

## OIL CONDITION MONITORING REPORT SLNS SAYURA

<b>ENGINE PARTICULARS (Information provided by the customer)</b>	
	<b>Port Main Engine (No. 02)</b>
<b>Make :</b>	SEMT PIELSTICK
<b>Model :</b>	16 PA 6V 280
<b>Sr.No's:</b>	8292
<b>Sampling Date</b>	07 May 25
<b>Sampling point :</b>	Lube oil sump
<b>Sampling Method :</b>	Extraction
<b>Type of Lubricant :</b>	Shell Gadina S3 40
<b>System Capacity :</b>	1400 Ltrs

<b>RUNNING HRS DETAILS (Information provided by the customer)</b>	
	<b>Port Main Engine (No. 02)</b>
<b>Sample ID</b>	M010168
<b>Oil Running Hours</b>	1232.55
<b>Total Running Hours of the Machinery</b>	49879.50

### ANALYSIS RESULTS

#### **Basic Properties**

	<b>ASTM Method</b>	Fresh Oil (As per OEM data sheet)	<b>Uncertainty (K=2)</b>	<b>Port Main Engine (S/I- M010168)</b>
Viscosity @ 40°C (cSt)	ASTM D 445	128.00	0.006	120.44
Viscosity @ 100°C (cSt)		13.70	0.005	13.55
Viscosity Index	ASTM D2270	103	N/A	108.84
Total Base No. mg KOH/g	ASTM D 4739	10.48*	0.77	8.81
Flash Point (°C)	ASTM D 92	230	0.026	208
Water content %	ASTM D 95	< 0.2	0.082	<0.1

\*The results were taken from a fresh oil sample which is tested at MTTU laboratory by ASTM D4739 method.

#### **Elemental Concentration as per ASTMD 5185 (ppm)**

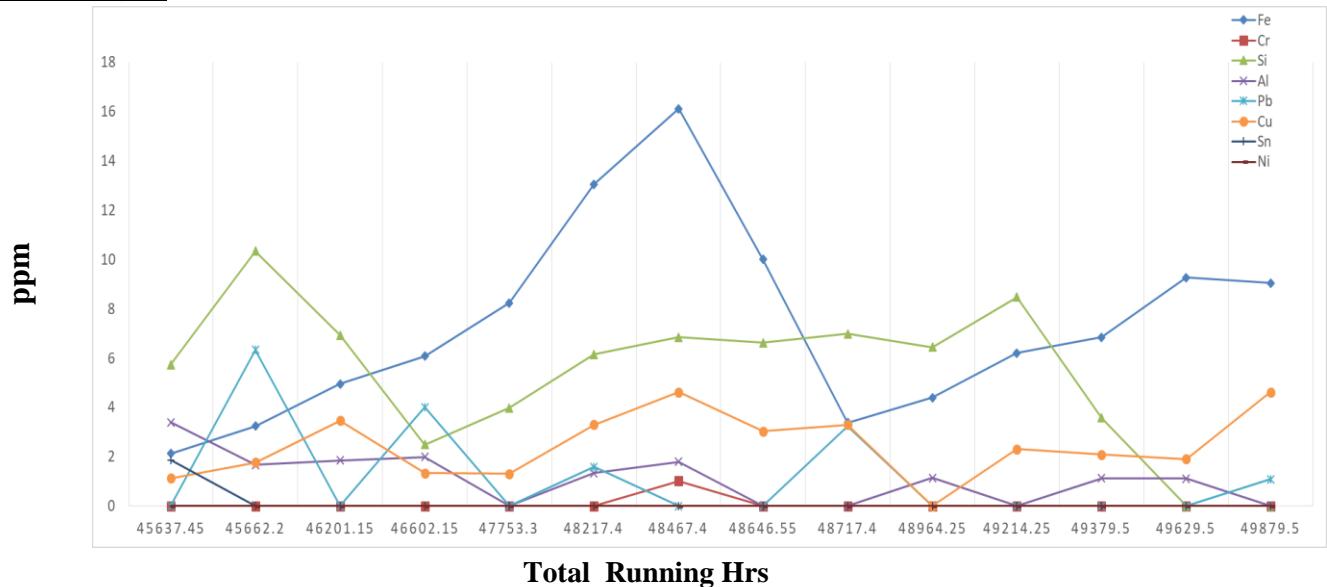
<b>Element</b>	<b>Maximum Permissible Limit</b>	<b>Fresh Oil Sample</b>	<b>Uncertainty (K=2)</b>	<b>Port Main Engine (S/I- M010168)</b>
Fe	80	< 1.000	0.15	9.262
Cr	10	< 1.000	0.18	< 1.000
Si	15	< 1.000	0.17	< 1.000
Al	20	< 1.000	0.28	1.110
Pb	20	< 1.000	0.13	< 1.000
Cu	25	< 1.000	0.17	1.912
Sn	10	< 1.000	0.20	< 1.000
Ni	10	< 1.000	0.08	< 1.000

## TREND ANALYSIS WITH PREVIOUS REPORTS

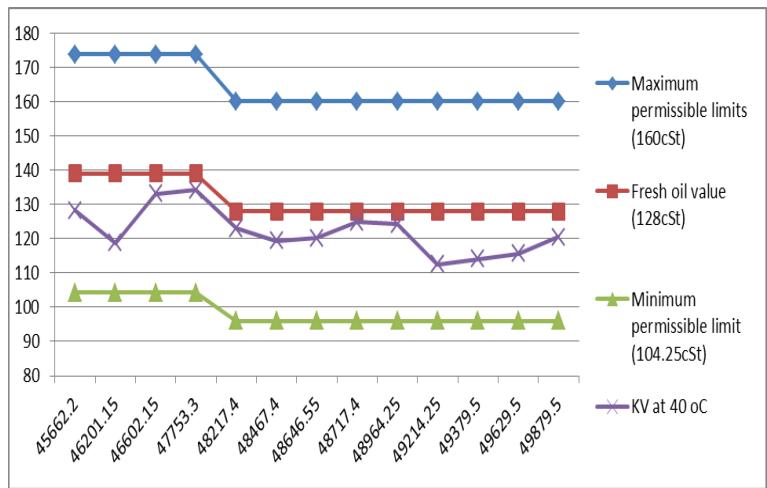
	Fresh Oil Sample	Port Main Engine															
		S/I-M000083	S/I-M000327	S/I-M000780	S/I-M001120	S/I-M002381	Fresh Oil Sample	S/I-M003965	S/I-M004958	S/I-M005411	S/I-M005944	S/I-M006303	S/I-M007875	S/I-M008480	S/I-M009276	S/I-M010168	
<b>Oil Running Hrs</b>	-	70.55	98.15	634.25	1035.25	686.40	-	464.10	1313.15	1492.30	70.45	317.30	567.30	732.55	982.55	1232.55	
<b>T/R/H of Machinery</b>	-	45637.45	45662.20	46201.15	46602.15	47753.30	-	48217.40	48467.40	48646.55	48717.40	48964.25	49214.25	49379.50	49629.50	49879.50	
<b>Basic Properties</b>																	
Viscosity @ 40°C (cSt)	139.00	N/A	128.17	118.68	133.09	134.23	128.00	122.91	119.37	120.06	124.85	124.22	112.52	114.01	115.55	120.44	
Viscosity @ 100°C (cSt)	14.40	N/A	13.28	13.34	13.90	14.36	13.70	13.22	12.88	12.59	13.12	13.55	12.90	13.05	13.06	13.55	
Viscosity Index	103	N/A	N/A	107.80	100.83	105.57	103	101.59	100.51	95.94	98.47	104.82	108.48	108.94	107.34	108.84	
Total Base No. (mg KOH/g)	10.48*	N/A	N/A	N/A	N/A	N/A	10.48*	8.47	8.78	8.31	8.74	N/A	N/A	8.30	8.40	8.81	
Water content (%)	<0.2	N/A	N/A	N/A	N/A	N/A	<0.2	<0.1	<0.1	<0.1	<0.1	N/A	N/A	206	204	208	
Flash Point (°C)	225	N/A	N/A	N/A	N/A	N/A	230	195	195	170	190	N/A	N/A	<0.1	<0.1	<0.1	
<b>Elemental Concentration as per ASTMD 5185 (ppm)</b>																	
Element	Max. Permissible Limit																
Fe	80	< 1.000	2.133	3.239	4.951	6.087	8.240	< 1.000	13.054	16.115	10.01	3.375	4.390	6.209	6.848	9.262	9.040
Cr	10	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	1.018	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000
Si	15	< 1.000	5.737	10.346	6.931	2.490	3.979	< 1.000	6.157	6.845	6.621	6.981	6.439	8.481	3.577	< 1.000	< 1.000
Al	20	< 1.000	3.389	1.672	1.852	1.992	< 1.000	< 1.000	1.337	1.795	< 1.000	< 1.000	1.136	< 1.000	1.132	1.110	< 1.000
Pb	20	< 1.000	< 1.000	6.331	< 1.000	4.007	< 1.000	< 1.000	1.579	< 1.000	< 1.000	3.242	< 1.000	< 1.000	< 1.000	< 1.000	1.091
Cu	25	< 1.000	1.129	1.769	3.470	1.331	1.302	< 1.000	3.301	4.624	3.029	3.294	< 1.000	2.310	2.084	1.912	4.625
Sn	10	< 1.000	1.867	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000
Ni	10	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	< 1.000	N/A	N/A	< 1.000	< 1.000	< 1.000	< 1.000

N/C-Not Conducted

## Wear Metals Port Main Engine

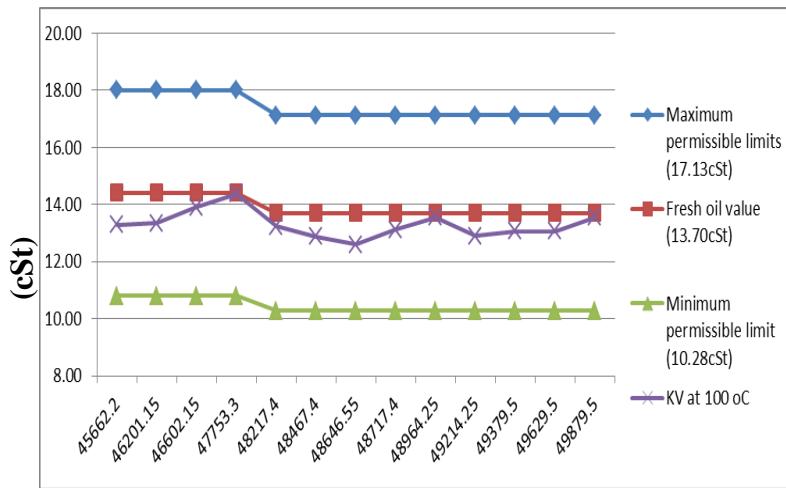


## Viscosity $40^{\circ}\text{C}$



Total Running Hrs

## 100°C



Total Running Hrs