



# ENGINEERED LUBRICANTS CO.

## LABORATORY FEE SCHEDULE

1 of 6

Effective July 1, 2019 – June 30, 2020

**Please send in SDS with samples. If you do not have an SDS please give a generic make-up of the product. (If we do not have this and your samples cost us extra time to clean an extra fee will be charged.)**

**Highlighted Tests are ISO 17025 Accredited**

### Elemental Content (Additives, Wear Metals, and Contaminants)

#### Energy Dispersive X-Ray Fluorescence

XRF	X-Ray Fluorescence – 23 Elements (Listed Below)	ASTM D4294	30ml / 1 oz	\$60.80
X20	X-Ray Fluorescence Chlorine (Cl) Only	ASTM D4294	30ml / 1 oz	37.35
X19	X-Ray Fluorescence Sulfur (S) Only	ASTM D4294	30ml / 1 oz	37.35
X5	X-Ray Fluorescence Sulfur (S) & Chlorine (Cl) Only (Energy Dispersive)	ASTM D4294	30ml / 1 oz	55.50
XAQ	X-Ray Fluorescence – Aqueous Only (Al, Fe, K, Ca, Mg, P, Cl, S, & Na)	ASTM D4294	30ml / 1 oz	60.80

X-ray analysis is matrix sensitive. The Limit of Quantitation (LOQ) for each element is based on aqueous or oil standards. Samples that are a different matrix may only be considered relative or semi-quantitative. Samples that have high levels of one or more elements may effect the LOQ of other elements.

Aluminum (Al)*	Antimony (Sb)	Barium (Ba)	Cadmium (Cd)	Calcium (Ca)
Chlorine (Cl)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Iron (Fe)
Lead (Pb)	Magnesium (Mg)*	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)
Phosphorus (P)	Potassium (K)	Silicon (Si)	Sulfur (S)	Tin (Sn)
Titanium (Ti)	Vanadium (V)	Zinc (Zn)		

\*Results semi-quantitative

#### ICP (Inductively Coupled Plasma)

1	ICP – Oils – 23 Elements (Listed Below)	ASTM D5185	5ml / 0.17oz	29.10
3	ICP – Sodium (Na) – Oils	ASTM D5185	5ml / 0.17oz	29.10
9	ICP – Arsenic (As) – Oils ( <i>send out to another lab for testing</i> )	EPA 6010B	5ml / 0.17oz	40.00
6	ICP – Aqueous – 22 Elements (Listed Below)	ASTM D5185	5ml / 0.17oz	29.10
8	ICP – Beryllium (Be) – Aqueous	ASTM D5185	5ml / 0.17oz	29.10
111	Hardness (ICP as CaCO <sub>2</sub> )		5ml / 0.17oz	29.10

Aluminum (Al)	Antimony (Sb)	Barium (Ba)	Boron (B)	Cadmium (Cd)
Calcium (Ca)	Chromium (Cr)	Cobalt (Co)	Copper (Cu)	Iron (Fe)
Lead (Pb)	Magnesium (Mg)	Manganese (Mn)	Molybdenum (Mo)	Nickel (Ni)
Phosphorus (P)	Silicon (Si)	Silver (Ag)*	Sodium (Na)**	Sulfur (S)
Tin (Sn)*	Titanium (Ti)	Vanadium (V)	Zinc (Zn)	

\* Oils and Greases Only

\*\*Aqueous Only

#### Scanning Electron Microscope (SEM)

SEM	Scanning Electron Microscope <a href="#">See attached information sheet. Please call for more information.</a>	Varies	137.70 per hour
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### Viscosity Determination

#### Automatic Method

Clean, Light Colored Oils with Viscosities of 45-2800 SSU @ 100°F (6-600 cSt @ 40°C) or 32-450 SSU @ 210°F (1-100 cSt 100°C)

33A	Viscosity, cSt @ 40°C & predicted SSU @ 100°F (VI=95)	ASTM D445	40ml / 1.33oz	15.75
34A	Viscosity, SSU & cSt @ 100°C	ASTM D445	40ml / 1.33oz	15.75
36A	Viscosity Index + cst & SSU @ 100F, 210F, 40C, 100C	ASTM D2270	80ml / 2.66oz	31.30

#### Manual Method

Dirty, Dark Colored Oils or Oils with Viscosities Outside the Range of the Automatic Method

33B	Viscosity, SSU & cSt @ 100°F or 40°C	ASTM D445	20ml / 0.66oz	37.00
34B	Viscosity, SSU & cSt @ 210°F or 100°C	ASTM D445	20ml / 0.66oz	37.00
36B	Viscosity Index + cst & SSU @ 100F, 210F, 40C, 100C	ASTM D2270	40ml / 1.33oz	66.15
37	Viscosity Calculated for Non-Standard Temperatures, Includes VI	ASTM D2270	40ml / 1.33oz	69.75

#### Miscellaneous Viscosities

107	Brookfield Viscosity @ Room Temp.	D2196	300ml / 10oz	99.45
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\*Some ASTM test methods may be slightly modified.

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**Highlighted Tests are ISO 17025 Accredited**

## Particle Counting Light Extinction (Hiac)

H1	Hiac Automatic Particle Count (CM Code, Oils)		30ml / 1oz	\$27.75
HS	Hiac Automatic Particle Count (CM Code, Prefiltered Oils)		30ml / 1oz	35.70
H4	Hiac Automatic Particle Count (NAS & ISO Code [4406-99] , Oils)		30ml / 1oz	27.75
HA	Hiac Automatic Particle Count (ISO Code [4406-99] , Oils)		30ml / 1oz	27.75
H7	Hiac Automatic Particle Count (NAS Ranges & ISO Code [4406-99] , Oils)		30ml/ 1oz	27.75
HG	Hiac Automatic Particle Count (CM & ISO Code [4406-99] – Water Glycols)		30ml / 1oz	32.70
HT	Hiac Automatic Particle Count (SAE AS4059, Oils)	SAE AS4059	30ml / 1oz	27.75
HD	Hiac Automatic Particle Count	ASTM D7919	100ml/3.33oz	35.70

### Analysis by Optical Microscope

R5	Particle Counting/Analysis by Optical Microscope	ISO 16232/ 4406/ 4407**	Sample size varies	133.60
RP7	Particle Counting/Analysis by Optical Microscope – Premade Filters	ISO 16232/ 4406/ 4407**		99.45

\*\*Other options available

### Scanning Electron Microscope (SEM)

SEM	Scanning Electron Microscope See attached information sheet. Please call for more information.		Varies	137.70 per hour
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## Ferrography

### Direct Readings (DR)

J	Direct Read (DR) Ferrography, Oils *Trending Tool		10ml / 0.33oz	35.70
M	Direct Read (DR) Ferrography, Water Glycols *Trending Tool		10ml / 0.33oz	35.70

### Ferrographic Analysis

L	Ferrographic Analysis, Oils	ASTM D7684/D7690	10ml / 0.33oz	94.95
P	Ferrographic Analysis, Water Glycols	ASTM D7684/D7690	10ml / 0.33oz	94.95
N	Ferrographic Analysis, Greases	ASTM D7684/D7690	10ml / 0.33oz	102.40

## Gravimetric Test

(Determines the weight of particulate matter larger than the filter pore size)

C	Gravimetric (0.45 µm Millipore filter), mg/liter, Oils	ASTM D4898	60ml / 2oz	37.15
C8	Gravimetric ( 0.8 µm Millipore filter), mg/liter, Oils	ASTM D4898	60ml / 2oz	37.15
B	Gravimetric ( 3.0 µm Millipore filter), mg/liter, Oils	ASTM D4898	60ml / 2oz	37.15
D	Gravimetric ( 8.0 µm Millipore filter), mg/liter, Oils	ASTM D4898	60ml / 2oz	37.15
G	Gravimetric ( 5.0 µm Durapore filter), mg/liter, Aqueous	ASTM D4898	60ml / 2oz	37.15
A	Gravimetric (0.45 µm Durapore filter), mg/liter, Aqueous	ASTM D4898	60ml / 2oz	37.15
GS	Gravimetric (Specified Filter Pore Size), mg/liter (Check for available sizes)	ASTM D4898	60ml / 2oz	37.15

## Water Content

44	Water by Karl Fischer – Volumetric Method	ASTM E203	20ml / 0.66oz	44.75
44V	Water by Karl Fischer – Coulometric Method (Levels <1000 ppm)	ASTM D6304	20ml / 0.66oz	44.75
44H	Water by Relative Humidity Sensor	ASTM D7546	10ml / 0.33oz	44.75
38	Water & Sediment, Centrifuge Method	ASTM D4007	50ml / 1.69oz	18.15
38F	Water & Sediment in Fuel Oils, Centrifuge Method	ASTM D1796	50ml / 1.69oz	18.15
44R	Water by Refractometer - Aqueous, Synthetic Metalworking Fluids (Levels >40%)		5ml / 0.17oz	8.20

## Infrared San

50	FT-IR Fingerprint, Oils		5ml / 0.17oz	40.75
50B	FT-IR Fingerprint, Aqueous		5ml / 0.17oz	40.75
180	Oil Analysis by FTIR (Nitration, Oxidation, Fuel Dilution, Soot, Water) *Must have a sample of new oil to compare *Trending Tool	E2412	10ml/0.33oz	40.80
48B	FT-IR Additive Level (EL Products Only)		10ml / 0.33oz	47.90

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**Highlighted Tests are ISO 17025 Accredited****Other Routine Used Oil Tests**

60	Color	ASTM D1500	20ml / 0.66oz	\$ 4.35
30	Total Acid Number (TAN)/Neutralization Number	ASTM D974	20ml / 0.66oz	27.75
15	Centrifuge (As Received) – High or low speed		100ml / 3.33oz	18.15
15J	Centrifuging – Trace Sediment in Lubricating Oils	ASTM D2273	100ml / 3.33oz	40.00

**Flash and Fire Points**

26	Flash & Fire Point – Cleveland Open Cup	ASTM D92	160ml / 5.4oz	61.20
27	Flash Point – Pensky Martens Closed Cup	ASTM D93	160ml / 5.4oz	45.90
81A	Flash - Setaflash (go-no-go) – specify temperature	ASTM D3828A	10ml / 0.33oz	30.60
81B	Flash - Setaflash (finite)	ASTM D3828B	40ml / 1.33oz	51.00
85	Flash – Setaflash (Ramp Method)	ASTM D7236	40ml / 1.33oz	51.00

**Water Glycol Hydraulic Fluids**

31	Alkaline Reserve	D1121	20ml / 0.66oz	27.75
HG	Hiac Automatic Particle Count (CM & ISO Code – Water Glycols)		30ml / 1oz	32.70
33G	Viscosity, cSt @ 40°C & predicted SSU @ 100°F(VI=210)	ASTM D445	40ml / 1.33oz	15.75
44	Water by Karl Fischer – Volumetric Method	ASTM E203	20ml / 0.66oz	44.75
22	pH	ASTM E70	30ml / 1oz	20.45
M	Direct Read (DR) Ferrography, Water Glycols <i>*Trending Tool</i>		10ml / 0.33oz	35.70
P	Ferrographic Analysis, Water Glycols		10ml / 0.33oz	94.95

**Water Extendable Fluids (Aqueous)****Routine Tests**

22	pH	ASTM E70	30ml / 1oz	20.45
45, 46	Bacteria & Fungus Counts		50ml / 1.69oz	29.80
69A	Refractometer Reading and Ratio Determination (May require service 69)		10ml / 0.33oz	6.30
52	Acid Split Emulsion Ratio (includes % Tramp Oil, Cuff & Sediment)		100ml / 3.33oz	31.25
87	Centrifuge for Tramp Oil, Cuff & Sediment %'s		100ml / 3.33oz	18.10
110	Ratio Determination by Titration Method		50ml / 1.69oz	27.75
69	Refractometer Chart for Ratio Determination (Water Extendable Fluids)		10ml / 0.33oz	55.00
69B	Ratio by Colorimeter		10ml / 0.33oz	6.30

**Miscellaneous Tests**

50B	FT-IR Fingerprint, Aqueous		5ml / 0.17oz	40.75
111	Hardness (ICP as CaCO <sub>2</sub> )		5ml / 0.17oz	29.10
97	Cobalt Leach Test (Aqueous), Wt., Mdd, & Co		200ml / 6.66oz	86.10
44R	Water by Refractometer (Levels >40%)		5ml / 0.17oz	8.20
76	Foam Test, Blender		120ml / 4oz	23.85
98	Cast Iron Chip Corrosion (2 Hrs. @ R.T.) (1 Dilution)	ASTM D4627	20ml / 0.66oz	21.20

**Grease Tests**

43	Cone Penetration, (Worked 60 Strokes or Unworked)	ASTM D217	1 Pound	62.80
43Q	Cone Penetration ¼ Cone, Unworked	ASTM D1403	¼ Pound	51.00
62	Dropping Point	ASTM D2265	10 Grams	80.00
79	U.S. Steel Pressure Oil Separation from Grease	U.S. Steel Method	1 Pound	211.25
67	ASTM 4-Ball EP Test (Grease)	ASTM D2596	150 Grams	361.20
64	ASTM 4-Ball Wear Test, 20 & 40 kg @ 1200 rpm (54.25 per load)	ASTM D2266	50ml / 1.69oz	108.50
64S	4-Ball Special Test with Graphs and Pictures (Specify parameters)		50ml / 1.69oz	79.25

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**Highlighted Tests are ISO 17025 Accredited****Quench Oils**

55F	Quenchalyzer, °F (*Run @ Room Temp, unless otherwise specified)	ASTM D6200*	1 Gallon	\$227.70
55C	Quenchalyzer, °C (*Run @ Room Temp, unless otherwise specified)	ASTM D6200*	1 Gallon	227.70
55A	Quenchalyzer, °F Agitated (*Run @ Room Temp, unless otherwise specified)	ASTM D6482*	1000ml / 32oz	238.95
55S	Quenchalyzer, °C Agitated (*Run @ Room Temp, unless otherwise specified)	ASTM D6482*	1000ml / 32oz	238.95
59	GM Quenchometer, Ni-Cr Ball *Discontinued & withdrawn in 2008	ASTM D3520*	500ml / 16oz	200.00
59A	GM Quenchometer, Ni Ball *Discontinued & withdrawn in 2008	ASTM D3520*	500ml / 16oz	306.00

**Extreme Pressure and Wear Tests****Epsilon Linear Precision Test Machine**

State-of-the-art technology. Call for information.

Can run ASTM methods (Any Falex ASTM methods or any specifications you would like)

EPSI	Epsilon (V-BAR CUP)		600ml / 20oz	226.05
EPSI2	Epsilon (V-BAR RECIRCULATING)		600ml / 20oz	345.10
EPSI3	Epsilon (V-BLOCK CUP)		600ml / 20oz	198.75
EPSI4	Epsilon (V-BLOCK RECIRCULATING)		600ml / 20oz	314.15

**Falex Pin and Vee Tests**

63	Falex – Automatic	ASTM D3233A	200ml / 6.66oz	140.35
40	Falex – Stepwise	ASTM D3233B	200ml / 6.66oz	140.35
72	Falex Wear Test (Specified Pin Type)		200ml / 6.66oz	173.10
72A	Falex – Thin Film	ASTM D5620A	50ml / 1.69oz	140.35

**4-Ball Tests**

65	ASTM 4-Ball EP Test (Fluids)	ASTM D2783	150ml / 5oz	300.90
67	ASTM 4-Ball EP Test (Grease)	ASTM D2596	150 Grams	361.20
64	ASTM 4-Ball Wear Test, 20 & 40 kg @ 1200 rpm (54.25 per load)	ASTM D4172 / ASTM D2266	50ml / 1.69oz	108.50
64S	4-Ball Special Test with Graphs and Pictures (Specify parameters)		50ml / 1.69oz	79.25

**Corrosion Tests**

16	Aluminum Corrosion, Oils or Aqueous		50ml / 1.69oz	63.20
98	Cast Iron Chip Corrosion, Aqueous (2 Hrs. @ R.T.) (1 Dilution)	ASTM D4627	20ml / 0.66oz	21.20
25	Copper Corrosion, Aqueous (6 Hrs. @ 80°C)	ASTM D130	40ml / 1.33oz	43.45
24	Copper Corrosion, Oils (3 Hrs. @ 100°C)	ASTM D130	40ml / 1.33oz	43.45
24T	Copper Corrosion, Oils (24 Hrs. @ 100 °C)	ASTM D130	40ml / 1.33oz	43.45
53	Corrosion Test (per 30 Days) (Specify Parameters: Vapor Phase, Sandwich, or Panel Partially Submerged)		200ml / 6.66oz	136.65
77	Galvanic Corrosion Test, Al, Cu, & Fe Metals (6 Hrs. @ 80°C)		40ml / 1.33oz	71.25
51	Humidity Cabinet, Cycling, Specify Test Parameters (per 30 Days)		100ml / 3.33oz	122.10
71	Humidity Cabinet, Static, 120°F or Specified Temperature (per 30 Days)		100ml / 4oz	122.10
97	Cobalt Leach Test (Aqueous), Wt., Mdd, & Co		200ml / 6.66oz	86.10
100	Carbide Corrosion Test (Oils), Wt., Mdd, & Co		50ml / 1.69oz	86.10
66	Turbine Oil Rust Test	ASTM D665A or B	500ml / 16oz	64.65

**Oxidation / Thermal Stability Tests**

122	Rotating Pressure Vessel Oxidation Test (AKA: RPVOT)	ASTM D2272B	250ml / 8oz	156.35
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**Microscopic / Imaging Tests**

May require special sample preparation (see service PREP)

R3	Microscopic Scan with Comments & Picture			46.60
R5	Particle Size Distribution (Analysis by Optical Microscope)	ISO 16232/ 4406/ 4407**	Sample size varies	133.60

\*\*Other options available

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## Miscellaneous Tests – Alphabetical Order

AIR	Air Release ( <i>send out to another lab for testing</i> )	ASTM D3427	200ml / 6.66oz	\$265.20
91A	Amine Value (includes Primary & Tertiary values)	ASTM D2074	20ml / 0.66oz	27.75
90	Aniline Point (Room Temperature and Above)	ASTM D611E	30ml / 1oz	70.00
90B	Aniline Point (Below Room Temperature)	ASTM D611E	30ml / 1oz	70.00
28	Anti-Freeze / Ethylene and Propylene Glycols Only	ASTM D2982A	20ml / 0.66oz	36.85
13	Appearance; Visual Color, Clarity, and Particulate		10ml / 0.33oz	4.30
49	Ash, Percent ( <i>send out to another lab for testing</i> )	ASTM D482	200ml / 6.66oz	76.50
102	Bacteria & Fungus Counts (Oils)		10ml / 0.33oz	29.80
64X	Ball on 3 disc (discs provides by customer)		30ml / 1oz	54.25
64X1	Ball on 3 disc (with standard steel discs)		30ml / 1oz	75.25
80	Base Number	KTP-1009	20 ml / 0.66oz	28.65
89	Bijur Filtration Test		1 Gallon	174.60
112A	BTUs per Gallon ( <i>send out to another lab for testing</i> )	ASTM D240	75ml / 2.5oz	178.50
112	BTUs per Pound ( <i>send out to another lab for testing</i> )	ASTM D240	50ml / 1.69oz	178.50
95	Cloud Point	ASTM D2500	30ml / 1oz	58.75
23	Compatibility – 4 Weeks @ 105°F		250ml / 8oz	188.10
124	Conductivity		10ml/0.33oz	20.05
70	Conradson Carbon Residue ( <i>send out to another lab for testing</i> )	ASTM D189	30ml / 1oz	76.50
3612	DGA (Dissolved Gas Analysis)	ASTM D3612	500ml / 16oz	95.00
118	Dielectric Breakdown ( <i>send out to another lab for testing</i> )	ASTM D877	300ml / 10oz	35.00
61E	Distillation, °C (IBP & DP)	ASTM D1078	500ml / 16oz	86.60
61G	Distillation, °C (IBP & FBP)	ASTM D86	500ml / 16oz	86.60
61D	Distillation, °F (IBP & DP)	ASTM D1078	500ml / 16oz	86.60
61F	Distillation, °F (IBP & FBP)	ASTM D86	500ml / 16oz	86.60
190	Evaporation Loss (NOACK)	ASTM D6375	10ml/0.33oz	204.00
76	Foam Test, Blender		110ml / 3.66oz	23.85
76A	Foam (Sequence I, II, & III)	ASTM D892	380ml / 12.6oz	150.05
76B	Foam (Sequence I Only)	ASTM D892	180ml / 6oz	102.50
69M	Glycol Ratio & Freeze Point (Anti-Freeze)	ASTM D3321	10ml / 0.33 oz	6.30
104	Gas Chromatograph Qualitative Analysis		10ml / 0.33oz	48.95
104H	Gas Chromatograph Qualitative Head Space Analysis		10ml/0.33oz	54.70
Z1	Imaging (Picture)			6.65
128	Mercury ( <i>send out to another lab for testing</i> )	SW 7474	50ml / 1.69oz	45.90
96	Pentane Insolubles	ASTM D893A	30ml / 1oz	68.70
57	Pour Point	ASTM D6749	30ml / 1oz	46.35
58	Precipitation Number	ASTM D91	50ml / 1.69oz	68.85
18	Refractive Index (Abbe Refractometer)	ASTM D1218	5ml / 0.17oz	8.25
41	Rubber Swell, Room Temperature or Specified Temperature (per 7 Days)		50ml / 1.69oz	48.65
32	Saponification Number	ASTM D94	25ml / 0.85oz	80.00
73I	Solids – Evaporation Test, Infrared Drying		10ml / 0.33oz	21.60
73	Solids – Evaporation Test, Oven Drying	ASTM D2369	10ml / 0.33oz	34.05
42	Special per Hour (in 10 Min. Increments)			137.40
PREP	Special Sample Preparation			21.80
29	Specific Gravity (includes API Gravity & Pounds/Gallon)	ASTM D7777	20ml / 0.66oz	23.85
49S	Sulfated Ash ( <i>send out to another lab for testing</i> )	ASTM D874	200ml / 6.66oz	76.50
54	Surface Tension (One Phase) *Uncorrected factor reported, unless requested (provide density of fluid or add test 29 (\$23.85) for density testing)	ASTM D1331A*	50ml / 1.69oz	40.80
140	Timken – \$ per load ( <i>send out to another lab for testing</i> )	ASTM D2782	1 gallon	250.00
88	Total Base Number ( <i>send out to another lab for testing</i> )	ASTM D2896	30ml / 1oz	79.10
88A	Total Base Number ( <i>send out to another lab for testing</i> )	ASTM D4739	30ml / 1oz	32.95
125	Total Chlorides – Water ( <i>send out to another lab for testing</i> )	SM4500-CL-C	50ml / 1.69oz	40.00
125B	Total Chlorides ( <i>send out to another lab for testing</i> )	EPA 300.00	50ml / 1.69oz	45.00
160	Twist Compression ( <i>if new method development is needed additional charges may apply</i> )		50ml / 1.69oz	53.50
2879	Vapor Pressure (Multipoint) ( <i>send out to another lab for testing</i> )	ASTM D2879	10ml / 0.33oz	395.00
MPC	Varnish Potential - MPC (Membrane Patch Colorimetry)	ASTM D7843	100ml / 3.33oz	77.50
73V	Volatile Organic Content (Per EPA Test 24)	ASTM D2369	10ml / 0.33oz	71.40

\*Some ASTM test methods may be slightly modified.

**Highlighted Tests are ISO 17025 Accredited**

73TD	VOC % run in duplicate (includes 29 & 44/44V)	ASTM E1868	30ml / 1oz	255.00
106	Water Separability of Petroleum Oils & Synthetic Fluids	ASTM D1401	50ml / 1.69oz	108.00

Please refer to service 42 – Special Rate – if test procedure desired is not a normal EL procedure.

Normal Turn Around is 3-5 Days.

There is an Additional Charge of \$50.00 for 24 Hour Service (1-5 Samples)

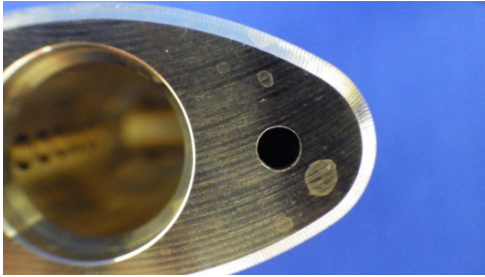
## **ISO 9001: Certified Company & ISO 17025:2005 Accredited**

**Please send in SDS with samples. If you do not have an SDS please give a generic make-up of the product. (If we do not have this and your samples cost us extra time to clean an extra fee will be charged.)**

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# The Power of SEM-EDX and Engineered Lubricants

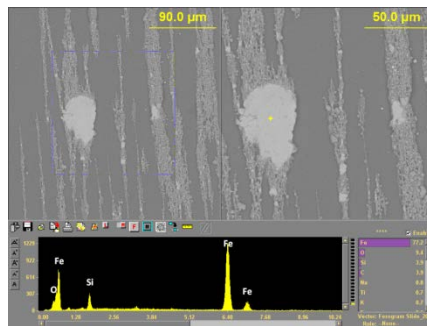
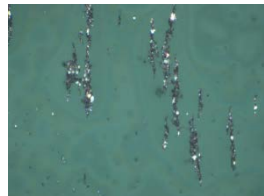


## Parts

- Determine alloy
- Confirm quality
- Analyze stains/residues
- Identify leaching
- Characterize wear

## Solids

- Detect elements present
- Determine concentrations
- Map elemental content



## Analytical Ferrography

Improve ferrography by providing elemental analysis of individual particles.

## AFA (Automated Feature Analysis)

- Detect size and shape of each particle
- Identify elemental content
- Categorize by size, shape, chemistry
- Pinpoint component failure
- Use trending to monitor wear

