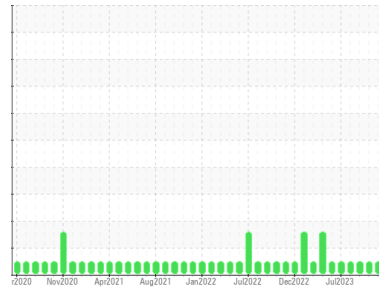




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

## ENGINE ROOM 3RD DECK

Machine Id

**77-G-6582 ESSENTIAL SERVICES GENERATOR (S/N Maint Plan 22480)**

Component

**Diesel Engine**

Fluid

**MOBIL MOBILGARD 412 (1300 LTR)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

#### Contaminants

There is no indication of any contamination in the oil.

#### Oil Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

### SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PP</b>	PP	PP
Sample Date	Client Info	<b>27 Nov 2023</b>	14 Nov 2023	11 Sep 2023
Machine Age	hrs Client Info	<b>0</b>	0	0
Oil Age	hrs Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	NORMAL	NORMAL

### CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method >0.1	<b>NEG</b>	NEG	NEG
Glycol	WC Method	<b>NEG</b>	NEG	NEG

### WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184*	<b>0</b>	0	0
Iron	ppm ASTM D5185(m) >25	<b>3</b>	3	3
Chromium	ppm ASTM D5185(m) >5	<b>0</b>	0	0
Nickel	ppm ASTM D5185(m) >5	<b>&lt;1</b>	<1	0
Titanium	ppm ASTM D5185(m) >2	<b>0</b>	0	0
Silver	ppm ASTM D5185(m) >2	<b>0</b>	<1	<1
Aluminum	ppm ASTM D5185(m) >10	<b>2</b>	1	1
Lead	ppm ASTM D5185(m) >5	<b>0</b>	0	0
Copper	ppm ASTM D5185(m) >5	<b>&lt;1</b>	1	<1
Tin	ppm ASTM D5185(m) >5	<b>0</b>	0	0
Antimony	ppm ASTM D5185(m)	<b>0</b>	0	0
Vanadium	ppm ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm ASTM D5185(m)	<b>0</b>	0	0

### ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	<b>&lt;1</b>	1	1
Barium	ppm ASTM D5185(m) 0	<b>0</b>	<1	<1
Molybdenum	ppm ASTM D5185(m) 0	<b>0</b>	0	<1
Manganese	ppm ASTM D5185(m) 0	<b>0</b>	0	0
Magnesium	ppm ASTM D5185(m) 18	<b>17</b>	16	17
Calcium	ppm ASTM D5185(m) 6350	<b>6017</b>	6199	6352
Phosphorus	ppm ASTM D5185(m) 200	<b>212</b>	213	214
Zinc	ppm ASTM D5185(m) 380	<b>351</b>	358	369
Sulfur	ppm ASTM D5185(m) 6950	<b>5281</b>	5136	5326
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	<1

### CONTAMINANTS

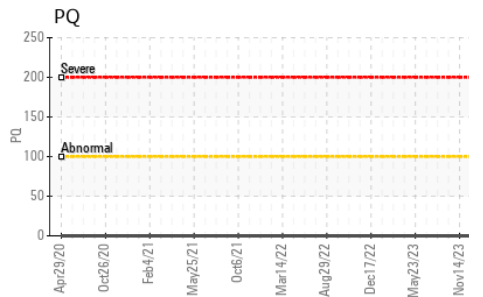
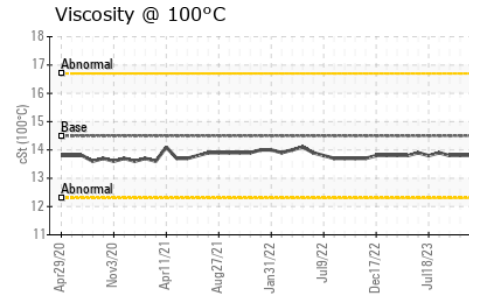
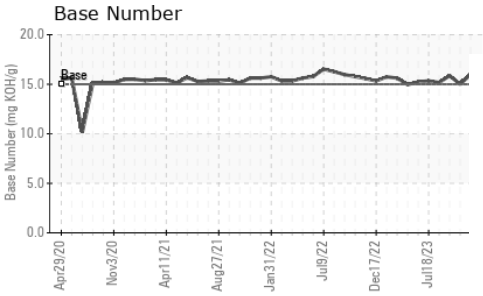
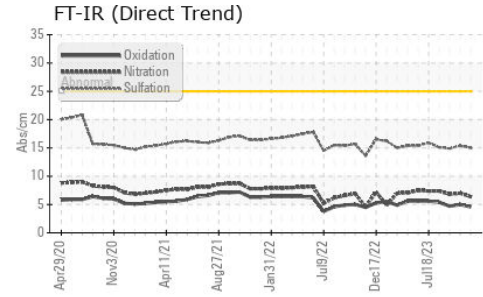
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	<b>13</b>	6	10
Sodium	ppm ASTM D5185(m)	<b>&lt;1</b>	0	1
Potassium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	0	0

### INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >2	<b>0</b>	0	0
Nitration	Abs/cm ASTM D7624* >20	<b>6.4</b>	7.0	6.8
Sulfation	Abs./1mm ASTM D7415* >30	<b>15.0</b>	15.4	14.9



# OIL ANALYSIS REPORT

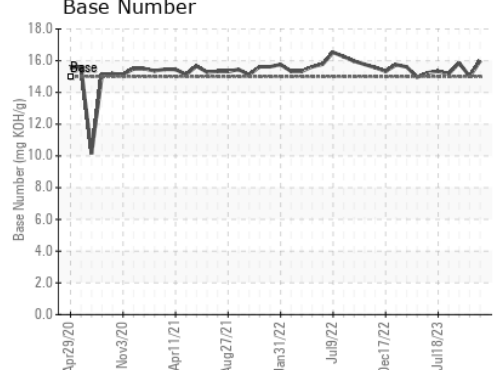
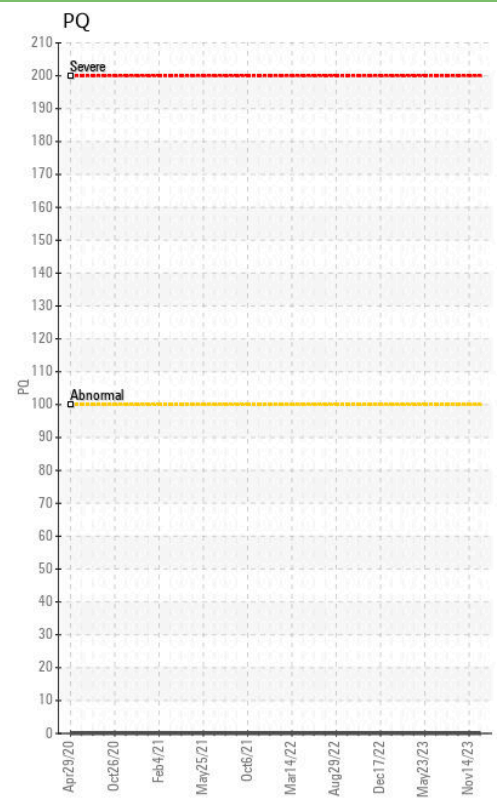
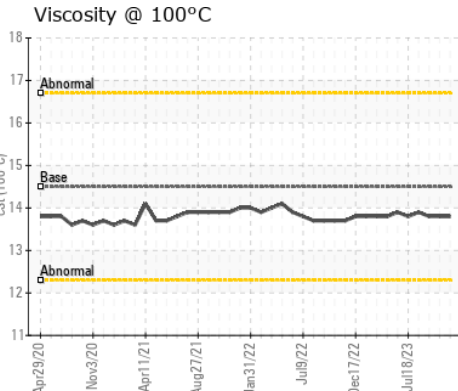
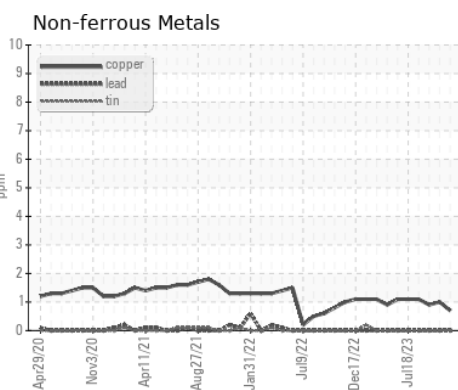
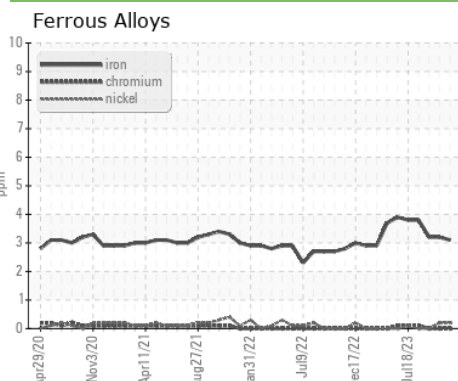


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	<b>4.6</b>	5.0	4.7
Base Number (BN)	mg KOH/g	ASTM D2896*	15	<b>15.99</b>	15.00	15.86

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	<b>13.8</b>	13.8	13.8

## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PP  
**Lab Number** : 02607415  
**Unique Number** : 5708501  
**Test Package** : MAR 3

**HUSKY SEA ROSE /AKER SOLUTIONS**  
 PO BOX 20  
 ST. JOHN'S, NL  
 CA A1C 6C9

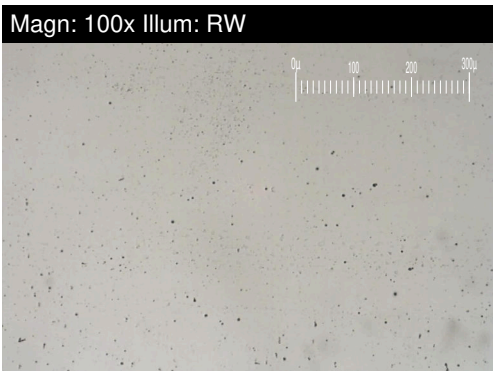
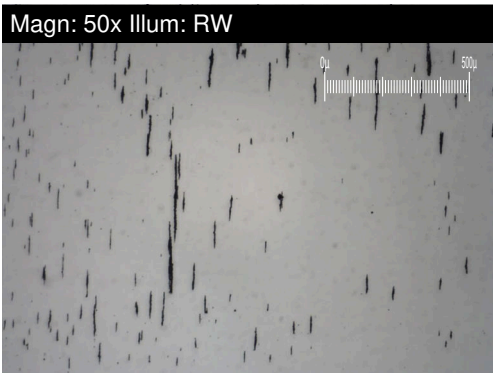
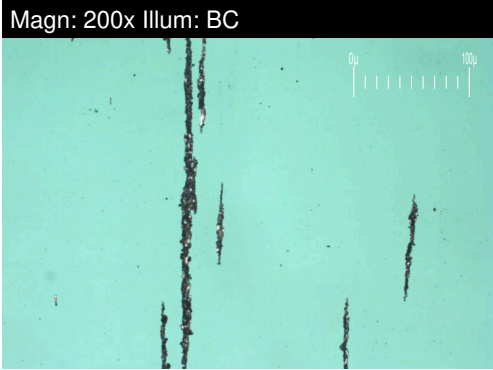
To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

Contact: Maintenance Supervisor  
 maintsuper.searose@huskyenergy.ca  
 T: x:  
 F: x:



# FERROGRAPHY REPORT

Area  
**ENGINE ROOM 3RD DECK**  
 Machine Id  
**77-G-6582 ESSENTIAL SERVICES GENERATOR (S/N Maint Plan 22480)**  
 Component  
**Diesel Engine**  
 Fluid  
**MOBIL MOBILGARD 412 (1300 LTR)**

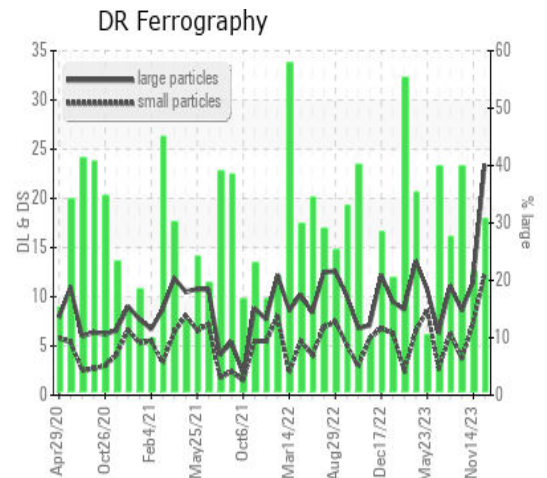


DR-FERROGRAPHY		method	limit/base	current	history1	history2
Large Particles		DR-Ferr*		<b>23.4</b>	11.5	8.6
Small Particles		DR-Ferr*		<b>12.4</b>	7.4	3.7
Total Particles		DR-Ferr*	>---	<b>35.8</b>	18.9	12.3
Large Particles Percentage	%	DR-Ferr*		<b>30.7</b>	21.7	39.8
Severity Index		DR-Ferr*		<b>257</b>	47	42

FERROGRAPHY		method	limit/base	current	history1	history2
Ferrous Rubbing	Scale 0-10	ASTM D7684*		<b>3</b>	2	2
Ferrous Sliding	Scale 0-10	ASTM D7684*				1
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*				1
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*				
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				
Carbonaceous Material	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Lubricant Degradation	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		<b>1</b>	1	1
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		<b>1</b>	1	2

## WEAR

All component wear rates are normal.  
 The ferrography results are normal indicating no abnormal wear in the system.



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