Tests Conducted by Methods

TEST & RESULT	METHOD	SAMPLE SIZE
ASTM Color	D - 1500	150 ml
Density @ 29.5 °C, g/ml	D - 4052	30 ml
Kinematic Viscosity at 40 °C, cSt	D - 445	125 ml
Kinematic Viscosity at 100 °C, cSt	D - 445	125 ml
Viscosity Index	D - 2270	NIL
TBN, mgKOH/g	D - 2896	50 ml
TAN, mgKOH/g	D - 664	50 ml
Pour Point, °C	D - 97	100 ml
Foam Seq I/II/III, Tendency/Stability, mL/mL	D - 892	500 ml
Sulphated Ash, wt, %	D - 874	50 g
Cold Cranking Simulator CCS at -5 – -35 °C, mPa.s, (cP)	D - 5293	200 ml
Brookfield Viscosity, cP	D - 2983	200 ml
Air Release Value, min	D - 3427	400 ml
Copper Corrosion	D - 130	250 ml
Water content, %	D - 95	125 ml
Flash Point (Open Cup), °C	D - 92	250 ml
Flash Point (PMCC), °C	D - 93	250 ml
Carbon Residue - Conradson, wt, %	D - 189	50 ml
Shear Stability Index	D - 6278	600 ml
Permanent Shear Stability index	D - 6022	1000 ml
Calcium / Magnesium / Zinc / Phosphorous / Boron / Molybdenum	D - 4951	10 ml
Iron / Copper / Chromium / Lead / Manganese / Tin / Sodium / Nickel / Silicon	D - 5185	10 ml
Cone Penetration (Unworked)	D - 217	500 g
Cone Penetration (Worked 10,000 Strokes)	D - 217	500 g
Cone Penetration (Worked 60 Strokes)	D - 217	500 g
Dropping Point, °C	D - 566	30 g
Oxidation Stability of Lubricating Grease, kPa	D - 942	50 g
Oil Separation From Lubricating Grease, mass %	D - 1742	250 g
Copper Corrosion (Grease)	D - 4048	100 g
ERBP (Brake Fluid), °C		100 ml
Break Down Voltage	D - 1816	1000 ml
FT-IR (sample spectra, soot, oxidation, nitration & sulphation)		50 ml
PH (Coolant)		50 ml
Alkalinity (Grease)	D - 128	20 g
Acidity (Grease)	D - 128	20 g
Pentane / Toluene Insoluble, mass, %	D - 893	50 ml
Water Separability, min.	D - 1401	100 ml

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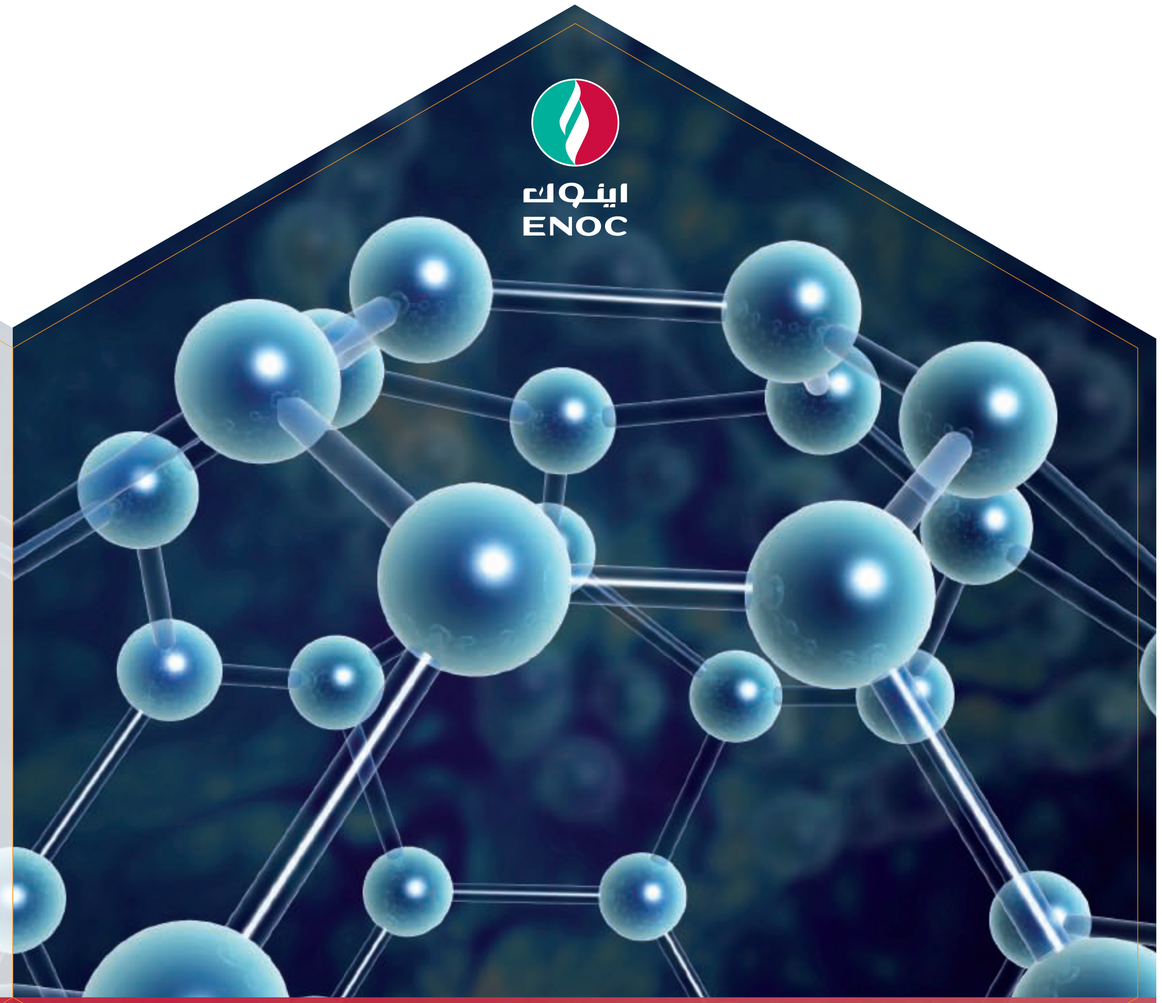

ELAPtech

ENOC Lubricants Analysis Program (Technology)

ENOC Laboratory – Fujairah
(State of the art ISO 17025 certified)

The laboratory located inside ENOC Lubricants Oil Manufacturing Plant (ELOMP) Fujairah is one of the best equipped laboratories for lubricating oils and greases. This is why we are reliable to handle large numbers of routine samples at such high speed (Analyze and report within 24 to 72 hours).

Major Laboratory Equipment:

- Inductively Coupled Plasma Spectrometer (ICP)
- Fourier Transform Infra Red Spectrometer (FTIR)
- Automatic Viscometer (AV)
- Cold Cranking Simulator (CCS)
- Mini Rotary Viscometer (MRV)
- Noack Volatility Tester
- Air Release Value Tester (ARV)
- Shear Stability Tester
- Oxidation Stability of Greases

The laboratory is considered as one of the elite laboratories with ISO 17025 Quality Certificate, which is an assurance of the Quality of oil analysis results reported by ELAP^{tech} (Enoc Lubricant Analysis Program Technology)

ELAP^{tech} helps you in identifying the root cause of:

- Sudden equipment failure and un-expected down time.
- High levels of oil consumption
- Abnormal level of fuel consumption
- High spare parts consumption rates
- Oil contamination problems
- Oil compatibility problems.

For the purposes of routine analysis, when manufacturers have no recommendation, the figure in the table below can be taken as guideline:

Equipment	Sampling
Engines	2 - 3 months
Diesel Generators	3 - 4 months
Hydraulic System	6 months
Gears	6 months
Compressors	6 months
Turbines	6 months

ELAP^{tech} offers:

- Statistical techniques to be followed for problem solving and continuous improvement.
- Carry used oil testing for Marine and Industrial customers
- Detailed analysis in order to answer routine problems.
- Provide historical data on equipment for use in your own studies, presentation and reports.
- Technical support on oil analysis issues by E-mail and phone
- Dedicated sampling bottles & labels for proper sampling.
- Sampling instructions are delivered and demonstrated by Enoc Field
- Support Engineers and/or sales representative.
- Provide reports via e-mail which allows for the followings:
  - Reports in PDF formats
  - Trends can be tailored upon customer request.
  - Reports viewed with graph including trend analysis

ELAP^{tech} can help achieve high performance by providing advanced warning of abnormal conditions that could contribute to equipment and oil degradation. ELAP^{tech} is designed to address and support industry based on our expert analysis , detailed condition assessment , and easy to use reporting.

Our expert professionals in ENOC Lubricants Technology Division will conduct the program through :

- Establishing representative sample points and intervals
- Manage and update equipment registrations
- Select analysis options based on your equipment or maintenance requirements
- Identify hidden problems that could contribute to harmful performance
- Benefit from the test control limits based on your equipment and applications
- Receive expert assessments that identify problems, causes and recommended actions
- Experience a commitment to quality through consistent, accurate oil analysis results
- Conducting on site training to create lubrication awareness

ELAP^{tech}

ENOC Lubricants Analysis Program (Technology)

ENOC

Company : EPCL
C/O ENOC Lubricants

Vessel : N/P

Sample Identification : 20K 101A-GT 35 C2
Application : Gas Turbine
Make/Model : Siemens (ABB)
Sl. No. : N/P
Lubricant Make : ENOC Vortex 46
Reservoir Capacity : N/P
Filter HRS : N/P
Location : N/P

URGENT
CAUTION
NORMAL

TEST & RESULT	METHOD	RESULT	RESULT	RESULT	RESULT	RESULT
Lab Report No: GCLR/				12698/2009	38415/2008	
Sample No: GC/				12698	38415	
Date Sampled				N/P	12/3/2009	
Date Received				4/102/2009	12/12/2009	
Date Reported				4/18/2009	12/14/2009	
Hours on Unit				N/P	N/P	
Hours on Oil				N/P	N/P	
Oil Added				N/P	N/P	
Viscosity @ 100° C mm²/s	D445			6.642	6.961	
Viscosity @ 40° C mm²/s	D445			46.17	45.55	
Flash Point °C mm²/s	D3828			>160	>160	
Acid Number mgKOH/g	D974			0.10	0.05	
Water % Vol	D95			<0.05	<0.05	
Insolubles %m	D893			<0.05	<0.05	
Colour	D 1500			3.0	*	
RPVOT, Min	D 2272			615	*	
Wear Metals & Contaminants mg/Kg						
Sodium	Na	D 5185		<1	<1	
Iron	Fe	D 5185		<1	<1	
Chromium	Cr	D 5185		<1	<1	
Silicon	Si	D 5185		<1	<1	
Aluminium	Al	D 5185		<1	<1	
Lead	Pb	D 5185		<1	<1	
Copper	Cu	D 5185		<1	<1	
Tin	Sn	D 5185		<1	<1	

Test Method : None
Sampling method : N/A
Test conducted by Emp # : 249, 205
Report prepared by Emp # : 244

The above test results are only applicable to the sample(s) referred above.

Comments: The analysis results of the received sample indicates that, the oil properties and wear metals are within the allowable limits. The oil in it's present condition is fit for further use.

Reported by: Lab Manager: