B2. Tank Displacement Rate Calculations / Transfer Log

Sprague Searsport - Residual Oil Storage Tank #3

Vessel Oil Transfer Data and Air Displacement Calculations

Hourly Fill Rate of Tank #3 During Vessel Transfer on 6/20/12 - *(barrels/hr)*					
Hour 1	**Hour 2**	**Hour 3**	**Hour 4**	**Hour 5**	**Hour 6**
4,167	*3,776*	*3,776*	*3,511*	*3,511*	*3,416*
Hour 7	**Hour 8**	**Hour 9**	**Hour 10**	**Hour 11**	**Hour 12**
3,416	*3,788*	*3,788*	*3,114*	*3,114*	*3,403*
Hour 13	**Hour 14**				
3,403	*361*				

Air Displaced Out of Tank #3 During Vessel Transfer on 6/20/12 - *(scfh)*					
Hour 1	**Hour 2**	**Hour 3**	**Hour 4**	**Hour 5**	**Hour 6**
23,169	*20,995*	*20,995*	*19,521*	*19,521*	*18,993*
Hour 7	**Hour 8**	**Hour 9**	**Hour 10**	**Hour 11**	**Hour 12**
18,993	*21,061*	*21,061*	*17,314*	*17,314*	*18,921*
Hour 13	**Hour 14**				
18,927	*2,008*				

Standard Cubic Feet Per Hour (SCFH) = barrels/hr x 5.56
Where: One barrel = 5.56 cubic feet

VESSEL PUMPING LOG

Time	Dock Manifold (PSI/Bars) 1	2	3	4	Vessel Manifold (PSI/Bars) 1	2	3	4	Cargo Temp.	Insp.*	Term Rep.	Notes & Delays	Initials
0800	65				120				127	✓	EP	0740 Start time - Testing Emissions	
0900	62				120				128°	✓	Aaron	on Shore Tank #3 during	
1000	62				120				128°	✓	Aaron	Discharge May affect rate	EP
1100	62				120				127°	✓	Aaron		
1200	62				120				127°	✓	EP		
1300	62				120				127°	✓	EP		
1400	62				120				127°	✓	EP		
1500	61				120				126°	✓	Aaron		
1600	62				120				127°	✓	Aaron		
1700	62				120				125°	✓	Aaron		
1800	62				120				128°	✓	TM		
1900	62				120				128	✓	TM		
2000	62				120				130	✓	TM	Complete 2045	
2100													
2200													
2300													
0001													
0100													
0200													
0300													

Terminal: Searsport
Product: #6 oil 2%
Hose On: 0715
Comm. Discharge: 0740

Cargo #:
Vessel: New Hampshire
Date: 6-20-12
Complete Discharge: 2045
Hoses Off: 2130
Released: 2130

Vessel Rep.:
Date: 6/20/12
Time: 2145 hrs
Signed: John C Letteri Jr
Vol. Discharged:
Hrs. Discharging:
Bbls./Hour:

INSPECTORATE
A Bureau Veritas Group Company

Certificate of Analysis

SP/12/0621

Vessel / Shore Tank :	**Tank 3**	Sample Submitted By :	Searsport, ME
Product :	**#6 Fuel Oil**	Analysis Performed By :	IAC Portland
Client Reference :	**V-12-00741**	Date Sampled :	21-Jun-2012
Terminal / Port / Office :	SPRAGUE SEARSPORT	Date Reported :	22-Jun-2012
Job ID :	0020-0005100	Submission ID :	2012-020-00527
Comments :	AFTER NEW HAMPSHIRE		

		UML Composite	
		2012-020-00527-004	
	Method	Test	Result
UML	ASTM D287	API Gravity @ 60°F , ° API	10.2
	ASTM D1250	Density at 15°C	0.9986
UML	ASTM D4294	Sulfur Content , mass %	1.87
UML	ASTM D445	Test Temperature	50°C (122°F)
		Kinematic Viscosity , cSt	502.5
	ASTM D2161	Test Temperature , ° F	122
		Saybolt Furol Seconds , sec	237
	ASTM D95	Water , % (v/v)	0.05
	ASTM D473	Sediment Content , mass % / vol %	0.01 / 0.00
	ASTM D1796	Water and Sediment , % (v/v)	0.025
	ASTM D93 Proc. B	Manual / Automated	Automatic
		Flash Point , ° C / ° F	94.0 / 201
	ASTM D482	Ash Content , mass %	0.0529
	IP 470	Aluminum , ppm (mg/kg)	37
		Silicon , ppm (mg/kg)	71
		Sodium , ppm (mg/kg)	56
		Vanadium , ppm (mg/kg)	41
		Aluminium and Silicon , ppm (mg/kg)	108
	ASTM D5762	Nitrogen , ppm (ug/g)	3299
	ASTM D240	Gross Heat of Combustion , BTU/lb	18300
		Unit Conversion , BTU/gal	152201
	ASTM D4530	Carbon Residue , % (m/m)	12.0
		Micro Carbon Residue , % (m/m)	12.0
	ASTM D97	Pour Point , ° C / ° F	2 / 36
	ASTM D6560	Asphaltenes , % (m/m)	4.5
Pending	ASTM D5291 Method C	Carbon , mass %	Pending
		Hydrogen , mass %	Pending
		Nitrogen , mass %	Pending

UML **U,M,L Calculated Average**

Pending **Pending**

For Inspectorate: Signature On File

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