



# AFHE Pearl Harbor Tank 0105 Findings

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SUBMITTED BY:

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# 1 Background

There is a suspected fuel release at the Red Hill fuel storage complex Tank 0105. As a result, Tank 0105's AFHE databases were queried to reenact the events that transpired.

## 2 General Overview of Unscheduled Fuel Movements Alarm

This alarm is used to track unauthorized fuel movement when a tank is not scheduled for an evolution. The alarms are based upon increments above and below the tank's current level as defined at the end of the last evolution. If the alarm threshold is exceeded (either above or below), a Tank Unscheduled Fuel Movement alarm is generated. The Unscheduled Fuel Movement alarm thresholds are defined on a per-tank basis in the AFHE initialization file to allow for custom thresholds for tanks that have non-standard characteristics. Warning & Critical U.F.M. alarms are by default set to ½ inch and ¾ inch respectively and are displayed as the equivalent net volume. Tank 105's warning and critical UFM alarm thresholds were set to the default ½ inch and ¾ inch respectively. The AFHE system uses the associated tank strapping tables to determine volumes associated with a ½ inch and ¾ inch movement. The tank data received from the field (product level, BS&W level, and temperature) is preprocessed to smooth and eliminate harsh spikes (positive and negative) before being passed to the rest of the AFHE system functions for processing and display.

To ensure that tank settling time is accounted for prior to establishing the UFM reference point, a delay timer exists in the AFHE system. This delay timer will start upon the completion of an evolution and upon expiration it will set the UFM thresholds to the values in the AFHE initialization file for warning and critical. The delay timer is currently defaulted to 2.5 hours as this is the settling time normally given during Tank Calibration and API Testing. Prior to the expiration of the delay timer the thresholds are expanded to two times the value in the AFHE initialization file for warning and critical. During settling Tank 105's warning and critical UFM alarm thresholds are set to the default 1 inch and 1 ½ inch respectively. This will ensure that gross fuel movements are detected and will reduce false UFM alarms while allowance is given for tank/product settling. The delay timer can be set by the site administrator on an individual tank basis. Also, while tanks are "settling" all screens and alarms that display the tank product level will be depicted with an asterisk (\*).

### 2.1 Investigation of Tank 0105

Below captures the timeline based on the stored data in the AFHE database. The midnight snapshot for Tank 105 is captured in Appendix A and the unscheduled fuel movement alarms are captured in Appendix B.

During the timeframe between 9 December 2013 and 12 December 2013, multiple daily transfer evolutions were started and stopped.

Start Level – 0' 3" 14 on 9 December 2013

Stop Level – 105' 2" 11 on 12 December 2013

The first occurrence of a warning UFM did occur on 10 December 2013 7:52:29 PM; however, during this time the operator had placed the tank level in manual mode and manually changed the level below the UFM threshold.

On 13 December 2013, Tank 105 transfer evolution setup.

Start Level – 105' 2" 10 on 13 December 2013 08:03:29 AM

Stop Level – 106' 3" 7 on 13 December 2013 09:36:29 AM

Upon completion of the evolution a warning UFM occurred while the tank was in settling mode on 13 December 2013 10:55:44 AM. An evolution was created and named 'Clear Evolutions'. Upon conclusion of the evolution the tank level had returned to the level preceding the UFM, i.e. 106' 3" 7.

During the timeframe between 13 December 2013 and 20 December 2013 the level decreased without any evolution being setup. No UFM's were recorded as the decrease of level did not reach the UFM threshold.

Start Level – 106' 3" 7 and NET Volume 123056.6 BBL (Based on previous evolution)

Stop Level – 106' 3" 1 and NET Volume 123003.77 BBL (Net volume recorded from the AFHE Midnight Inventory Report)

On 20 December 2013, Tank 105 transfer evolution setup.

Start Level – 106' 3" 1 on 20 December 2013 12:53:22 AM

Stop Level – 152' 7" 13 on 20 December 2013 1:09:40 PM

During the timeframe between 20 December 2013 and 22 December 2013 the level decreased without any evolution being setup. No UFM's were recorded as the decrease of level did not reach the UFM threshold.

Start Level – 152' 7" 13 and NET Volume 187025 BBL (Based on previous evolution)

Stop Level – 152' 7" 7 and NET Volume 186983.73 BBL (Net volume recorded from the AFHE Midnight Inventory Report)

On 23 December 2013, Tank 105 transfer evolution setup.

Start Level – 152' 7" 7 on 23 December 2013 9:25:20 AM

Stop Level – 164' 7" 12 on 23 December 2013 3:21:40 PM

During the timeframe between 23 December 2013 3:21:40 PM and 23 December 2013 23:59:59 the level decreased without any evolution being setup. No UFM's were recorded as the decrease of level did not reach the UFM threshold.

Start Level – 164' 7" 12 and NET Volume 203584.89 BBL (Based on previous evolution)

Stop Level - 164' 7" 10 and NET Volume 203571.19 BBL (Net volume recorded from the AFHE Midnight Inventory Report)

By 24 December 2013 1:19:29 PM the level had decreased to 164' 7" 8.

On 24 December 2013, Tank 105 transfer evolution setup.

Start Level – 164' 7" 8 on 24 December 2013 1:19:20 PM

Stop Level – 171' 3" 3 on 24 December 2013 4:05:49 PM

During the timeframe between 24 December 2013 and 25 December 2013 23:59:59 the level decreased without any evolution being setup. No UFM's were recorded as the decrease of level did not reach the UFM threshold.

Start Level – 171' 3" 3 and NET Volume 212719.6 BBL (Based on previous evolution)

Stop Level – 171' 2" 15 and NET Volume 212697.44 BBL (Net volume recorded from the AFHE Midnight Inventory Report)

By 26 December 2013 8:09:14 AM the level had decreased to 171' 2" 14; however, NET volume was not recorded.

On 26 December 2013, Tank 105 transfer evolution setup.

Start Level – 171' 2" 14 on 26 December 2013 8:17:00 AM

Stop Level – 186' 6" 2 on 26 December 2013 3:06:10 PM

On 27 December 2013, Tank 105 transfer evolution setup.

Start Level – 186' 6" 0 on 27 December 2013 8:38:45 AM

Stop Level – 196' 11" 12 on 27 December 2013 3:19:56 PM

During the timeframe between 27 December 2013 and 29 December 2013 23:59:59 the level decreased without any evolution being setup. No UFM's were recorded. Further investigation is required to determine if a UFM should have triggered.

Start Level – 196' 11" 12 and NET Volume 248317.59 BBL (Based on previous evolution)

Stop Level – 196' 11" 1 and NET Volume 248231.89 BBL (Net volume recorded from the AFHE Midnight Inventory Report)

By 30 December 2013 12:18:29 PM the level had decreased to 196' 10" 14; however, NET volume was not recorded.

On 30 December 2013, Tank 105 transfer evolution setup.

Start Level – 196' 10" 14 on 30 December 2013 12:18:25 PM

Stop Level – 201' 11" 4 on 30 December 2013 3:15:06 PM

On 31 December 2013, Tank 105 transfer evolution setup.

Start Level – 201' 11" 1 on 31 December 2013 7:52:25 AM

Stop Level – 212' 6" 10 on 31 December 2013 1:56:26 PM

During the timeframe between 31 December 2013 and 2 January 2014 9:19:20 PM the level decreased without any evolution being setup. A warning UFM occurred on 2 January 2014 9:19:20 PM.

Start Level – 212' 6" 10 and NET Volume 269448.27 BBL (Based on previous evolution)

Stop Level – 212' 5" 11 and NET Volume 269338.41 BBL (Net volume recorded from the AFHE UFM Alarm)

An evolution was created and named 'UFM' on 2 January 2014 9:44:24 PM.

During the timeframe between 2 January 2014 and 4 January 2014 10:20:30 AM the level decreased without any evolution being setup. A warning UFM occurred on 4 January 2014 10:20:30 AM.

Start Level – 212' 5" 11 and NET Volume 269338.41 BBL (Net volume recorded from the AFHE UFM Alarm)  
Stop Level – 212' 5" 2 and NET Volume 269277.49 BBL (Net volume recorded from the AFHE UFM Alarm)  
An evolution was created and named 'UFM' on 4 January 2014 10:23:19 AM.

During the timeframe between 4 January 2014 and 6 January 2014 02:43:15 AM the level decreased without any evolution being setup. A warning UFM occurred on 6 January 2014 02:43:15 AM.  
Start Level – 212' 5" 2 and NET Volume 269277.49 BBL (Net volume recorded from the AFHE UFM Alarm)  
Stop Level – 212' 4" 9 and NET Volume 269218.63 BBL (Net volume recorded from the AFHE UFM Alarm)  
An evolution was created and named 'UFM' on 6 January 2014 2:45:20 AM.

On 6 January 2014, Tank 105 transfer evolution setup.  
Start Level – 212' 4" 8 on 6 January 2014 8:47:25 AM  
Stop Level – 224' 7" 9 on 6 January 2014 3:13:08 PM

On 6 January 2014, Tank 105 issue evolution setup.  
Start Level – 224' 7" 9 on 6 January 2014 4:05:27 PM  
Stop Level – 223' 8" 3 on 6 January 2014 5:00:25 PM

During the timeframe between 6 January 2014 and 7 January 2014 6:02:15 PM the level decreased without any evolution being setup. A warning UFM occurred on 7 January 2014 6:02:15 PM.  
Start Level – 223' 8" 3 and NET Volume 282820.22BBL (Based on previous evolution)  
Stop Level – 223' 7" 11 and NET Volume 282770.19 BBL (Net volume recorded from the AFHE UFM Alarm)  
An evolution was created and named 'UFM' on 7 January 2014 6:32:00 PM.

During the timeframe between 7 January 2014 and 8 January 2014 6:26:35 PM the level decreased without any evolution being setup. A warning UFM occurred on 8 January 2014 6:26:35 PM.  
Start Level – 223' 7" 11 and NET Volume 282770.19 BBL (Net volume recorded from the AFHE UFM Alarm)  
Stop Level – 223' 7" 3 and NET Volume 282716.07 BBL (Net volume recorded from the AFHE UFM Alarm)  
An evolution was created and named 'UFM' on 8 January 2014 6:39:34 PM.

During the timeframe between 8 January 2014 and 9 January 2014 9:21:58 PM the level decreased without any evolution being setup. A warning UFM occurred on 9 January 2014 9:21:58 PM.  
Start Level – 223' 7" 3 and NET Volume 282716.07 BBL (Net volume recorded from the AFHE UFM Alarm)

Stop Level – 223' 6" 10 and NET Volume 282665.26 BBL (Net volume recorded from the AFHE UFM Alarm)

An evolution was created and named 'UFM' on 9 January 2014 9:59:48 PM.

During the timeframe between 9 January 2014 and 11 January 2014 1:49:50 AM the level decreased without any evolution being setup. A warning UFM occurred on 11 January 2014 1:49:50 AM.

Start Level – 223' 6" 10 and NET Volume 282665.26 BBL (Net volume recorded from the AFHE UFM Alarm)

Stop Level – 223' 6" 1 and NET Volume 282616.46 BBL (Net volume recorded from the AFHE UFM Alarm)

An evolution was created and named 'UFM' on 11 January 2014 11:27:58 AM. The tank was setup for evolution until 13 January 2014 06:18:17 AM.

Start Level – 223' 6" 1 and NET Volume 282616.46 BBL (Net volume recorded from the AFHE UFM Alarm)

Stop Level – 223' 5" 1 and NET Volume 282519.66 BBL (Net volume recorded from the AFHE Evolution)

On 13 January 2014, Tank 105 issue evolution setup.

Start Level – 223' 5" 1 on 13 January 2014 6:21:55 AM

Stop Level – 121' 7" 1 on 14 January 2014 3:51:30 PM

On 15 January 2014, Tank 105 issue evolution setup.

Start Level – 121' 7" 0 on 15 January 2014 4:53:46 PM

Stop Level – 32' 0" 5 on 16 January 2014 8:07:18 PM

On 17 January 2014, Tank 105 issue evolution setup.

Start Level – 32' 0" 5 on 17 January 2014 2:25:30 AM

Stop Level – 6' 5" 0 on 17 January 2014 11:27:42 AM

On 17 January 2014, Tank 105 issue evolution setup.

Start Level – 6' 5" 0 on 17 January 2014 11:28:06 AM

Stop Level – 0' 4" 4 on 18 January 2014 1:53:01 AM

## **2.2 Tank 105 Summary**

The result of the investigation into Tank 105 is that the AFHE system correctly responded and alarmed to the potential leak event. The investigation also revealed the AFHE system correctly reported a loss of product inventory over an extended period of time via generation of the daily hardcopy inventory reports.

The AFHE system generated UFM's alarms and these alarms were cleared through the use of operator intervention and alarm clearing evolutions.

An in depth review of the AFHE database revealed a total loss of approximately 8” of gross fuel, see below figure. This amount was accumulated while the tank was in static mode and does not account for the effect of temperature. The worst case theoretical volume loss over 8” would be approximately 936 BBLs or 39,312 GALs. This calculation is based on a loss of fuel at the 193’ to 197’ level where each inch increment of fuel is at its highest of 117 BBLs or 4,914 GALs per inch (volume based on Tank 105 strapping table).

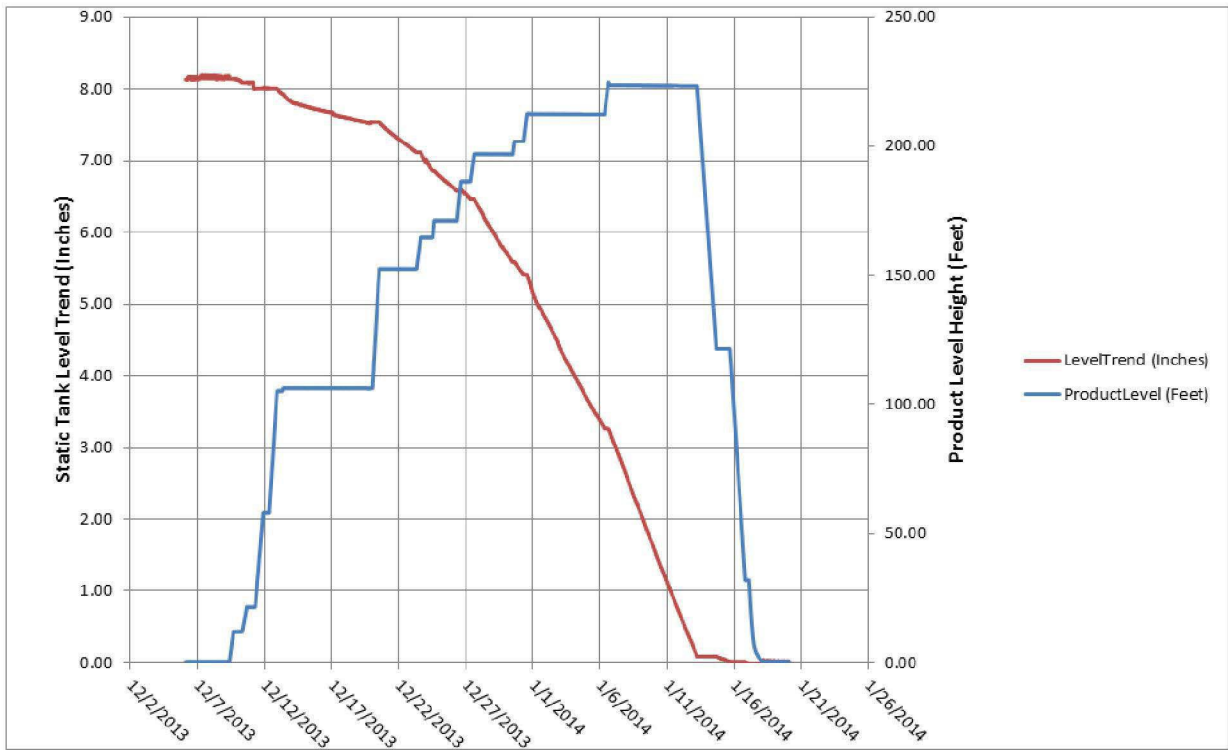


Figure 1 - Static Tank Level Trend

Appendix A – Tank 105 Midnight Inventory

ID	Rec Date	Prod uct	Prod Level	BS&W Level	Gross_BBL	Net_BBL	BSW_BBL	Ullage_BBL	VCF	TEMP	API
TANK-0105	11/24/2013 23:59	JP8	Offline	0' 0" 0	0	0.1	0	0	0	79.93	42.6
TANK-0105	11/25/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.25	75.51	0	272023.75	0.9903	79.39	42.6
TANK-0105	11/26/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.48	75.73	0	272023.52	0.9902	79.45	42.6
TANK-0105	11/27/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.33	75.59	0	272023.67	0.9903	79.38	42.6
TANK-0105	11/28/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.48	75.73	0	272023.52	0.9903	79.38	42.6
TANK-0105	11/29/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.47	75.73	0	272023.53	0.9903	79.38	42.6
TANK-0105	11/30/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.26	75.52	0	272023.74	0.9903	79.38	42.6
TANK-0105	12/1/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.38	75.64	0	272023.62	0.9903	79.38	42.6
TANK-0105	12/2/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.42	75.68	0	272023.58	0.9903	79.4	42.6
TANK-0105	12/3/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.55	75.8	0	272023.45	0.9902	79.43	42.6
TANK-0105	12/4/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.37	75.63	0	272023.63	0.9902	79.43	42.6
TANK-0105	12/5/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.21	75.46	0	272023.79	0.9903	79.38	42.6
TANK-0105	12/6/2013 23:59	JP8	0' 3" 14	0' 0" 0	76.44	75.69	0	272023.56	0.9903	79.38	42.6
TANK-0105	12/7/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.3	75.55	0	272023.7	0.9902	79.43	42.6
TANK-0105	12/8/2013 23:59	JP8	0' 3" 13	0' 0" 0	76.24	75.5	0	272023.76	0.9903	79.38	42.6
TANK-0105	12/9/2013 23:59	JP8	12' 0" 2	0' 0" 0	3875.06	3841.82	0	268224.94	0.9914	76.86	43.7
TANK-0105	12/10/2013 23:59	JP8	21' 6" 7	0' 0" 0	11089.09	10994.61	0	261010.91	0.9915	76.75	43.7
TANK-0105	12/11/2013 23:59	JP8	57' 10" 15	0' 0" 0	56758.78	56243.41	0	215341.22	0.9909	77.85	43.7
TANK-0105	12/12/2013 23:59	JP8	105' 2" 11	0' 0" 0	122729.72	121587.11	0	149370.28	0.9907	78.3	43.7
TANK-0105	12/13/2013 23:59	JP8	106' 3" 6	0' 0" 0	124199.84	123042.3	0	147900.16	0.9907	78.31	43.7
TANK-0105	12/14/2013 23:59	JP8	106' 3" 5	0' 0" 0	124193	123034.28	0	147907	0.9907	78.33	43.7
TANK-0105	12/15/2013 23:59	JP8	106' 3" 4	0' 0" 0	124187.24	123028.57	0	147912.76	0.9907	78.33	43.7
TANK-0105	12/16/2013 23:59	JP8	106' 3" 3	0' 0" 0	124182.58	123022.72	0	147917.42	0.9907	78.35	43.7
TANK-0105	12/17/2013 23:59	JP8	106' 3" 2	0' 0" 0	124175.03	123015.24	0	147924.97	0.9907	78.35	43.7
TANK-0105	12/18/2013 23:59	JP8	106' 3" 1	0' 0" 0	124169.58	123008.59	0	147930.42	0.9907	78.37	43.7
TANK-0105	12/19/2013 23:59	JP8	106' 3" 1	0' 0" 0	124167.22	123003.77	0	147932.78	0.9906	78.4	43.7
TANK-0105	12/20/2013 23:59	JP8	152' 7" 12	0' 0" 0	188851.11	187015.48	0	83248.89	0.9903	79.11	43.7
TANK-0105	12/21/2013 23:59	JP8	152' 7" 10	0' 0" 0	188833.84	186998.38	0	83266.16	0.9903	79.11	43.7
TANK-0105	12/22/2013 23:59	JP8	152' 7" 7	0' 0" 0	188817.14	186983.73	0	83282.86	0.9903	79.09	43.7
TANK-0105	12/23/2013 23:59	JP8	164' 7" 10	0' 0" 0	205569.32	203571.19	0	66530.68	0.9903	79.11	43.7
TANK-0105	12/24/2013 23:59	JP8	171' 3" 2	0' 0" 0	214804.77	212712.57	0	57295.23	0.9903	79.14	43.7
ID	Rec Date	Prod	Prod Level	BS&W Level	Gross_BBL	Net_BBL	BSW_BBL	Ullage_BBL	VCF	TEMP	API



		uct									
TANK-0105	12/25/2013 23:59	JP8	171' 2" 15	0' 0" 0	214785.15	212697.44	0	57314.85	0.9903	79.11	43.7
TANK-0105	12/26/2013 23:59	JP8	186' 6" 2	0' 0" 0	236067.21	233791.52	0	36032.79	0.9904	78.94	43.7
TANK-0105	12/27/2013 23:59	JP8	196' 11" 11	0' 0" 0	250703.46	248304.23	0	21396.54	0.9904	78.8	43.7
TANK-0105	12/28/2013 23:59	JP8	196' 11" 5	0' 0" 0	250663.88	248265.02	0	21436.12	0.9904	78.8	43.7
TANK-0105	12/29/2013 23:59	JP8	196' 11" 1	0' 0" 0	250630.43	248231.89	0	21469.57	0.9904	78.8	43.7
TANK-0105	12/30/2013 23:59	JP8	201' 11" 2	0' 0" 0	257634.16	255176.33	0	14465.84	0.9905	78.75	43.7
TANK-0105	12/31/2013 23:59	JP8	212' 6" 6	0' 0" 0	271993.77	269420.71	0	106.23	0.9905	78.58	43.7
TANK-0105	1/1/2014 23:59	JP8	212' 6" 0	0' 0" 0	271952.95	269374.84	0	147.05	0.9905	78.62	43.7
TANK-0105	1/2/2014 23:59	JP8	*212' 5" 10*	0' 0" 0	271910.55	269332.84	0	189.45	0.9905	78.62	43.7
TANK-0105	1/3/2014 23:59	JP8	212' 5" 4	0' 0" 0	271871.34	269294	0	228.66	0.9905	78.64	43.7
TANK-0105	1/4/2014 23:59	JP8	212' 4" 15	0' 0" 0	271833.05	269256.07	0	266.95	0.9905	78.64	43.7
TANK-0105	1/5/2014 23:59	JP8	212' 4" 10	0' 0" 0	271799.55	269222.89	0	300.45	0.9905	78.64	43.7
TANK-0105	1/6/2014 23:59	JP8	223' 8" 1	1' 8" 13	285484.68	282803.98	194.14	-13384.68	0.9906	78.46	43.7
TANK-0105	1/7/2014 23:59	JP8	223' 7" 9	1' 10" 13	285438.72	282755.6	212.07	-13338.72	0.9906	78.48	43.7
TANK-0105	1/8/2014 23:59	JP8	223' 7" 1	1' 9" 5	285393.97	282705.56	198.36	-13293.97	0.9906	78.51	43.7
TANK-0105	1/9/2014 23:59	JP8	*223' 6" 9*	1' 10" 15	285350.18	282662.18	213.53	-13250.18	0.9906	78.51	43.7
TANK-0105	1/10/2014 23:59	JP8	223' 6" 1	1' 10" 7	285304.53	282619.81	208.78	-13204.53	0.9906	78.49	43.7
TANK-0105	1/11/2014 23:59	JP8	223' 5" 10	1' 10" 13	285260.8	282573.64	212.07	-13160.8	0.9906	78.51	43.7
TANK-0105	1/12/2014 23:59	JP8	223' 5" 3	1' 9" 0	285219.9	282530.27	195.52	-13119.9	0.9906	78.53	43.7
TANK-0105	1/13/2014 23:59	JP8	158' 11" 2	1' 8" 15	197610.22	195691.43	194.83	74489.78	0.9903	79.09	43.7
TANK-0105	1/14/2014 23:59	JP8	121' 7" 1	0' 0" 0	145544.16	144133.84	0	126555.84	0.9903	79.03	43.7
TANK-0105	1/15/2014 23:59	JP8	101' 9" 0	0' 0" 0	117884.96	116747.37	0	154215.04	0.9904	78.96	43.7
TANK-0105	1/16/2014 23:59	JP8	*32' 0" 5*	0' 0" 0	22247.36	22034.45	0	249852.64	0.9904	78.8	43.7
TANK-0105	1/17/2014 23:59	JP8	0' 7" 12	0' 0" 0	98.07	97.2	0	272001.93	0.9911	77.56	43.7
TANK-0105	1/18/2014 23:59	JP8	0' 4" 5	0' 0" 0	78.66	77.97	0	272021.34	0.9912	77.36	43.7
TANK-0105	1/19/2014 23:59	JP8	0' 4" 4	0' 0" 0	78.42	77.72	0	272021.58	0.9911	77.49	43.7

# Appendix B – Unscheduled Fuel Movement Alarms

Initial_Time	Acknowledged_Time	Normalized_Time	Alarm
12/10/2013 19:52:27	12/10/2013 19:53:38	12/10/2013 19:53:29	TANK 0105 - Warning Unscheduled Movement at M21' 5" 2 - 10887.377 Below 10916.730
12/13/2013 10:55:34	12/13/2013 10:55:38	12/13/2013 10:56:06	TANK 0105 - Warning Unscheduled Movement at *106' 2" 2* - 122898.805 Below 122940.396
01/02/2014 21:19:20	01/02/2014 21:19:43	01/02/2014 21:44:24	TANK 0105 - Warning Unscheduled Movement at 212' 5" 11 - 269338.412 Below 269338.424
01/04/2014 10:20:30	01/04/2014 10:23:48	01/04/2014 10:23:18	TANK 0105 - Warning Unscheduled Movement at 212' 5" 2 - 269277.493 Below 269277.509
01/06/2014 02:43:15	01/06/2014 02:59:39	01/06/2014 02:45:19	TANK 0105 - Warning Unscheduled Movement at 212' 4" 9 - 269218.625 Below 269218.628
01/07/2014 18:02:15	01/07/2014 18:12:51	01/07/2014 18:12:44	TANK 0105 - Warning Unscheduled Movement at 223' 7" 11 - 282770.190 Below 282770.208
01/08/2014 18:26:35	01/08/2014 18:28:52	01/08/2014 18:28:39	TANK 0105 - Warning Unscheduled Movement at 223' 7" 3 - 282716.071 Below 282717.908
01/09/2014 21:58:05	01/09/2014 21:58:21	01/09/2014 21:59:48	TANK 0105 - Warning Unscheduled Movement at 223' 6" 10 - 282665.261 Below 282665.261
01/11/2014 01:49:50	01/11/2014 01:50:01	01/11/2014 11:25:53	TANK 0105 - Warning Unscheduled Movement at 223' 6" 1 - 282616.458 Below 282616.493
01/11/2014 11:26:38	01/11/2014 11:28:25	01/11/2014 11:27:58	TANK 0105 - Warning Unscheduled Movement at 223' 5" 14 - 282595.873 Below 282616.493