

Dairy Effluent Warrant of Fitness



22 June 2015

Samurai Farms Ltd
777 Samurai Road
Razor Sharp Lane
New Plymouth

Farm Supply Number: 88888

Dear Tom Cruise

Thank you for having us on your property to undertake a Dairy Effluent Warrant of Fitness assessment of your dairy farm effluent infrastructure on 22 June 2015.

Please find included here full details of the assessment and some areas we thought worthwhile to bring to your attention.

Continuing good management of your system is crucial to avoid any future issues.

We recommend that you get your system reassessed in 3 year's time.

Please do not hesitate to contact us if you have any questions.

Best Regards

Nicholas Tait

Nicholas Tait
Dairy Effluent 'WoF' Certified Assessor



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SUMMARY

Shed & all yards areas, & underpass drain to stone trap, WSP mechanical separator, then to clay-lined pond. Pond then pumps to small pod system.

Recommend that actual water use in the shed is measured.

Extend effluent lines to west of farm (ex. lease block).

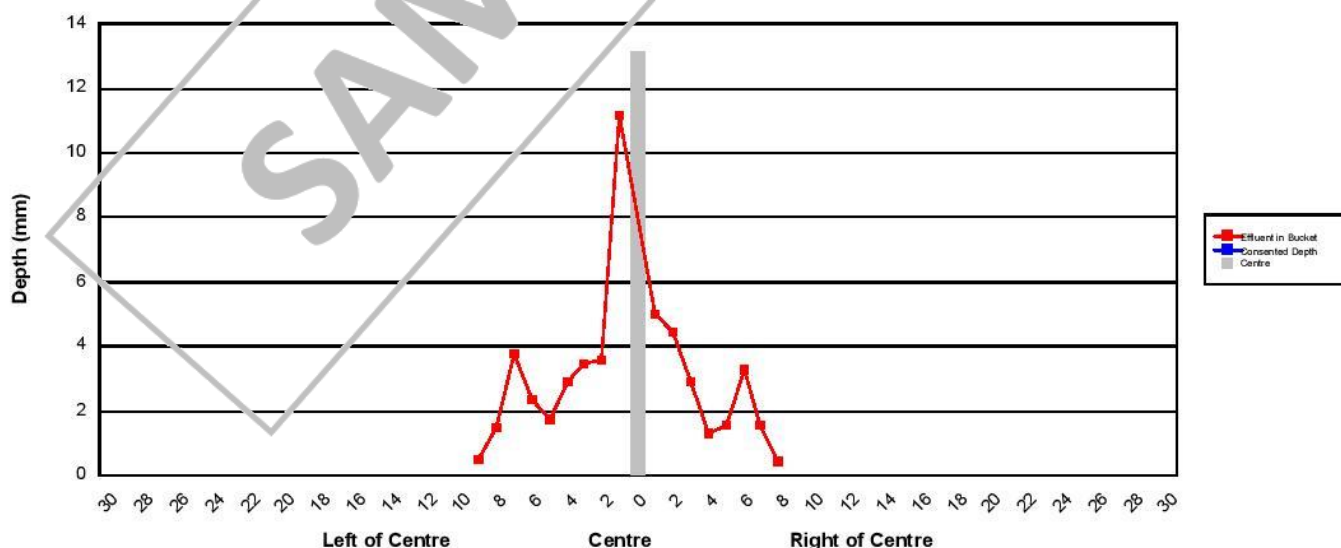
No issues to date. Converted 5 years ago.

GOOD EFFLUENT INFRASTRUCTURE

There were a number of examples of good effluent infrastructure identified on your property:

- Checks ES soil moisture site.
- Safety grating over top of pump sump
- Incoming flow protection under incoming pipe pond inlet (concrete).
- All effluent areas appeared sealed & contained.
- Irrigation supply line size allows good flow capacity (PVC rubber-ring joint 110mm & 80mm) also looking to extend application area.
- Spreading sludges with tractor bucket as per permitted activity requirements.
- Pods are well maintained.

APPLICATION DEPTH TEST FOR PODS, SPRINKLERS OR CANNONS



Max depth (mm):	11.16
Average depth (mm):	3.02
Average Application Rate (mm/hr):	3.07

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RISK ASSESSMENT

Your effluent systems has been assessed across a number of different areas. Acknowledging that your objective is to operate at a high level of good effluent management practice, there may be some areas identified on your property which we feel you need to address.

Please find details and information below regarding recommendations based on the observations we have made.

Regional Council Record Keeping - No Records

Risk Area	Why of Concern	Suggested Action
Effluent record keeping	Good practice to record effluent application	Record paddock number, pump time and who started pump - Records of effluent application are not being kept. Recommend keeping records of effluent application.
Solids application		Effluent is applied during the night. This increases the risk of equipment failure, over application or application to saturated soils going unnoticed, and therefore increases the risk of a non-compliance. A rain monitor is available that will turn the pump off if it rains.
Solids application		Effluent being applied within 7 metres of property boundary. Consent requires a minimum of 20m separation.

Stone Trap Area Sand Traps - All effluent contained

Risk Area	Why of Concern	Suggested Action
Stone trap not well designed		Stone trap before stormwater diversion. Stone trap needs to be fully emptied and cleaned out before diversion is turned on.

Sump Score - Contained

Risk Area	Why of Concern	Suggested Action
Grate missing		Grate missing off collection sump at end of west yard entry race – safety risk to animals and people. Replace or extend grating

WOF Shed Infrastructure - Potential for occasional discharge

Risk Area	Why of Concern	Suggested Action
Lane runoff		North yard entry - runoff from yard wash overflows to lane & paddock. Don't hose wash, extend sump or increase height of nib.

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WOF Housed Wintering Solid Storage - N/A

Risk Area	Why of Concern	Suggested Action
Overflow from sludge bunker	Breach of regional council rules, risk of prosecution	Small amount of solids from separator have fallen or overflowed over back of bunker, empty more regularly or modify outfall from separator, or install concrete pad draining to stormwater

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WOF Silage Stacks - N/A

Risk Area	Why of Concern	Suggested Action
Storm water diversion		No stormwater diversion on the underpass and runoff from the road and nearby paddock is flooding the underpass area, recommend that this is addressed.

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WOF Effluent Storage Integrity - No slumping or holes

Risk Area	Why of Concern	Suggested Action
Effluent Storage Safety	Health and Safety	Install signage, egress ladders, safety rope, or buoys - Single hot wire fence around pond is not adequate for safety purposes. No escape ladders or flotation devices are evident.
Pond may not be sealed		Cows have been grazed on the pond embankments, there is evidence that they have been up to the water line. This may damage the pond embankment and it is also possible that the cows may fall in and drown.

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WOF Safety Features

No risk areas were noted in this area.

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WOF Nutrient Budget Paperwork - Nutrient budget available and meets industry good practice

No risk areas were noted in this area.

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Solids Storage - All effluent contained/captured on adequate sealed surface

No risk areas were noted in this area.

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Storage Capacity - Adequate (within 25% of DESC)

No risk areas were noted in this area.

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Storage Liner Assessment - Clay liner, no obvious leakage with supporting evidence that meets required standard.

No risk areas were noted in this area.

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Underpass - Irrigated discharge to land

No risk areas were noted in this area.

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Bridges and Culverts - N/A

No risk areas were noted in this area.

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Feedpads - N/A

No risk areas were noted in this area.



Housed Wintering Facility - N/A

No risk areas were noted in this area.

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Standoff Loafing Pad (Constructed Facility) - N/A

No risk areas were noted in this area.

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Laneways - No obvious discharge to water

No risk areas were noted in this area.

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Lines/Hydrants/Couplings - No obvious discharge to water

No risk areas were noted in this area.

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Farm Drains - No sign of raw effluent in drain

No risk areas were noted in this area.

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Solids land application system (bedding, separated solids) - Evenly spread inappropriate depths

No risk areas were noted in this area.

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Liquid irrigation application depth and soil risk - Meets required application depth
i.e. consent/permitted activity

No risk areas were noted in this area.

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Liquid Effluent Irrigation-Conveyance (pipes and hydrants) - No obvious leaks

No risk areas were noted in this area.

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Liquid effluent irrigation - application to land - No sign of poor irrigation

No risk areas were noted in this area.

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SAMPLE ONLY

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FARM INFORMATION

Samurai Farms Ltd
 S/N: 88888
 Fonterra Co-Operative Group Ltd

FARM DETAILS			
Herd size: 540	Milking Time (hrs): 4	Lactation start: 12/08/2013	End: 25/05/2014
Shed type: Rotary	Flood wash of yard: Water on backing gate	Total dairy shed wash vol/day (m ³) 78	Measured by: Flow Meter
Storm water diversion: Yes	All Year : No	Start diversion : 26/05/2014	Stop diversion : 11/08/2015
Feed Pad : N/A	Months Used : 12	Avg daily flow rate: 480	Avg daily hrs on pad : 3
Stand-off pad used regularly? : N/A	Stand-off pad how often used?	Underpasses used frequently : Daily Use	

IRRIGATION

	Hrs pumped/day	Application depth (mm)	Volume (m ³ /hour)	Total daily volume (m ³)
Winter-Spring	4	3	25	100
Spring-Autumn	4	3	25	100

Irrigator type(s): *Small Ponds* Brand: Pump (kw): 0
 Technology in use: *Pressure Gauge* Gauge at pump: Yes
 Alarms: *110 - Anti-siphon, 220 - Over - Hi-low pressure switch on pump* Gauge at irrigator: No

SHED AND YARD

	Concrete	Sealed	Contained	Area (m ²)	
Tanker Pad	Yes	Yes		205	If collected to effluent system
Shed roof	Yes				Roof dimensions (if not diverted)
Yard	Yes	Yes	Yes	1048	
Yard Entry	Yes	Yes	No	291	
Yard Exit	Yes	Yes	Yes		
Any Other Yard Area	Yes	Yes	Yes	213	

STONE TRAP

	Present	Sealed	Effluent Contained	Area (m ²)
Stone Trap	Yes	Yes	Yes	32
Stone Trap Solids Bunker	No	N/A	N/A	

SAFETY FEATURES

Fence Type: *2 wire post* Warning signs: *No* Rescue Buoy: *No*
 Egress ladders/ropes: *No* Level Indicator: *No* Anti-siphon : *No*

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FEEDPAD / HOUSED WINTERING FACILITY WASH VOLUMES AND USE

MONTH	AVERAGE DAILY COW NUMBERS	AVERAGE DAILY HOURS ON PAD	AVERAGE DAILY WASH VOLUME (M ³)
January	480	3.00	240
February	480	3.00	240
March	480	3.00	240
April	480	3.00	240
May	480	3.00	240
June	480	3.00	240
July	480	3.00	240
August	480	3.00	240
September	480	3.00	240
October	480	3.00	240
November	480	3.00	240
December	480	3.00	240

OVERALL AVERAGE COW NUMBERS	480
OVERALL AVERAGE PAD HOURS	3.00
OVERALL AVERAGE WASH VOLUME	240
TOTAL MONTHS USED	12

DISCLAIMER

This Report represents our assessment of whether the effluent system on your farm meets the best industry practice as identified by the Dairy Effluent Warrant of Fitness (DE'WoF) Certification Advisory group as at the date of the assessor's inspection. The issue of the DE'WoF Report (Report) is not a warranty or confirmation that the effluent system fully complies with any requirements of any relevant authority either as at the date of the issue of the Report or in the future. To the maximum extent permitted by law, any condition or warranty that would otherwise be implied into these terms and conditions is hereby excluded.

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