

DATE: 8/22/2018  
BID NO.: 50-00123931

INVITATION TO BID  
THIS IS NOT AN ORDER

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## JEFFERSON PARISH

PURCHASING DEPARTMENT  
P.O. BOX 9  
GRETNA, LA. 70054-0009  
504-364-2678

BUYER: MOVALLE@jeffparish.net

BIDS WILL BE RECEIVED IN THE WEST BANK PURCHASING DEPT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 9/06/2018 AND PUBLICLY OPENED THEREAFTER. For convenience, bidders may also submit bids in the East Bank Purchasing Department, Suite 404, Jefferson Parish Joseph S. Yenni Building, 1221 Elmwood Park Blvd., Jefferson LA 70123. However, if submitting bids on the day of bid opening, bidders must submit at the West Bank location only. All bids will be publicly opened at the West Bank location.

At no charge, bidders may also submit via Jefferson Parish's electronic procurement page by visiting [www.jeffparishbids.net](http://www.jeffparishbids.net) to register for this free site. Additional instructions are included in the text box highlighting electronic procurement.

### LATE BIDS WILL NOT BE ACCEPTED

Unless submitting via online (see Page 3), each bid must be submitted in a sealed envelope bearing on the outside; the name of the Bidder, his address, and the name of the project for which the bid is submitted and the bid number.

**NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES SHALL RESULT IN BID REJECTION.**

### INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

#### THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. By submitting a bid, vendor agrees to comply with all provisions of Louisiana Law as well be in compliance with the Jefferson Parish Code of Ordinances, Louisiana Code of Ethics, applicable Jefferson Parish ethical standards and Jefferson Parish Resolution No. 113646 and/or Resolution No. 113647.

All vendors submitting bids should register as a Jefferson Parish vendor if not already yet registered. Registration forms may be downloaded from <http://purchasing.jeffparish.net> and by clicking on Vendor Information. Current W-9 forms with respective Tax Identification numbers and vendor applications may be submitted at any time; however, if your company is not registered and/or a current W-9 form is not on file, vendor registration is mandatory. Further, a current W-9 form and respective Tax Identification number must be supplied upon contract execution, should you be awarded a contract and/or issued purchase order. Failure to do so may result in delay of payment.

All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department. This provision does not apply to public works projects

JEFFERSON PARISH requires all products to be new (current) and all work must be performed according to standard practices for the project. Unless otherwise specified, no aftermarket parts will be accepted. Unless otherwise specified, all workmanship and materials must have at least one (1) year guaranty, in writing, from the date of delivery and/or acceptance of the project. Any deviations or alterations from the specifications must be indicated and/or supporting documentation supplied with bid submission.

Bidders should submit all questions in writing via email to the buyer's email address as indicated above, no later than Five (5) working days prior to the bid opening. Bid numbers should be mentioned in all requests. If submitting online, vendors may send questions via the E-Procurement site no later than Five (5) working days prior to the bid opening.

If this bid requires a pre-bid conference (see Additional Requirements section), bidders are advised that such conference will be held to allow bidders the opportunity to identify any discrepancies in the bid specifications and seek further clarification regarding instructions. The Purchasing Department will issue a written response to bidders' questions in the form of an Addendum. Please note that all official communication will be expressed in the form of an addendum.

All formal Addenda require written acknowledgement on the bid form by the bidder. Failure to acknowledge an Addendum on the bid form shall cause the bid to be rejected. JEFFERSON PARISH reserves the right to award bid to next lowest responsive and responsible bidder in this event.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH WILL ACCEPT ONE BID ONLY FROM EACH VENDOR. Items bid must meet specifications.

Visit our website at [HTTP://PURCHASING.JEFFPARISH.NET](http://PURCHASING.JEFFPARISH.NET)

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JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection. Bidders are required to complete, sign and return the bid form and/or complete and return the associated line item pricing forms as indicated. Vendors must not alter the bid forms. Doing so will cause the bid to be rejected.

A corporate resolution or written evidence of the individual signing the bid having such authority must be submitted with the bid. Failure to comply will cause bid to be rejected. For corporate entities, such written evidence may be a printout of the Louisiana Secretary of State's website listing the signatory as an officer. Such printout shall be included with the bid submission. Bids submitted by Owners or Sole Proprietorships must include certification that he or she owns the entity for which the bid is signed. This documentation must be submitted with the bid. Failure to do so will result in bid rejection.

NOTE: A sample corporate resolution can be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document. A sample certification of sole proprietorship can also be downloaded from our website <http://purchasing.jeffparish.net> or you may provide your own document.

## INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

**A. AWARD OF CONTRACT:** JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIVE and RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE. SPLIT AWARDS MADE TO SEVERAL VENDORS WILL ONLY BE GRANTED TO THOSE DEEMED RESPONSIVE AND RESPONSIBLE.

All bid prices shall remain valid for 45 days. Jefferson Parish and the lowest responsive and responsible bidder(s) by mutual written consent may mutually agree to extend the deadline for award by one (1) or more extensions of thirty (30) calendar days.

**PROTESTS:** Only those vendors that submitted a bid in response to this solicitation may submit a protest in writing to the Director of the Purchasing within 48 hours of bid opening. The Purchasing Director will review it in connection with the Parish Attorney's Office which will then respond in writing as soon as possible.

**PREFERENCE:** Unless federal funding is directly spent by Jefferson Parish for this purchase, preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA - R.S. 38:2251-2261"

**B. USE OF BRAND NAMES AND STOCK NUMBERS:** Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

**C. CANCELLATION OF CONTRACT:** JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

**D. PRICES:** Jefferson Parish is exempt from paying sales tax under LSA-R.S. 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit of measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. The price quoted for work shall be stated in figures. In the event there is a difference in unit prices and totals, the unit price shall prevail.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from participation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A17.1-1961).

Jefferson Parish and its partners as the recipients of federal funds are fully committed to awarding a contract(s) to firm(s) that will provide high quality services and that are dedicated to diversity and to containing costs. Thus, Jefferson Parish strongly encourages the involvement of minority and/or woman-owned business enterprises (DBE's, including MBE's, WBE's and SBE's) to stimulate participation in procurement and assistance programs.

Advertised bids will be tabulated and a copy of the tabulation will be forwarded to each responding bidder.

**IN ACCORDANCE WITH STATE REGULATIONS JEFFERSON PARISH OFFERS ELECTRONIC PROCUREMENT TO ALL VENDORS**

This electronic procurement system allows vendors the convenience of reviewing and submitting bids online. This is a secure site and authorized personnel have limited read access only. Bidders are encouraged to submit electronically using this free service; while the website accepts various file types, one single PDF file containing all appropriate and required bid documents is preferred. Bidders submitting uploaded images of bid responses are solely responsible for clarity. If uploaded images/documents are not legible, then bidder's submission will be rejected. Please note all requirements contained in this bid package for electronic bid submission.

Please visit our E-Procurement Page at [www.jeffparishbids.net](http://www.jeffparishbids.net) to register and view Jefferson Parish solicitations. For more information, please visit the Purchasing Department page at <http://purchasing.jeffparish.net>.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 113646 or 113647 dated 12/09/09. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053. You may also obtain a copy by visiting the Purchasing Department webpage at <http://purchasing.jeffparish.net> and clicking on Online Forms.

**ADDITIONAL REQUIREMENTS FOR THIS BID**

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

10, 12, 13, 15

1. All bidders must attend the MANDATORY pre-bid conference and will be required to sign in and out as evidence of attendance. In accordance with LSA R.S. 38:2212(I), all prospective bidders shall be present at the beginning of the MANDATORY pre-bid conference and shall remain in attendance for the duration of the conference. Any prospective bidder who fails to attend the conference or remain for the duration shall be prohibited from submitting a bid for the project.
2. Attendance to this pre-bid conference is optional. However, failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. Furthermore, failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification with no additional cost to the owner.
3. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project. Contractor must also hold any and all applicable Federal and State licenses. Contractor shall be responsible for the payment of these permits and shall obtain them prior to the start of the project.
4. A LA State Contractor's License will be required in accordance with LSA R.S. 37-2150 et. seq. and such license number will be shown on the outside of the bid envelope. Failure to comply will cause the bid to be rejected. Additionally if submitting the bid electronically, then the license number must be entered in the appropriate field in the Electronic Procurement system. Failure to comply will cause the bid to be rejected.
5. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.
6. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

## INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

7. **PUBLIC WORKS BIDS:** All awards for public works in excess of \$5,000.00 will be reduced to a formal contract which shall be recorded at the contractor's expense with the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. A price list of recordation costs may be obtained from the Clerk of Court and Ex-Officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of \$25,000.00 will require both a performance and a payment bond. Unless otherwise stated in the bid specifications, the performance bond requirements shall be 100% of the contract price. Unless otherwise stated in the bid specifications, the payment bond requirements shall be 100% of the contract price. Both bonds shall be supplied at the signing of the contract.
8. **NON-PUBLIC WORKS BIDS:** A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The performance bond shall be supplied at the signing of the contract.
9. **NON-PUBLIC WORKS BIDS:** A payment bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. The payment bond shall be supplied at the signing of the contract.
10. All bidders must comply with the requirements stated in the attached "Standard Insurance Requirements" sheet attached to this bid solicitation. Prior to contract executions/purchase order issuance, the successful bidder will be required to provide final insurance certificates which shall name Jefferson Parish as an additional insured in accordance with the instructions in the aforementioned "Standard Insurance Requirements" sheet.
11. A bid bond will be required with bid submission in the amount of 5% of the total bid, unless otherwise stated in the bid specifications. Acceptable forms shall be limited to cashier's check, certified check, or surety bid bond. All sureties must be in original format (no copies) If submitting a bid online, vendors must submit an electronic bid bond through the respective online clearinghouse bond management system(s) as indicated in the electronic bid solicitation on Central Auction House. No scanned paper copies of any bid bond will be accepted as part of the electronic bid submission.
12. This is a requirements contract to be provided on an as needed basis. JEFFERSON PARISH makes no representations on warranties with regard to minimum guaranteed quantities unless otherwise stated in the bid specifications.
13. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be rejected if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.
14. **PUBLIC WORKS BIDS - Completed, Signed and Properly Notarized Affidavits Required;** This applies to all solicitations for construction, alteration or demolition of public buildings or projects, in conformity with the provisions contained in LSA-RS 38:2212.9, LSA-RS 38:2212.10, LSA-RS 38:2224, and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Conviction Affidavit, Non-Collusion Affidavit, Campaign Contribution Affidavit, Debt Disclosures Affidavit and E-Verify Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
15. **NON PUBLIC WORK BIDS - Completed, Signed and Properly Notarized Affidavits Required** in conformity with the provisions contained in LSA - RS 38:2224 and Sec 2-923.1 of the Jefferson Parish Code of Ordinances. For bidding purposes, all bidders must submit with bid submission COMPLETED, SIGNED and PROPERLY NOTARIZED Affidavits, including: Non-Collusion Affidavit, Debt Disclosures Affidavit and Campaign Contribution Affidavit. For the convenience of vendors, all affidavits have been combined into one form entitled NON PUBLIC WORKS BID AFFIDAVIT. This affidavit must be submitted in its original format, and without material alteration, in order to be compliant and for the bid to be considered responsive. A scanned copy of the completed, signed and properly notarized affidavit may be submitted with the bid, however, the successful bidder must submit the original affidavit in its original format and without material alteration upon contract execution. Failure to comply will result in the bid submission being rejected as non-responsive. The Parish reserves the right to award bid to the next lowest responsive and responsible bidder in this event.
16. The ensuing contract for this bid solicitation may be eligible for FEMA reimbursement and/or Federal funding/reimbursement. As such, the referenced appendix will be applicable accordingly and shall be considered a part of the bid documents. All applicable certifications must be duly completed, signed and submitted with bid submission. Failure to submit applicable certifications with bid submission will result in bid rejection.
17. For this project, the Contractor shall not pay any state or local sales or use taxes on materials and equipment which are affixed and made part of the immovable property of the project or which permanently incorporated in the project (hereinafter referred to as "applicable materials and equipment"). All purchases of applicable materials or equipment shall be made by the contractor on behalf of and as the agent of Jefferson Parish (Owner), a political subdivision of the State of Louisiana. No state and local sales and use taxes are owned on applicable materials and equipment under the provisions of Act 1029 of the 1991 Regular Session - Louisiana Revised Statute 47:301(8)(c). Owner will furnish contractor a certificate form which certifies that Owner is not required to pay such state or local sales and use taxes, and contractor shall furnish a copy of such certificate to all vendors or suppliers of the applicable materials and equipment

It shall be the duty of every parish officer, employee, department, agency, special district, board, and commission; and the duty of every contractor, subcontractor, and licensee of the parish, and the duty of every applicant for certification of eligibility for a parish contract or program, to cooperate with the Inspector General in any investigation, audit, inspection, performance review, or hearing pursuant to Jefferson Parish Code of Ordinances Section 2-155.10(19). By submitting a bid, vendor acknowledges this and will abide by all provisions of the referenced Jefferson Parish Code of Ordinances.

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BID NO.: 50-00123931

**BID FORM**  
Non Public Works

**All Public Work Projects are required to use the Louisiana Uniform Public Work Bid Form**

All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be applied to purchases made after the request is made.

Are you requesting an escalation provision?

YES \_\_\_\_\_ NO ✓

MAXIMUM ESCALATION PERCENTAGE REQUESTED \_\_\_\_\_ %

INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF until end of 2 year contract

For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

**DELIVERY: FOB JEFFERSON PARISH**

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES

Immediate upon award

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) \_\_\_\_\_

**THIS SECTION MUST BE COMPLETED BY BIDDER:**

FIRM NAME: Tribologik Corporation

ADDRESS: 1212 172nd Street

CITY, STATE: Hammond, IN ZIP: 46324

TELEPHONE: (312) 800-2888 FAX: (219) 554-5044

EMAIL ADDRESS: nreich@tribologik.com

In the event that addenda are issued with this bid, bidders MUST acknowledge all addenda on the bid form. Bidder must acknowledge receipt of an addendum on the bid form as indicated. Failure to acknowledge any addendum on the bid form will result in bid rejection.

Acknowledge Receipt of Addenda: NUMBER: 1

NUMBER: 2

NUMBER: \_\_\_\_\_

NUMBER: \_\_\_\_\_

TOTAL PRICE OF ALL BID ITEMS: \$ 15819.76

AUTHORIZED SIGNATURE: [Signature]

Nicholas Reich  
Printed Name

TITLE: VP Sales

SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the BID NUMBER and BID OPENING DATE indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00123931

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
1	1,813.00	EA	<p>TWO (2) YEAR CONTRACT FOR LUBE OIL ANALYSIS FOR THE JEFFERSON PARISH DEPT. OF PUBLIC WORKS - DRAINAGE PUMPING STATION OPERATIONS AND ALL JEFFERSON PARISH AGENCIES AND MUNICIPALITIES</p> <p>0010 - Sample oil analysis for existing in-service diesel engines consisting of the following:                      1) Viscosity SSU @ 210 Degrees F                      2) Fuel Dilution - Value derived from physical characteristics and confirmed by flash point or gas chromatography                      3) Total Solids (ASTM D893 or D4055)                      4) Water                      5) SAE Weight                      6) T.B.N. (By ASTM D2896)                      7) Spectrochemical Analysis 20 Elements</p>	8.48	15,374.24
2	45.00	EA	<p>0020 - Sample lube oil analysis for existing gear drives and/or existing bearings consisting of the following:                      1) Viscosity SSU @ 100 Degrees F                      2) Viscosity SSU @ 210 Degrees F                      3) Water - Parts per million                      4) Total Solids (ASTM D893 or D4055)                      5) T.A.N. (By ASTM D664)                      6) Spectrochemical Analysis 20 Elements</p>	8.48	381.60
3	4.00	EA	<p>0030 - Sample lube oil analysis for stock oil consisting of the following:                      1) Viscosity @ 100 Degrees F                      2) Viscosity @ 210 Degrees F                      3) Viscosity Index                      4) Flash Point (ASTM D92)                      5) Pour Point (ASTM D97)                      6) Sulphated Ash (Comparable to ASTM D874)                      7) Spectrochemical Analysis 20 Elements                      8) Appearance</p>	8.48	33.92
4	1.00	EA	<p>0040 - Sample fuel oil analysis consisting of the following:                      1) API Gravity                      2) Distillation Test                      3) Cetane Index                      4) Sulphur Index                      5) Water and Sediment                      6) Appearance</p>	30.00	30.00

**CORPORATE RESOLUTION**

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF  
Tribologix Corporation  
INCORPORATED.

AT THE MEETING OF DIRECTORS OF Tribologix Corporation  
INCORPORATED, DULY NOTICED AND HELD ON August 30, 2018,  
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT  
WAS:

RESOLVED THAT Nicholas Reich, BE AND IS HEREBY  
APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-  
FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON  
BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS  
AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES,  
DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE  
EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES,  
CONTRACTS AND ACTS AND TO RECEIVE ALL PURCHASE ORDERS AND NOTICES  
ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS  
CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING  
EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-  
FACT.

I HEREBY CERTIFY THE FOREGOING TO BE  
A TRUE AND CORRECT COPY OF AN  
EXCERPT OF THE MINUTES OF THE ABOVE  
DATED MEETING OF THE BOARD OF  
DIRECTORS OF SAID CORPORATION, AND  
THE SAME HAS NOT BEEN REVOKED OR  
RESCINDED.

  
\_\_\_\_\_  
SECRETARY-TREASURER

30 - Aug - 2018  
\_\_\_\_\_  
DATE

## **Non-Public Works Bid Affidavit Instructions**

- **Affidavit is supplied as a courtesy to Affiants, but it is the responsibility of the affiant to insure the affidavit they submit to Jefferson Parish complies, in both form and content, with federal, state and parish laws.**
- **Affidavit must be signed by an authorized representative of the entity or the affidavit will not be accepted.**
- **Affidavit must be notarized or the affidavit will not be accepted.**
- **Notary must sign name, print name, and include bar/notary number, or the affidavit will not be accepted.**
- **Affiant MUST select either A or B when required or the affidavit will not be accepted.**
- **Affiants who select choice A must include an attachment or the affidavit will not be accepted.**
- **If both choice A and B are selected, the affidavit will not be accepted.**
- **Affidavit marked N/A will not be accepted.**
- **It is the responsibility of the Affiant to submit a new affidavit if any additional campaign contributions are made after the affidavit is executed but prior to the time the council acts on the matter.**

*Instruction sheet may be omitted when submitting the affidavit*

Non-Public Works Bid

AFFIDAVIT

STATE OF <sup>province</sup> Quebec

PARISH/COUNTY OF <sup>city</sup> Montreal

BEFORE ME, the undersigned authority, personally came and appeared: Nicholas Reich, (Affiant) who after being by me duly sworn, deposed and said that he/she is the fully authorized VP of Sales of Tribologik Corp (Entity), the party who submitted a bid in response to Bid Number 50-00123931, to the Parish of Jefferson.

Affiant further said:

Campaign Contribution Disclosures

**(Choose A or B, if option A is indicated please include the required attachment):**

Choice A \_\_\_\_\_ Attached hereto is a list of all campaign contributions, including the date and amount of each contribution, made to current or former elected officials of the Parish of Jefferson by Entity, Affiant, and/or officers, directors and owners, including employees, owning 25% or more of the Entity during the two-year period immediately preceding the date of this affidavit or the current term of the elected official, whichever is greater. Further, Entity, Affiant, and/or Entity Owners have not made any contributions to or in support of current or former members of the Jefferson Parish Council or the Jefferson Parish President through or in the name of another person or legal entity, either directly or indirectly.

Choice B  there are NO campaign contributions made which would require disclosure under Choice A of this section.

Debt Disclosures

**(Choose A or B, if option A is indicated please include the required attachment):**

Choice A  Attached hereto is a list of all debts owed by the affiant to any elected or appointed official of the Parish of Jefferson, and any and all debts owed by any elected or appointed official of the Parish to the Affiant.

Choice B  There are NO debts which would require disclosure under Choice A of this section.

Affiant further said:

That Affiant has employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for Affiant; and

*[The remainder of this page is intentionally left blank.]*

That no part of the contract price received by Affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the Affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for Affiant.



Signature of Affiant

Nicholas Feich

Printed Name of Affiant

SWORN AND SUBSCRIBED TO BEFORE ME  
ON THE 31<sup>st</sup> DAY OF August, 2018



Notary Public

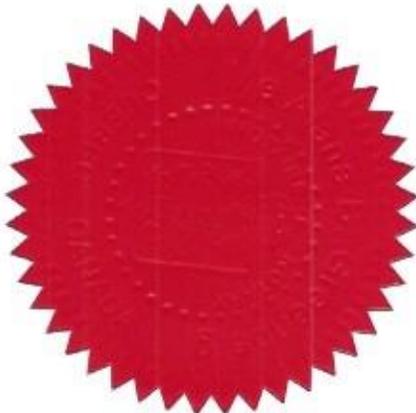
Alana B. Greenberg, Notary

Printed Name of Notary

61455 (Chambre des Notaires du Québec)

Notary/Bar Roll Number

My commission expires does not expire





# JEFFERSON PARISH

Department of Purchasing

Michael S. Yenni  
Parish President

Renny Simno  
Director

August 24, 2018

## ADDENDUM # 1

Bid No.: 50-00123931

Bid Opening Date: September 6, 2018, 2:00 pm

**For: TWO (2) YEAR CONTRACT FOR LUBE OIL ANALYSIS FOR THE JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS - DRAINAGE PUMPING STATION OPERATIONS AND ALL JEFFERSON PARISH AGENCIES AND MUNICIPALITIES**

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- ❖ This addendum hereby provides the Jefferson Parish – Pumping Station’s “Lube Oil Analysis” list referenced in section 1.15 of specifications and is attached hereto.

Sincerely,

Melissa Ovalle

Melissa Ovalle, Buyer II  
Jefferson Parish Purchasing Department

**Bidders must acknowledge all addenda on the bid form. Bidder acknowledges receipt of this addendum on the bid form as indicated. Failure to do so will result in bid rejection.**

This addendum is a part of the contract documents and modifies the original bidding documents and specifications. The contents of this addendum shall be included in the contract documents. Changes made by this addendum shall take precedence over the documents of earlier date.



# JEFFERSON PARISH

Department of Purchasing

Michael S. Yenni  
Parish President

Renny Simno  
Director

September 5, 2018

## ADDENDUM # 2

Bid No.: 50-00123931

Bid Opening Date: September 6, 2018, 2:00 pm  
Postponed Bid Opening Date to: September 18, 2018, 2:00 pm

For: TWO (2) YEAR CONTRACT FOR LUBE OIL ANALYSIS FOR THE JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS - DRAINAGE PUMPING STATION OPERATIONS AND ALL JEFFERSON PARISH AGENCIES AND MUNICIPALITIES

### ❖ CLARIFIATION OF SPECIFICATIONS:

#### QUESTION # 1:

On the first amendment is a list of 95 samples that will be taken for analysis. I understand that this is not a concrete list, and 95 may not be the exact number of samples to be taken. However, I was wondering if you could let me know the frequency that these samples would be tested. I would need this information in order to finish putting together our pricing structure. For example, would it be roughly 95 samples every month, quarter, or year?

#### ANSWER # 1:

- The list provided in addendum #1 is an equipment list which has 95 "oil sample" items to send to "Oil Analysis" firm for analyzing. It is a list of the various engines, gears, and other machinery, for which oil testing is desired.
- Every month, we have an average of 95 "oil sample" items to send out for analysis.

Sincerely,

Melissa Ovalle

Melissa Ovalle, Buyer II  
Jefferson Parish Purchasing Department

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This addendum is a part of the contract documents and modifies the original bidding documents and specifications. The contents of this addendum shall be included in the contract documents. Changes made by this addendum shall take precedence over the documents of earlier date.



# JEFFERSON PARISH

Department of Purchasing

Michael S. Yenni  
Parish President

Renny Simno  
Director

August 24, 2018

## ADDENDUM # 1

Bid No.: 50-00123931

Bid Opening Date: September 6, 2018, 2:00 pm

**For: TWO (2) YEAR CONTRACT FOR LUBE OIL ANALYSIS FOR THE JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS - DRAINAGE PUMPING STATION OPERATIONS AND ALL JEFFERSON PARISH AGENCIES AND MUNICIPALITIES**

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- ❖ This addendum hereby provides the Jefferson Parish – Pumping Station's "Lube Oil Analysis" list referenced in section 1.15 of specifications and is attached hereto.

Sincerely,

Melissa Ovalle

Melissa Ovalle, Buyer II  
Jefferson Parish Purchasing Department

**Bidders must acknowledge all addenda on the bid form. Bidder acknowledges receipt of this addendum on the bid form as indicated. Failure to do so will result in bid rejection.**

**This addendum is a part of the contract documents and modifies the original bidding documents and specifications. The contents of this addendum shall be included in the contract documents. Changes made by this addendum shall take precedence over the documents of earlier date.**

## JEFFERSON PARISH - PUMPING STATION'S "LUBE OIL ANALYSIS" LIST

Pump Station	Engine Type & Number	Model #	Oil Type
<b>EAST BANK</b>			
PUMP STA # 1 BONNABEL	EMD # 3	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	EMD # 4	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	EMD # 5	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	# 1 EMD GENERATOR	12 CYL - 2305 HP (1730 kW)	SHELL CAPRINUS XR 40W
	# 2 CUMMINS GENERATOR	12 CYL - 600 kW	SHELL ROTELLA 15W-40
	# 3 CUMMINS GENERATOR	12 CYL - 1750 kW	VALVOLINE 15W-40
PUMP STA # 2 SUBURBAN	EMD # 1	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	FAIRBANKS MORSE # 2	10 CYL - 2000 HP	SHELL CAPRINUS XR 40W
	WAUKESHA # 4	12 CYL - 760 HP	SHELL ROTELLA 40W
	WAUKESHA # 5	12 CYL - 760 HP	SHELL ROTELLA 40W
	EMD # 7	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	EMD # 8	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	# 1 DETROIT GENERATOR	12 CYL - 1500 kW	SHELL ROTELLA 15W-40
	# 2 CUMMINS GENERATOR	12 CYL - 1750 kW	VALVOLINE 15W-40
	# 3 CUMMINS GENERATOR	6 CYL - 350 kW	SHELL ROTELLA 15W-40
PUMP STA # 3 ELMWOOD	CATERPILLAR # 1	12 CYL - 793 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	CATERPILLAR # 2	12 CYL - 793 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	CATERPILLAR # 3	12 CYL - 1276 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	CATERPILLAR # 4	12 CYL - 1276 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	CATERPILLAR # 5	12 CYL - 1276 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	CATERPILLAR # 6	12 CYL - 1276 HP	MOBIL DELVAC 1300 SUPER 15W - 40
	WAUKESHA # 7	12 CYL - 793 HP	SHELL ROTELLA 40W
	WAUKESHA # 8	12 CYL - 793 HP	SHELL ROTELLA 40W
	EMD # 9	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	EMD # 10	16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
	# 1 DETROIT GENERATOR	6 CYL INLINE - 400 kW	SHELL ROTELLA 15W-40
	# 2 CUMMINS GENERATOR	6 CYL INLINE - 350 kW	SHELL ROTELLA 15W-40
	PUMP STA # 4 DUNCAN	EMD # 3	16 CYL - 3070 HP
EMD # 4		16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
EMD # 5		16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
EMD # 6		16 CYL - 3070 HP	SHELL CAPRINUS XR 40W
# 1 EMD GENERATOR		12 CYL - 2305 HP (1730 kW)	SHELL CAPRINUS XR 40W
# 2 CUMMINS GENERATOR		12 CYL - 1750 HP (1313 Kw)	VALVOLINE 15W-40
PUMP STA # 5 PARISHLINE	# 1 CUMMINS GENERATOR	12 CYL - 1500 kW	SHELL ROTELLA 15W-40
	# 2 CUMMINS GENERATOR	12 CYL - 1500 kW	SHELL ROTELLA 15W-40
	# 3 CUMMINS GENERATOR	6 CYL - 250 kW	SHELL ROTELLA 15W-40

## JEFFERSON PARISH - PUMPING STATION'S "LUBE OIL ANALYSIS" LIST

Pump Station	Engine Type & Number	Model #	Oil Type
<b>WEST BANK</b>			
AMES	EMD GENERATOR#1	12-645E4L	MOBILGARD409NC
	CATERPILLAR GENERATOR #2	3304-01	EXXON XD 3-40
	EMD #3	12-645E4L	MOBILGARD 409NC
OLD BAYOU SEGNETTE	CATERPILLAR #1	#3408	DELVAC-1240
	WAUKESHA #2	F1905 DSU	DELVAC-1240
	WAUKESHA #3	F1905 DSU	DELVAC-1240
	WAUKESHA #4	F1905 DSU	DELVAC-1240
	WAUKESHA #5	F1905 DSU	DELVAC-1240
	CATERPILLAR #6	#3408	DELVAC-1240
NEW BAYOU SEGNETTE	EMD #7	L8645F4B	MOBIL-409
	PHILADELPHIA GEARBOX #7	155HOL-2	TERESSTIC-220
	EMD #8	L8645F4B	MOBIL-409
	PHILADELPHIA GEARBOX #8	155HOL-2	TERESSTIC-220
CATAQUATCHE 1	CATERPILLAR #1	IBF31400	SAE-15W-40
	CATERPILLAR #2	IBF31400	SAE-15W-40
CATAQUATCHE2	CATERPILLAR #1	3508C	SAE-15W-40
	CATERPILLAR #2	3508C	SAE-15W-40
	CATERPILLAR GENERATOR #1	D150-8	SAE-15W-40
COUSINS 1	WAUKESHA #1	L5790DU	DELVAC 1240 SAE40
	WAUKESHA #2	L5790DU	DELVAC 1240 SAE40
	WAUKESHA #3	L5790DU	DELVAC 1240 SAE40
COUSINS 2	EMD #1	16-645F4B	MOBILGARD 409
	EMD #2	16-645F4B	MOBILGARD 409
	DETROIT GENERATOR #1	400RXC8D3T	15W-40
	CATERPILLAR GENERATOR #2	FC24-10-2011U	15W-40
COUSINS 3	EMD #1	12645-E4C	MOBILGARD 409
	EMD #2	12645-E4C	MOBILGARD 409
	DETROIT GENERATOR #1	433PSL6220	15W-40
	DETROIT GENERATOR #2	81203188	15W-40
ESTELLE 1	DETROIT GENERATOR #1	#91637305	EXXON XD-3 -40
ESTELLE 2	CUMMINS GENERATOR #1	DSGAE-1413883	15W-40
	ALLIS CHALMERS GENERATOR #2	100 ODYC-15R/23479J	MOBIL DELVAC 1240

JEFFERSON PARISH - PUMPING STATION'S "LUBE OIL ANALYSIS" LIST

Pump Station	Engine Type & Number	Model #	Oil Type
	GM DETROIT #1	#91637000	MOBIL DELVAC 1240
	GM DETROIT #2	#91637000	MOBIL DELVAC 1240
HARVEY	EMD GENERATOR	16-645E4B	MOBILGARD 409NC
HERO	EMD GENERATOR #1	16-645E4C	MOBILGARD 410NC
	EMD GENERATOR #2	16-645E4C	MOBILGARD 410NC
	EMD PUMP #4	12-645E4B	MOBILGARD 410NC
	EMD PUMP #5	12-645E4B	MOBILGARD 410NC
PLANTERS	KILO-PAK GENERATOR #1	KP150CD5	MOBIL DELVAC 1240
	EMD GENERATOR #2	20-645-E4C	MOBILGARD 409NC
	WALKESHA #1	L5792DSU	MOBIL DELVAC 1240
	WALKESHA #2	L5792DSU	MOBIL DELVAC 1240
	WALKESHA #3	L5792DSU	MOBIL DELVAC 1240
	WALKESHA #4	L5792DSU	MOBIL DELVAC 1240
WESTMINSTER	OLYMPIAN GENERATOR #1	#92460	MOBIL DELVAC SAE 30
	EMD GENERATOR #2	L16-710G4C-T2	MOBILGARD 450NC
	CATERPILLAR GENERATOR #3	#C44	MOBIL DELVAC SAE 30
WEST WEGO 1	WALKESHA #3	L5790DU	XD-3-40
WESTWEGO 2	CUMMINS #1 GENERATOR	NT855G	XD-3-40
	CATERPILLAR #2 GENERATOR	D150-8	15W-40
	WALKESHA #1	L5792DU	EXXON 12-40
	WALKESHA #2	L5792DU	EXXON 12-40
	CATERPILLAR #3	#3512	15W-40
WHITNEY BARATARIA	DETROIT GENERATOR #1	6063HK35	MOBILFLEET 15W-40
	DETROIT GENERATOR #2	6063HK35	MOBILFLEET 15W-40
	EMD PUMP #1	L16-645F4B	MOBILGARD 409
	EMD PUMP #2	L16-645F4B	MOBILGARD 409
	EMD PUMP #3	L16-645F4B	MOBILGARD 409



**TRIBOLOGIK Corporation**  
**General information package**

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## COMPANY PROFILE

Founded in 1984, Tribologik Corporation has over 30 years experience in used oil, coolant, fuel, grease and filter analysis and figures amongst the most experienced oil testing laboratories in North America. Over these years, we have processed millions of tests of all types. Tribologik® – Predictive Maintenance currently has its Canadian head office situated at 6980 Cote De Liesse, Montreal, Quebec H4T 1Y5. Our Canadian office has over 6000 square feet of office space including a 2500 square foot laboratory and 1000 square feet reserved for storage. Tribologik Corporation USA has its head office and laboratory situated at 1212 17nd Street, Hammond, IN 46324. Our USA laboratory is over 2600 square feet, 1350 storage space and 3000 square feet of office. In addition, to servicing our customers on the West Coast as well as South America, Tribologik has affiliated sales offices located in Las Vegas, NV, San Diego CA, and Panama City, Panama.

## SUBCONTRACTORS

All testing, report generation and transmission is performed in house. Subcontractors are generally not used as we have all the necessary trained personnel and equipment for all testing under the contract. Clients are advised should a subcontractor be required to perform specific testing.

## SAMPLE MANAGEMENT SYSTEM

Not only do we have an extensive amount of experience, but we have developed an expert system. This expert system called Tribologik®, contains information from testing data and fixed limits of dozens of maintenance manuals from equipment manufacturers (Cummins, Komatsu, Volvo etc.) and most major global and independent oil manufacturers and distributors including but not limited to Suncor/Petro-Canada, Shell, Exxon Mobil, YPF, AMSOIL, etc. Specific manufacturers' limits for normal, marginal and critical will be provided upon request and are programmed in a customized fashion. We also offer dynamic limits which are based on individual machines tested. Over these 29 years, we have absorbed the factual knowledge of hundreds of maintenance managers, chemists and engineers from all types of equipment. Currently there are over 2,000 rules based on tens of thousands of possibilities compromising the expert system giving uniformity in all reports regardless of who is reviewing them.

Our laboratory is able to evaluate and compare the serviceability of new and used lubricating oils, maintain a history of previous analysis results, and provide comparative analysis containing new product data, and previous sample data, with each analysis report. The Tribologik® database continues to grow with each new test, each new reference oil sample and each newly analysed piece of equipment, and it includes results of the comments and discussions with the maintenance managers/engineers of our clients. It is this combination of data, limits, rules and algorithms that build up the core and architecture of the expert system that we have developed throughout these years and that possesses the capability of generating our unique fluid analysis reports.

\* Please note that should the client wish to have their own flagging limits programmed this can be done simply by submitting them. Limits can be specific to individual units, models or can be generalized to the entire fleet as required.

Unlike the most competent chemists and engineers, our expert system can work 24 hours a day and continue issuing consistent reports without ever being sick or exhausted. Nevertheless, we still verify each and every report through our qualified team of lubricant experts. For this contract we will have 2 key personnel assigned to oversee the release of information (Program Manager and Senior Laboratory Data Analyst).

## THE REPORT

Tribologik's reports are unique in the world (please see attached example). Our reports contain a slew of information that other labs cannot provide on an ongoing basis. Each and every report generated is unique and specific to the machine at hand. Our system takes into account a number of factors when interpreting sample data including (trending history, manufacturer specifications and recommendations, run time on equipment, operation climate, reference oil etc). We not only provide RECOMMENDATIONS (unique per machine) but we also provide the LOGIC which explains how we derived our recommendations. In the MISC section of the report, the system may ask questions to the end user in order to improve interpretation and narrow it further (ex. Runtime, temperature or oil type and grade questions). Our reports also separate the MACHINE condition as well and the LUBRICANT condition which helps the client to quickly determine the issue with the equipment. Our reports also contain trending graphs (standard as well as customized options) after the 4th sample time. Finally, in the sample history section of the report, when accessed through the secure client portal, there are links to the last 10 reports for the specific machine. This eliminates the need to print reports or archive them.

\*\*Please see attached example report

## TESTING CAPABILITIES

Tribologik-Predictive Maintenance operates all the latest laboratory instruments for fluid analysis and complies with all **ASTM and ISO 17025** requirements. Most of our instruments (in Canada) are 5 years old or less. They are equipped with auto-samplers (when available) in order to minimize human errors and maximize productivity and capacity. For our USA laboratory, all testing equipment has been purchased new (2014 models).

\*Should a detailed list of our laboratory equipment please contact the undersigned.

At Tribologik, each main testing instrument has its own back-up. In most cases, the back-up instrument will be an exact replica of the primary one: same model, same manufacturer. Therefore Tribologik will be able to conduct testing on a continuous basis in case of failure.

Our Canadian Laboratory currently has the capability of processing approximately 208,000 samples/year (approximately 4000 samples per 5 day week or 800 samples per day). Currently we are running on the average at 70% capacity. Our USA laboratory has even greater capabilities and will have no issues of processing all your requirements on a daily basis.

For a list of tests we perform please see our website:

<http://www.tribologik.com/predictive.php?section=TESTING>

**RE-DO's:** At the time of verification by the lubricant expert, if results appear to be doubtful for any reason, the tests are sent for re-do at no cost or delay. Therefore, all released reports/data are of the highest quality.

## STORAGE OF SAMPLES

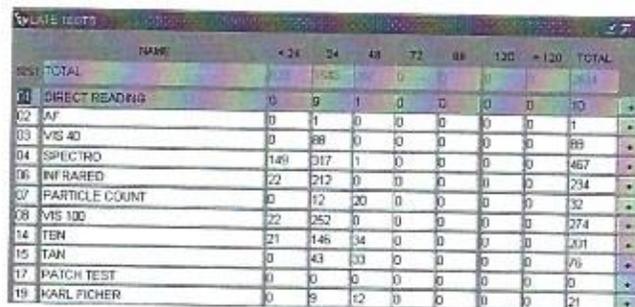
Immediately behind the laboratory is a storage area (approx 1700 square feet) with racks and bins which we place the samples in order of laboratory number for the required number of days under the contract solicitation. This practice is standard for all clients. We have place for thousands of bottles. Upon request of a retest, we will locate the laboratory number (using the client's identifier in our system) and we will retrieve the bottle from the storage area.

## PROCESS AND QUALITY CONTROL

In addition to ISO 17025 certification requirements, Tribologik has developed its own unique internal quality control procedures. Prior to entry into the lab, samples undergo verification by our reception department. A clerk will open the shipping containers, count the number of bottles and indicate the amount on a reception form. Samples are then placed in a bin by shipping batch per client. After, a separate clerk will search in our system for the client's identification on the bottle and cross reference our associated machine number in order to ensure a proper trending. Samples that are not clearly identified or do not match the previously entered system information are sent to the contract liaison to contact the client for clarification. Once samples are properly identified, they are sent to a third reception clerk who enters the samples into the system and assigns a sequential laboratory number and placed in bins in batches of 50 lab numbers.

Complete bins are carried into the laboratory and placed on racks in sequential order for testing. When samples are in the lab they are strictly tested following ASTM and ISO guidelines.

Our laboratory has multiple trained laboratory technicians who run various tests independently at multiple stations throughout the lab (thus enabling many samples to be run at the same time for the different test slates). All technicians are checked on every test run at Tribologik so they can replace coworkers in the event of absence. The results of the tests upon completion and technician approval are automatically transferred to our central system for compilation, report generation, interpretation and release. This automation of results transfer greatly cuts down on time and error. As results are transferred, a live tracking list is updated so technicians and management can ensure a timely reporting of results.



TEST	TOTAL	NAME	< 24	24	48	72	96	120	> 120	TOTAL
01	DIRECT READING		0	9	1	0	0	0	0	10
02	AF		0	1	0	0	0	0	0	1
03	VIS 40		0	88	0	0	0	0	0	88
04	SPECTRO		149	317	1	0	0	0	0	467
06	INFRARED		22	212	0	0	0	0	0	234
07	PARTICLE COUNT		0	12	20	0	0	0	0	32
08	VIS 100		22	252	0	0	0	0	0	274
14	TEN		21	146	34	0	0	0	0	171
15	TAN		0	43	33	0	0	0	0	76
17	PATCH TEST		0	0	0	0	0	0	0	0
19	KARL FISHER		0	9	12	0	0	0	0	21

\*Please note the above is an example and does not contain all of our tests.

Not only are each of our instruments calibrated on a daily basis (and frequently intraday), but we maintain the integrity of our testing through 2 quality control procedures, consisting of a Standard Quality testing and a Duplicate Quality testing:

The Standard Quality (SQ): is a method of quality control consists in conducting a known standard at the beginning, interval and end of the current batch. If the standard results generated deviates beyond statistical norms, the laboratory instrument is recalibrated, and the entire batch of tests conducted in the interval between standards is redone.

The Duplicate Quality (DQ) control process: the Tribologik® system uses statistical analysis to generate orders throughout the day to repeat random client tests. If the duplicate test results deviate from the original test, the instrument is reset and the entire batch of tests between those intervals is repeated. Tribologik Corporation has been a member of the Alberta Research Council since its inception in 1984 (under the Canadian Corporate name of Predictive Maintenance Corp) and continues to exchange knowledge within this group on a regular basis. The Alberta Research project constitutes Tribologik Corporation / Predictive Maintenance Corporations' participation in laboratory round robin testing. Tribologik Corporation also is an active member of the ASTM round robin testing society.

## ISO CERTIFICATION:

Tribologik/Predictive Maintenance Corporation is ISO 17025 Certified; please see attached certificate for reference. Please note that ISO 17025 encompasses all of the requirements of 9000 certifications as well as additional laboratory specific requirements.

## REPORT RETRIEVAL / ONLINE OIL TESTING MANAGEMENT SYSTEM

Reports are available the same day that the testing is completed on the client portal. Any project coordinator / manager can access the data electronically via an administrator access or limited read only access. The site is protected by user name and password such that others cannot retrieve the Customer's data. A master login can be created for management as well as user login accounts for specific locations.

\*Please note all data is backed up on 3 external encrypted hard drives that go to three different locations. In the event of a data loss on our main servers each of the external hard drives serves as a separate backup. Therefore, clients can be assured the protection of their data.

Each test report (please see attached example) will also be immediately e-mailed upon release to the designated project coordinator or contact person (s) in each location (and to them only) as listed in the "Add plant" section of the Tribologik® web site. Should the client not wish to receive all reports by e-mail, Marginal / Critical reports can be filtered and e-mailed alone. Reports can be archived and archived reports can be retrieved by Machine Name, Report Date and Severity Level report number, name, date, machine condition, lubricant condition. In addition, clients can manipulate graphics and view specific trending on demand via the client portal.

\*Please use the following username and password for a demo version of the client portal at our website [www.tribologik.com](http://www.tribologik.com) – USERNAME: pmc1 PASSWORD: demoeng. Should any member of the evaluation team desire a demonstration please contact the undersigned.

If data is sent in XML format, a batch file will be created daily (or as required by the contract authorities).

Please note that reports and/or XML data can be e-mailed and retrieved by as many authorized individuals requested, and then the reports including icons, will be provided to those individuals whose e-mail addresses have been entered by the Customer on Tribologik's online oil analysis management system. Names may be changed/updated at anytime by Customer's authorized personnel and reports will be automatically e-mailed to the new individuals. Reports can be split according to location as desired. In addition, each site can receive a login for their location which will enable location to view only pertinent machines. An admin login can be created which will give access to all sites via a customer "tree".

As described above (Report Retrieval), Tribologik® allows for simple, effective, user controlled online testing management. With 24/7 secure access via a dedicated user name and password clients can be confident the information they need can always be accessed in the individualistic way they need. In the "results" section there are several features which allow for easy searching of reports by date range, severity level, name etc. In addition, under the "data and graph section"; clients have the ability to look up and create the trending/graphics they desire by test/element per machine.

Under the "History" clients can view their entire fleet at a glance. This section shows the number of days since the last time a machine was sampled, its previous LUBRICANT condition as well as its previous MACHINE condition. Under this section, clients can also download an Excel file containing all this information as well as the raw test data.

## IDENTIFICATION LABELS

Via the online client portal, pre-completed labels with barcodes can easily be printed (with all pertinent information such as number, oil type date of sample etc). Simply click the "print labels" tab and select the desired equipment from the list (if equipment has never been tested, it can be created through the portal or by sending an Excel spreadsheet). Multiple labels and pieces of equipment can be printed at the same time. Several label formats are available online including (Avery, Zebra, Dymo etc).

Should any client wish to have labels that have their facility location, client ID number as well as other standard non unit specific information required printed on them this can also be done simply by clicking the "blank labels" tab.

\*Please note, label formats can be customized to the specific requirements of each client (ie lines can be added or removed, boxes can be added or removed etc).

### **SPREADSHEET / SUMMARY REPORTS**

If the clients desire, they can easily retrieve spreadsheets which contain all historical data and/ or machine lists and conditions. For examples of the different types of spreadsheets available please contact the undersigned.

Monthly summary reports with customized information can be automatically sent to authorized individuals. These reports will contain information such as; number of re-tests (first and second results), dates and batch size of samples as well as their locations etc.

\*Above are just a few examples of Tribologik's capabilities and we invite you to browse our web site <http://www3.tribologik.com/?lang=en> and login as a guest with user name: pmc1 and password: demoeng to view additional features illustrating the Tribologik® expert system and automated laboratory management system.

### **EXTENDED INTERVAL AND OTHER STUDIES AND TRAINING**

In addition to standard testing for the monitoring of equipment, we have performed numerous studies for oil change over intervals and quality checking. For General Electric and Canadian Pacific Railway we have successfully helped these corporations extend the life of their oil by 100% (i.e. instead of changing a complete locomotive's engine oil every 90 days it is currently around 180 days) saving them millions in oil expenses. Another example is of a current study for TriMet (Portland, OR bus fleet). We have selected a test percentage of their fleet and are now closely monitoring the oil quality and machine condition in a separate "plant" in an effort to add thousands of miles to their oil change over. These test bus reports are sent separately from the mainstream reports and are added to an excel study file for analysis.

Our laboratory director Dr Zidoune, can be available for online training sessions for various in-depth topics as well as one of our dedicated research chemists.

For more information please contact the undersigned.

#### **SHIPPING AND ORDERS**

Shipping will be via the best method per the contract. Currently either UPS or FedEx picks up samples from East and West Bank every month and delivers them to the lab. Pre-completed waybills from the courier are sent as well as free shipping boxes can be provided.

Orders and quotes can be completed online through the client portal. Once an order is received it is generally shipped within 24 hours. Orders can also be placed by e-mail if desired.

\* Please note that the order screen can be customized to show only desired packages and is available in multiple languages.

## **LABORATORY AND OTHER PERSONNEL**

Tribologik-Predictive Maintenance Corporation laboratories currently employ 4 chemists / chemical engineers and 12 technicians on a full time basis. Our business hours are Monday to Friday, from 07:30 to 18:00 EST in Canada and 07:30 to 20:00 CST in the USA.

All our technicians have been trained to perform a wide range of oil, coolant, fuel and grease tests, including but not limited to Spectroscopy, Viscosity, FTIR, Karl Fischer, TAN-TBN, Gas Chromatography and any other oil, coolant and special tests requested by the Contractor.

### **Key Personnel:**

The Director of the laboratory is Dr. Moussa Zidoune, Ph.D. Chemist; Dr Zidoune has 15 years experience in chemistry, in Canada, Europe and in the USA, including laboratory management, quality control, research and development, etc. Dr Zidoune has been in charge of Tribologik's laboratory since 2008. Dr Zidoune is a recognized member of ICML and has the status of MLA II.

### **IT and Other Departments**

At Tribologik, we employ 4 full time specialists to manage our extensive system. The department is headed by Arezki Ould-Amer B/Sc Computer Engineering, with over 15 years experience working with Tribologik & Predictive Maintenance.

Reception and assignment of lab numbers will be handled by our reception department which consists of 3 clerks in the USA.

The central point of contact for this contract will be Mr. Nicholas Reich. He will act as a liaison between the different departments of Tribologik. Mr. Reich has been with Tribologik since 2004 and has filled several different rolls in the company prior to his current position. Mr. Reich is a recognized member of the ICML and has the MLA II designation.

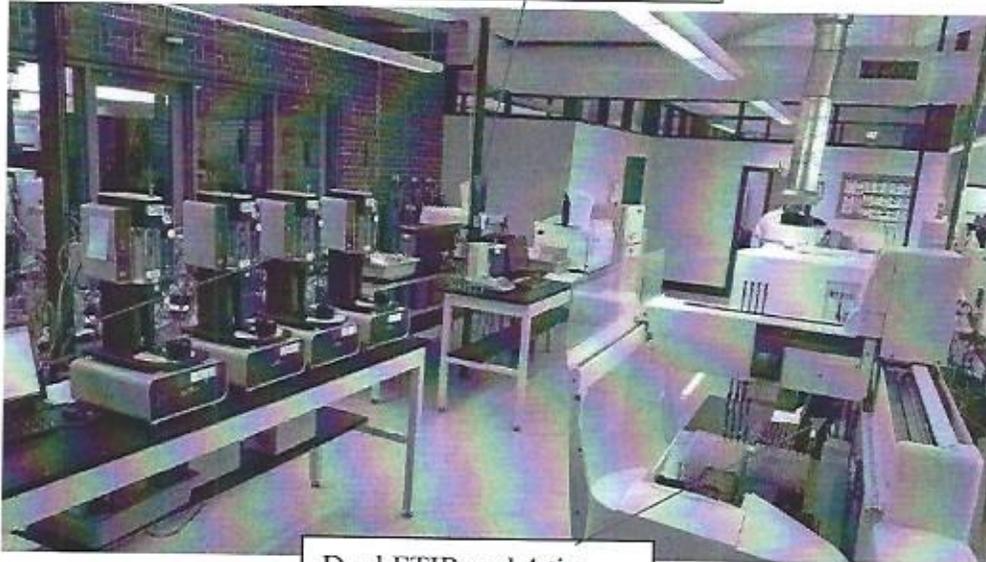
Finally, we also have a dedicated R&D department that has extensive experience in performing specialized studies. Some of these studies include extended oil life, optimal usage etc.

## **LABORATORY EQUIPMENT**

Further adding to our capabilities is our continuous improvements to the laboratory assets. We are constantly upgrading and acquiring new modern equipment in order to better serve our clients. An example of this is our purchase last month of a Perkin Elmer Dual FTIR system. This allows two samples at a time to be scanned instead of one effectively doubling the speed and capacity of our instrument. Below is a picture of one section of our lab demonstrating what our equipment looks like\*:

**TRIBOLOGIK®**  
Your Equipment's Best Friend!

Gas Chromatographs with  
auto-samplers (X 2)



Fully  
Automated  
viscometers (X  
6)

ICP  
Spectrometers (X  
2)

Dual FTIR and 4 tip  
diluter

\* Please note the above image is just 1 section of the lab and does not show all of our instrumentation. It is intended as an informational demonstration only.

\* Please see attached detailed equipment listing

  
Nicholas Reich – MLA II  
VP Sales & Marketing  
nreich@tribologik.com  
USA: 312-800-2888 Ext. 40



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
8/31/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> <b>PAMPALONE INSURANCE AGENCY INC</b> 6695 Broadway Merrillville, IN 46410-3549		<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): <b>(219) 736-6000</b> FAX (A/C, No): <b>(219) 769-6357</b> E-MAIL ADDRESS: <b>bfavia@pampaloneinsurance.com</b>	
<b>INSURED</b> <b>Tribologik Corporation</b> 1212 172nd Street Hammond, IN 46324		<b>INSURER(S) AFFORDING COVERAGE</b> INSURER A: <b>The Cincinnati Insurance Company</b> INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:	

COVERAGES      CERTIFICATE NUMBER:      REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> <b>COMMERCIAL GENERAL LIABILITY</b> <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOG OTHER:	Y		EPP 0241840	04/01/18	04/01/19	EACH OCCURRENCE \$ <b>1,000,000</b> DAMAGE TO RENTED PREMISES (Ea occurrence) \$ <b>500,000</b> MED EXP (Any one person) \$ <b>10,000</b> PERSONAL & ADV INJURY \$ <b>1,000,000</b> GENERAL AGGREGATE \$ <b>2,000,000</b> PRODUCTS - COMP/OP AGG \$ <b>2,000,000</b> \$
A	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANYAUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	Y		EBA 0241840	04/01/18	04/01/19	COMBINED SINGLE LIMIT (Ea accident) \$ <b>1,000,000</b> BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> <b>UMBRELLA LIAB</b> <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED    RETENTION \$			EPP 0241840	04/01/18	04/01/19	EACH OCCURRENCE \$ <b>2,000,000</b> AGGREGATE \$ \$
A	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N	N/A	EWC 0241842 (Indiana)	04/01/18	04/01/19	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ <b>500,000</b> E.L. DISEASE - EA EMPLOYEE \$ <b>500,000</b> E.L. DISEASE - POLICY LIMIT \$ <b>500,000</b>

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)  
**Jefferson Parish, its Districts, Departments and Agencies under the direction of the Parish President and the Parish Council is named as an additional insured for the vendor's general and automobile liability policies when required by written contract.**

<b>CERTIFICATE HOLDER</b> Jefferson Parish Drainage Department 1221 Elmwood Park Boulevard Suite 908 Jefferson, LA 70123	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	--

<b>CUSTOMER:</b>	<b>JEFFERSON AMES #27</b>	<b>Machine Condition</b> <h1>NORMAL</h1>
<b>PLANT:</b>	<b>AMES #27</b>	
<b>MACHINE NAME:</b>	<b>EMERGENCY GENERATOR 1</b>	
<b>LOCATION:</b>		
<b>MACHINE TYPE:</b>	<b>DIESEL GENERATOR ENGINE</b>	
<b>LUBE TYPE:</b>	<b>MOB MOBILGARD 450 NC</b>	
<b>MACH MFR:</b>	<b>EMD</b>	
<b>MACH MOD:</b>	<b>MODEL 12-645-E4C</b>	
<b>RECEIVED:</b>	<b>02-JAN-18</b>	
<b>CONTACT 1:</b>	<b>VUONG NGUEN</b>	
<b>REPORT:</b>	<b>04-JAN-18 09:55:37</b>	<b>Lubricant Condition</b> <h1>MARGINAL</h1>
<b>SAMPLE NO:</b>	<b>1724-1-3-77</b>	
<b>PO NUMBER:</b>	<b>5000118021</b>	

**RECOMMENDATIONS**

- Locate and eliminate the source of water entry and resample.

**LOGIC**

- Viscosity level determined at 100 degree C is normal.

**MISCELLANEOUS**

- Lubricant refers to oil, fuel, biofuel, grease, coolant or varnish.
- The hours on lube: calculated based on 168 hr/wk.
- Our database indicates no site contaminant for this unit.
- Tank capacity 220 gallon(s).

**SAMPLING HISTORY**

LabNo	SAMPLE DATE MM-DD-YYYY	TIME ON OIL / TSN	TIME SINCE OVER- HAUL / TSO	OIL CHANGED (Y/N)	PREVIOUS CONDI- TION MACH/OIL
2348058	12-19-2017	4439	5762	N	(n/a)
2338933	11-29-2017	3959	5282	N	N/N
2329890	10-24-2017	3095	4418	N	N/N
2318067	09-25-2017	2399	3722	N	N/N
2307911	08-25-2017	1655	2978	N	N/M
2300668	07-28-2017	983	2306	N	N/N
2292787	06-26-2017	215	1538	N	N/M
2280014	05-25-2017	9333	9295	N	N/N
2270085	04-25-2017	8613	8575	N	N/N
2259166	03-24-2017	7845	7807	N	N/N

EMERGENCY GENERATOR 1

**(SP) SPECTROSCOPIC ANALYSIS [ASTM D5185] (elements seen in ppm)**

 TESTED ELEMENTS ARE: Fe, Cu, Pb, Sn, Cr, Al, Ni, Ti, Ag, V, Mg, Si, B, Na, Ba, Ca, P, Mn, Zn, Mo, Cd, K  
 \* elements below detection limit are not displayed on table

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
Fe-IRON	14	12	13	14	13	12	12	11	2.0
Cu-COPPER	7.0	7.0	6.0	7.0	7.0	7.0	6.0	6.0	-
Pb-LEAD	5.0	3.0	2.0	-	-	2.0	-	2.0	3.0
Sn-TIN	-	1.0	-	2.0	1.0	1.0	1.0	1.0	-
Al-ALUMINIUM	2.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0
Cr-CHROMIUM	2.0	2.0	2.0	3.0	2.0	1.0	2.0	1.0	-
Ni-NICKEL	-	-	-	1.0	-	-	-	-	-
Mo-MOLYBDENUM	-	1.0	-	1.0	1.0	-	-	-	-
Si-SILICON	5.0	4.0	4.0	5.0	5.0	3.0	5.0	4.0	10
Mg-MAGNESIUM	15	15	16	16	19	12	39	11	12
B-BORON	-	2.0	1.0	-	-	-	1.0	-	-
Na-SODIUM	5.0	-	4.0	-	-	-	-	-	-
Ca-CALCIUM	5328	5225	5654	6250	5889	5630	5537	4783	4922
P-PHOSPHORUS	6.0	5.0	6.0	4.0	5.0	1.0	34	2.0	1.0
Zn-ZINC	7.0	7.0	9.0	7.0	8.0	4.0	45	3.0	3.0

**(FTIR) FOURIER TRANSFORM INFRARED ANALYSIS (Absorbance)**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
AW/EP	14	13	13	13	13	13	13	13	11
OXIDATION	11	10	11	10	10	10	10	10	8
SULFATE	19	18	19	18	19	18	19	18	16
NITRATION	10	9	10	10	10	9	10	10	7
GLYCOL	1	1	1	1	1	1	1	1	1
WATER	26	24	26	25	27	26	29	26	16

**VISCOSITY/100 [ASTM D445]**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
in cSt 100°C	14.24	14.27	14.36	14.50	14.49	14.55	14.41	14.35	13.50

**TBN [ASTM D4739] (mg KOH/g)**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
TOTAL BASE NO	11.29	9.06	9.20	8.34	8.46	8.83	8.38	8.67	-

**HOT PLATE (%)**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
WATER	0.10	< 0.1	< 0.1	< 0.1	0.10	< 0.1	0.10	< 0.1	-

**FUEL(%)**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
FUEL	N	N	N	N	N	N	N	N	-

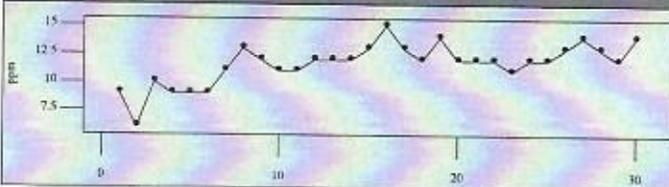
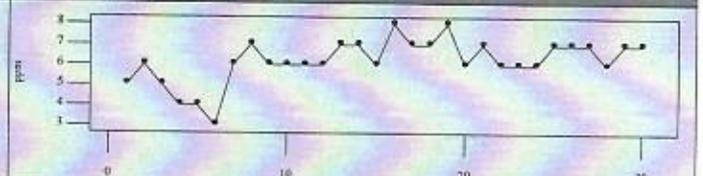
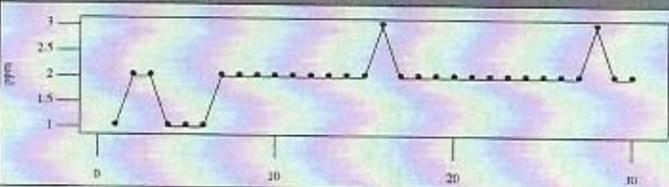
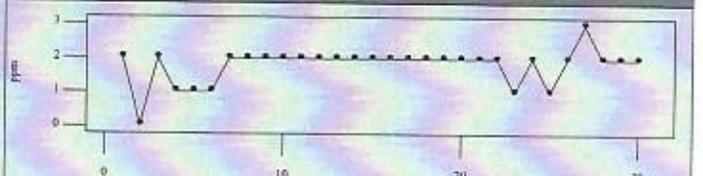
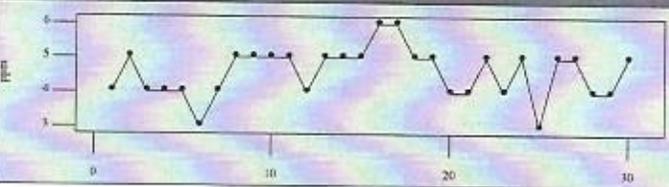
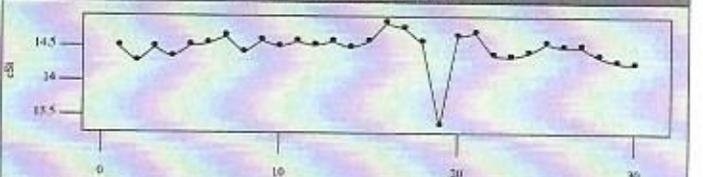
EMERGENCY GENERATOR 1

**SAE VISCOSITY GRADE**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
SAE viscosity grade	40	40	40	40	40	40	40	40	-

**TOTAL SOLIDS [ASTM D4055]**

Date(MM/DD/YY)	12-19-17	11-29-17	10-24-17	09-25-17	08-25-17	07-28-17	06-26-17	05-25-17	REF
Labno	2348058	2338933	2329890	2318067	2307911	2300668	2292787	2280014	691262
Solids (%)	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	-

**Fe-SPECTRO**

**Cu-SPECTRO**

**Al-SPECTRO**

**Cr-SPECTRO**

**Si-SPECTRO**

**VISCOSITY/100 [ASTM D445]**


JEFFERSON AMES #27 assumes sole responsibility for the total copy, reproduction, application of and reliance upon results and recommendations reported by Predictive Maintenance Corporation, whose obligation is limited to good faith performance. Fixed limits programmed according to laboratory or client specifications. Report released under authority of employee number 1026.

<b>CUSTOMER:</b>	<b>JEFFERSON NEW BAYOU SEGNETTE</b>	
<b>PLANT:</b>	<b>NEW BAYOU SEGNETTE</b>	
<b>MACHINE NAME:</b>	<b>PUMP MAIN GEAR 7 S/N 151851</b>	<b>Machine Condition</b>  <b>NORMAL</b>
<b>LOCATION:</b>		
<b>MACHINE TYPE:</b>	<b>GEARBOX</b>	
<b>LUBE TYPE:</b>	<b>ESS TERESSTIC 220</b>	
<b>MACH MFG:</b>	<b>PHILADELPHIA GEAR</b>	
<b>MACH MOD:</b>		
<b>RECEIVED:</b>	<b>08-AUG-18</b>	<b>Lubricant Condition</b>  <b>NORMAL</b>
<b>CONTACT 1:</b>	<b>VUONG NGUEN</b>	
<b>REPORT:</b>	<b>10-AUG-18 12:28:20</b>	
<b>SAMPLE NO:</b>	<b>1722-1-3-86</b>	
<b>PO NUMBER:</b>	<b>5000118021</b>	

## RECOMMENDATIONS

- Continue normal operation and regular sampling.

## MISCELLANEOUS

- Lubricant refers to oil, fuel, biofuel, grease, coolant or varnish.
- The hours on lube: calculated based on 168 hr/wk.
- Our database indicates no site contaminant for this unit.
- Tank capacity 45 gallon(s).

## SAMPLING HISTORY

LabNo	SAMPLE DATE MM-DD-YYYY	TIME ON OIL / TSN	TIME SINCE OVER- HAUL / TSO	OIL CHANGED (Y/N)	PREVIOUS CONDI- TION MACH/OIL
2421921	07-30-2018	54379	54379	N	(n/a)
2410549	06-18-2018	53371	53371	N	N/N
2400531	05-29-2018	52891	52891	N	N/N
2390274	04-24-2018	52051	52051	N	N/N
2377577	03-12-2018	51019	51019	N	N/N
2368856	03-05-2018	50851	50851	N	N/N
2359095	01-25-2018	49915	49915	N	N/N
2348046	12-19-2017	49027	49027	N	N/N
2338920	11-28-2017	48523	48523	N	N/N
2329879	10-25-2017	47707	47707	N	N/N

**(SP) SPECTROSCOPIC ANALYSIS [ASTM D5185] (elements seen in ppm)**

 TESTED ELEMENTS ARE: Fe, Cu, Pb, Sn, Cr, Al, N, Ti, Ag, V, Mg, Si, B, Na, Ba, Ca, P, Mn, Zn, Mo, Cd, K \*  
 \* elements below detection limit are not displayed on table

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
Fe-IRON	8.0	16	15	13	15	19	10	18	-
Cu-COPPER	2.0	2.0	2.0	1.0	2.0	2.0	3.0	2.0	-
Pb-LEAD	-	-	-	-	-	-	-	2.0	-
Sn-TIN	-	1.0	1.0	1.0	2.0	-	-	-	-
Ni-NICKEL	-	1.0	-	-	-	-	-	1.0	-
Mo-MOLYBDENUM	1.0	-	1.0	-	1.0	-	-	-	-
Si-SILICON	3.0	3.0	5.0	3.0	2.0	3.0	2.0	3.0	2.0
Mg-MAGNESIUM	3.0	7.0	3.0	6.0	8.0	4.0	43	4.0	-
B-BORON	-	1.0	1.0	1.0	1.0	1.0	2.0	-	-
Na-SODIUM	7.0	11	2.0	3.0	10	9.0	7.0	10	-
Ca-CALCIUM	55	8.0	-	10	6.0	-	4.0	6.0	-
P-PHOSPHORUS	56	71	67	55	71	74	109	76	9.0
Mn-MANGANESE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-
Zn-ZINC	116	149	142	117	146	157	195	163	-
Cd-CADMIUM	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-

**(FTIR) FOURIER TRANSFORM INFRARED ANALYSIS (Absorbance)**

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
AW/EP	10	10	10	10	9	10	10	11	-
OXIDATION	4	4	4	4	3	4	4	4	-
SULFATE	13	12	12	12	11	12	12	13	-
NITRATION	4	4	4	4	3	4	4	4	-
GLYCOL	1	1	1	1	1	1	1	1	-
WATER	4	5	4	5	4	4	4	5	-

**VISCOSITY/40 [ASTM D445]**

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
in cSt 40°C	226.00	225.00	225.00	227.00	227.00	228.00	227.00	226.00	220.00

**VISCOSITY/100 [ASTM D445]**

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
in cSt 100°C	19.28	19.58	19.86	18.39	18.50	18.93	19.36	19.04	18.30

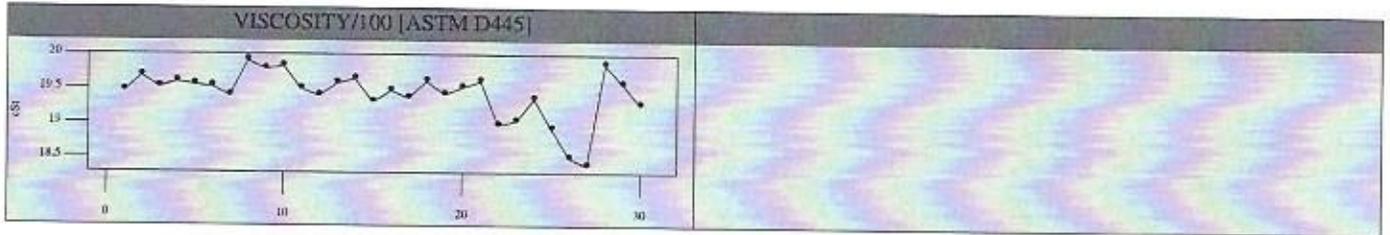
**TAN [ASTM D974 OR D664] (mg KOH/g)**

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
TOTAL ACID NO	0.40	0.39	0.39	0.38	0.40	0.39	0.42	0.40	-

**HOT PLATE (%)**

Date(MM/DD/YY)	07-30-18	06-18-18	05-29-18	04-24-18	03-12-18	03-05-18	01-25-18	12-19-17	REF
Labno	2421921	2410549	2400531	2390274	2377577	2368856	2359095	2348046	771860
WATER	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	-





JEFFERSON NEW BAYOU SEGNETTE assumes sole responsibility for the total copy, reproduction, application of and reliance upon results and recommendations reported by Predictive Maintenance Corporation, whose obligation is limited to good faith performance. Fixed limits programmed according to laboratory or client specifications. Report released under authority of employee number 1026.



<b>CUSTOMER:</b>	<b>JEFFERSON NEW BAYOU SEGNETTE</b>
<b>PLANT:</b>	<b>NEW BAYOU SEGNETTE</b>
<b>MACHINE NAME:</b>	<b>DRUM SAMPLE ENGINE 7</b>
<b>LOCATION:</b>	
<b>MACHINE TYPE:</b>	<b>REFERENCE LUBRICANT</b>
<b>LUBE TYPE:</b>	<b>MOB MOBILGARD 409 NC</b>
<b>MACH MFR:</b>	<b>N/A</b>
<b>MACH MOD:</b>	<b>NOT APPLICABLE (N/A)</b>
<b>RECEIVED:</b>	<b>22-DEC-16</b>
<b>CONTACT 1:</b>	<b>VUONG NGUEN</b>
<b>REPORT:</b>	<b>28-DEC-16 12:52:33</b>
<b>SAMPLE NO:</b>	<b>1722-1-5-2</b>
<b>PO NUMBER:</b>	<b>5500014664</b>

REFERENCE LUBRICANT.

SAMPLING HISTORY					
LabNo	SAMPLE DATE MM-DD-YYYY	TIME ON OIL / TSN	TIME SINCE OVER- HAUL / TSO	OIL CHANGED (Y/N)	PREVIOUS CONDI- TION MACH/OIL
2228230	12-12-2016	22815	22815	N	(n/a)
985754	06-17-2014	999	999	N	X/X

(SP) SPECTROSCOPIC ANALYSIS [ASTM D5185] (elements seen in ppm)

TESTED ELEMENTS ARE: Fe, Cu, Pb, Sn, Cr, Al, Ni, Ti, Ag, V, Mg, Si, B, Na, Ba, Ca, P, Mn, Zn, Mo, Cd, K.									
Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	-
Labno	2228230	985754							
Fe-IRON	10	1.0							-
Cu-COPPER	25	-							-
Pb-LEAD	10	-							-
Sn-TIN	7.0	-							-
Al-ALUMINUM	2.0	-							-
Cr-CHROMIUM	1.0	-							-
Mo-MOLYBDENUM	53	70							-
Si-SILICON	4.0	-							-
Mg-MAGNESIUM	12	6.0							-
B-BORON	1.0	-							-
Na-SODIUM	11	-							-
Ca-CALCIUM	3970	3635							-
P-PHOSPHORUS	51	72							-
Zn-ZINC	5.0	-							-

DRUM SAMPLE ENGINE 7

EXPERT LUBRICANT ANALYSIS TO MONITOR EQUIPMENT HEALTH

(FTIR) FOURIER TRANSFORM INFRARED ANALYSIS (Absorbance)

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	-
Labno	2228230	985754							
SOOT	6	0							-
AW/EP	12	11							-
OXIDATION	10	7							-
SULFATE	17	13							-
NITRATION	8	5							-
GLYCOL	1	1							-
FUEL/DILUTION	234	236							-
WATER	16	12							-

SOOT (%)

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	-
Labno	2228230	985754							
SOOT (%)	0.16	0.00							-

VISCOSITY/100 [ASTM D445]

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
in cSt 100°C	15.20	14.57							

TBN [ASTM D4739] (mg KOH/g)

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
TOTAL BASE NO	9.37	11.48							

HOT PLATE (%)

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
WATER	< 0.1	< 0.1							

FUEL(%)

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
FUEL	N	N							

SAE VISCOSITY GRADE

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
SAE viscosity grade	40	40							

TOTAL SOLIDS [ASTM D4055]

Date(MM/DD/YY)	12-12-16	06-17-14	(n/a)						
Labno	2228230	985754							
Solids (%)	< 0.2	< 0.2							

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<b>CUSTOMER:</b>	<b>ABC CLIENT</b>
<b>PLANT:</b>	<b>GENERATOR ROOM 1</b>
<b>FUEL:</b>	20000 GALLON UST
<b>LOCATION:</b>	CHICAGO
<b>FUEL TYPE:</b>	ULS #2 DIESEL FUEL
<b>MANUFACTURER:</b>	
<b>RECEIVED:</b>	21-JUN-17
<b>CONTACT 1:</b>	JOHN SMITH
<b>REPORT:</b>	23-JUN-17 12:21:36
<b>SAMPLE NO:</b>	2713-8-1-2
<b>PO NUMBER:</b>	PO123

**Fuel Condition**
**NON-COMPLIANT**

## NOTE

• The sample does not comply with ASTM D975 due to very high contents of sulfur, ash, particle count, water and sediment.

**VISUAL INSPECTION (PMC)**

Labno	SAMPLE DATE MM-DD-YY	COLOR	ODOR	CLARITY	PRECIPITATE
1097714	02-09-16	Red	Good, acceptable		Significant / severe
1092579	01-08-16	Red	Good, acceptable	Clear	None

**(SP) SPECTROSCOPIC ANALYSIS [ASTM D5185] (elements seen in ppm)**

TESTED ELEMENTS ARE: Fe, Cu, Pb, Sn, Cr, Al, Ni, Ti, Ag, V, Mg, Si, B, Na, Ba, Ca, P, Mn, Zn, Mo, Cd, K.

Date (MM/DD/YY)	02-09-16	01-08-16	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	REF
Labno	1097714	1092579							
Fe-IRON	3.0	-							-
Mo-MOLYBDENUM	-	1.0							-
Na-SODIUM	2.0	-							-
Ca-CALCIUM	1.0	1.0							-
P-PHOSPHORUS	1.0	1.0							-
Zn-ZINC	1.0	-							-

Date(DD/MM/YY)	09-02-16	SPEC.
Labno	1097714	
VISCOSITY /40 [ASTM D445] in cSt 40°C	2.73	1.9-4.1
WATER KARL FISHER (%)	0.028	0.02 MAX
FLASH POINT CLOSED CUP [ASTM D93]	61°C	52°C MIN
DENSITY [ASTM D1298]	0.843	-
DISTILLATION		
Initial Boiling Point (°C)	170	-
10% Recovered (°C)	212	-
50% Recovered (°C)	269	266 TYPICAL
90% Recovered (°C)	338	282-338
Final Boiling Point (°C)	-	-
Total Recovered (°C)	-	-
Residue (%)	-	-
API GRAVITY [ASTM D287]	36.35	34-38
SULFUR in ppm	20	15 MAX
CETANE INDEX	50	40 MIN
POUR POINT [ASTM D97], °C		-
CLOUD POINT [ASTM D2500], °C	-14	-
COPPER CORROSION [ASTM D130]	1a	3
ASH (%) [ASTM D482]	0.090	0.01 MAX
WATER AND SEDIMENT (%)	0.70	0.05 MAX

(PC) PARTICLE COUNT [ISO 4406] (/ml) ISO 4/6/14µmicron									
Date(MM/DD/YY)	02-09-16	01-08-16	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	(n/a)	REF
Labno	1097714	1092579							
> 4µ	12490	9653							-
> 6µ	3082	1364							-
> 14µ	83	97							-
> 25µ	7.0	13							-
> 50µ	0.0	0.0							-
> 100µ	0.0	0.0							-
ISO 4406(1999)	21/ 19/ 14	20/ 18/ 14							-

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### Tribologik Corp List of Equipment 2018

TEST	ASTM	MANUFACTURER	AGE	# OF MACHINES
SPECTRO ICP	D5185	PERKIN ELMER	1-5 years	4
FUEL %	D3524	PERKIN ELMER	1-5 years	2
VISCOSITY 40	D445	CANNON	1-8 years	6
VISCOSITY 100	D445	CANNON	1-8 years	4
FTIR	JOAP	PERKIN ELMER	1-5 years	3
WATER %	JOAP	PERKINELMAR	1-5 years	3
SOOT	JOAP	PERKINELMER	1-5 years	3
GLYCOL CONTENT %	D2982	GLASS	1-3 years	2
TAN	D974	RADIOMETRER	1-3 years	2
TBN	D4739	HACH	1-5 years	2
PARTICLE COUNT	ISO 4406	SPECTRO INC	1-8 years	2
API GRAVITY	D1298	HYDROMETER	2 years	2
WATER % - KF	D4928 , D6304	METLER TOLEDO	1-3 years	4
FLASH POINT	D92, D3828	KOELER/CPMPASS	2-4 years	4
DISTILLATION	D86	KOELER/CPMPASS	2-4 years	1
IBP 10%, 50%, 90%	D87	KOELER/CPMPASS	2-4 years	1
ENDPOINT	D88	KOELER/CPMPASS	2-4 years	1
RETURN	D89	KOELER/CPMPASS	2-4 years	1
CETANE INDEX	D4737	N/A	N/A	N/A
SEDIMENT (% VOLUME)	IN HOUSE	HOSKIN	3 years	1
SULFUR	D5185	PERKINELMER	1-5 years	4
CLOUD POINT	D9500	KOELER	8 years	1
ASH CONTENT	IN HOUSE	HOSKIN	5 years	1
MICROORGANISM	KIT	MICROBE MONITOR2	<6 months	
BOILING POINT	D1120	REFRACTOMETER	3 years	3
FREEZE POINT	D3321	REFRACTOMETER	3 years	3
RESERVE ALKALINITY	D1121	GLASS	3 years	1
SPECIFIC GRAVITY	D1298	HYDROMETER	2 years	2
SILICATE	D5827	THERMOFISHER	3 years	1
CHLORIDES	D5828	THERMOFISHER	3 years	1
NITRITES	D5829	THERMOFISHER	3 years	1
NITRATES	D5830	THERMOFISHER	3 years	1
BORATES	D5831	THERMOFISHER	3 years	1
PHOSPHORATES	D5832	THERMOFISHER	3 years	1
MOLYBDENUM	D5833	THERMOFISHER	3 years	1
UREA CONTENT (TOTAL NITROGEN)	IN HOUSE	REFRACTOMETER	1 year	3
UREA CONTENT (REFRACTIVE INDEX)	IN HOUSE	REFRACTOMETER	1 year	3
DENSITY ISO 3675	D1298	HYDROMETER	2 years	2
DENSITY ISO 12185	D1299	HYDROMETER	2 years	2
INSOLUBLE MATTER	D1300	HYDROMETER	2 years	2
PHOSPHATE	D5827/KIT	THERMOFISHER	3 years	1
ID-FTIR	JOAP	PERKINELMER	1-5 years	4
LITHIUM SOAP	D5185	PERKINELMER	1-5 years	4
POUR POINT & CLOD POINT	D2500 & D97	KOEHLER	6 years	1



**PERRY JOHNSON LABORATORY  
ACCREDITATION, INC.**

*Certificate of Accreditation*

*Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:*

***Tribologik Corporation***  
***1212 172<sup>nd</sup> Street, Hammond, IN 46324***

*(Hereinafter called the Organization) and hereby declares that Organization is accredited  
in accordance with the recognized International Standard:*

**ISO/IEC 17025:2005**

This accreditation demonstrates technical competence for a defined scope and the  
operation of a laboratory quality management system  
(as outlined by the joint ISO-ILAC-IAF Communiqué dated January 2009):

***Chemical Testing***  
***(As detailed in the supplement)***

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen  
President/Operations Manager

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*Initial Accreditation Date:*

May 14, 2012

*Issue Date:*

May 26, 2017

*Expiration Date:*

May 31, 2019

*Accreditation No.:*

73353

*Certificate No.:*

L17-239-2

*The validity of this certificate is maintained through ongoing assessments based  
on a continuous accreditation cycle. The validity of this certificate should be  
confirmed through the PJLA website: [www.pjilabs.com](http://www.pjilabs.com)*



# Certificate of Accreditation: Supplement

## Tribologik Corporation

1212 172<sup>nd</sup> Street, Hammond, IN 46324

Contact Name: Marvin Ostin Phone: 514-383-6330 Ext. 24

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical <sup>F</sup>	Lubricant, Cooling Liquids and Other Relevant Liquid	Additive Elements and Contamination	ASTM D5185 ASTM D6130 Inductively Coupled Plasma Atomic Emission	D.L. = 1 ppm
		Chloride, Fluoride, Nitrite, Nitrate, Bromide, Phosphate, Sulfate, Formate, Glycolate, and Other Ions by Ion Chromatography	ASTM D5827 ASTM D3634	Chloride: D.L. = 2 mg/L Fluoride: D.L. = 5 mg/L Nitrite: D.L. = 4 mg/L Nitrate: D.L. = 7 mg/L Bromide: D.L. = 20 mg/L Phosphate: D.L. = 8 mg/L Sulfate: D.L. = 2 mg/L Formate: D.L. = 2 mg/L Glycolate: D.L. = 10 mg/L
		pH	ASTM D1287	1 to 14
		Freeze Protection	ASTM D3321	-65 °C to 0 °C
		Ethylene Glycol %	In-House Method	0 % to 100 %
		Glycol Detection In Oil	ASTM D2982	Per Method
		Total Base Number	ASTM D4739 ASTM D2896	
		Total Acid Number	ASTM D664 ASTM D974	
		Viscosity Index	ASTM D2270	
		Kinematic Viscosity	ASTM D445	
		Infra-Red	JOAP	FTIR: 0 in absorbency
		TDS	In-House SOP	N/A
		Conductivity	In-House SOP	N/A
		% Water Crackle	In-House Method	Visual
		Flash Point	ASTM D3828	Per Method
		Fire Point	ASTM D92	
		Density	ASTM D1298 ASTM D4052	D.L. = 0.000 05 g/cm <sup>3</sup> T = 0.03 °C
		Particle Count/Direct Reading Ferrography	NAS 1638 ISO 4406 In-House Method	Per Method
		Cloud Point	ASTM D2500	
		Pour Point	ASTM D97	
		Water by Karl Fisher	ASTM D6304 ASTM D4928	
		Particle Quantifier	In-House Method	
		Analytical Ferrography	In-House Method	Qualitative/Visual
Vapor Pressure	ASTM D5191	2 psi to 15 psi		



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Chemical <sup>F</sup>	Lubricant, Cooling Liquids and Other Relevant Liquid	Sulfur by XRF	ASTM D4294 ASTM D5453 ISO 1302	1 mg/kg to 3 000 mg/kg 0.000 1 % to 0.35 %
		Lubricity	ASTM D6079	10 µm to 1 000 µm
	Lubricant, Cooling Liquids, and Fuel	Flash point Closed Cup	ASTM D93 ASTM D56 ASTM D6450	UL: 42.7 °C LL: 40.4 °C
		Distillation Petroleum	ASTM D86	Initial BP: UL: 160 °C LL: 154 °C
		Cetane Index	ASTM D4737 ASTM D976	UL: 45.7 °C LL: 42.68 °C
		Copper Corrosion	ASTM D130	Range 1a to 4c
		Research Octane Number	ASTM D2699	75 to 98
		Motor Octane Number	ASTM D2700	75 to 98
		Anti-Cknoock Number	(R+M)/2 ASTM D4814	75 to 98
		Cetane Number	ASTM D613	38 to 69
		Water and Sediment	ASTM D2709	0 % to 90 %
		Oxygenate Content	ASTM D4815	D.L. = 0.000 01 %
		Vapor Liquid Ratio Temperature of Fuel	ASTM D5188	0 °C to 1 °C
		Carbon Residue	ASTM D4530	0.001 % to 10 %
		Oxidation Stability	ASTM D2274	0 hours to 72 hours
	Lubricant and Grease	Remaining Useful Life (RUL) and Routine Useful Life Evaluation Routine (RULER <sup>TM</sup> ) Number by Linear Sweep Voltammetry (LSV)	ASTM D6971 ASTM D6810 ASTM D7590	Amine: UL: 68.5 % LL: 62.3 % Phenol: UL: 44.5 % LL: 40.11 %
	Cooling Liquids	Boiling Point (coolant)	ASTM D1120	UL: 112.4 °C LL: 106.12 °C
		Reserve Alkalinity	ASTM D1121	UL: 2.67 mL LL: 2.02 mL
	Oil	Diesel Fuel in Used Engine Oils (Fuel %)	ASTM D3524/D7593	1.0 %

- The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer<sup>F</sup> would mean that the laboratory performs this testing at its fixed location.