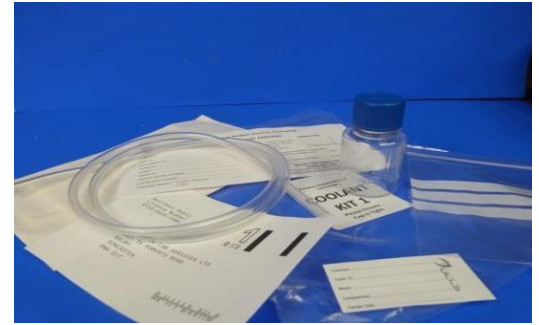


Our PRE-PAID Standard Coolant Sample Kit containing, 60ml PETG bottle, sample tubing, bottle & equipment ID labels and Postal Jiff Bag and PRE-PAID return addressed Postage Label. Price is inclusive of the analysis and report. All reports are issued in pdf format by e-mail. Turnaround time from receipt of the sample in our laboratory is 2 – 3 working days. Analysis covers **Wear, Contamination & Chemistry** along w our analysis comments and where appropriate any actions or recommendations.



### The Wear tests include

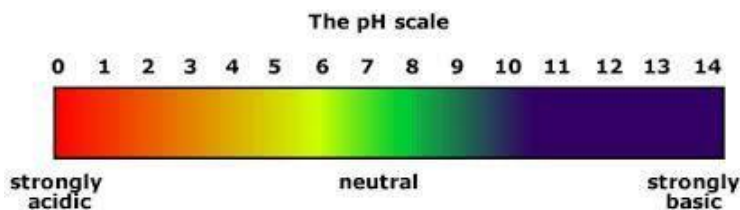
- **FW Idx** – Stands for Ferrous Wear Index. It is a measure of the amount of the ferrous (magnetic iron-containing) material in your sample. Samples containing a lot of fine ferrous particles or several large ferrous particles will generate a high FW index. Since this number is an index it has no unit – it is used for comparative purposes only.

### The Contamination tests include

- **Glycol Volume** – The Glycol Test determines the presence of ethylene glycol used in coolant. Measured in percentage
- **Solid Volume** – Total Dissolved Solids examines the combined content of all inorganic and organic substances contained in Coolant. Measured in Parts Per Million (PPM)
- **Sediment** – Tests for any sediment that has a tendency to clog filters, carburetors and injectors. Measured on 0-3 scale
- **Appearance** – of the coolant, this includes colour to see whether the coolant is in good clean condition. Measured on 0-3 scale

### The Chemistry tests include

- **Foaming** – foaming can result from excessive agitation, improper fluid levels, air leaks, contamination or cavitation's - the pitting or wearing away of a solid surface as a result of the collapse of a vapor bubble. Foaming can cause sluggish hydraulic operation, air binding in oil pumps and tank or sump overflow. Measured on 0-3 scale
- **PH testing** – pH is a measure of the coolant's acidity or alkalinity. Whereas a coolant's neutralization number is related to the quantity of acid- or base-forming materials in a solution, pH indicates their intensity. Coolant pH range should remain between 7.5 and 11 to provide adequate corrosion protection.



- **Resistivity** – The resistivity of a liquid is a measure of its electrical insulating properties under conditions comparable to those of the test. High resistivity reflects low content of free ions and ion-forming particles and normally indicates a low concentration of conductive contaminants. Measured in microSiemens per centimeter ( $\mu\text{S}/\text{cm}$ )
- **Rust** – to test for any rust within the coolant. Measured on 0-3 scale
- **Freezing Point**, tests what point the coolant freeze to ensure it is able to carry out the job it is required to do. Measured in Degrees Celsius
- **Nitrite**, Nitrite is an inhibitor for cast iron, steel and liner cavitation's protection. Excessive levels can lead to solder corrosion, precipitate formation and water pump failure. Measured in Milligrams Per Litre

## Understanding your Coolant Report

Understanding oil/coolant reports is vital to ensure the correct actions are taken and your oil/coolant is maintained in working order. The following is a breakdown of the FA-ST Coolant analysis report and guidance on our alarm levels. Please note that due to the many factors regarding storage of liquids, unique site conditions and previous trend lines these are for guidance only and report results could vary.

## Units & Alarm limits

The table below shows the main points of analysis of a FA-ST coolant report and the units measured in. These should be referred to as **GUIDANCE ONLY** as many factors can affect results and due to this faults may be reported differently. Also these only relate to coolant analysis carried out at FA-ST and other analysis labs may vary.

The Following table refers to the numerical values for Foaming, Sediment, Appearance, Colour, Rust Prevent & Rust.

**Coolant Analysis Report Alarm Limits for GUIDANCE ONLY**

Parameter	Unit	High Alert	Low Alert	High Fault	Low Fault
FW Idx	Index	120	70	40	20
Glycol Vol	Percentage	0-15	16-29	30-39	40-49
Solids Vol	Parts Per Million (PPM)				
Sediment	Number Scale	N/A	3	2	1
Appearance	Number Scale	N/A	3	2	1
Foaming	Number Scale	N/A	3	2	1
pH	pH Scale				
Resistivity	microSiemens per centimetre				
Rust	Number Scale	N/A	3	2	1
Nitrite	Milligrams Per Litre				
Rust Prevent	Number Scale	N/A	3	2	1



# Oil Analysis Report

Standard oil report is broken into 6 sections

## IDENTIFICATION & EQUIPMENT

## UNIT/OIL USAGE REFERENCE OIL

## RESULTS TABLE

RESULTS TABLE SHOWING CURRENT AND HISTORICAL DATA. EACH CATEGORY AND ELEMENT IS ALARM COLOUR CODED.

## COMMENTS AND RECOMMENDATIONS BOX

COMMENTS FOR CURRENT SAMPLE BASED ON EXPERIENCE OF SIMILAR SAMPLE AND BUILT IT ALARM LIMITS SPECIFIC TO INDIVIDUAL ASSETTS.

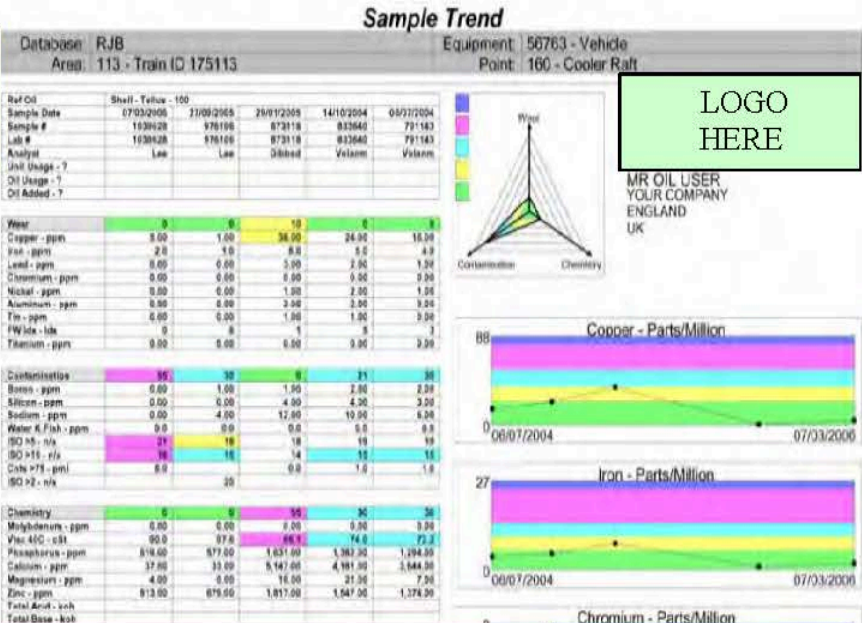
## TRIVECTOR

**TRIVECTOR:** IS AN AT A GLANCE INTERPRETATION OF THE WHOLE REPORT.

- 1) WEAR
- 2) CONTAMINATION
- 3) OIL CONDITION/CHEMISTRY

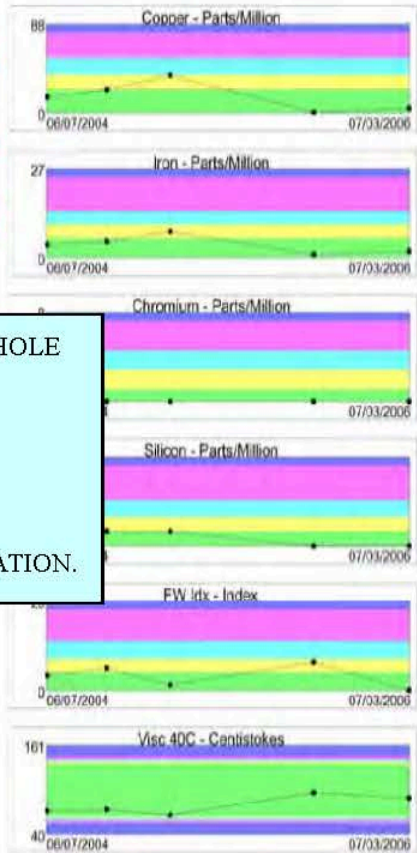
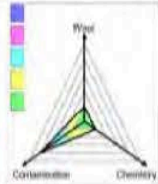
ALL OR ONE BRANCH CAN SHOW THE ALARM STATUS FOR THAT CATEGORY.

THIS REPORT SHOWS HIGH LEVELS OF PARTICULATE CONTAMINATION.



LOGO  
HERE

MR OIL USER  
YOUR COMPANY  
ENGLAND  
UK

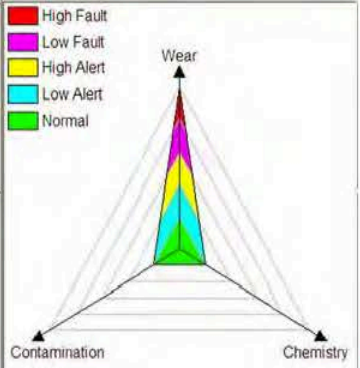
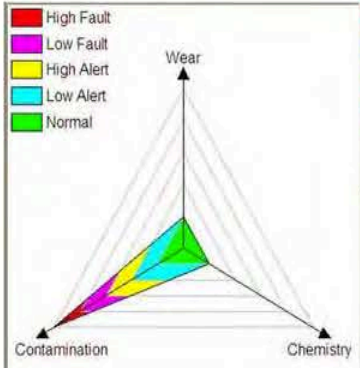
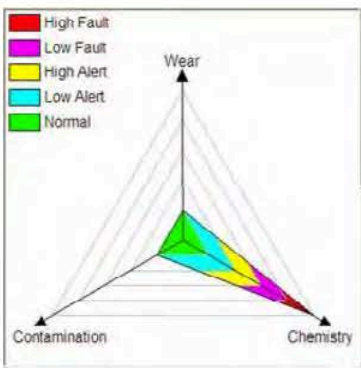


## TREND GRAPHS

ELEMENTAL PLOTS SHOWING TRENDS AND HISTORICAL DATA

THE WEAR RATE IS STABLE BUT THE OIL COUNTED VERY DIRTY. CHANGE THE OIL AND FILTER(S) AND RESAMPLE EARLY TO MONITOR.

## HISTORICAL DATA USING TREND ANALYSIS





### FA-ST 0-3 Number Scale

	0	1	2	3
<b>Foaming</b>	None	Slight	Moderate	Heavy
<b>Sediment</b>	No	Yes	-	-
<b>Appearance</b>	Clear	Cloudy/Hazy	Very Cloudy	Opaque
<b>Colour (Visual)</b>	Colourless	Turquoise	Blue	Other
<b>Rust Prevent</b>	No	Yes	-	-
<b>Rust</b>	No	Yes	-	-

Below is a breakdown of an FA-ST coolant report showing the basic layout and value of what things are reported in.

Database:	Company Data Base	Equipment:	Type of equipment i.e. bulk tank
Area:	Area in database & Customer Name	Point:	Sample point i.e. Draw off Point

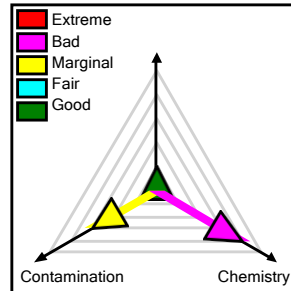
If you contact FA-ST regarding a sample the sample number will be vital to ensure the correct sample is found

	14/02/2017	Unit Measured In
Sample #	1770741	Unique Sample Number
Unit Usage		Total Equipment Usage
Oil Usage		Equipment usage since last analysis
Oil Added		Amount of oil added litres

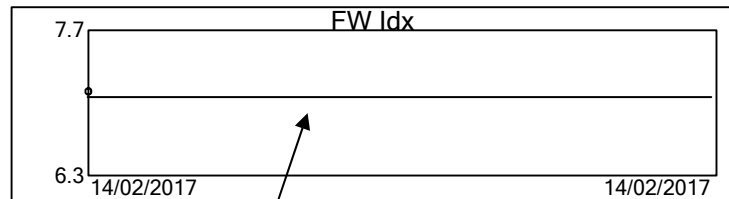
Wear	0	Meaningless value(s)
FW Idx	7	Ferrous Wear Index

Contamination	30	Meaningless value(s)
Glycol Vol	34.0000	Percentage
Solids Vol	1,952.0	Parts Per Million (PPM)
Sediment	0	Measured from a scale 0-3
Appearance	0	Measured from a scale 0-3
Color (Visual)	2	Measured from a scale 0-3

Chemistry	55	Meaningless value(s)
Foaming I	3	Measured from a scale 0-3
pH	8.2	p/H Scale
Resistivity	3,050.00	microSiemens per centimeter ( $\mu\text{S cm}^{-1}$ )
Rust	0	Measured from a scale 0-3
Nitrite	0.000	Milligrams per litre (mg l-1)
Rust Prevent	0	Measured from a scale 0-3



**Trivector:** is an at a glance interpretation of the whole report.  
 1) Wear  
 2) Contamination  
 3) Oil condition/chemistry  
 All or one branch can show the alarm status for that category. This report shows high levels of particulate contamination.



Trend line referring to previous sample(s)

### Below is an example lab write up for the report:

COOLANT COLOUR: BLUE. THE COOLANT COLOUR LOOKED NORMAL. THE COOLANT APPEARED TO BE IN A GOOD CONDITION. FREEZING POINT = -18 °C. NITRITE (RUST PREVENTION) IS ZERO ALTHOUGH THIS WOULD BE NORMAL FOR AN EXTENDED-LIFE COOLANT (ELC) - PLEASE LET US KNOW THE COOLANT TYPE. HEAVY FOAMING FOUND IN THE SHAKEN SAMPLE - WE WOULD EXPECT TO SEE VERY LITTLE. GLYCOL CONTENT IS LOW - AIM FOR 50% USING GLYCOL CONCENTRATE. RESAMPLE AS NORMAL.