



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

Tank: RAET28494

Client	Tervita Corporation			Client Tank No.	Cond. Prod. Tank #930		
Province/LSD	AB 02-18-052-11W5			Inspection Date	Jun 4, 2012		
Location	Granada			Inspection Type	VI / VE / UT / MFL		
Service				Interim Insp'n			
Manufacturer	Argo Sales Ltd.			Interim Type			
Serial Number	8316			Next Inspection	2017		
Type				Next Type	VI / VE / UT / MFL		
Foundation	Raised gravel pad			Ext.Cathodic	No		
Ext. Coating	White coating			Anodes	No		
Int. Lining	Devoe 253			Status			
Insulation	None			Volume	1000 bbl		
Manway	2'x3' rectangular manway			Diameter	17.3 ft		
Vapour Rec.	None			Height	24 ft		
MAWP				Year Built	2004		
MAWV				RAE Job #	2878		
Max. Temp				D55	No		
Min. Temp							
Fill Height							
Secondary Containment	Rectangular - Concrete	Height	1.5 ft	Width	55 ft	Length	250 ft
History Log							

Component	Shell course 1	Material		Mat. Thick.	0.188 in	Corr. Allow.	
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Component	Shell course 2	Material		Mat. Thick.	0.188 in	Corr. Allow.	
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Component	Shell course 3	Material		Mat. Thick.	0.188 in	Corr. Allow.	
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Component	Shell course 4	Material		Mat. Thick.	0.188 in	Corr. Allow.	
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Component	Floor	Material		Mat. Thick.	0.25 in	Corr. Allow.	
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Component	Deck	Material		Mat. Thick.	0.25 in	Corr. Allow.	
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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 "Cond. Prod. Tank #930" and was the furthest south of the tanks.

Figure: 1



Plant Lease Sign

Figure: 2



Nameplate

Containment

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

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.

The piping connections to the tank were equipped with bellows. One of the bellows was removed at the time of inspection, possibly for isolation purposes.



Figure: 3



Piping

Figure: 4



Nozzles - note lack of repads

Pressure Protection Observations

The thief hatch on the roof was not designed for pressure relief.

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

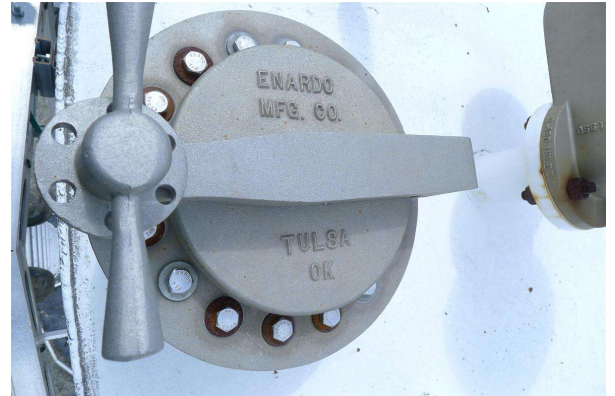
There was a gooseneck nozzle in the centre of the roof, making the tank open to atmospheric pressure.

Figure: 5



Thief hatch, PVRV, and gooseneck

Figure: 6



Top of thief hatch



External Observations

The tank was un-insulated and was coated white. The external coating was mostly in good condition.

The tank was sitting on a raised gravel pad. The gravel pad was contained by a metal ring. Leak detection tubes were in place beneath the tank floor.

The level gauge was in good condition.

The ladder was in good condition.

Figure: 7



Overall view - note ladder and level gauge

Figure: 8



Overall view 2

Figure: 9



External roof

Figure: 10



Manway and door - note foundation and leak detection



Internal Observations

The floor and the bottom ~4' of the shell was coated with light blue epoxy. The coating was mostly in good condition. A few isolated blisters were found on the shell, near where the coating ended.

An orange-brown layer of corrosion/product covered the internal surfaces of the shell.

There were two level floats installed in the tank. One 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.

Figure: 11



Internal roof/shell

Figure: 12



Internal shell/floor - note two level floats

Figure: 13



Internal shell/floor - note nozzles and orange layer on shell

Figure: 14



Close up of nozzles



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NDE

Ultrasonic Testing:
(all measurements in inches)

Floor

Back plate: 0.250, 0.250, 0.247, 0.248, 0.249
Middle plate: 0.249, 0.249, 0.253, 0.251, 0.249
Front plate: 0.248, 0.248, 0.249, 0.250, 0.250
(plate location in relation to manway)

Shell

First course: 0.176, 0.185, 0.187, 0.186, 0.185
Second course: 0.178, 0.185, 0.186, 0.183, 0.182

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. One indication was found with the floor scanner, however when UT was done in the area, the lowest reading found was 0.240" remaining thickness.

Recommendations

1. Remove inactive level float

Inspector: Brent Drader

Reviewed By: Brent Drader