

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION ABNORMAL

Machine Id **STBD GEARBOX** Component Starboard Gearbox

Mobilgear 629 (850 LTR)

RECOMMENDATION

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MAR 2 test kits, this testkit includes AN to determine the suitability of the oil for continued use.

WEAR

All component wear rates are normal.

CONTAMINATION

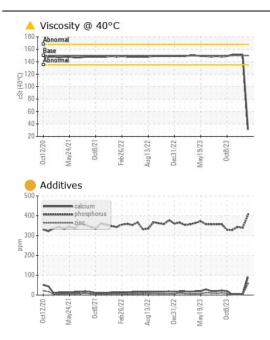
There is no indication of any contamination in the oil.

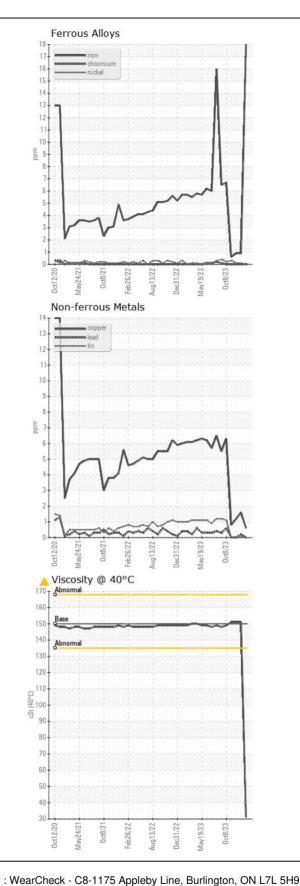
FLUID CONDITION

Viscosity of sample indicates oil is within ATF range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service (unconfirmed).

Sample DateClient Info20 Mar 202425 Feb 202404 Feb 2024Machine AgehrsClient Info41523446310Oil AgehrsClient Info000Filter AgehrsClient InfoN/ANot ChangeN/AFilter ChangedClient InfoN/ANot ChangeN/AFilter ChangedClient InfoN/ANot ChangeN/ASample StatusClient InfoN/ANot ChangeN/ASample StatusSample StatusASTM DS185(m)>1000NickelppmASTM DS185(m)>10000NickelppmASTM DS185(m)>10000SilterppmASTM DS185(m)>50<1<1<1LeadppmASTM DS185(m)>50<100QanadiumppmASTM DS185(m)>60<100VanadiumppmASTM DS185(m)>60<100VanadiumppmASTM DS185(m)>60<100VanadiumppmASTM DS185(m)>20<1<10VanadiumppmASTM DS185(m)>20<1<1<1VanadiumppmASTM DS185(m)>20<1<1<1VanadiumppmASTM DS185(m)>20<1<1<1VanadiumppmASTM DS185(m)>20<1<1<1Vanadi							
Sample DateClient Info20 Mar 202425 Feb 202404 Feb 2024Machine AgehrsClient Info41523446310Oil AgehrsClient Info000Filter AgehrsClient InfoN/ANot ChangedN/AFilter ChangedClient InfoN/ANot ChangedN/AFilter ChangedClient InfoN/ANot ChangedN/ASample StatusClient InfoN/ANot ChangedN/AIronppmASTMD5185(m)>1000NickelppmASTMD5185(m)>1000NickelppmASTMD5185(m)>1000NickelppmASTMD5185(m)>0<1<1ItaniumppmASTMD5185(m)>5<1<1<1ClooperppmASTMD5185(m)>50<1<1ItaniumppmASTMD5185(m)>6<121NoneppmASTMD5185(m)>50<1<1ItaniumppmASTMD5185(m)>6<1<10VanadiumppmASTMD5185(m)>6<1<10VanadiumppmASTMD5185(m)>20<1<1<1VanadiumppmASTMD5185(m)>20<1<1<1VanadiumppmASTMD5185(m)>20<1<1<1VanadiumppmASTMD5185(m)>20<1	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age Machine AgehrsClient Info41523446310Oil Age Pitter AgehrsClient Info000Filter AgehrsClient InfoN/ANot ChangdN/AFilter ChangedClient InfoN/ANot ChangdN/AFilter ChangedClient InfoN/ANot ChangdN/ASample StatusClient InfoN/ANot ChangdN/ASample StatusTASTMD5185(m)>15018<1<1IronppmASTMD5185(m)>10000NickelppmASTMD5185(m)>10000NickelppmASTMD5185(m)55<1<1<1LeadppmASTMD5185(m)>60<100QopperppmASTMD5185(m)>80<1000VanadiumppmASTMD5185(m)>80<1000White MetalscalarVisual*NONENONENONENONENONEYellow MetalscalarVisual*NONENONENONENONENONENONESiliconppmASTMD5185(m)>20<1<1<14PotassiumppmASTMD5185(m)>20<1<1<1WaterwCodular*NONENONENONENONENONESiliconppmASTMD5185(m)>20<1<1<<1Water <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>WC0803043</th> <th>WC0803027</th> <th>WC0803087</th>	Sample Number		Client Info		WC0803043	WC0803027	WC0803087
Oil Age Filter AgehrsClient Info000Filter AgehrsClient InfoN/ANot ChangedN/AFilter ChangedClient InfoN/ANot ChangedN/ASample StatusClient InfoN/ANot ChangedN/AIronppmASTMD5185(m) >15018<1<1ChromiumppmASTMD5185(m) >10000NickelppmASTMD5185(m) >100<1<1TitaniumppmASTMD5185(m) >55<1<1<1TitaniumppmASTMD5185(m) >55<1<1<1LeadppmASTMD5185(m) >560<100AluminumppmASTMD5185(m) >560<100VanadiumppmASTMD5185(m) >580<100VanadiumppmASTMD5185(m) >50<1<100Valew MetalscalarVisual*NONEVLTENONENONESiliconppmASTMD5185(m) >20<1<1<1<1Watervisual*NONENONENONENONENONESiliconppmASTMD5185(m) >20<1<1<<1<1Watervisual*NONENONENONENONENONESoliconppmASTMD5185(m) >20<1<1<<1<1Watervisual*NONENONENONENONENONESolic	Sample Date		Client Info		20 Mar 2024	25 Feb 2024	04 Feb 2024
Filter AgehrsClient Info000Oil ChangedClient InfoN/ANot Changed N/AFilter ChangedClient InfoN/ANot Changed N/ASample StatusABNORMALNORMALNORMALIronppmASTM D5185(m) >1018<1ChromiumppmASTM D5185(m) >100<1NickelppmASTM D5185(m) >100<1TitaniumppmASTM D5185(m) >55<1<1TitaniumppmASTM D5185(m) >55<1<1LeadppmASTM D5185(m) >80<121LeadppmASTM D5185(m) >80<121TinppmASTM D5185(m) >80<121TinppmASTM D5185(m) >80<100VanadumppmASTM D5185(m) >80<100VanadumppmASTM D5185(m) >20<1<10Yellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONENONESiliconppmASTM D5185(m) >20<1<1<1WaterWisual*NONENONENONENONESolidumppmASTM D5185(m) >20<1<1<1QatarVisual*NONENONENONENONESolidumppmASTM D5185(m) >20<1<1<1QatarVisual*NONENON	Machine Age	hrs	Client Info		41523	44631	0
Oli ChangedClient InfoN/ANot ChangedN/AFilter ChangedClient InfoN/ANot ChangedN/ASample StatusASTM D5186(m) >15018<1<1IronppmASTM D5186(m) >10000NickelppmASTM D5186(m) >100<1<1TitaniumppmASTM D5186(m) >10000SilverppmASTM D5186(m) >55<1<1<1LeadppmASTM D5186(m) >55<0<10CopperppmASTM D5186(m) >560<10VanadiumppmASTM D5186(m) >580<10VanadiumppmASTM D5186(m) >500<10VanadiumppmASTM D5186(m) >500<10VanadiumppmASTM D5186(m) >20<1<10VanadiumppmASTM D5186(m) >20<1<14PotassiumppmASTM D5186(m) >20<1<1<1Yellow MetalscalarVisual*NONENONENONESiliconppmASTM D5186(m) >20<1<1<1PotassiumppmASTM D5186(m) >20<1<1<1PotassiumppmASTM D5186(m) >20<1<1<<1SodiumppmASTM D5186(m) <20NORENORENORESodiumppmASTM D5186(m) <0NORENORENOREAppearancescal	Oil Age	hrs	Client Info		0	0	0
Filter ChangelClient InfoNANANot ChangelN/ASample StatusClient InfoNANORMALNORMALNORMALIronppmASTM DS185(m)>10000NickelppmASTM DS185(m)>100c1<1ChromiumppmASTM DS185(m)>100c1<1TitaniumppmASTM DS185(m)>10000SilverppmASTM DS185(m)S<1<1<1LeadppmASTM DS185(m)>55<1<10CopperppmASTM DS185(m)>80<121TinppmASTM DS185(m)>80<100VanadiumppmASTM DS185(m)>80<121TinppmASTM DS185(m)>80<1<10VanadiumppmASTM DS185(m)>20<1<1<1Yellow MetalscalarVisual*NONENONENONEYellow MetalscalarVisual*NONENONENONENONESiliconppmASTM DS185(m)>20<1<1<1PotassiumppmASTM DS185(m)>20<1<1<1SiliconppmASTM DS185(m)>20<1<1<<1PotassiumppmASTM DS185(m)NORENONENONENONESiliconppmASTM DS185(m)NORE	Filter Age	hrs	Client Info		0	0	0
Sample StatusABNORIMALNORMALNORMALIronppmASTM DS185(m)>10018<1<1ChromiumppmASTM DS185(m)>100<1<1NickelppmASTM DS185(m)>100<1<1TitaniumppmASTM DS185(m)>100<00SilverppmASTM DS185(m)S<1<1<1LeadppmASTM DS185(m)>55<1<1<1LeadppmASTM DS185(m)>50<1<10VanadiumppmASTM DS185(m)>80<121TinppmASTM DS185(m)>80<100VanadiumppmASTM DS185(m)>80<1<10VanadiumppmASTM DS185(m)>20<1<1<1Yellow MetalscalarVisual*NONENONENONENONEYellow MetalscalarVisual*NONENONENONENONESiliconppmASTM DS185(m)>20<1<1<1PotassiumppmASTM DS185(m)>20<1<1<1SiliconppmASTM DS185(m)>20<1<1<<1DebrisscalarVisual*NONENONENONENONESodiumppmASTM DS185(m)NORMNORMNORMNORMAppearancescalarVisual*NORMNORM <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>N/A</th> <th>Not Changd</th> <th>N/A</th>	Oil Changed		Client Info		N/A	Not Changd	N/A
Iron ppm ASTM D5185(m) >150 18 <1	Filter Changed		Client Info		N/A	Not Changd	N/A
Chromium ppm ASTM D5185(m) >10 0 0 0 Nickel ppm ASTM D5185(m) >10 0 <1 <1 Titanium ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) 0 <1 <1 <1 Lead ppm ASTM D5185(m) >55 <1 <1 <1 <1 Lead ppm ASTM D5185(m) >80 <1 2 1 <1 Tin ppm ASTM D5185(m) >80 <1 2 1 <1 Yanadium ppm ASTM D5185(m) >80 <1 2 1 <1 Yanadium ppm ASTM D5185(m) >80 <1 2 1 <1 <1 Yanadium ppm ASTM D5185(m) >20 <1 <1 4 Yellow Metal scalar Visual* NONE NONE NONE	Sample Status				ABNORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185(m) >10 0 0 0 Nickel ppm ASTM D5185(m) >10 0 <1 <1 Titanium ppm ASTM D5185(m) >10 0 0 0 Silver ppm ASTM D5185(m) 0 <1 <1 <1 Lead ppm ASTM D5185(m) >55 <1 <1 <1 <1 Lead ppm ASTM D5185(m) >80 <1 2 1 <1 Tin ppm ASTM D5185(m) >80 <1 2 1 <1 Yanadium ppm ASTM D5185(m) >80 <1 2 1 <1 Yanadium ppm ASTM D5185(m) >80 <1 2 1 <1 <1 Yanadium ppm ASTM D5185(m) >20 <1 <1 4 Yellow Metal scalar Visual* NONE NONE NONE	Iron	nnm	AQTM D5185(m)	< 150	10	-1	-1
Nickel ppm ASTM D5(35(m) >10 0 <1					-		
Titanium ppm ASTM D5185(m) 0 0 0 0 Silver ppm ASTM D5185(m) 5 <1 <1 <1 Lead ppm ASTM D5185(m) >55 0 <1 0 Copper ppm ASTM D5185(m) >65 0 <1 0 Copper ppm ASTM D5185(m) >80 <1 2 1 Tin ppm ASTM D5185(m) >80 <1 0 0 Vanadium ppm ASTM D5185(m) >8 0 <1 0 Vanadium ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <td< th=""><th></th><th></th><th>. ,</th><th></th><th></th><th></th><th></th></td<>			. ,				
Silver ppm ASTM D5185(m) 0 0 0 Aluminum ppm ASTM D5185(m) >5 <1 <1 <1 Lead ppm ASTM D5185(m) >65 0 <1 0 Copper ppm ASTM D5185(m) >80 <1 2 1 Tin ppm ASTM D5185(m) >80 <1 0 0 Vanadium ppm ASTM D5185(m) >80 <1 0 0 White Metal scalar Visual* NONE VLITE NONE NONE Yellow Metal scalar Visual* NONE NONE NONE NONE Silicon ppm ASTM D5185(m) >20 <1 <1 <1 Water WC Method >0.2 NEG NEG NEG Sand/Dirt scalar Visual* NONE NONE NONE Appearance scalar Visual* NORM NORML NORML			()	>10	-		
Aluminum ppm ASTM D5185(m) >5 <1			· /				
Lead ppm ASTM D5185(m) >655 0 <1	••		()	. 5	-		-
Copper ppm ASTM D5185(m) >80 <1			(<i>1</i>				
Tin ppm ASTM D5185(m) >8 0 <1			()		-		÷
Vanadium ppm ASTM D5185(m) 0 0 0 0 White Metal scalar Visual* NONE VLITE NONE NONE Yellow Metal scalar Visual* NONE NONE NONE NONE NONE Silicon ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <1 <1 4 Water WC Method >0.2 NEG NEG NEG NORE Debris scalar Visual* NONE NONE NONE NONE Appearance scalar Visual* NORM NORML NORML NORML Odor scalar Visual* NOR NORM NORM NORM Emulsified Water			. ,				
White MetalscalarVisual*NONEVLITENONENONENONEYellow MetalscalarVisual*NONENONENONENONENONENONESiliconppmASTM D5185(m)>20<1<14PotassiumppmASTM D5185(m)>20<1<14WaterWC Method>0.2NEGNEGNEGSiliscalarVisual*NONEVLITENONENONEDebrisscalarVisual*NONENONENONENONESand/DirtscalarVisual*NORENORENONENONEAppearancescalarVisual*NORMNORMLNORMLNORMLOdorscalarVisual*NORNORMLNORMLNORMLOdorscalarVisual*NOR100BoronppmASTM D5185(m)<12627BariumppmASTM D5185(m)000ManganeseppmASTM D5185(m)000ManganeseppmASTM D5185(m)33<1<1PhosphorusppmASTM D5185(m)9143PhosphorusppmASTM D5185(m)56322SulfurppmASTM D5185(m)56632SulfurppmASTM D5185(m)56632			()	>0	-		÷
Yellow Metal scalar Visual* NONE NONE NONE NONE NONE Silicon ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <1 <1 4 Potassium ppm ASTM D5185(m) >20 <1 <1 4 Water WC Method >0.2 NEG NEG NEG Silt scalar Visual* NONE VLITE NONE NONE Debris scalar Visual* NONE NONE NONE NONE NONE Sand/Dirt scalar Visual* NOR NORM					-		
SiliconppmASTM D5185(m)>20<1							
PotassiumppmASTM D5185(m)>20<1		Scalal	visual	NONE	NONE	NONE	NONE
WaterWC Method>0.2NEGNEGNEGSiltscalarVisual*NONEVLITENONENONEDebrisscalarVisual*NONENONENONENONESand/DirtscalarVisual*NONENONENONENONEAppearancescalarVisual*NORMNORMLNORMLNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGSodiumppmASTM D5185(m)1000BoronppmASTM D5185(m)I2627BariumppmASTM D5185(m)0000MagnesiumppmASTM D5185(m)I000MagnesiumppmASTM D5185(m)I339343PhosphorusppmASTM D5185(m)I339343ZincppmASTM D5185(m)I1243612450	Silicon	ppm	ASTM D5185(m)	>20	<1	<1	4
SiltscalarVisual*NONEVLITENONENONEDebrisscalarVisual*NONENONENONENONENONESand/DirtscalarVisual*NONENONENONENONENONEAppearancescalarVisual*NORMNORMLNORMLNORMLNORMLOdorscalarVisual*NORMNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGSodiumppmASTM D5185(m)1000BoronppmASTM D5185(m)0000MolybdenumppmASTM D5185(m)0000ManganeseppmASTM D5185(m)0000MagnesiumppmASTM D5185(m)911433PhosphorusppmASTM D5185(m)6339343ZincppmASTM D5185(m)61243612450	Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
DebrisscalarVisual*NONENONENONENONENONENONESand/DirtscalarVisual*NORNONENONENONENONENONEAppearancescalarVisual*NORMLNORMLNORMLNORMLNORMLNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGNEGSodiumppmASTM D5185(m)-10000BoronppmASTM D5185(m)-000000MolybdenumppmASTM D5185(m)-000 <t< th=""><th>Water</th><th></th><th>WC Method</th><th>>0.2</th><th>NEG</th><th>NEG</th><th>NEG</th></t<>	Water		WC Method	>0.2	NEG	NEG	NEG
Sand/DirtscalarVisual*NONENONENONENONEAppearancescalarVisual*NORMLNORMLNORMLNORMLNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGSodiumppmASTM D5185(m)1000BoronppmASTM D5185(m)12627BariumppmASTM D5185(m)0000MolybdenumppmASTM D5185(m)0000MagnesiumppmASTM D5185(m)33<1<1<1CalciumppmASTM D5185(m)911433PhosphorusppmASTM D5185(m)63393432ZincppmASTM D5185(m)61243612450	Silt	scalar	Visual*	NONE	VLITE	NONE	NONE
AppearancescalarVisual*NORMLNORMLNORMLNORMLNORMLNORMLOdorscalarVisual*NORMLNORMLNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGSodiumppmASTM D5185(m)1000BoronppmASTM D5185(m)12627BariumppmASTM D5185(m)0000MolybdenumppmASTM D5185(m)0000ManganeseppmASTM D5185(m)0000MagnesiumppmASTM D5185(m)405339343PhosphorusppmASTM D5185(m)632SulfurppmASTM D5185(m)61243612450	Debris	scalar	Visual*	NONE	NONE	NONE	NONE
OdorscalarVisual*NORMLNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEGNEGSodiumppmASTM D5185(m)100000BoronppmASTM D5185(m)1262727BariumppmASTM D5185(m)000000MolybdenumppmASTM D5185(m)0000000ManganeseppmASTM D5185(m)00	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Emulsified Water scalar Visual* >0.2 NEG NEG NEG Sodium ppm ASTM D5185(m) 1 0 0 Boron ppm ASTM D5185(m) < <1 26 27 Barium ppm ASTM D5185(m) <1 26 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 3 <1 <1 Calcium ppm ASTM D5185(m) 911 4 3 Phosphorus ppm ASTM D5185(m) 911 4.4 3 Zinc ppm ASTM D5185(m) 956 3.3 2 Sulfur ppm ASTM D5185(m) 1681 12436 12450	Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185(m) 1 0 0 Boron ppm ASTM D5185(m) <1 26 27 Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 Calcium ppm ASTM D5185(m) 91 4 3 Phosphorus ppm ASTM D5185(m) 913 343 Zinc ppm ASTM D5185(m) 56 3 2 Sulfur ppm ASTM D5185(m) 12436 12430	Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185(m) <1	Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185(m) <1	Sodium	nom	ASTM D5185(m)		1	0	0
Barium ppm ASTM D5185(m) 0 0 0 Molybdenum ppm ASTM D5185(m) 0 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 0 Magnesium ppm ASTM D5185(m) 33 <1			· · /				
Molybdenum ppm ASTM D5185(m) 0 0 0 Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 33 <1 <1 Calcium ppm ASTM D5185(m) 91 4 3 Phosphorus ppm ASTM D5185(m) 405 339 343 Zinc ppm ASTM D5185(m) 56 3 2 Sulfur ppm ASTM D5185(m) 12436 12430			· /				
Manganese ppm ASTM D5185(m) 0 0 0 Magnesium ppm ASTM D5185(m) 3 <1							
Magnesium ppm ASTM D5185(m) 3 <1			· · /				
Calcium ppm ASTM D5185(m) 91 4 3 Phosphorus ppm ASTM D5185(m) 405 339 343 Zinc ppm ASTM D5185(m) 56 3 2 Sulfur ppm ASTM D5185(m) 12436 12450	-		· · /				
Phosphorus ppm ASTM D5185(m) 405 339 343 Zinc ppm ASTM D5185(m) 56 3 2 Sulfur ppm ASTM D5185(m) 1681 12436 12450	-						
Zinc ppm ASTM D5185(m) • 56 3 2 Sulfur ppm ASTM D5185(m) • 1681 12436 12450			· · /				
Sulfur ppm ASTM D5185(m) 12436 12450	•						
					_		
	Visc @ 40°C	cSt	ASTM D7279(m)	150	▲ 31.1	151	151

Contact/Location: Avalon Sea - AVALONSEA





Siem Offshore Canada LP. M/V Avalon Sea, 140 WATER STREET SUITE 1000 ST. JOHN`S, NL : 03 Apr 2024 - Kevin Marson CA A1C 6H6 Contact: Avalon Sea ecr@avalonsea.siemoffshore.com T: F:



Accredited Laboratory Diagnosed Test Package : MAR 1 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.

Received

Tested

: 02 Apr 2024

: 02 Apr 2024

: WC0803043

Report Id: AVALONSEA [WCAMIS] 02626188 (Generated: 04/03/2024 09:09:27) Rev: 1

CALA

ISO 17025:2017

Laboratory

Sample No.

Lab Number : 02626188

Unique Number : 5759320

Contact/Location: Avalon Sea - AVALONSEA