

**TOTAL PROGRAM MANAGEMENT  
IS ON YOUR HORIZON®**



## Report Delivery by email subscription

Deliver component-specific results and maintenance recommendations to the right people at the right time. Create an unlimited number of email subscriptions according to the type of information each recipient needs to see.

# Innovative Web-based tools for executing Maintenance strategies

HORIZON® is an intuitive, dynamic solution to managing fluid analysis data with the speed and functionality to affect positive change in your daily maintenance practices.

- Monitor your most critical assets to pinpoint maintenance issues immediately
- Identify problems in their earliest stages to avoid unnecessary failures
- Minimize unscheduled downtime to eliminate costly disruptions in production

Better maintenance management and improved equipment reliability are on your HORIZON.

## Interactive Sample Reports

HORIZON® is so much more than simply a way to view test results. The sample report is designed as an interactive tool for improving communication between user and laboratory.

- Samples can be submitted online so that a simple barcode scan logs the data once it arrives at the laboratory
- Missing information can be added while viewing reports so that data analysts can immediately re-evaluate and make better maintenance recommendations
- Unlimited sampling histories and their comments are included so users can make timely, well-informed maintenance decisions

## Customized report display

Application settings allow users to customize the sample information displayed on reports and the actions to be taken on the results shown and the recommendations made.

- Determine number of sample histories shown
- Post messages or add comments and forward to others
- Place critical components on asset watch and receive email alerts on high severities
- Document maintenance action taken to ensure maintenance personnel act on laboratory recommendations
- Estimate cumulative savings to bring visibility to program value



1 High severities evident at a glance

2 Communicate directly with analyst making recommendations

3 Update MISSING INFORMATION while viewing reports to request immediate re-evaluation

4 Compare shipping and processing dates to evaluate turnaround time

5 Use the miscellaneous field for additional information

6 Clear, concise, easy to understand comments and recommendations

7 Click on individual wear metals for a guide to likely sources

8 New lube results listed first for point of reference

## Lubricant Analysis Report

Overall severity of report

Overall report severity based on comments.

Account Information		Component Information		Sample Information	
Account Number: 000000-0000-0000 Company Name: ABC COMPANY Address: 1234 Main Street City: Anytown St.Prov: LA, US Postal Code: 11111		Component ID: K086 A ENGINE Secondary ID: TRACTOR HYD-88 GORILLA Component Type: DIESEL ENGINE Manufacturer: <b>MISSING INFORMATION</b> Model: <b>MISSING INFORMATION</b> Application: GAS-OIL FIELD Sump Capacity: 12		Tracking Number: 00000A00000 Lab Number: H-000000 Lab Location: Houston Date Analyzed: AWB Sampled: 05-Apr-2010 Submitted: 06-Apr-2010 Received: 07-Apr-2010 Completed: 09-Apr-2010	
Filter Information		Miscellaneous Information		Product Information	
Filter Type: FULLFLOW & BYPASS Micron Rating: 15		Miscellaneous: <b>5</b>		Product Manufacturer: CHEVRON Product Name: DELO 400 LE Viscosity Grade: SAE 15W/40	
Comments					
<b>6</b> SUGGEST INSPECTING this unit for excessive bearing wear. Bearing metal has increased and is now at a SEVERE LEVEL. Suggest inspecting cooling system (head gasket, heads, seals, EGR system, etc.) for leaks. Coolant indicators (Sodium, Potassium) are at a SEVERE LEVEL. Suggest flushing system. FUEL DILUTION is at a MINOR LEVEL. FUEL DILUTION possibly caused by excessive idling. Data flagged indicates that risk of FAILURE IS HIGH for this unit if MAINTENANCE IS NOT PERFORMED. Resample at half interval.					

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)					Multi-Source Metals (ppm)					Additive Metals (ppm)				
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Calcium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc	
5	15	0	0	2	0	0	0	0	0	0	3	4	1	0	80	0	0	388	321	1586	0	1050	1336		
6	7	0	0	2	0	0	0	0	0	0	9	1	1	0	92	0	0	438	375	1589	0	1077	1366		
7	6	0	0	2	0	0	0	0	0	0	5	5	1	0	105	0	0	524	444	1817	0	1228	1627		
8	7	0	0	2	1	0	0	0	0	0	11	11	0	0	75	0	0	567	303	1333	0	933	1154		
9	10	2	0	2	10	83	0	0	0	0	11	473	50	10	161	0	0	272	358	1390	0	1060	1263		

Sample #	Sample Information				Contaminants				Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base Number	Oxidation	Nitration	
NL	09-Jan-2008	10-Jan-2008	0	0	Unk	0	Unk							
5	10-Aug-2008	25-Aug-2008	344	8089	Yes	0	Yes	<.5 - Estimate	1.0 - FTR	<.1 - FTR	13.4	8.42	9	8
6	18-Dec-2008	20-Dec-2008	362	9693	Yes	0	Yes	0.7 - Estimate	0.3 - FTR	<.1 - FTR	14.5	5.97	12	15
7	07-Feb-2009	13-Feb-2009	362	9693	Yes	0	Yes	<.1 - Estimate	0.1 - FTR	<.1 - FTR	12.3	6.03	9	10
8	28-Aug-2009	04-Sep-2009	332	10882	Yes	0	Unk	1.9 - Estimate	0.2 - FTR	<.1 - FTR				11
9	05-Apr-2010	07-Apr-2010	368	12010	Yes	0	Yes	2.2 - GC	0.4 - FTR	<.1 - FTR				15

Sample #	ISO Code	Particle Count (particles/mL)							Test Method
		> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 36 µm	> 70 µm	
NL									
5									
6									
7									
8									
9									

**11** Base Number measures a lubricant's alkaline reserve, or ability to neutralize acid. When Acid Number and Base Number approach the same number, the oil should be changed or "reconditioned," since it should be able to...

**12** Historical Comments: Data flagged for observation only. MODERATE POTASSIUM level could be a concern most likely not be detectable through normal diagnostics. Suggest MONITOR! Flagged data has been rechecked and confirmed. Lubricant and filter change.

**13** Posted Messages: Pull this tractor out of service; we need to have a service tech open this unit up and find the coolant leak. While the unit is down, change the main/rod bearings out.

9 Show unlimited number of sample histories

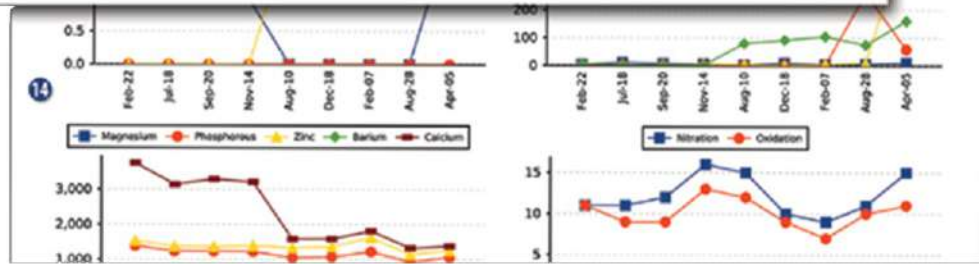
10 Address most critical issues first with individual results flagged by severity

11 Learn more about test methods

12 Display historical comments

13 Post Messages before forwarding to others

14 10 customizable graphs available on every report



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# Powerful Management reports

**Severity Summary Report**

- Component percentages at each severity level are displayed in a pie graph
- Summarizes component and lubricant information, includes analyst's comments and a direct link to the report

**Sample Schedule Report**

- Lists components due or overdue for sampling
- Monitors non-compliance with pre-established sampling schedules

**Sample Volume Report**

- Lists number of samples processed per month

**Sample Frequency Report**

- Charts component date by month
- Shows severity status of each sample

**Turnaround Time Report**

- Graphs average process delay due to lack of sample information

**Data Extraction Tool**

- Downloads account, component and sample data to CSV or XML format

**Problem Summary Report**


- Charts problems found by component type, manufacturer or model

**Action Taken Summary Report**

- Graphs percentage of reports with recommended actions
- Provides summary of supporting information

**Data Analysis Report**

- Generates statistical analysis based on user-selected parameters



## Severity Summary Report

Fluid Types: Oil, Fuel, Coolant  
 Severities: 3, 4  
 Date Range: 01-Feb-2007 - 31-Dec-2007

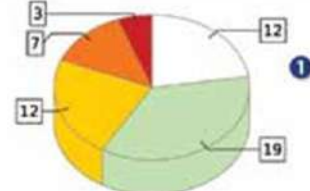
Applied Criteria	Applied Sorting
Number is equal to ABCDEF0000000	Severity Descending

Number of Components: 17

Samples Received: 53

Samples in Severity Range: 10

○	0: 12 (23%)
●	1: 19 (36%)
●	2: 12 (23%)
●	3: 7 (13%)
●	4: 3 (6%)



Component ID: C	Component Manufacturer: SULLAIR	Fluid Manufacturer: SUMMIT	Fluid Changed / Added: Yes / 50	Lab Number: 3445214
Boundary ID: 30-158	Model: PDR25X	Fluid Name: PGS 150	Unit Time: 25949	Sampled: 22-Feb-2007
Component Type: ROTARY SCREW	Application: GAS COMPRESSION	Grade: ISO 150	Fluid Time: 25821	Received: 02-Mar-2007
(SEALS, BREATHERS, FILL PORTS): Water is at a SEVERE LEVEL; Although the VISCOSITY is lower than the grade indicated, this is TYPICAL for Rotary Screw Compressors. VISCOSITY go down to 60cSt for this reason; Tin is at a MODERATE LEVEL; TIN may be coming from Piston Flushing, Bearing Overlay, Bronze Alloy (Usually in combination along with Copper and Lead; Lubricant change acknowledged);				
Component ID: C	Component Manufacturer: SULLAIR	Fluid Manufacturer: SUMMIT	Fluid Changed / Added: Unknown / 0	Lab Number: 3445214
Boundary ID: 30-158	Model: PDR25X	Fluid Name: PGS 150	Unit Time: 29365	Sampled: 20-Aug-2007
Component Type: ROTARY SCREW	Application: GAS COMPRESSION	Grade: ISO 150	Fluid Time: 0	Received: 27-Aug-2007
(SEALS, BREATHERS, FILL PORTS): Water is at a SEVERE LEVEL; Lubricant and filter change is suggested if not done at sampling time; Tin is at a MODERATE LEVEL; Aluminum is at a MODERATE LEVEL; Although the VISCOSITY is lower than the grade indicated, this is TYPICAL for Rotary Screw Compressors. We typically will let this go; LUBE TIME was not provided for this unit;				

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- 1 Component percentages at each severity level are displayed in a pie graph.
- 2 There are 17 components on file – 53 samples have been submitted for testing. User preferences are set to show severity summary details on all samples at severity levels 3 and 4.
- 3 The actual summary details component and lubricant information, along with the analyst's comments at each sampling interval.
- 4 Drill down directly to sample reports.

## The only innovative solution for global Maintenance Management

The POLARIS Laboratories® “one laboratory, multiple locations” business model is unique to the world of fluid analysis – full service, high-quality testing facilities around the world that utilize a single database and a superior reporting solution for managing fluid analysis data and equipment reliability on a global scale. What’s more, in markets where POLARIS Laboratories® does not maintain its own laboratory, we have significant experience working with our customer’s third-party laboratory. We also offer a worldwide network of partner laboratories to support and meet your testing needs while providing analysis and recommendations from our corporate headquarters. (See back cover for details.)

### Consistent equipment management Worldwide

If you have machines around the world and need to create global standards for your fluid analysis program, POLARIS Laboratories® offers a complete solution with all the tools you need to successfully execute your maintenance strategies.

- Quality testing and a centralized database for complete program management
- Superior data analysis and data interpretation deliverable around the globe in multiple languages
- The industry’s most innovative, web-based data management software

### Expert machine condition analysts

Understanding machine condition is a critical part of any predictive maintenance program. Our certified data analysts are the best in the industry with a knowledge base unmatched by any other global laboratory.

- Nine STLE CLSs (Certified Lubrication Specialists) and 13 OMAs (Oil Monitoring Analysts)
- Actionable maintenance recommendations based on application-specific knowledge of the equipment you operate everyday
- Data analysts and customer service representatives available to answer questions and explain test results 24 hours a day, five days a week

### Value added private label programs

Branded Private Label Programs keep your name in front of your customers – when it comes to equipment reliability, they think of you first. Whether they’re located in North America or in the Asia Pacific, you will be the partner in maintenance strategy they’ve been looking for.

- Customize jar labels, test reports and HORIZON® logins with your company logo
- Become a solutions provider when we push test data and actionable maintenance recommendations from laboratories around the world directly to your customer’s desktop
- Save your customer time, money and downtime – savings they will associate with you
- Differentiate your products and services from those of your competitors





#### Sample tested in local laboratory

- High quality laboratories
- ASTM-based test methods
- Fast turnaround time



#### Data transferred

- Results uploaded to our Laboratory Information Management System
- Multiple data formats accepted



#### Data analyzed, flags & comments applied

- Data analyzed by industry-specific machine condition analysts
- CLS & OMA certified
- 24-hour customer access to data analysis staff



#### Samples posted, faxed or emailed to customer

- View reports within 24 to 48 hours
- Use web-based tools to manage the data
- Make informed maintenance decisions
- Affect change in your daily maintenance practices