

4810-93 Street, Edmonton, Alberta T6E 5M4 Phone: (780) 469-2401 Fax: (780) 468-2422

Client	Tervita Corpora	Client Tar	Client Tank No.		GF-700 Prod. Tank #925			
Province/LSD	AB 02-18-05	52-11W5	Inspection	Inspection Date		Jun 4, 2012		
Location	Granada		Inspection	Inspection Type		VI/VE/UT/ MFL		
Service	Frac Oil		Interim In	Interim Insp'n				
Manufacturer	GLM		Interim Ty	Interim Type				
Serial Number	J-04-087-5	Next Insp	Next Inspection		2017			
Туре	API 650 Modifie	Next Type	Next Type		VI/VE/UT/ MFL			
Foundation	Raised gravel p	Ext.Cathodic		No				
Ext. Coating	White coating	Anodes	Anodes		No			
Int. Lining	Light blue epoxy	Status	Status					
Insulation	None	Volume		3000 bbl				
Manway	30" Circular ma	Diameter		23.5 ft				
Vapour Rec.	None	Height	Height		39 ft			
MAWP	ATM	Year Built		2004				
MAWV		RAE Job	RAE Job #		2878			
Max. Temp			D55		No			
Min. Temp								
Fill Height								
Secondary Cor	ntainment Rect	angular - Co	ncrete Height	1.5 ft V	Vidth 55 ft	Ler	ngth 2	50 ft
History Log				1	<u> </u>			
Component	Shell course 1	Material	A36 or Eq.	r Eq. Mat. Thick. 0.25 i		Corr. Allow.		
Component Shell course 2		Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.		
Component	Shell course 3	Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.		

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Component	Shell course 4	Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.
Component	Shell course 5	Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.
Component	Shell course 6	Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.
Component	Shell course 7	Material	A36 or Eq.	Mat. Thick.	0.188 in	Corr. Allow.
Component	Floor	Material		Mat. Thick.	0.25 in	Corr. Allow.
Component	Deck	Material		Mat. Thick.	0.25 in	Corr. Allow.

Comments

The inspection was performed using the RAE Tank Inspection procedure 604B rev. 8

This was one of nine tanks on the Granada site. All tanks were sharing the same secondary containment. This tank was labeled as "GF-700 Prod. Tank #925".





Containment

The secondary containment was composed of concrete walls. The containment was shared between nine tanks of various sizes.

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Piping Observations

The piping appeared to be in good condition.

The nozzles in this tank were not reinforced. According to API 650/653, all nozzles greater than NPS 2 in size must be equipped with repads.

Some of the piping connections to the tank were equipped with bellows. A couple of the bellows were removed at the time of inspection, possibly for isolation purposes.



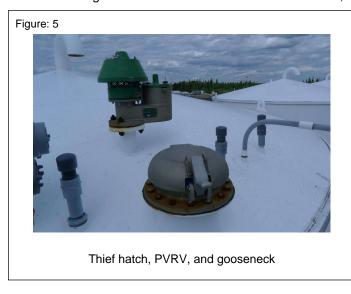


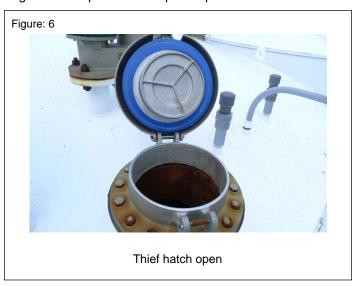
Pressure Protection Observations

The thief hatch was in good condition and was designed to provide pressure and vacuum relief.

A separate pressure and vacuum relief valve was installed on the roof beside the thief hatch.

There was a gooseneck nozzle in the centre of the roof, making the tank open to atmospheric pressure.





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Tank: RAET28493

External Observations

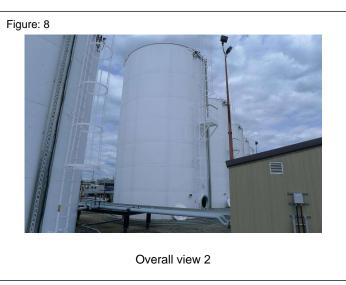
The tank was un-insulated and was coated white. The external coating had a few small failures but was mostly in good condition.

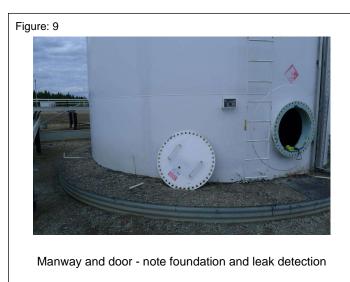
The tank was sitting on a raised gravel pad. The gravel pad was contained by a metal ring. About half of the outer lip of the tank floor was covered by gravel. Remnants of a tar coating were visible on top of the gravel pad. Leak detection tubes were in place beneath the tank floor.

The level gauge was in good condition.

The ladder was in good condition.









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Internal Observations

The floor and the bottom ~4' of the shell was coated with light blue epoxy. The coating was mostly in good condition. The coating had been patched with black coating in a few places. The coating patches were in good condition.

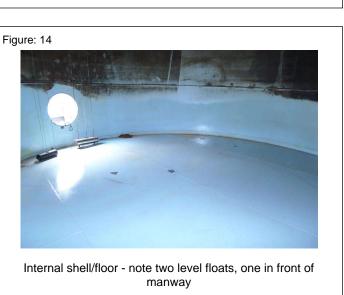
The uncoated surfaces of the tank were in good condition.

There were two level floats installed in the tank. On float was black and the other was bare metal. The black float appeared to be the active level float as it was the only one attached to a level gauge board on the outside of the tank. The metal level float was installed in a location where it partially blocked the manway.









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NDE

Ultrasonic Testing:

(all measurements in inches)

Floor

Plate A: 0.249, 0.250, 0.248, 0.250, 0.249 Plate B: 0.249, 0.250, 0.251, 0.250, 0.249 Plate C: 0.253, 0.253, 0.254, 0.252, 0.254 Plate D: 0.252, 0.251, 0.252, 0.254, 0.251 Plate E: 0.250, 0.251, 0.252, 0.248, 0.248

(the plates were named starting with A in the back right corner and going to the left, relative to the manway)

Shell

First course: 0.248, 0.248, 0.251, 0.250, 0.250 Second course: 0.188, 0.188, 0.187, 0.187

Floor Scan

As the tank was sitting directly on gravel, a magnetic flux leakage (MFL) floor scan was performed to check for bottom-side corrosion. No indications were found.

Recommendations

- 1. Clear gravel off of the outer floor lip (chime area)
- 2. Remove inactive level float

Inspector: Brent Drader

Reviewed By: Brent Drader

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