

Hastings Deering



# S·O·S ANALYSIS OPTIONS

LABORATORY SERVICES



# COMMON LABORATORY PARTS



## SOS3

Coolant, Oil  
(Also available with Live sample probes)



## SOS8

Diesel – Comprehensive



## SOS20

Rotating Pressure Vessel Oxidation Test (RPVOT)



## SOS3ANBN

Oil



## SOS4

Filtergram, Manual Particle Count



## SOS21

Sample Pump Oil



## SOS3PREM

Oil



## SOS15

FilterCake Analysis



## SOS14

Brass Sample Pump



## SOS5

Oil  
High Precision Water + ANBN



## SOS12

Oil, Coolant – includes Disposable Sample Pump



## SOS22

Sample Pump Coolant



## SOS6

Coolant



## SOS13

Turbine, Hydraulic



## SOS17

Adaptor for Diesel Sampling



## SOS011

Grease, Emulsion & Engine Oil Particle Counting



## SOS18

Diesel – Basic



## SOS9 (Included in SOS3LS kit variants)

Live Sampling Probe



### Analysis via S.E.M.

(Scanning Electron Microscope) also available. POA



PART NUMBERS BEGINNING WITH "FE" DO NOT INCLUDE FREIGHT  
Purple mail Canister indicates freight not included

# S.O.S TESTING KITS



ANALYTE NAME	ABBREVIATION
% Glycol	GLY
Acid Number	AN
Total Acid Number	TAN
Aluminium	AL
Adenosine Triphosphate	ATP
Antimony	SB
API Gravity	API
Appearance	APP
Barium	BA
Bismuth	BI
Total Base Number	TBN
Boron	B
Cadmium	Cd
Calcium	Ca
Cetane Index	CI
Chloride	Cl-
Chromium	Cr
Cloud Point	CP
Cobalt	Co
Colour	COL
Component Meter Units	CMU
Cone Penetration	PEN
Consistency Number	NLGI
Coolant Foaming Tendency	SolFoam
Copper	Cu
Dropping Point	DP
Electrical Conductivity	EC
Evaluation	E
Flash Point	FP
Fluid Meter Units	FMU
Fuel Dilution	F
Fuel in Coolant	SolFuel
Glycolate	GLO
H+ Concentration	pH
Iron	Fe
ISO Cleanliness Code	ISO
ISO Manual Cleanliness Count	ISO4407
Laboratory Control Number	LCN
Lead	Pb
Linear Sweep Voltammetry	RULER
Lithium	Li
Lubricity	LUBE
Magnesium	Mg
Molybdenum	Mo
Membrane Patch Colorimetry	MPC
Nickel	Ni
Nitrate	NO3
Nitration	UNIT
Nitrite	NO2
Odour	Odour
Oil Changed	C
Oil in Coolant	SolOil

ANALYTE NAME	ABBREVIATION
Oxidation	UOXI
Particles > 04 µm	PC4
Particles > 06 µm	PC6
Particles > 10 µm	PC10
Particles > 14 µm	PC14
Particles > 18 µm	PC18
Particles > 21 µm	PC21
Particles > 38 µm	PC38
Particles > 50 µm	PC50
Phosphorus	P
Potassium	K
PQ Index	PQ
Precipitate	Prec
Precipitate Amount	PptAmt
Precipitate Appearance	PptApp
Precipitate Colour	PptCol
Precipitate Magnetism	PptMag
Refractive Index	RI
Reserve Alkalinity	RA
Rotary Pressure Vessel Oxidation Test	RPVOT
Service Meter Units	SMU
Silicon	Si
Silicon Biogas	SiB
Silver	Ag
Sodium	Na
Solution	Soln
Solution Colour	SolCol
Solution Contaminants	SolCon
Solution Intensity	SolInt
Soot	UST
Sulfate	SO4
Sulfation	USUL
Sulfur	S
Temp 10% Distillation	T10
Temp 50% Distillation	T50
Temp 90% Distillation	T90
Temp 95% Distillation	T95
Tin	Sn
Titanium	Ti
Total Dissolved Solids	TDS
Total Hardness	TH
Vanadium	V
Viscosity @ 100C	V100
Viscosity @ 40C	V40
Viscosity Index	VI
Visible Deposits	DEP
Water	WAT
Water - Vol Karl Fisher %	WKF%
Water & Sediment	W/S
Water Karl Fisher	WKF
Zinc	Zn

## WEAR DEBRIS ANALYSIS

ANALYTE NAME	ABBREVIATION
Rubbing Wear	RU
Sliding Wear	SL
Abrasive Wear	AB
Fatigue Wear	FA
Spheres	SP
Corrosive Wear	COR
Cutting Wear	CUT
Other	OTH
White Metal	WM
Organic Material	OM
Steel	STL
Particle Quantifier	PQ
Size Range % < 10 µm	SR1
Size Range % 10– 20 µm	SR2
Size Range % 20– 40 µm	SR3
Size Range % 40– 80 µm	SR4
Size Range % 80– 160 µm	SR5
Size Range > 160 µm	SR6
Oxides (Rust)	OX
Copper Alloy	CuA
Aluminium Alloy	AlA
Dust	DUS
Polymers	POL
Cake Thickness (mm)	Cake



# S.O.S TESTING KITS CONT.

	STANDARD OIL	ACID/BASE NUMBER	PREMIUM	FILTERGRAM	HP WATER/ REFRIGERATION	COOLANT	DIESEL	ENGINE OIL / GREASE / EMULSION / WASTE OIL	TURBINE/ HYDRAULIC	FILTERCAKE	DIESEL BASIC	RPVOT
ELEMENT	SOS3	SOS3 ANBN	SOS3 PREM	SOS4	SOS5	SOS6	SOS8	SOS011	SOS013	SOS15	SOS18	SOS20
Copper	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Iron	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Chromium	•	•	•		•, R			O, G, E, W	•			
Lead	•, C	•	•, C		•, R	•		O, G, E, W	•			
Aluminium	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Silicon	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Tin	•, C	•	•, C		•, R	•		O, G, E, W	•			
Nickel	•	•	•		•, R			O, G, E, W	•			
Sodium	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Potassium	•, C	•	•, C		•, R	•		O, G, E, W	•			
Molybdenum	•, C	•	•, C		•, R	•		O, G, E, W	•			
Calcium	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Magnesium	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Phosphorus	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Zinc	•, C	•	•, C		•, R	•	•	O, G, E, W	•		•	
Titanium	•	•	•		•, R			O, G, W	•			
Antimony	•	•	•		•, R			O, G, E, W	•			
Vanadium	•	•	•		•, R		•	O, G, E, W	•		•	
Boron	•, C	•	•, C		•, R	•		O, G, E, W	•			
Sulfur	•, C	•	•, C		•, R		•	O, G, E, W	•		•	
Silver	•	•	•		•, R			O, G, W	•			
Manganese	•	•	•		•, R			O, G, W	•			
Cadmium	•	•	•		•, R			O, G, W	•			
Barium	•	•	•		•, R			O, G, W	•			
Lithium	•	•	•		•, R			O, G	•			
Degassed Viscosity @ 40oC					R							
Viscosity @ 40oC	•	•	•		•		•	O, E, W	•		•	
Viscosity @ 100oC	0	0	•					0				
Fuel Dilution (2)	•	•	•					0				
Water	•	•	•					O, W				
Water by Karl Fisher Coulometer	2		•		•, R		•	G	•		•	
Water by Karl Fisher Volumetric								E				
Soot	•	•	•					0				
Oxidation	•	•	•		•, R			0	•			
Sulfation	•	•	•		•			0				
Nitration	•	•	•		R			0	•			
PQ Index	•	•	•	•	•, R		•	O, G	•	•	•	

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ELEMENT	SOS3	SOS3 ANBN	SOS3 PREM	SOS4	SOS5	SOS6	SOS8	SOS011	SOS013	SOS15	SOS18	SOS20
Visible Dep.	•	•	•		•, R		•	0, G, W	•		•	
ISO 4406.2	•	•	•		•, R		•		•		•	
PCT >4 micron	•	•	•		•, R		•		•		•	
PCT >6 micron	•	•	•		•, R		•		•		•	
PCT >10 micron	•	•	•		•, R		•		•		•	
PCT >14 micron	•	•	•		•, R		•		•		•	
PCT >18 micron	•	•	•		•, R		•		•		•	
PCT >21 micron	•	•	•		•, R		•		•		•	
PCT >38 micron	•	•	•		•, R		•		•		•	
PCT >50 micron	•	•	•		•, R		•		•		•	
SEM Particle Count- ISO Code								0, W				
Particle Count- ISO 4407 (Manual)				3								
Total Acid Number	2	•	•		•, R				•			
Total Base Number	2	•	•		0							
Remaining Useful Life Analysis Routine									•			
Rotating Pressure Vessel Oxidation Test (RPVOT)												•
Membrane Patch Colorimetric (MPC)									1			
Temp 10% Distillation							•					
Temp 50% Distillation							•					
Temp 90% Distillation							•					
Temp 95% Distillation							•					
Sulfur %							•				•	
Lubricity							•					
Cetane Index							•					
Cloud Point (oC)							•					
Water and Sediment							•					
Colour ASTM D1500					R		•		1		•	
Appearance ASTM D4176							•					
API Gravity							•				•	
Density g/10L@15oC			C				•	E, W			•	
Micro-organisms							•	E			•	
Flash Point oC							•	W			•	
Glycol												
Hydroxyl group												
Total Hardness as CaCO3	C		C			•		E				
Reserve Alkalinity			C									

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ELEMENT	SOS3	SOS3 ANBN	SOS3 PREM	SOS4	SOS5	SOS6	SOS8	SOS011	SOS013	SOS15	SOS18	SOS20
Refractive Index % Brix								E				
Conductivity	C		C			•		E				
H+ Concentration	C		C			•		E				
Total Dissolved Solids			C									
Precipitate	C		C			•						
Solution	C		C			•						
Nitrite	C		C			•						
Nitrate	C		C			•						
Glycol %	C		C			•						
Glycolate	C		C			•						
Coolant Odour	C		C			•						
Chloride	C		C			•						
Olfactory	C		C			•						
Appearance	C		C			•						
Sulfate	C		C			•						
Particle Wear Factor %				•						•		
Particle Distribution %				•						•		
Particle Identification %				•						•		
Scaled Primary Photograph				•								
Scaled Secondary Photograph				•								
Comparison Patch								E				
Filter Patch			•									
Ferrogram								G		•		
Wear Severity Graph			•					G				
Drop Point								G				
Cone Penetration								G				
NLGI Consistency Number								G				
<b>Note E:</b> Emulsion samples	<b>Note C:</b> Coolant samples	<b>Note O:</b> Engine Oil samples	<b>Note G:</b> Grease samples <b>Note R:</b> Refrigeration samples	<b>Note W:</b> Waste Oil samples	<b>Note 1:</b> Hydraulic Oils	<b>Note 2:</b> Gas Engines. Fuel dilution not included.	<b>Note 3:</b> Oil only and specified on card					



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