/WaterWells/d/)				
Well I.D.	Distance to Well(s) (m):	Well Sealing Method:	Depth to top of open interval (m):	Location of well(s) from the reference point:
115735	50	driven	1.8	<input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
Notes: Liner chosen as concrete no specs, as worst case scenario for RCC. Well id 115735 is the only water well within 400m of all facilities. Well location from reference point and surface water location were both chosen as "unknown" due to the topography; this will provide a reasonable worst case scenario score for both groundwater and surface water. For surface water distance, used measuring tool on http://groundwater.alberta.ca/WaterWells/d/ . Over 800m to the nearest common body of water.				

Liquid Manure Storage (LMS) #1				<input type="checkbox"/> Not Applicable
Liquid Manure Storage #1 Name: Barn 1 - west (existing)				
Liner Type: concrete		Runoff control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Run-on Control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Liner Thickness (m): unknown		Depth below grade (m): 1.2m (assumed)		
Liner Meets AOPA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Liner May Meet AOPA <input checked="" type="checkbox"/> Concrete no specs				
Visible Condition of liner: <input type="checkbox"/> Good <input type="checkbox"/> Damaged <input checked="" type="checkbox"/> Uninspectable				
Notes: No information is known about the liners in the existing barns. "Concrete no specs" represents a "best case" scenario.				
Surface Water Issue Identified: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable (no CBW within 800m)				
Name / Type / Distance to SW bodies (m): Unnamed/ Slough on SW15/ 487		<input type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Name / Type / Distance to SW bodies (m): Unnamed/Dugout on NE10/12		<input checked="" type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Name / Type / Distance to SW bodies (m):		<input type="checkbox"/> Upslope of facility <input type="checkbox"/> Down slope <input type="checkbox"/> Unknown <input type="checkbox"/> Little Human Use <input type="checkbox"/> High Use <input type="checkbox"/> CBW		
Runoff from facility: <input checked="" type="checkbox"/> Dispersed <input type="checkbox"/> Channelled		Vegetated during runoff event: <input checked="" type="checkbox"/> > 50% <input type="checkbox"/> < 50%/frozen		
Approximate Slope to Surface Water (%): 3		Located less than 1m above the 1 in 25 year floodplain: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Location and Method of Sealing of Water Wells (within 400 m) <input type="checkbox"/> Not Applicable				
Reference Point: North edge of barn (used measuring tool on http://groundwater.alberta.ca/WaterWells/d/)				
Well I.D.	Distance to Well(s) (m):	Well Sealing Method:	Depth to top of open interval (m):	Location of well(s) from the reference point:
115735	21m	driven	1.8	<input checked="" type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
Notes: Well id 115735 is the only water well within 400m of all facilities. Well location from reference point and slough were both chosen as "unknown" due to the topography; this will provide a reasonable worst case scenario score for both groundwater and surface water. For surface water distance, used measuring tool on http://groundwater.alberta.ca/WaterWells/d/ . Over 800m to the nearest common body of water.				

Liquid Manure Storage (LMS) #2				<input type="checkbox"/> Not Applicable
Liquid Manure Storage #2 Name: Barn 2 - east (existing)				
Liner Type: concrete		Runoff control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Run-on Control: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Liner Thickness (m): unknown		Depth below grade (m): 1.2m (assumed)		
Liner Meets AOPA: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Liner May Meet AOPA <input checked="" type="checkbox"/> Concrete no specs				
Visible Condition of liner: <input type="checkbox"/> Good <input type="checkbox"/> Damaged <input checked="" type="checkbox"/> Uninspectable				
Notes: No information is known about the liners in the existing barns. "Concrete no specs" represents a "best case" scenario.				
Surface Water Issue Identified: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Applicable (no CBW within 800m)				
Name / Type / Distance to SW bodies (m): Unnamed/ Slough on SW15/477		<input type="checkbox"/> Upslope of facility	<input type="checkbox"/> Down slope	<input checked="" type="checkbox"/> Unknown
		<input type="checkbox"/> Little Human Use	<input type="checkbox"/> High Use	<input type="checkbox"/> CBW
Name / Type / Distance to SW bodies (m): Unnamed/Dugout on NE10/50		<input checked="" type="checkbox"/> Upslope of facility	<input type="checkbox"/> Down slope	<input type="checkbox"/> Unknown
		<input type="checkbox"/> Little Human Use	<input type="checkbox"/> High Use	<input type="checkbox"/> CBW
Name / Type / Distance to SW bodies (m):		<input type="checkbox"/> Upslope of facility	<input type="checkbox"/> Down slope	<input type="checkbox"/> Unknown
		<input type="checkbox"/> Little Human Use	<input type="checkbox"/> High Use	<input type="checkbox"/> CBW
Runoff from facility: <input checked="" type="checkbox"/> Dispersed <input type="checkbox"/> Channelled		Vegetated during runoff event: <input checked="" type="checkbox"/> > 50% <input type="checkbox"/> < 50%/frozen		
Approximate Slope to Surface Water (%): 3		Located less than 1m above the 1 in 25 year floodplain: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Location and Method of Sealing of Water Wells (within 400 m) <input type="checkbox"/> Not Applicable				
Reference Point: North edge of barn (used measuring tool on http://groundwater.alberta.ca/WaterWells/d/)				
Well I.D.	Distance to Well(s) (m):	Well Sealing Method:	Depth to top of open interval (m):	Location of well(s) from the reference point:
115735	22	driven	1.8	<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
				<input type="checkbox"/> Unknown <input type="checkbox"/> Upslope <input type="checkbox"/> Down slope
Notes: Well id 115735 is the only water well within 400m of all facilities. Well location from reference point and slough were both chosen as "unknown" due to the topography; this will provide a reasonable worst case scenario score for both groundwater and surface water. For surface water distance, used measuring tool on http://groundwater.alberta.ca/WaterWells/d/ . Over 800m to the nearest common body of water.				