



Machinery Lubrication & Oil Analysis Fundamentals

Professional Training to Improve Machinery Reliability

Modern production equipment requires sophisticated lubrication management to ensure reliable, safe, and efficient operation. This series of three one-day, vendor-neutral training classes offered by LubeWorks and EPT will provide expert training on current best practices in lubricant management applicable to a wide range of industrial lubricant applications.

TRAINING COURSE SELECTION

- The Basics of Machinery Lubrication and Sampling
- for Oil Analysis
- Lubricant Selection and Problem Solving
- Oil Analysis and Report Interpretation



When Results Matter

4772 - 50 AVE SE, Calgary AB T2B 3R4, Canada T 403.246.3044 E sales@cleanoil.com

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ABOUT YOUR INSTRUCTOR

Bob Scott, LubeWorks

Bob Scott has over 30 years of technical experience working with lubricants, lubrication, and industrial machinery. Bob has been a professional trainer for over 12 years and has co-authored several key publications in the field, including The Practical Handbook of Machinery Lubrication, 4th Edition, 2012. Bob holds a BSc in Chemistry and numerous certifications: STLE - Certified Lubrication Specialist (CLS), Oil Monitoring Analyst (OMA) Level I. ICML - Machinery Lubrication Technician (MLT) Level II, Machinery Lubrication Analyst (MLA) Level III, Laboratory Lubricant Analyst (LLA) Level I.

Course Titles and Dates

THE BASICS OF MACHINERY LUBRICATION AND SAMPLING FOR OIL ANALYSIS – AN INTRODUCTION

- March 21, 2017: 8:00–5:00
- June 7, 2017: 8:00–5:00

LUBRICATION SELECTION AND PROBLEM SOLVING – ADVANCED CONTENT

- September 13, 2017: 8:00–5:00

OIL ANALYSIS AND REPORT INTERPRETATION

- November 21, 2017: 8:00–5:00

See detailed course outlines on next page. >>>

COST:

\$425 per course, or \$1100 for all three. Includes Lunch, Course Booklet and a copy of The Practical Handbook of Machinery Lubrication, 4th Edition, 2012. Space is limited to keep classes small and interactive.

COURSE LOCATION:

EPT TRAINING CENTER

4772-50th Ave SE
Calgary, Alberta
T2B 3R4

FOR REGISTRATION CONTACT:

Barbara Creighton

EPT
403-450-1760
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FOR COURSE DETAILS:

Bob Scott

LubeWorks
403-247-0556
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THE BASICS OF MACHINERY LUBRICATION – An Introduction

TOPICS

- Reliability and Maintenance
- Functions of a Lubricant
- Finished Oil Composition: Base Oils, Additives
- Why Oil Needs To Be Changed
- Proper Oil Operating Temperature
- Viscosity
- Oil Films and Surface Roughness
- Types and Function of
 - Journal Bearings
 - Rolling Element Bearings
 - Gears
 - Hydraulic Pumps
- Oil Application Methods
- Oil Changes
- Flushing Systems
- Leakage (External)
- Contamination: Particles & Water
- Filtration
- Contamination Control
- Storage and Transfer
- Grease
- Grease Application
- Oil Analysis Introduction and Sampling
- Engine Oil Classifications (SAE)
- Summary

LUBRICANT SELECTION AND PROBLEM SOLVING – Advanced Content – One Day Course

TOPICS

- Reliability and Maintenance Strategies
- Finished Oil Composition: Base Oil Group Numbers, Synthetics, Additives
- Operating temperature, Oxidation, Varnish
- Viscosity – Factors affecting Viscosity Stribeck Curve, VI, Low Temperature Visc.
- Viscosity (Minimums Required)
- Creating and Using Viscosity – Temperature Charts to Select Oils
- Selecting an Industrial Oil based on Test Data
- Engine Oil Classifications and Viscosity
- Grease Types, Properties
- Selecting a Grease based on Test Data
- Grease Application
- Contamination: Particle Counts, Cleanliness Codes & Targets, Equipment Life Extension, Filtration (Beta ratios)
- Contamination: Water, Targets, Equipment Life Extension, Removal
- Aeration
- Storage and Transfer of Lubricants
- Flushing Systems
- The Path Forward
- Creating a Plant Lube Manual
- Summary & Appendix

OIL ANALYSIS AND REPORT INTERPRETATION WORKSHOP – One Day Course

TOPICS

- Components of an Oil Analysis Program
- Elements of a Successful OA Program
- Purposes of Oil Analysis (OA)
- Which Equipment to Sample (Criticality)
- Sampling – Locations, Procedure
- Sampling Frequency – P-F Curve
- Selecting a Laboratory
- Suggested Tests for Critical Equipment
- Routine (Monthly) and Exception Testing
- What OA Does Not Tell Us
- Wear Particle Size
- Wear Particle Detection Techniques
- Influence of Filtration on Wear Debris
- Monitoring Oxidation
- Testing for Water
- Beginners Guide to OA Reports
- Additive Element Fingerprint
- Interpreting OA Reports – A Systematic Approach
- Alarms and Condemning Limits
- Reference Condemning Limits
- When to Condemn an Oil
- The One Minute Daily Inspection
- Half-day of Interpreting OA Reports (15 Case Studies)



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