Premalube™ Xtreme

Extreme Duty, Multi-Purpose, Synthetic Blend Grease

NLGI # 2, 1

Extreme duty calcium sulfonate grease specifically formulated for construction and heavy industrial equipment.

Provides superior protection for equipment against, heavy loads, dirt, dust, water and heat.

PRODUCT OF CHOICE FOR EXTREME APPLICATIONS

Provides Superior Equipment Protection for:

- Industrial Manufacturing
- Food Processing
- Steel Mills & Foundries
- Paper Mills, Printing, & Packaging
- Construction, Mining, Agriculture
- Excavation & Demolition
- Utility Construction
- Concrete & Asphalt Paving
- Federal, State & Local Agencies

- **Patented (patent #5,126,062) Synthetic Blend Calcium Sulfonate Grease**
- **Protects and Stays in Place Under Severe Load Conditions**
- **Contains High Concentration of Moly and Graphite to Reduce Heat, Friction and Abrasive Wear.**
- **Lasts 2 to 5 Times Longer Than Conventional Greases.**
- **Superior Water Resistance-** won't wash out during operation, even when totally submerged.
- **Bearing Speeds Up to 20,000 RPM's.**
- **Reduces Grease Inventory to Save Money**
- **Wide Operating Temperature Range –** NLGI #2 remains effective to 400ºF continuous and 500ºF intermittent with monitored lubrication, and down to -10ºF.
- **Also Available in a Green Formula NLGI #2, 1**

Premalube Xtreme Meets or Exceeds these Performance Requirements:

- US Steel Mill Grease Specifications:
  - Roll Neck Grease, Req. No. 340
  - Extreme Pressure Grease Req. No. 350
  - Extra Duty EP Grease. Req. No. 352
  - Extreme-Temp. Req. No. 355, 370 & 372
  - Ball and Roller Bearing, Req. No. 371
  - Mill Utility Grease Req. No. 375
- Military Spec. MIL-G-23549C
- Federal Specification VV-G-632a
- CASE 251H EP-M 3% Moly Content
- Caterpillar MPGM
- Chrysler MS 3551E (Part # 2264833)
- General Motors Specification GM 6031-M
- DIN 51 825, DIN 51 818

USDA H2

LUBEMASTER™ EQUIPMENT PROTECTION

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www.certifiedlabs.com
Consult the label for complete directions and precautions before using this product.

Division of Certified Laboratories 50324J (0M207)

PREMALUBE XTREME and PREMALUBE XTREME GREEN contain a total additive packages that sets them apart from other greases.

Additives	User Benefits
Calcium Sulfonate Base	Extremely water resistant, heavier than water to resist washouts even in submerged environments. Withstands high heat and provides additional extreme pressure protection under heavy loads.
Adhesive and Cohesive Polymers, Tackiness Agents	Highly-elastic polymers hold grease together and in place to prevent the entry of contaminants, squeeze-out, channeling and sling-off.
Rust and Corrosion Inhibitors	Blocks out corrosive elements such as acids, water, condensate and steam by forming a protective barrier on equipment surfaces to prevent chemical wear.
Extreme Pressure (EP) Agents	Heat seeking additive which increases the ability of the lubricant to prevent the extreme wear that can occur under loads.
Anti-Wear Agents	Forms a lubricant film on metal surfaces in presence of heavy loads and high temperatures. Prevents cold welding.
Oxidation Inhibitors	Extends service life of the lubricant by retarding the oxidation or breakdown process.
Shock Load Reducers	Cushions impact to minimize the stress, vibration and chatter that can occur under heavy loads and during start-stop operations.
Friction Reducers	Plates out on metal surfaces to prevent friction and wear under heavy loads.
Molybdenum Disulfide	Layered solid lubricant that plates on metal surfaces to provide excellent protection against wear on heavily loaded surfaces and in dusty, dirty environments.
Graphite	Layered solid that provides added protection at high temperatures and improves lubrication in wet conditions.

PHYSICAL PROPERTIES

Description	Premalube Xtreme #2	Premalube Xtreme #1	Premalube Xtreme Green #2	Premalube Xtreme Green #1
Penetration ASTM D 217	274	312	288	313
Multistroke penetration ASTM D 217	280	326	295	325
Wheel bearing leakage ASTM D 1263	0.3	not applicable	0.3	not applicable
Water washout ASTM D 1264	<0.1%	<0.2%	<0.1%	<0.2%
Pressure Oil separation ASTM D 1742	0.02	0.5	0.02	0.5
Four-ball Index ASTM D 2596	101	101	101	101
Four-ball (weld) ASTM D 2596	1000+	1000+	1000+	1000+
Four-ball (wear scar) ASTM D 2596	0.341	0.4	0.344	0.41
Timken method ASTM D 2509	70	60	70	60
Rust test ASTM D 1743	Pass	Pass	Pass	Pass
Copper corrosion ASTM D 130	1B	1B	1B	1B
Low Temperature Limit (F)	-10	-20	-10	-20
Dropping Point ASTM D 2265	575	575	575	575
High Temperature Limit	500	500	500	500
Base Oil Viscosity @40C	113	113	110.87	110.87
Base Oil Viscosity @100C	12.1	12.1	11.96	11.96
Base Oil Viscosity Index	96	96	97	97

Ideal for use on: Heavy industrial equipment exposed to high/low temperatures, high speed wheel bearings, anti-friction bearings, open gears, turbine pumps, paper and pulp mills, steel mills, chemical plants, and waste water plants. Construction equipment, sewage treatment plants, irrigation equipment, non-domestic water pumps, wet mining, scroll saws, kiln cars. High speed wheel bearings, boat trailer bearings, sleeve bearings, chassis, utility trucks, buses. Sea-going vessels, coastal and wharf equipment, inland waterway applications.

Do not use on: any application with a continuous temperature exceeding 400ºF or 500ºF intermittently without monitored lubrication. For grease recommendations refer to Lubemaster DN chart.

PREMALUBE XTREME Limited Warranty

Under operating conditions of all types, customers find that PREMALUBE XTREME lasts from 2 to 5 times longer than conventional greases.

The LubeMaster division of Certified Laboratories is so confident PREMALUBE XTREME will last longer in your operations, that we will replace the amount of PREMALUBE XTREME in your equipment at NO CHARGE if it does not extend regreasing intervals by *at least twice* the equipment manufacturer's recommended interval.

Premalube™

Multi-Purpose, Heavy Load, Extreme Pressure, High Temperature Grease

NLGI # 2, 1, 0, 00,000

Heavy duty aluminum complex grease specifically formulated for construction and heavy industrial equipment.

Provides superior protection for equipment against, heavy loads, dirt, dust, water, and heat.

PRODUCT OF CHOICE FOR ALMOST EVERY HEAVY DUTY APPLICATION

Provides Superior Equipment Protection for

- Industrial Manufacturing
- Food Processing
- Steel Mills & Foundries
- Paper Mills, Printing, & Packaging
- Construction, Mining, Agriculture
- Excavation & Demolition
- Utility Construction
- Concrete & Asphalt Paving
- Federal, State & Local Agencies

- **Stays in Place to Prevent Wear Under Heavy-Load Conditions**
- **Exceptional Heat Reversion Properties**
- **Contains Molybdenum Disulfide to Minimize Abrasive Wear Caused by Dirt and Dust**
- **Superior Water Resistance**
- **Prevents Rust and Corrosion**
- **Reduces Grease Inventory to Save Money**
- **Excellent High Temperature Performance -** NLGI #2 remains effective 275ºF continuous and 400ºF intermittent with monitored lubrication.
- **Also Available in a Red Formula NLGI #2, 1, 0, 00, 000**

Premalube Meets or Exceeds these Performance Requirements

- US Steel Mill Grease Specifications
  - Roll Neck Grease, Req. No. 340
  - Extreme Pressure Grease Req. No. 350
  - Extra Duty EP Grease. Req. No. 352
  - Extreme-Temp. Req. No. 355, 370, & 372
  - Ball and Roller Bearing, Req. No. 371
  - Mill Utility Grease Req. No. 375
- Military Spec. MIL-G-23549C
- Case 251H EP
- Caterpillar MPG
- Ford M1693A

USDA H2

LUBEMASTER™ EQUIPMENT LUBRICATION SOLUTIONS PROTECTION

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PREMALUBE and PREMALUBE RED contain a total additive package that sets it apart from other greases.

Additives	User Benefits
Premium Grade Base Oil	Superior grade, highly-refined base oil resists oxidation, hardening and high-temperature breakdown to maintain better lubricity.
Aluminum Complex Base	Withstands high heat - is the only lubricant with heat reversion characteristics. Resists water washout.
Molybdenum Disulfide (Premalube Red contains Solumol™)	Layered solid lubricant that plates on metal surfaces to provide excellent protection against wear on heavily loaded surfaces and in dusty, dirty environment.
Solumol™	Clear, synthetic moly that provides a non-staining barrier film for excellent heavy load protection. Provides the benefits of moly without the black.
Adhesive and Cohesive Polymers, Tackiness Agents	Highly-elastic polymers hold grease together and in place to prevent the entry of contaminants, squeeze-out, channeling and sling-off.
Rust and Corrosion Inhibitors	Block out corrosive elements such as acids, water, condensate and steam by forming a protective barrier on equipment surfaces to prevent chemical wear.
Extreme Pressure (EP) Agents	Heat seeking additive which increases the ability of the lubricant to prevent the extreme wear that can occur under loads.
Anit-Wear and Friction Reducing Additives	Prevent metal-to-metal contact, two-surface wear, vibration and chatter. Keeps high friction surfaces, such as bearings, properly lubricated to prevent metal loss, downtime, and replacement expenses.
Oxidation Inhibitors	Extend service life of the lubricant by retarding the oxidation or breakdown process.
Shock Load Reducers	Cushion impact to minimize the stress, vibration and chatter that can occur under heavy loads and during start-stop operations.
Graphite (Premalube Red contains Polymite™)	Layered solid that provides added protection at high temperatures and improves lubrication in wet conditions.
Polymite™	Provides the thermal stability and water wash-out properties of graphite without the black color.

Physical Properties	#2	#1	Red #2	Red #1	Red #0	Red #00	Red #000
Pounds per Gallon	8.34	7.5	6.88	8.34	7.55	7.61	7.66
Evaporation Rate	N/D	<0.01	<1	<0.011	<0.1	<0.1	<0.1
Timken, OK Load, LB	65	65	60	60	60	60	60
4 Ball Wear, MM	0.4	0.4	0.73	0.69	0.55	0.55	0.47
4 Ball Weld Point, KG	800	800	400	250	250	250	315
Load Wear Index	101	100	53.4	28.25	27	26	40.8
Oxidation Stability 100 Hrs@210F PSI	2	2	2	3	3	3	3
Oxidation Stability 500 Hrs@40F PSI	8	8	7	9	9	9	9
Maximum Continuous Temperature, F	275	275	275	275	275	275	275
Maximum Temperature, F	400	400	400	400	400	400	400
Rust Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	1B	1B	1B	1B	1B	1B	1B
Heat Reversion	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Base Oil Viscosity SUS at 100F Maximum	1230	750	1250	750	600	600	1235
Base Oil Viscosity SUS at 210F Minimum	80.5	41.5	80	41.5	31	32	80
Pour Point, F	-20	-20	-20	-20	-10	-10	-10
Voc %	0	0	0.05	0	0	0	0
Penetration @77F 60 strokes	265-285	310-340	265-295	310-340	355-385	400-430	445-475
Penetration Change after 10,000 strokes, %	5.22	6.8	5.6	4.2	10	10	15
Dropping Point, F	500+	500	500+	475	493	484	N/A
Water w ashout	3% Max	3% Max	2.5% Max	4.5% Max	N/A	N/A	N/A

Ideal for use on: bearings, journals, couplings, gears requiring grease, universal joints, rollers, conveyors and any other rolling or sliding surface.

Do not use on: bearings that exceed 4500 RPM, or applications with operating temperatures above 500ºF. For grease recommendations refer to Lubemaster DN chart.

PREMALUBE Limited Warranty

Under operating conditions of all types, customers find that PREMALUBE lasts from 2 to 5 times longer than conventional greases.

The LubeMaster division of Certified Laboratories is so confident PREMALUBE will last longer in your operations, that we will replace the amount of PREMALUBE in your equipment at NO CHARGE if it does not extend regreasing intervals by *at least twice* the equipment manufacturer's recommended interval.

Grease Properties	Test Methods and Descriptions	Certified Labs Premalube	Mobil Ronex MP	CITGO Lithiplex MP	Performance Benefit
Shear Stability	Multi-stroke Penetration: ASTM D 217 test measures the percent change in viscosity of the grease between an unworked and a worked state. The lower the percent change, the more mechanically stable the grease.	2%	Data Not Available	5%	The ability of grease to resist a change in consistency during mechanical working.
	Wheel Bearing Leakage: ASTM D 1263 measures the percent loss in a wheel bearing application. The lower the percentage, the better; above 5% will cause brake problems.	<3%	Data Not Available	Data Not Available	
Oxidation Resistance	Bomb Oxidation: ASTM D 942 measures the oxidative life of the grease; this is used to help determine the shelf life.	0.1%	Data Not Available	Data Not Available	The resistance of grease to the process of oxidation.
Water Resistance	Water Washout: ASTM D 1264 measures the resistance of a grease to washout; the lower the percent, the less likely it will washout.	2%	Data Not Available	2%	The ability of the grease to resist water and wet conditions.
	Water Spray-Off: ASTM D 4049 measures the resistance of a grease to spray-off; the lower the percent, the less likely it will washout.	<5%	Data Not Available	Data Not Available	
Bleed Resistance	Oil Separation (Static): FTM 321.3 measures the percent oil that may separate during storage and idle time; the lower the percent, the more resistant the grease is to separating.	<2%	Data Not Available	Data Not Available	The resistance of grease to separate.
	Pressure Oil Separation: ASTM D 1742 measures the percent oil that will separate when grease is under load; the lower the percent, the more resistant the grease is to separating.	<2%	Data Not Available	Data Not Available	
Extreme Pressure/Anti-Wear	Four Ball: ASTM D 2596 measures point contact, similar to ball bearings; the higher the number, the greater load carrying ability of the grease. (NOTE: The Timken OK Load Test has been disqualified as a viable test method due to the high degree of variability in test results. This test method produces a 20% spread in reproducibility and repeatability.)	800+kg	150kg	315kg	The ability of grease to handle extreme pressures and resist wear
	Four Ball (Wear Scar): ASTM D 2266 measures wear protection the grease provides; the lower the number, the more protection the grease provides.	0.4	.5	.45	
Corrosion	Rust Test: ASTM D 1743 is a static test that determines how well the grease keeps water and corrosives away from the metal surface.	1A	1A	1A	How well a grease can protect the metal surface from corrosion.
	Copper Corrosion: ASTM D 130 measures the ability of the grease to protect yellow metals.	Pass	Pass	Pass	
Pumpability	Mobility: US STEEL LT37 measures the grease flow at a given temperature at 150 psi; the higher the number the better.	22g/min	Data Not Available	Data Not Available	The ease of pumpability of a grease.
Service Temperature	Dropping Point: ASTM D 2265 measures the temperature that the soap in the grease melts; this is used to help determine the upper operating temperature range.	500+°F	280°F 530	°F	The temperature at which the grease turns to a liquid.

Grease Properties	Test Methods and Descriptions	Certified's Premalube Xtreme	Mobil Ronex MP	CITGO Lithiplex MP	Performance Benefit
Shear Stability	Multi-stroke Penetration: ASTM D 217 test measures the percent change in viscosity of the grease between an unworked and a worked state. The lower the percent change, the more mechanically stable the grease.	1.5%	Data Not Available	5%	The ability of grease to resist a change in consistency during mechanical working.
	Wheel Bearing Leakage: ASTM D 1263 measures the percent loss in a wheel bearing application. The lower the percentage, the better; above 5% will cause brake problems.	<0.3%	Data Not Available	Data Not Available	
Oxidation Resistance	Bomb Oxidation: ASTM D 942 measures the oxidative life of the grease; this is used to help determine the shelf life.	0.1%	Data Not Available	Data Not Available	The resistance of grease to the process of oxidation.
Water Resistance	Water Washout: ASTM D 1264 measures the resistance of a grease to washout; the lower the percent, the less likely it will washout.	<0.1%	Data Not Available	2%	The ability of the grease to resist water and wet conditions.
	Water Spray-Off: ASTM D 4049 measures the resistance of a grease to spray-off; the lower the percent, the less likely it will washout.	.1%	Data Not Available	Data Not Available	
Bleed Resistance	Oil Separation (Static): FTM 321.3 measures the percent oil that may separate during storage and idle time; the lower the percent, the more resistant the grease is to separating.	<1	Data Not Available	Data Not Available	The resistance of grease to separate.
	Pressure Oil Separation: ASTM D 1742 measures the percent oil that will separate when grease is under load; the lower the percent, the more resistant the grease is to separating.	.02	Data Not Available	Data Not Available	
Extreme Pressure/Anti-Wear	Four Ball: ASTM D 2596 measures point contact, similar to ball bearings; the higher the number, the greater load carrying ability of the grease. (NOTE: The Timken OK Load Test has been disqualified as a viable test method due to the high degree of variability in test results. This test method produces a 20% spread in reproducibility and repeatability.)	1000+kg	150kg	315kg	The ability of grease to handle extreme pressures and resist wear
	Four Ball (Wear Scar): ASTM D 2266 measures wear protection the grease provides; the lower the number, the more protection the grease provides.	0.341	.5	.45	
Corrosion	Rust Test: ASTM D 1743 is a static test that determines how well the grease keeps water and corrosives away from the metal surface.	1A	1A	1A	How well a grease can protect the metal surface from corrosion.
	Copper Corrosion: ASTM D 130 measures the ability of the grease to protect yellow metals.	Pass	Pass	Pass	
Pumpability	Mobility: US STEEL LT37 measures the grease flow at a given temperature at 150 psi; the higher the number the better.	4g/min	Data Not Available	Data Not Available	The ease of pumpability of a grease.
Service Temperature	Dropping Point: ASTM D 2265 measures the temperature that the soap in the grease melts; this is used to help determine the upper operating temperature range.	610°F	280°F 530	°F	The temperature at which the grease turns to a liquid.

Premalube™

Multi-Purpose, Heavy Load, Extreme Pressure, High Temperature Grease

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Heavy duty aluminum complex grease specifically formulated for construction and heavy industrial equipment.

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- Utility Construction
- Concrete & Asphalt Paving
- Federal, State & Local Agencies

- **Stays in Place to Prevent Wear Under Heavy-Load Conditions**
- **Exceptional Heat Reversion Properties**
- **Contains Molybdenum Disulfide to Minimize Abrasive Wear Caused by Dirt and Dust**
- **Superior Water Resistance**
- **Prevents Rust and Corrosion**
- **Reduces Grease Inventory to Save Money**
- **Excellent High Temperature Performance -** NLGI #2 remains effective 275ºF continuous and 400ºF intermittent with monitored lubrication.
- **Also Available in a Red Formula NLGI #2, 1, 0, 00, 000**

Premalube Meets or Exceeds these Performance Requirements

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- Case 251H EP
- Caterpillar MPG
- Ford M1693A

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Value Recognition ReportA

Underground Mining Operation

Account History: The Fuller-Traylor Double-Toggle Jaw Crusher is a critical piece of equipment that processes hard rock for further nickel refining. Rock as large as 12 feet in diameter is quickly diminished in size to 7 inch (or smaller) pieces. Crushers in the operation experience several costly problems resulting in thousands of dollars in downtime.

The LubeMaster Objective: To develop a reliability partnership that reduces downtime, lowers maintenance and operating expenses and drives a proactive maintenance initiative. The objective included the use of a propriety bearing cleaning compound (Bearing Purge) and a severe duty grease (Premalube Xtreme).

Reduced Lubricant Consumption & Inventory

- Reduced Grease Consumption by Approximately 79% Annually (7440 kg of Unirex EP2 grease annually to 1560 kg of Premalube Xtreme) - $37,200 to $15,600**……$21,600**

Annual Savings - Parts Repair, and Replacement

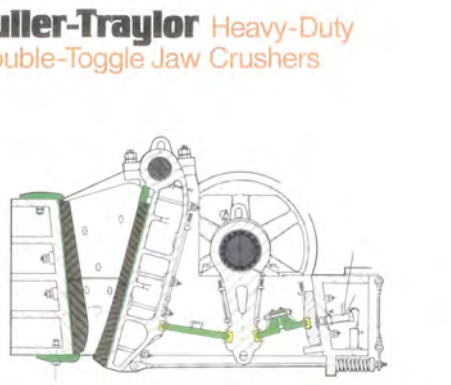
- Eliminated Bearing Replacements by 200% by Using BEARING PURGE and Premalube Xtreme Grease:**……...…$175,000**
- Eliminated the need to replace the 4-Ton Toggle which previously was being replaced every 2 months at a cost of $10,00/ea**.……$60,000**
- Eliminated 48 magnesium bronze bushing replacements ($3000/ea) by using DRI-LUBE molybdenum disulfide aerosol:**…$144,000**
- Central Lubrication System was able to be recalibrated to 30 second events every 16 minutes (rather than 30 second events every 2 minutes)

Process Productivity & Reliability Profile

- The glide time on the Pitman has quadrupled with the use of Premalube Xtreme.
- After applying Bearing Purge followed by Premalube Xtreme, the Pitman and pillow block bearings operating temperature reduced over 19°F within the first 3 hours of operation.

Maintenance Entitlement

- Since using Premalube Xtreme, 64 man hours per month have been reduced ($50/hr) **……$3200**



Savings Summary

Parts Repair & Replacement ……$175,000
$60,000
$144,000

Lubricant Consumption $21,600

Labor Savings ……...$3,200

Total Annual Savings $400,900

Value Recognition Report

Underground Mining Operation

Cost Reductions Details:

Before this customer switched over to LubeMaster's lubricating grease, Premalube Xtreme, forty eight manganese bronze bushings on the crusher had to be replaced annually at a cost of over $3000 each, totaling $144,000. The 4 ton toggle had to be replaced every 2 months at $10,000 each which accounted for over $60,000 annually. LubeMaster BEARING PURGE was then used to flush contaminants from the Pitman and pillow block bearings. The new grease, Premalube Xtreme, was then introduced. The cleaned bushings and toggle seats were treated with LubeMaster's DRI LUBE PLUS (a superior dry film lubricant especially formulated with molybdenum disulfide) to provide a long lasting barrier under extreme pressure to help prevent metal to metal contact. The new grease, Premalube Xtreme, is capable of withstanding extreme pressure and high heat as well as being very resistant to water washout even when a power washer was introduced.

Flushing out the Pitman bearing and pillow blocks and switching to a higher performing grease reduced temperature over 19 degrees F within the first 3 hours of operation. Free of contaminants, the glide time on the Pitman has quadrupled with the new grease, Premalube Xtreme. Since October 20, 2005 there has not been any lubricated related downtime incidents. There have been no bushings or toggles replaced. The Maintenance Foreman, happily reports that he now has 64 more man hours per month freed up due to increased reliability. Monthly grease consumption has dropped from 620 kg of Unirex EP2 monthly to 130 kg of Premalube Xtreme. The savings on reduced lubricant usage combined with a reduction in labor and parts replacement could easily equate to over $400,000 dollars a year.

Value Recognition Report
Gold Mine, CO

Account History: The operation runs 4 shovels – (2) Hitachi 5500, (1) Hitachi 2500 and a new Komatsu. The equipment experienced excessive grease usage and bearing and bushing wear. Production runs 22 hours per day.

Certified Labs' Objective: Develop a reliability partnership to reduce bearing and bushing failures as they relate to grease performance by offering PREMALUBE grease.

Cost Profile: The OEM pins, bushings and slew rings are all lubricated components. The replacement cost of each are as follows. Please note, pins and bushings must be replaced in sets.

- **Pins:** $5000 to $11,000 each
- **Bushings:** $1100 to $3500 each

The repair and replacement labor rate is $55/hr. The labor involved in the repair and replacement of the pins and bushings may fluctuate between 8 hours to 24 hours of labor for installation as well as 24 hours for equipment tear-down. The process requires 5 technicians. Downtime costs $15,000/hr.

One Pin/Bushing/Bearing Set Replacement

Downtime: $360,000 (24 hours at $15,000/hr - repair and teardown labor)

Component Cost: $16,000 (Averaged Cost of a Pin/Bushing set)

Labor Cost: $7,500 (5 Technicians)

Total Cost for 1 Pin/Bushing/Bearing Set = $383,500

Certified Labs has been able to significantly reduce the frequency of Pin / Bushing / Bearing replacements. Due to the competitive nature of mining, the exact savings from Certified Labs cannot be published.

The minimum annual savings this mine experienced using PREMALUBE Grease has been $383,500 annually, assuming merely one set replacement was eliminated. The total number of sets reduced cannot be published.

Value Recognition Report
Underground Operations, Canada

Account History: One of Canada's best-known companies and largest exporters. Employs over 10,000 people around the world. Underground operations rely on vertical shafts to provide machinery and men to the mine site and to remove ore for further processing. The lifts, also known as the cage, carry men, machines, and skips carrying ore to the surface. Wire rope is an essential component. It is exposed to severe conditions including extreme loads, high speeds and contamination such as high alkaline mine water and abrasive material.

The Certified Lab's Objective: To develop a reliability partnership that reduces downtime, lowers maintenance and operating expenses, and drives a proactive maintenance initiative. The objective included the development of a wire rope dressing designed explicitly for the problems which occur in the vertical shafts. The products being used were only designed for seasonal applications, requiring different products for different temperatures. The wire rope was also experiencing severe corrosion from the alkaline water and abrasive wear.

Reduced Lubricant Products Used

A winter and summer grade wire rope dressing was being used prior to SUPREME EXTRA wire rope dressing. The wide application temperature and functionality of SUPREME EXTRA wire rope dressing allowed for **year-round use**.

Performance Improvement

The Wire rope was originally lubricated with a competitive product, then re-lubricated with SUPREME EXTRA wire rope dressing. Within a one year period, corrosion of the wire rope improved from a 2B rating to a **1A rating**. The breaking load **increased 10,000 psi** and the modulus of elasticity was **reduced 31%** resulting in less wire rope stretch. The wire rope rating was upgraded from CAUTIONARY to **NORMAL** after 6 months of using SUPREME EXTRA.

Annual Savings - Lubricant Related Downtime

The downtime related to applying the wire rope dressing was reduced by 24 hours annually (at a rate of $70/hr) and clean-up time costing $16,000 annually was reduced by at **least 50%** resulting in reduced clean-up labor costs totaling **$9000**.

Savings Summary

Lubricant Reduction from Two Products to One.

Overall Performance Improvements

Reduced Lubricant Related Downtime by $9000

Value Added Contributions

- On-Site Technical Support Visits for Bearing Purging and Monitoring **Typical Charge $1800/each**
- 2 Lubrication Training Seminars: **Typical Charge $1375/each**

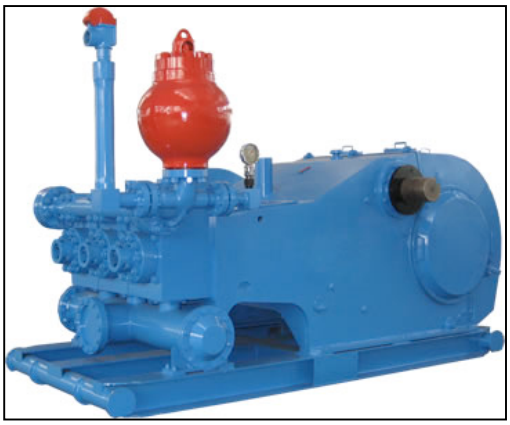
Value Recognition Report

5th Largest Fracturing / Land Stimulation Company in North America

Customer Profile: 5th largest fracturing / land stimulation Company in North America's drilling industry. Provides high pressure pumping systems used in fracturing bedrock for gas & oil production.

Certified's Objective: Provide a performance lubricating grease to extend bearing and packing life and deliver exceptional protection on the Company's 200 triplex pumps used during the mud pumping process.

This Company uses grease on the packing material on the plunger pumps. The plunger material provides a seal around the plunger as it reciprocates to create a vacuum in order to pump. Before switching to Certified's Premalube™ Red grease, the packing material had a relatively short life (<100hrs) , after using Premalube™ Red the packing material now lasts >200 hours. The three year reliability relationship has helped save over $30,015,000.



Reduced Lubricant Consumption & Inventory

- Information Not Available

Annual Savings - Parts Repair and Replacement

- Since switching to **Premalube Red NLGI "00"**, the packing material now lasts 2 times longer (over 200 hours). Replacement has been reduced by 50% per pump (from 87/yr to 43/yr).

Annual Packing Material Costs Reduced $32,625 per pump

Before Premalube Red: 87 = $65,250
After Premalube Red: 43 = $32,625

Annual Savings – Labor Repair and Replacement

- Since switching to **Premalube Red NLGI "00"**, the 16 hours labor required to replace each packing material has been reduced 50%.

Annual Labor Repair Costs Reduced $17,400 per pump

Before Premalube Red: Labor = $34,800 (16hrs x $25/hr) x 87
After Premalube Red: Labor = $17,400 (16hrs x $25/hr) x 43

Annual Savings - Lubricant Related Downtime

- Information Not Available.

200 Units , Annual Savings = $10,005,000/yr

Annual Savings Per Pump

Lubricant Consumption …$ N/A
Parts Repair & Repl. .....…$32,625
Labor Repair……..….$17,400
Lube Related Downtime ….$ N/A

Total Savings $50,025

Annual Savings 200 Pumps

Lubricant Consumption …$ N/A
Parts Repair & Repl. ….$6,525,000
Labor Repair……..$3,480,000
Lube Related Downtime….$ N/A

Total Savings $10,005,000

3 Year Total Savings $30.015,000

Total Savings Over 3 Year Relationship $30,015,000

Division of Certified Laboratories

PREMALUBE and PREMALUBE RED contain a total additive package that sets it apart from other greases.

Additives	User Benefits
Premium Grade Base Oil	Superior grade, highly-refined base oil resists oxidation, hardening and high-temperature breakdown to maintain better lubricity.
Aluminum Complex Base	Withstands high heat - is the only lubricant with heat reversion characteristics. Resists water washout.
Molybdenum Disulfide (Premalube Red contains Solumol™)	Layered solid lubricant that plates on metal surfaces to provide excellent protection against wear on heavily loaded surfaces and in dusty, dirty environment.
Solumol™	Clear, synthetic moly that provides a non-staining barrier film for excellent heavy load protection. Provides the benefits of moly without the black.
Adhesive and Cohesive Polymers, Tackiness Agents	Highly-elastic polymers hold grease together and in place to prevent the entry of contaminants, squeeze-out, channeling and sling-off.
Rust and Corrosion Inhibitors	Block out corrosive elements such as acids, water, condensate and steam by forming a protective barrier on equipment surfaces to prevent chemical wear.
Extreme Pressure (EP) Agents	Heat seeking additive which increases the ability of the lubricant to prevent the extreme wear that can occur under loads.
Anit-Wear and Friction Reducing Additives	Prevent metal-to-metal contact, two-surface wear, vibration and chatter. Keeps high friction surfaces, such as bearings, properly lubricated to prevent metal loss, downtime, and replacement expenses.
Oxidation Inhibitors	Extend service life of the lubricant by retarding the oxidation or breakdown process.
Shock Load Reducers	Cushion impact to minimize the stress, vibration and chatter that can occur under heavy loads and during start-stop operations.
Graphite (Premalube Red contains Polymite™)	Layered solid that provides added protection at high temperatures and improves lubrication in wet conditions.
Polymite™	Provides the thermal stability and water wash-out properties of graphite without the black color.

Physical Properties	#2	#1	Red #2	Red #1	Red #0	Red #00	Red #000
Pounds per Gallon	8.34	7.5	6.88	8.34	7.55	7.61	7.66
Evaporation Rate	N/D	<0.01	<1	<0.011	<0.1	<0.1	<0.1
Timken, OK Load, LB	65	65	60	60	60	60	60
4 Ball Wear, MM	0.4	0.4	0.73	0.69	0.55	0.55	0.47
4 Ball Weld Point, KG	800	800	400	250	250	250	315
Load Wear Index	101	100	53.4	28.25	27	26	40.8
Oxidation Stability 100 Hrs@210F PSI	2	2	2	3	3	3	3
Oxidation Stability 500 Hrs@40F PSI	8	8	7	9	9	9	9
Maximum Continuous Temperature, F	275	275	275	275	275	275	275
Maximum Temperature, F	400	400	400	400	400	400	400
Rust Test	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	1B	1B	1B	1B	1B	1B	1B
Heat Reversion	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Base Oil Viscosity SUS at 100F Maximum	1230	750	1250	750	600	600	1235
Base Oil Viscosity SUS at 210F Minimum	80.5	41.5	80	41.5	31	32	80
Pour Point, F	-20	-20	-20	-20	-10	-10	-10
Voc %	0	0	0.05	0	0	0	0
Penetration @77F 60 strokes	265-285	310-340	265-295	310-340	355-385	400-430	445-475
Penetration Change after 10,000 strokes, %	5.22	6.8	5.6	4.2	10	10	15
Dropping Point, F	500+	500	500+	475	493	484	N/A
Water w ashout	3% Max	3% Max	2.5% Max	4.5% Max	N/A	N/A	N/A

Ideal for use on: bearings, journals, couplings, gears requiring grease, universal joints, rollers, conveyors and any other rolling or sliding surface.

Do not use on: bearings that exceed 4500 RPM, or applications with operating temperatures above 500ºF. For grease recommendations refer to Lubemaster DN chart.

PREMALUBE Limited Warranty

Under operating conditions of all types, customers find that PREMALUBE lasts from 2 to 5 times longer than conventional greases.

The LubeMaster division of Certified Laboratories is so confident PREMALUBE will last longer in your operations, that we will replace the amount of PREMALUBE in your equipment at NO CHARGE if it does not extend regreasing intervals by *at least twice* the equipment manufacturer's recommended interval.

Value Recognition Report

One of the Largest Oilfield Services in the World

Customer Profile: The customer is one of the largest oilfield services companies in the world operating in more than 85 countries and employs more than 112,000 people worldwide. The Cementing Service is involved in deepwater, UGS wells, self-healing, gas migration, lost circulation, and mud removal.

Certified's Objective: Provide a performance lubricating grease (**PREMALUBE RED NLGI 00, 000 Arctic**) to replace Rock Drill oil while providing exceptional protection on equipment used during operation which would result in an overall cost savings. .

Reduced Lubricant Consumption & Inventory

Prior while using Rock Drill oil, consumption was 2 gallons of Rock Drill oil at $15/gl or $30.00/job for each unit.
After switching to **PREMALUBE RED** grease, consumption was reduced to a cost of $8.75/job.
This results in a savings of $21.25/job.
There are 37 units averaging 8 jobs per month or 96 jobs annually for each truck or 3,552 total jobs annually.
Annual Lubricant Savings: $75,480.00

Annual Savings - Parts Repair, and Replacement

Packing hardware costs $1,700 per pump.
Prior while using Rock Drill oil, packing life was 75 hours or 2.1 jobs, 1,691 jobs annually or $2,874,700.
After switching to **PREMALUBE RED** grease packing life was extended to 160 hours or **4.4 jobs (807 jobs annually or $1,371,900**.)
Annual Saving on Packing: $1,502,800.00

Annual Savings – Labor Repair and Replacement

Labor rate is $25/hr x 2 mechanics, 1 hr per packing and plunger, 4 per unit on 37 units ($200/unit).
Prior while using Rock Drill oil allowed only 2.1 jobs per packing, or 1,691 jobs annually resulting in $338,200 in labor.
After switching to **PREMALUBE RED** grease , 4.4 jobs per packing was obtained resulting in only 807 jobs costing **$161,400** annually
Annual Labor Savings: $176,800

Total Savings ……..$1,755,080.00

Annual Savings Summary

Reduced Lubricant Cost…$75,480

Reduced Parts Repair & Replacement ……..….$1,502,800

Labor Repair…….....$176,800

Total Savings $1,755,080

