



**REQUEST FOR PROPOSAL /
DEMANDE DE PROPOSITION**

**RETURN BIDS TO /
RETOURNER LES SOUMISSIONS À:**

[MAT.DMarP3BidReceiving-
DOMar3ReceptiondesSoumissions@forces.gc.ca](mailto:MAT.DMarP3BidReceiving-DOMar3ReceptiondesSoumissions@forces.gc.ca)

Proposal To: National Defence Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods and services listed herein and on any attached sheets at the price(s) set out therefore.

Proposition à : Défense nationale Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens et services énumérés ici et sur toute feuille ci-annexée, au(x) prix indique(s).

**Solicitation Closes /
L'invitation prend fin:**

At / à : 14:00 EST

On / le : 11 March 2022

Title / Titre: Laboratory Analysis of Fluid Samples From Marine Equipment	Solicitation No / No de l'invitation: W8482-229405/A
Date of Solicitation / Date de l'invitation: 24 February 2022	
Address Enquiries to – Adresser toutes questions à: Directorate of Maritime Procurement 3-3-5-2 (D Mar P 3-3-5-2) MAT.DMarP3BidReceiving-DOMar3ReceptiondesSoumissions@forces.gc.ca	
Telephone No. / N° de téléphone: N/A	FAX No / No de fax: N/A
Destination: NDHQ - National Defence Headquarters 101 Colonel By Dr. Ottawa, ON K1A 0K2	

Instructions:

Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination(s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.

Instructions:

Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente

Delivery required / Livraison exigée: See Herein	Delivery offered / Livraison proposée:
Vendor Name and Address / Raison sociale et adresse du fournisseur:	
Name and title of person authorized to sign on behalf of vendor (type or print) / Nom et titre de la personne autorisée à signer au nom du fournisseur (caractère d'imprimerie):	
Name / Nom: _____	Title / Titre: _____
Signature: _____	Date: _____

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION	3
1.1 SECURITY REQUIREMENTS	3
1.2 STATEMENT OF REQUIREMENT	3
1.3 DEBRIEFINGS.....	3
1.4 TRADE AGREEMENTS.....	3
1.5 CANADIAN CONTENT	3
PART 2 - BIDDER INSTRUCTIONS	4
2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS	4
2.2 SUBMISSION OF BIDS.....	4
2.3 FORMER PUBLIC SERVANT	4
2.4 ENQUIRIES - BID SOLICITATION	6
2.5 APPLICABLE LAWS.....	6
2.6 BID CHALLENGE AND RECOURSE MECHANISMS.....	6
PART 3 - BID PREPARATION INSTRUCTIONS.....	7
3.1 BID PREPARATION INSTRUCTIONS	7
SECTION I: TECHNICAL BID.....	7
SECTION II: FINANCIAL BID	7
SECTION III: CERTIFICATIONS.....	8
PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION.....	9
4.1 EVALUATION PROCEDURES	9
4.2 BASIS OF SELECTION	14
PART 5 - CERTIFICATIONS AND ADDITIONAL INFORMATION.....	15
5.1 CERTIFICATIONS REQUIRED WITH THE BID.....	15
5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION	15
PART 6 - RESULTING CONTRACT CLAUSES	17
6.1 SECURITY REQUIREMENTS	17
6.2 STATEMENT OF REQUIREMENT	17
6.3 STANDARD CLAUSES AND CONDITIONS.....	17
6.4 TERM OF CONTRACT.....	17
6.5 AUTHORITIES	17
6.6 PROACTIVE DISCLOSURE OF CONTRACTS WITH FORMER PUBLIC SERVANTS.....	19
6.7 PAYMENT.....	19
6.8 INVOICING INSTRUCTIONS.....	20
6.9 CERTIFICATIONS AND ADDITIONAL INFORMATION.....	21
6.10 APPLICABLE LAWS.....	21
6.11 PRIORITY OF DOCUMENTS	21
6.12 DEFENCE CONTRACT	21
6.13 DISPUTE RESOLUTION.....	21
6.14 INSURANCE.....	21
6.15 QUALITY ASSURANCE.....	21
6.16 LABORATORIES	22
ANNEX A, STATEMENT OF REQUIREMENT	23
ANNEX B, ELECTRONIC PAYMENT INSTRUMENTS	39

PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation.

1.2 Statement of Requirement

The requirement is detailed under Article 6.2 of the resulting Contract clauses.

1.3 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within 15 working days from receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

1.4 Trade Agreements

The requirement is subject to the provisions of the Canadian Free Trade Agreement (CFTA).

1.5 Canadian Content

The requirement is limited to Canadian services.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The [2003](#) (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 120 days

2.2 Submission of Bids

- a. Bids must be submitted only to D MAR P 3 Bid Receiving positional mailbox: MAT.DMarP3BidReceiving-DOMar3ReceptiondesSoumissions@forces.gc.ca by the date and time indicated on page 1 of the bid solicitation and must be pursuant with subparagraph b.
- b. Individual e-mails exceeding five (5) megabytes, or those including other factors such as embedded macros and/or links, may be rejected by the DND e-mail system and/or firewall(s) without notice to the Bidder or DND Point of Contact. Larger bids may be submitted through more than one e-mail. The DND point of Contact will confirm receipt of documents. It is the responsibility of the Bidder to ensure that the entire submission has been received. Bidders must not assume that all documents have been received unless the DND Point of Contact confirms receipt of each document. In order to minimize the potential for the technical issues, bidders are requested to allow sufficient time before the closing time and date to confirm receipt. Bid documents received after the closing time and date will not be accepted.

Due to the nature of the bid solicitation, bids transmitted by facsimile will not be accepted.

2.3 Former Public Servant

Contracts awarded to former public servants (FPS) in receipt of a pension or of a lump sum payment must bear the closest public scrutiny, and reflect fairness in the spending of public funds. In order to comply with Treasury Board policies and directives on contracts awarded to FPSs, bidders must provide the information required below before contract award. If the answer to the questions and, as applicable the information required have not been received by the time the evaluation of bids is completed, Canada will inform the Bidder of a time frame within which to provide the information. Failure to comply with Canada's request and meet the requirement within the prescribed time frame will render the bid non-responsive.

Definitions

For the purposes of this clause, "former public servant" is any former member of a department as defined in the [Financial Administration Act](#), R.S., 1985, c. F-11, a former member of the Canadian Armed Forces or a former member of the Royal Canadian Mounted Police. A former public servant may be:

- a. an individual;
- b. an individual who has incorporated;
- c. a partnership made of former public servants; or
- d. a sole proprietorship or entity where the affected individual has a controlling or major interest in the entity.

"lump sum payment period" means the period measured in weeks of salary, for which payment has been made to facilitate the transition to retirement or to other employment as a result of the implementation of various programs to reduce the size of the Public Service. The lump sum payment period does not include the period of severance pay, which is measured in a like manner.

"pension" means a pension or annual allowance paid under the [Public Service Superannuation Act](#) (PSSA), R.S., 1985, c. P-36, and any increases paid pursuant to the [Supplementary Retirement Benefits Act](#), R.S., 1985, c. S-24 as it affects the PSSA. It does not include pensions payable pursuant to the [Canadian Forces Superannuation Act](#), R.S., 1985, c. C-17, the [Defence Services Pension Continuation Act](#), 1970, c. D-3, the [Royal Canadian Mounted Police Pension Continuation Act](#), 1970, c. R-10, and the [Royal Canadian Mounted Police Superannuation Act](#), R.S., 1985, c. R-11, the [Members of Parliament Retiring Allowances Act](#), R.S. 1985, c. M-5, and that portion of pension payable to the [Canada Pension Plan Act](#), R.S., 1985, c. C-8.

Former Public Servant in Receipt of a Pension

As per the above definitions, is the Bidder a FPS in receipt of a pension? **Yes () No ()**

If so, the Bidder must provide the following information, for all FPSs in receipt of a pension, as applicable:

- a. name of former public servant;
- b. date of termination of employment or retirement from the Public Service.

By providing this information, Bidders agree that the successful Bidder's status, with respect to being a former public servant in receipt of a pension, will be reported on departmental websites as part of the published proactive disclosure reports in accordance with [Contracting Policy Notice: 2019-01](#) and the [Guidelines on the Proactive Disclosure of Contracts](#).

Work Force Adjustment Directive

Is the Bidder a FPS who received a lump sum payment pursuant to the terms of the Work Force Adjustment Directive? **Yes () No ()**

If so, the Bidder must provide the following information:

- a. name of former public servant;
- b. conditions of the lump sum payment incentive;
- c. date of termination of employment;
- d. amount of lump sum payment;

-
- e. rate of pay on which lump sum payment is based;
 - f. period of lump sum payment including start date, end date and number of weeks;
 - g. number and amount (professional fees) of other contracts subject to the restrictions of a work force adjustment program.

2.4 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 5 calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by Bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the question(s) or may request that the Bidder do so, so that the proprietary nature of the question(s) is eliminated, and the enquiry can be answered to all Bidders. Enquiries not submitted in a form that can be distributed to all Bidders may not be answered by Canada.

2.5 Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.6 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:
 - Office of the Procurement Ombudsman (OPO)
 - Canadian International Trade Tribunal (CITT)
- (c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

- Section I: Technical Bid, One (1) Soft Copy via e-mail;
- Section II: Financial Bid, One (1) Soft Copy via e-mail;
- Section III: Certifications, One (1) Soft Copy via e-mail.

All soft copy documents must be submitted in PDF format, no other format will be accepted.

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) the first page of the Request For Proposal signed by the Bidder or an authorized representative of the Bidder;
- (c) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

- 1) Include all environmental certification(s) relevant to your organization (e.g. ISO 14001, Leadership in Energy and Environmental Design (LEED), Carbon Disclosure Project, etc.)
- 2) Include all environmental certification(s) or Environmental Product Declaration(s) (EPD) specific to your product/service (e.g. Forest Stewardship Council (FSC), ENERGYSTAR, etc.)
- 3) Unless otherwise noted, bidders are encouraged to submit bids electronically. If hard copies are required, bidders should:
 - a. use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
 - b. use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment.

3.1.1 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex B Electronic Payment Instruments, to identify which ones are accepted.

If Annex B Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.2 SACC Manual Clauses

Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

4.1.1.1 Mandatory Technical Criteria

EVALUATION CRITERIA	
MANDATORY CRITERIA REQUIREMENTS	MET/NOT MET
<p>MT1. The Bidder must participate in the Canadian Co-operative Used Lubricant Exchange [administered by Alberta Innovates Technology Futures], or equivalent laboratory exchange program during the period of the Contract.</p>	
<p>MT2. The work must be supervised by persons with a minimum of one (1) year supervisory experience with a recognized degree or diploma in a field of chemistry from a recognized Canadian university or college, or the equivalent as established by a recognized Canadian academic credentials assessment service*, if obtained outside Canada.</p> <p>*The list of recognized organizations can be found under the Canadian Information Centre for International Credentials website, at the following internet link: http://www.cicic.ca/2/home.canada.</p> <p>The Bidder's proposed resources must meet the minimum Mandatory Education and Experience Requirements. Where the post-secondary degree, diploma, or certificate was successfully completed and obtained outside of Canada, Canada reserves the right to request a Canadian equivalency document issued by recognized academic credentials assessment organization showing the academic level obtained.</p> <p>It is incumbent upon the bidder proposing a resource with an "equivalent" degree or variable qualification to adequately demonstrate that the other field or qualification is equivalent to the one stipulated above. Bidders must submit a formal question to the Contracting Authority cited herein, at least fifteen (15) calendar days prior to the bid solicitation closing date, if the bidder intends to propose such a resource in order to obtain a ruling on the equivalency prior to bid closing.</p>	
<p>MT3. The Bidder must define the location(s) where the laboratory testing would normally be conducted. Any availability of testing facilities at foreign ports should be noted in the proposal. The Bidder must give a minimum 60-day prior written notice of any change of laboratory facilities.</p>	

MT4. The Bidder must have back-up test instrumentation, or must have procedures in place to conduct analyses at an alternate site in case of instrumentation failure. The Bidder must include details of the back-up test capabilities.	
MT5. The Bidder must provide a list of the instruments (make, model and year of manufacture and purchase), which will be used to meet the analysis requirements. Information on the level of automation (e.g. Availability and size of auto samplers) proposed for each test must be included in the offer. During the course of the Contract, the Bidder must provide the Technical Authority in DND with calibration data for equipment used to analyze DND samples.	
MT6. The Bidder must have a minimum of two (2) years' experience in used oil analysis.	
MT7. The Bidder must provide proof of their valid ISO 9001 Certification.	
MT8. The Bidder must provide proof of any valid certifications requested in the point rated requirements.	
MT9. The Bidder must provide detailed shipping and packaging plans.	
MT10. The Bidder must provide clear and secure data retrieval procedures.	

4.1.1.2 Point Rated Technical Criteria

Proposals will be evaluated and scored in accordance with specific evaluation criteria as detailed in this section. The rating is performed on a scale of 210 points.

POINT RATED REQUIREMENTS – TECHNICAL APPROACH			SCORE	
Point Rated Technical Criteria	Assessment criteria	Points Available	MAX	ACHIEVED
RT1 Previous experience in fluid analysis	Minimum of two (2) years' experience in fluid analysis. Proof required.	Five (5) points per year for each year above two (2) years to a maximum of five (5) additional years of experience. Maximum of 25 points.	25	

RT2 Past participation in used oil correlation program.	Minimum of two (2) years' experience in used oil correlation program. Proof required.	Five (5) points per year for each year above two (2) years to a maximum of four (4) additional years of participation to a correlation program within the last ten (10) years, plus up to twenty (20) points depending on level of performance. Performance will be determined based on comparison of bidder's six (6) most recent results against exchange averages. Maximum of forty (40) points.	40	
RT3 Other quality programs	ISO 17025 Certification Proof required.	Ten (10) points for each ISO 17025 certified test. Maximum of forty (40) points. Certified tests must be relevant to this requirement.	40	
RT4 Qualification of supervisory personnel.	Minimum of two (2) years of specific training and experience in the analysis of used machinery-fluids. Proof required.	Two (2) points for each additional year of specific training and for each year of experience above two (2) years, in the analysis of used machinery fluids. Maximum of twenty (20) points.	20	
RT5 Instrumentation	Appropriate instrumentation for inductively coupled plasma (ICP) tests.	Five (5) points for instrument less than five years old; five (5) points for auto sampler. Maximum of ten (10) Points	10	
RT6 Instrumentation	Appropriate instrumentation for Gas Chromatography (GC) tests for percentage fuel dilution.	Five (5) points for instrument less than five years old; fifteen (15) points for auto sampler. Maximum of twenty (20) Points	20	
RT7 Instrumentation	Appropriate instrumentation for Kinematic viscosity tests.	Five (5) points for equipment less than five years old; plus five (5) points for automated kinematic viscosity equipment. Maximum of ten (10) Points	10	
RT8 Instrumentation.	Appropriate instrumentation for Particle Counter tests.	Five (5) points for equipment less than five years old. Maximum of five (5) Points	5	

RT9 Reliability.	Reliable back up to guard against delays due to instrument failure. Duplicate instrumentation or back-up laboratory	Description of back up instruments and their locations to be provided. Points awarded based on backup instrument meeting the analytical requirements for ICP, GC, viscosity, particle count, age and degree of automation. Maximum of twenty (20) Points	20	
RT10 Multiple testing locations including cooperative agreements with international test facilities	Access to international test facilities to support HMC Ships when deployed.	Five (5) points per test facility location. Maximum of twenty (20) Points	20	
		MINIMUM POINTS	121	
		MAXIMUM POINTS AVAILABLE	210	

4.1.2 Financial Evaluation

SACC Manual Clause [A0220T](#) (2014-06-26) Evaluation of Price – Bid

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded. FOB destination, Canadian customs duties and excise taxes included.

4.1.2.1 Total Price for Evaluation

Based on estimated maximum number of samples, for evaluation purposes only.

Required Test	Estimated Quantity of tests (per year)	Initial Contract Period	Option Period 1	Option Period 2	Option Period 3
		01 May 2022 to two (2) years later	Date of extended Contract to one (1) year later	Date of extended Contract to one (1) year later	Date of extended Contract to one (1) year later
		Cost per test	Cost per test	Cost per test	Cost per test
Mandatory Diesel engine lubricant	640				
Mandatory non-diesel lubricants	1750				

Mandatory hydraulic fluid	700				
Mandatory nitrite inhibitor	350				
Mandatory organic acid inhibitor	185				
Mandatory glycol	225				
Water (Karl Fischer)	1320				
Total Base Number	410				
Viscosity at 40 or 100 degrees C.	230				
Elemental analyses for hydraulic fluid	515				
Flash point	5				
Per cent sediment	5				
Pentane insoluble	310				
Total Acid Number	250				
FTIF infrared test tickets	5				
Total tests, estimated at	6900				
Sample bottles	5000 per year				
Management fees, if applicable	price per year				
Estimated Shipping cost , for evaluation purposes based on:	price per year				
50 shipments from each coast containing 24 samples per shipment	price per year				
Total Cost excluding taxes (CAD\$)					

4.2 Basis of Selection

4.2.1 Basis of Selection – Highest Combined Rating of Technical Merit and Price

1. To be declared responsive, a bid must:
 - a. comply with all the requirements of the bid solicitation;
 - b. meet all mandatory technical evaluation criteria; and
 - c. obtain the required minimum of **121** points overall for the technical evaluation criteria which are subject to point rating. The rating is performed on a scale of **210** points.
2. Bids not meeting (a) or (b) or (c) will be declared non-responsive.
3. The selection will be based on the highest responsive combined rating of technical merit and price. The ratio will be 60% for the technical merit and 40% for the price.
4. To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 60%.
5. To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 40%.
6. For each responsive bid, the technical merit score and the pricing score will be added to determine its combined rating.
7. Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit and price will be recommended for award of a Contract.

The table below illustrates an example where all three bids are responsive and the selection of the Contractor is determined by a 60/40 ratio of technical merit and price, respectively. The total available points equals 135 and the lowest evaluated price is \$45,000 (45).

Basis of Selection – Highest Combined Rating of Technical Merit (60%) and Price (40%)				
Bidder		Bidder 1	Bidder 2	Bidder 3
Overall Technical Score		115/135	89/135	92/135
Bid Evaluated Price		\$55,000.00	\$50,000.00	\$45,000.00
Calculations	Technical Merit Score	115/135 x 60 = 51.11	89/135 x 60 = 39.56	92/135 x 60 = 40.89
	Pricing Score	45/55 x 40 = 32.73	45/50 x 40 = 36.00	45/45 x 40 = 40.00
Combined Rating		83.84	75.56	80.89
Overall Rating		1 st	3 rd	2 nd

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Unless specified otherwise, Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 **A3051T** (2018-12-06) Canadian Content Certification

Bidders should submit this certification completed with their bid. If the certification is not completed and submitted with the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to submit this completed certification. Failure to comply with the request of the Contracting Authority and submit the completed certification will render the bid non-responsive.

5.1.1.1 SACC *Manual* clause **A3050T** (2020-07-01) Canadian Content Definition

5.1.2 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real property agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social](#)

Solicitation No. - N° de l'invitation
W8482-229405/A
Client Ref. No. - N° de réf. du client
W8482-229405

Amd. No. - N° de la modif.
File No. - N° du dossier
2183G-10041-N000879

Buyer ID - Id de l'acheteur
8715100
CCC No./N° CCC - FMS No./N° VME

Development Canada (ESDC) - Labour's website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirements

6.1.1 There is no security requirement applicable to the Contract.

6.2 Statement of Requirement

The Contractor must provide the items detailed under the "Statement of Requirement" at Annex "A".

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the [Standard Acquisition Clauses and Conditions Manual](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

[2010B](#) (2021-12-02), General Conditions - Professional Services (Medium Complexity) apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from 01 May 2022 to two years later.

6.4.2 Option to Extend the Contract

The Contractor grants to Canada the irrevocable option to extend the term of the Contract by up to three (3) additional one (1) year period(s) under the same conditions. The Contractor agrees that, during the extended period of the Contract, it will be paid in accordance with the applicable provisions as set out in the Basis of Payment.

Canada may exercise this option at any time by sending a written notice to the Contractor at least 30 calendar days before the expiry date of the Contract. The option may only be exercised by the Contracting Authority, and will be evidenced for administrative purposes only, through a contract amendment.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: _____
Title and designation: _____
Organization: _____
Address: National Defence Headquarters
Attention: _____

101 Colonel By Drive
Ottawa, Ontario
K1A 0K2

Telephone: _____
Facsimile: _____
E-mail address: _____

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Technical Authority

The Technical Authority for the Contract is:

Name: _____
Title and designation: _____
Organization: _____
Address: National Defence Headquarters
Attention: _____
101 Colonel By Drive
Ottawa, Ontario
K1A 0K2

Telephone: _____
Facsimile: _____
E-mail address: _____

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority, however the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Procurement Authority

The Procurement Authority for the Contract is:

Name: _____
Title and designation: _____
Organization: _____
Address: National Defence Headquarters
Attention: _____
101 Colonel By Drive
Ottawa, Ontario
K1A 0K2

Telephone: _____
Facsimile: _____
E-mail address: _____

The Procurement Authority is the representative of the department of agency whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools

and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of Work. Changes to the scope of Work can only be made through a Contract amendment issued by the Contracting Authority.

6.5.4 Contractor's Representative

The Contractor's Representative for the Contract is:

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: _____ - _____ - _____
Facsimile: _____ - _____ - _____
E-mail address: _____

6.6 Proactive Disclosure of Contracts with Former Public Servants

By providing information on its status, with respect to being a former public servant in receipt of a [Public Service Superannuation Act](#) (PSSA) pension, the Contractor has agreed that this information will be reported on departmental websites as part of the published proactive disclosure reports, in accordance with [Contracting Policy Notice: 2019-01](#) of the Treasury Board Secretariat of Canada.

6.7 Payment

6.7.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices in accordance with the pricing schedule below. Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

[Pricing schedule to be provided in the resulting Contract.](#)

6.7.2 Limitation of Expenditure

1. Canada's total liability to the Contractor under the Contract must not exceed \$ _____. Customs duties are included and Applicable Taxes are extra.
2. No increase in the total liability of Canada or in the price of the Work resulting from any design changes, modifications or interpretations of the Work, will be authorized or paid to the Contractor unless these design changes, modifications or interpretations have been approved, in writing, by the Contracting Authority before their incorporation into the Work. The Contractor must not perform any work or provide any service that would result in Canada's total liability being exceeded before obtaining the written approval of the Contracting Authority. The Contractor must notify the Contracting Authority in writing as to the adequacy of this sum:
 - a. when it is 75% committed, or
 - b. four (4) months before the contract expiry date, or

- c. as soon as the Contractor considers that the contract funds provided are inadequate for the completion of the Work, whichever comes first.
3. If the notification is for inadequate contract funds, the Contractor must provide to the Contracting Authority a written estimate for the additional funds required. Provision of such information by the Contractor does not increase Canada's liability.

6.7.3 Monthly Payment

Canada will pay the Contractor on a monthly basis for work performed during the month covered by the invoice in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work performed has been accepted by Canada.

6.7.4 SACC Manual Clauses

SACC *Manual* clause [C0100C](#) (2010-01-11), Discretionary Audit – Commercial Goods and/or Services

6.7.5 Electronic Payment of Invoices – Contract

The Contractor accepts to be paid using any of the following Electronic Payment Instrument(s):

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI).

6.8 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- a. a copy of the release document and any other documents as specified in the Contract;
 - b. a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
 - c. a copy of the monthly progress report.
2. Invoices must be distributed as follows:
 - a. The original must be forwarded to the e-mail address shown on page 1 of the Contract for certification and payment.

6.9 Certifications and Additional Information

6.9.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

6.10 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

6.11 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions **2010B** (2021-12-02), Professional Services (Medium Complexity);
- (c) Annex A, Statement of Requirement;
- (d) Annex B, Electronic Payment Instruments;
- (e) the Contractor's bid dated _____

6.12 Defence Contract

SACC *Manual* clause **A9006C** (2012-07-16), Defence Contract

6.13 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "**Dispute Resolution**".

6.14 Insurance

SACC *Manual* clause **G1005C** (2016-01-28), Insurance – No Specific Requirement

6.15 Quality Assurance

SACC *Manual* clause **D5510C** (2017-08-17), Quality Assurance Authority (Department of National Defence) – Canadian-based Contractor

Solicitation No. - N° de l'invitation
W8482-229405/A
Client Ref. No. - N° de réf. du client
W8482-229405

Amd. No. - N° de la modif.
File No. - N° du dossier
2183G-10041-N000879

Buyer ID - Id de l'acheteur
8715100
CCC No./N° CCC - FMS No./N° VME

SACC *Manual* clause [D5540C](#) (2021-05-20), ISO 9001:2015 Quality Management Systems – Requirements (Quality Assurance Code Q)

SACC *Manual* clause [D5606C](#) (2017-11-28), Release Documents (Department of National Defence) – Canadian-based Contractor

SACC *Manual* clause [D5620C](#) (2012-07-16), Release Document Distribution

6.16 Laboratories

SACC *Manual* clause [D5544C](#) (2010-01-11) Laboratories – ISO/IEC 17025:2017

ANNEX A, STATEMENT OF REQUIREMENT

1. INTRODUCTION

1.1. The Department of National Defence (DND) has a requirement for production scale laboratory services on a per sample basis for the analysis of fluid samples taken from Royal Canadian Navy (RCN) equipment. The analyses are required as part of the RCN Oil and Coolant Condition Analysis Program (OCCAP).

2. ESTIMATED NUMBER OF SAMPLES TO BE ANALYZED

2.1. The samples analyzed can be separated into four (4) categories based on the type of fluid and the normal test regime for each. Additionally, for some types of sample there are additional 'special' tests, which may be requested by DND, or may be required if certain results are found in the routine tests. The number of samples is estimated to vary between 145 and 950 per month, averaging approximately 6900 per year. The samples are of the following types:

- a) Diesel Engine Lubricant Samples (approximately 15%)
- b) Non-Diesel Equipment Lubricant Samples (approximately 40%)
- c) Hydraulic Fluid Samples (approximately 16%)
- d) Diesel coolant Samples (approximately 20%)
- e) Special Tests (approximately 9%)

The number of samples and the percentages are given for guidance only.

2.2. Diesel engine lubricating oil samples are petroleum-based (i.e. mineral oils).

2.3. Hydraulic fluids and non-diesel equipment lubricant samples are primarily petroleum-based but include some synthetic oil samples.

2.4. The 100 mL samples are supplied in 125 mL plastic bottles (Nalgene Catalogue No. 2105-0004).

2.5. The estimates provided in paragraph 2.1 are based on past experience with the OCCAP. The number of samples and the type distribution are not guaranteed. The number of samples per shipment varies widely, and the total number of samples submitted may not be evenly distributed over any given time period.

3. CONTRACTOR'S RESPONSIBILITIES

Analysis

3.1.1. The Contractor must analyze the samples according to the standard protocol defined by the Oil and Coolant Condition Analysis Program (OCCAP) as detailed in Appendix I.

3.1.2. The Contractor must provide all laboratory facilities, personnel, instrumentation, and consumable supplies.

3.1.3. When specifically requested by DND, or after DND approval of the Contractor's request (based on test results or visual observations), the Contractor must conduct supplementary "special tests" on clearly designated samples within the bounds of the protocol described in Appendix I. Each "special test" required must be individually requested by DND for each relevant sample. The full set of "special tests" will not normally be required for a given sample. Analytical tests not listed in Appendix I do not form part of the Contract.

3.1.4. The Contractor must enter the DND-designated sample numbers and associated test results into a Contractor-supplied computer using Contractor-supplied software. The sample data must be provided to DND as a comma delimited ASCII file in the format shown in Appendix II and illustrated in Appendix III.

3.1.5. The Contractor's responsibilities must not include the interpretation of the test results to assess machine or fluid condition.

Packaging and Shipping

3.1.6. The Contractor must provide suitable new and unused packaging and shipping materials to the Department of National Defence (DND) designated project coordinators at the Fleet Maintenance Facilities (FMFs) at Esquimalt, British Columbia and Halifax, Nova Scotia. The FMF project coordinators will regularly contact the Contractor by telephone directly to request sufficient packaging materials, and the Contractor must be responsible for shipping the materials requested to the appropriate FMF. The DND Technical Authority (TA) will provide contact information for the designated FMF project coordinators at commencement of the Contract.

3.1.7. The packaging materials must allow the shipment of individual samples, as well as sets of up to twelve samples.

3.1.8. The packing materials must meet the requirements of all applicable transportation regulations.

3.1.9. With the packaging materials, the Contractor must supply pre-printed courier slips that include the Contractor's account number and shipping address.

3.1.10. The Contractor's representatives must pick up the samples to be analyzed directly from the FMFs at the Her Majesty's Canadian (HMC) dockyards in Halifax, N.S. and Esquimalt, B.C.

3.1.11. The Contractor may designate a shipping agent as the local representative responsible for sample pick-up from the dockyard and transport of samples; however, responsibility for compliance with terms of the Contract will remain with the Contractor. Samples will be available for pick-up from the dockyard gate, or from FMF Offices within the dockyard, depending on local security requirements. The local OCCAP Coordinator will arrange suitable local procedures in consultation with the Contractor and its local shipping agent.

3.1.12. The Contractor must arrange for shipment of the samples to the contract laboratory.

3.1.13. The cost of sample shipment must be billed by the Contractor to DND on a cost recovery basis.

3.1.14. The Contractor must identify the cost of the packaging materials and their shipment separate from the cost of the sample analysis on the invoices sent to DND.

3.1.15. Shipping costs must be identified separately and be billed in addition to sample analysis costs.

3.1.16. When requested by DND, the Contractor must provide copies of shipping company invoices.

Data Reporting

3.1.17. For samples submitted as routine, the Contractor must analyze the samples and report the results to the DND designated project coordinator within 48 hours of sample pick-up from the dockyard (Halifax or Esquimalt) by the Contractor's representative.

3.1.18. For samples tagged as "urgent", the Contractor must analyze the samples and report the results to the appropriate FMF project coordinator within 36 hours of sample pick up. The number of urgent samples is not expected to exceed 2% of the total number of samples submitted.

3.1.19. The same day that the test results are available, the Contractor must email the data to the appropriate FMF project coordinator.

3.1.20. The Contractor must provide all available data relevant to each FMF in a single file (i.e. separate files are required for each FMF).

3.1.21. If the percent fuel dilution is greater than five percent for any diesel oil sample, the Contractor must notify the appropriate FMF project coordinator by telephone as soon as the test result is measured.

Other Responsibilities

3.1.22. The Contractor must establish specific details of data retrieval.

3.1.23. The Contractor must not release information pertaining to DND samples to any third party.

3.1.24. The Contractor must retain the unused portion of all samples for a minimum period of thirty days after analysis results are issued to DND.

3.1.25. At the request of DND, the Contractor must repeat specific tests for a given sample to confirm results within 30 days after the analysis results are issued to DND.

3.1.26. The Contractor must dispose of the remaining samples, the used packaging materials, and sample containers in accordance with all applicable environmental requirements.

3.1.27. Unless otherwise instructed by DND, the Contractor must use the published versions of all standard test methods current at the time of sample analysis.

4. CHANGES TO THE ANALYTICAL PROCEDURES OR INSTRUMENTAION

4.1. Changes to the sample handling or test procedures, or instrumentation used, must be made only after mutual agreement between DND and the Contractor.

5. VERIFICATION OF CONTRACTOR ANALYSIS RESULTS

5.1. DND will verify the Contractor's laboratory performance by regular submission of duplicate samples to a DND laboratory for comparison of results. The check samples will not be distinguished from the routine samples at the time of submission to the Contractor.

5.2. In the event of a discrepancy between the check samples from the Contractor and DND, the DND Technical Authority (TA) will contact the Contractor. Corrective actions or mitigations will be discussed and mutually agreed upon between the Contractor and DND TA.

APPENDIX I to ANNEX A, ANALYSIS REQUIREMENTS FOR OCCAP SAMPLE

A. TESTS FOR ALL DIESEL LUBRICANT SAMPLES

1. The tests 1 to 4 listed in Table 1 are mandatory for all diesel lubricant samples.
2. The tests 5 to 8 listed in Table 1 are "Special Tests" that could be requested by DND.
3. Results must be reported in accordance with the result precision indicated in Table 1.
4. Results must in reported in the unit indicated in Table 1.
5. The Gas Chromatography (GC) procedure for the percent fuel dilution test (Test 2 in Table 1) is described at Appendix IV to Annex A. The Contractor must provide the designated DND representative with their updated calibration data within one month after new calibration materials are provided. DND will provide the Contractor with suitable calibration materials (new unused oil and fuel) for method calibration once per year.

Table 1. Tests for all diesel lubricant samples

Test	Requirement	Property	Test Method	Result Precision	Unit
1	Mandatory	Kinematic Viscosity @ 100°C	ASTM D445	0.1	cSt
2	Mandatory	Percent Fuel Dilution ¹	DND method based on ASTM D3524	0.1	% fuel dilution
3	Mandatory	Concentrations of Ag, Al, B, Ba, Ca, Cr, Cu, Fe, K, Mg, Mo, Na, Ni, P, Pb, Si, Sn, Ti, Zn	Inductively coupled plasma emission (ICP) according to ASTM D5185	ppm ²	ppm
4	Mandatory	Water Content	ASTM D4928 ³ or ASTM D6304	0.1	%
5	Mandatory	Pentane Insolubles	ASTM D893 Procedure B	0.01	%
6	Special Test	Cleveland Open Cup Flash Point ⁴	ASTM D92	1	°C
7	Special Test	Base Number	ASTM D2896	0.1	BN

¹ Twenty-four hour operation using an auto-sampler is often required to meet the analysis turn-around requirement.

² Concentrations are generally between 1 and 1000 ppm, with the majority well below 100 ppm.

³ The high shear mixer specified in D4928 is not required for OCCAP samples.

⁴ Flash points are normally between 160°C and 250°C.

B. TESTS FOR ALL NON-DIESEL (MACHINE) LUBRICANT SAMPLES

1. The tests 1 to 2 listed in Table 2 are mandatory for all non-diesel lubricant samples.
2. The tests 3 to 6 listed in Table 2 are “Special Tests” that could be requested by DND.
3. Results must be reported in accordance with the result precision indicated in Table 2.
4. Results must in reported in the unit indicated in Table 2.
5. When water contamination is observed (Test 2 in Table 2), the water content shall be measured in accordance with Test 3 in Table 2.

Table 2. Tests for all non-diesel lubricant samples

Test	Requirement	Property	Test Method	Result Precision	Unit
1	Mandatory	Concentrations of Ag, Al, B, Ba, Ca, Cr, Cu, Fe, K, Mg, Mo, Na, Ni, P, Pb, Si, Sn, Ti, Zn	Inductively coupled plasma emission (ICP) according to ASTM D5185	ppm ¹	ppm
2	Mandatory	Water Contamination ²	Visual screening	N/A	N/A
3	Special Test	Water Content	ASTM D4928 ³ or ASTM D6304	0.1	%
4	Special Test	Kinematic Viscosity @40°C	ASTM D445	0.1	cSt
5	Special Test	Kinematic Viscosity @100°C	ASTM D445	0.1	cSt
6	Special Test	Acid Number	ASTM D664	0.1	AN

¹ Concentrations are generally between 1 and 1000 ppm, with the majority well below 100 ppm.

² The machine oil samples are generally light in colour, so significant water contamination is usually identifiable by visual examination.

³ The high shear mixer specified in D4928 is not required for OCCAP samples.

C. TESTS ON HYDRAULLIC FLUID SAMPLES

1. The tests 1 to 2 listed in Table 3 are mandatory for all hydraulic fluid samples.
2. The tests 3 to 5 listed in Table 3 are “Special Tests” that could be requested by DND.
3. Results must be reported in accordance with the result precision indicated in Table 3.
4. Results must in reported in the unit indicated in Table 3.

Table 3. Tests on hydraulic fluid samples

Test	Requirement	Property	Test Method	Result Precision	Unit
1	Mandatory	ISO Particulate Contamination	Automatic Optical Counting technology according to ISO 11171 (calibration) and ISO 4406 (reporting)	N/A	N/A
3	Mandatory	Water Content	ASTM D4928 ¹ or ASTM D6304	0.1	%
4	Special Test	Kinematic Viscosity @40°C	ASTM D445	0.1	cSt
5	Special Test	Concentrations of Ag, Al, B, Ba, Ca, Cr, Cu, Fe, K, Mg, Mo, Na, Ni, P, Pb, Si, Sn, Ti, Zn	Inductively coupled plasma emission (ICP) according to ASTM D5185	ppm ²	ppm

¹ The high shear mixer specified in D4928 is not required for OCCAP samples.

² Concentrations are generally between 1 and 1000 ppm, with the majority well below 100 ppm.

D. TESTS ON COOLANT SAMPLES

1. The tests 1 to 2 listed in Table 4 are mandatory for all coolant samples.
2. The test 3 listed in Table 4 are "Special Tests" that could be requested by DND.
3. Results must be reported in accordance with the result precision indicated in Table 4.
4. Results must in reported in the unit indicated in Table 4.
5. When evidence of excessive corrosion products ("rust") or other sediment is observed (Test 1 in Table 4), it shall be quantified in accordance with Test 3 in Table 4.
6. Coolant samples are identified on the sample label as being one of three types; nitrite inhibitor, organic acid inhibitor and glycol. The corrosion inhibitor concentration shall be measured in according with the procedure corresponding to the inhibitor type for Test 2 in Table 4.
7. For the corrosion inhibitor concentration tests (Test 2 in Table 4), DND will provide the Contractor with suitable calibration materials (new undiluted corrosion inhibitor for nitrite and organic acid inhibitor, and glycol for glycol inhibitor) for method calibration once per year. The Contractor must provide the designated DND representative with their updated calibration data within one month after new calibration materials are provided.

Table 4. Tests on coolant samples

Test	Requirement	Property	Test Method	Result Precision	Unit
1	Mandatory	Evidence of excessive corrosion products ("rust") or other sediment	Visual inspection.	N/A	N/A
2	Mandatory	Corrosion Inhibitor Concentration	<u>NITRITE INHIBITOR</u> mL of nitrite based corrosion inhibitor per litre coolant. The Nalco test kit CO318 (Part No. 420-C0318.88) or equivalent can be used. ¹	1	mL inhibitor/L coolant
			<u>ORGANIC ACID INHIBITOR</u> Percent (v/v) of carboxylic acid based corrosion inhibitor. A suitable refractometer (range 0-10% BRIX) can be used.	0.1	% inhibitor/L coolant
			<u>GLYCOL</u> Percent antifreeze (glycol) in coolant mixtures that contain antifreeze, measured by percent (v/v).	0.1	%
3	Special Test	Percent (%) sediment measured by centrifuge	Measured and reported according to a DND method based on ASTM D2709 ¹	0.1	%

¹ See Appendix V to Annex A for the detailed DND procedure.

APPENDIX II TO ANNEX A, FILE FORMAT FOR OCCAP DATA

A CSV (comma separated value) file is required for the importing of data into the Canadian Armed Forces (CAF) OCCAP Database. The following table details the required headers, units and database fields needed for correct data importing. The Contractor may be requested to modify the file format to accommodate changes to DND's database software.

System Code (column header)	Description	Units	Database Field
Sample Number	DND sample number	None	Numeric
Oil/Coolant/Both	Identifies oil type	None	Alphanumeric, (O, C or B) ¹
Iso1	First number of ISO cleanliness	None	Numeric
Iso2	Second number of ISO cleanliness	None	Numeric
Iso3	Third number of ISO cleanliness	None	Numeric
TBN	Base number	mg KOH/g	Numeric
Analysis Completed	Date sample analysis completed	date	date (dd-mmm-yy)
TAN	Acid Number	mg KOH/g	Numeric
Soot (FTIR)	Soot content	%	Numeric
Not required	-	-	-
Not required	-	-	-
Not required	-	-	-
Not required	-	-	-
Not required	-	-	-
Not required	-	-	-
Ag	Silver concentration	ppm	Numeric
Al	Aluminum concentration	ppm	Numeric
B	Boron concentration	ppm	Numeric
Ba	Barium concentration	ppm	Numeric
Ca	Calcium concentration	ppm	Numeric
Cr	Chromium concentration	ppm	Numeric
Cu	Copper concentration	ppm	Numeric
Fe	Iron concentration	ppm	Numeric
K	Potassium concentration	ppm	Numeric
Mg	Magnesium concentration	ppm	Numeric
Mo	Molybdenum concentration	ppm	Numeric
Na	Sodium concentration	ppm	Numeric
Ni	Nickel concentration	ppm	Numeric
P	Phosphorus concentration	ppm	Numeric

System Code (column header)	Description	Units	Database Field
Pb	Lead concentration	ppm	Numeric
Not Required	-	-	-
Si	Silicone concentration	ppm	Numeric
Sn	Tin concentration	ppm	Numeric
Ti	Titanium concentration	ppm	Numeric
Zn	Zinc concentration	ppm	Numeric
Vis40	Viscosity @ 40°C	cSt	Numeric
Vis100	Viscosity @ 100°C	cSt	Numeric
Fuel	Fuel dilution	%	Numeric
Flash Point	Flashpoint	°C	Numeric
%Water	Percent water	%	Numeric
Karl Fisher	ppm water	ppm	Numeric
Glycol(%)	Percent antifreeze	%	Numeric
Nalcool	Nalcool inhibitor	ml/L	Numeric
Not required	-	-	-
Maxigard	Maxigard inhibitor	ml/L	Numeric
Not required	-	-	-
Organic Acid	Percent Organic Acid	%	Numeric
Not Required	-	-	-
Pentane	Pentane Insolubles	%	Numeric
Water and Sediment	Coolant sediment	%	Numeric
Glycol	Percent Antifreeze (Glycol)	%	Numeric
Creation Date	Date the sample was received	date	date (dd-mmm-yy)

IMPORTANT NOTES

¹ B = Both oil and coolant taken; O = oil sample only; C = coolant sample only

Note 1: All fields must be separated by a comma with a final comma after the last field

Note 2: Fields for tests not completed or information not provided are to be left **UNFILLED/BLANK**, whereas a test result of zero shall be reported as "0" in the data file.

Solicitation No. - N° de l'invitation
W8482-229405/A
Client Ref. No. - N° de réf. du client
W8482-229405

Amd. No. - N° de la modif.
File No. - N° du dossier
2183G-10041-N000879

Buyer ID - Id de l'acheteur
8715100
CCC No./N° CCC - FMS No./N° VME

APPENDIX III TO ANNEX A, SAMPLE OCCAP DATA FILE

Sample Number, Oil/Coolant/Both, Iso1, Iso2, Iso3, TBN, Analysis Completed, TAN, Soot (FTIR), Not required, Not required, Not required, Not required, Not required, Not required, Ag, Al, B, Ba, Ca, Cr, Cu, Fe, K, Mg, Mo, Na, Ni, P, Pb, Not Required, Si, Sn, Ti, Zn, Vis40, Vis100, Fuel, Flash Point, %Water, Karl Fisher, Glycol(%), Nalcool, Not required, Maxigard, Not required, Organic Acid, Not Required, Pentane, Water and Sediment, Glycol, Creation Date

317618195,O,,,,,26-APR-2016,,,,,0,3,3,3,0,1140,1,3,13,4,762,37,56,0,1010,1,,6,0,0,1168,,13.5,.56,,,,,02-MAY-2016,
317618165,O,,,,,16.8,26-APR-2016,,,,,0,4.1,0,0,5368,0,3,26,5,35,1,74,0,1340,1,,12,0,0,1488,,13.96,2.31,,,,,02-MAY-2016,
317618163,O,,,,,13.37,26-APR-2016,,,,,0,3.1,0,0,4936,1,3,10,1,20,1,8,0,1202,1,,7,0,0,1347,,13.26,.18,,,,,02-MAY-2016,
317618186,O,,,,,15.77,27-APR-2016,,,,,0,2.2,0,0,5499,0,1,4,1,18,0,8,0,1353,1,,10,0,0,1495,,14.34,.25,.17,1680,,,,,1.9,,02-MAY-2016,
317618157,O,,,,,14.74,26-APR-2016,,,,,0,2.3,0,0,5722,0,4,15,2,18,1,13,0,1286,2,,7,0,0,1522,,14.64,2.68,,,,,3.3,,02-MAY-2016,
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317618152,O,,,,,26-APR-2016,,,,,0,0,269,0,10,0,1,1,0,0,0,3,0,1017,0,,3,1,0,5,,,,,02-MAY-2016,
317618151,O,,,,,26-APR-2016,,,,,0,0,272,0,7,0,8,2,0,0,1,3,0,1089,1,,6,1,0,9,,,,,02-MAY-2016,
317618168,O,,,,,26-APR-2016,,,,,0,0,4,1,14,1,47,22,0,0,1,5,0,302,0,,2,1,0,71,,,,,02-MAY-2016,
317618193,O,,,,,26-APR-2016,,,,,0,0,160,0,12,0,1,2,0,1,0,4,0,964,0,,1,0,0,11,,,,,02-MAY-2016,
317618173,O,,,,,26-APR-2016,,,,,0,0,2,0,0,0,0,0,5,0,0,2,0,936,0,,0,1,0,0,,,,,02-MAY-2016,
317618180,O,,,,,26-APR-2016,,,,,0,0,0,0,962,0,7,2,5,4,0,41,0,456,0,,5,0,0,517,,,,,02-MAY-2016,
317618192,O,,,,,26-APR-2016,,,,,0,0,180,0,26,0,0,2,0,0,0,4,0,1091,1,,1,0,0,18,,,,,02-MAY-2016,
317618181,O,,,,,26-APR-2016,,,,,0,0,2,0,956,0,7,2,0,3,1,22,0,477,0,,4,1,0,529,,,,,02-MAY-2016,
317618167,O,,,,,26-APR-2016,,,,,0,0,1,0,4,1,68,29,1,2,0,9,1,298,0,,2,4,0,29,,,,,02-MAY-2016,
317618171,O,,,,,26-APR-2016,,,,,0,0,0,0,4,0,1,0,0,0,2,0,2492,0,,1,1,0,2,,,,,02-MAY-2016,

APPENDIX IV TO ANNEX A,

NAVAL ENGINEERING TEST ESTABLISHMENT (NETE) WORK INSTRUCTION

PROCEDURE FOR THE MEASUREMENT OF FUEL DILUTION IN USED LUBRICANT OIL BY GAS CHROMATOGRAPHY

1. SCOPE

- 1.1. This instruction applies to the measurement of the amount of fuel found within a used lubricating oil sample.

Safety Note

This work instruction does not fully cover all safety precautions. Employees carrying out these tests are required to read the appropriate Material Safety Data sheets (MSDS) for the chemical reagents used. Any questions regarding the safe use of this procedure should be addressed prior to proceeding. Laboratory coat, safety glasses and latex gloves are required.

2. SUMMARY

- 2.1. A test portion of the sample is diluted with a specific amount of n-decane and is injected into a gas chromatograph. The column temperature is raised at a reproducible rate, and the areas of all peaks from the n-decane peak to the retention time of octadecane are recorded. The ratio of the total area for the sample peaks to the area for the n-decane peak is related to a calibration curve to determine the mass percent diesel fuel in the lubricating oil.

3. REFERENCES

- 3.1. ASTM Standard Test Method D3524

Note

This method provides details specific to the instrumentation and quality control practices at NETE that are in addition to the requirements of D3524. In case of conflict, the requirements of D3524 shall take precedence.

4. REQUIERD RESOURCES

- Perkin Elmer gas chromatograph Model Clarus 580, E0101A015
- GC Column: 6m, 0.53mm Inner Diameter, 0.15µm Film Thickness
- Carrier Gas - nitrogen ultra-pure carrier grade
- FID Gas - hydrogen and air
- Decane
- Heptane
- Octadecane

5. PREPARATION

- 5.1. Set up the GC for operation as outlined below. **Be sure the Helium, Compressed Air, and Hydrogen tanks and valves are open.** Light the FID.
- 5.2. Before analyzing any standards and samples, record the GC baseline profile without any sample injection, using the GC parameters for the method. Verify that the baseline is flat and stable. Conditioning or changing the column before proceeding should correct any irregularities in the baseline. **(Note: Column should be conditioned daily upon use, or immediately before a sequence run when not often in use).**
- 5.3. To condition the column load the Elite1_Conditioning3 - 580 method using the interfaced computer as follows:

Enter Set-up Click Method Click Method folder Choose Elite1_Conditioning3 Click Select Enter Basefile name (name it) OK Wait for GC to be ready Click Run Click start run.
- 5.4. Standards are prepared to cover the % fuel range expected in the samples to be analyzed but, typically, 0%, 1%, 3%, 5% and 8% standards are satisfactory. Prepare so that the mass of the fuel and oil combined is 50g, therefore 0g, 0.5g, 1.5g, 2.5g, and 4g of fuel would be required in 50.0g, 49.5g, 48.5g, 47.5g, and 46g of oil respectively. The mass % diesel fuel is calculated as follows:

$$\text{Mass \% fuel} = [\text{mass of fuel (g)} / (\text{mass of fuel (g)} + \text{mass of oil (g)})] \times 100$$
- 5.5. Prepare solution for determination of the retention times for decane and octadecane by weighing approximately 0.1g of octadecane into a 15ml vial. Add approximately 5ml of decane. Cap and mix well.
- 5.6. Prepare the solvent solution by mixing in a clean glass bottle 2.5g of decane, 0.5g of octadecane and 247 g of heptane. **The quantities may be altered as long as the proportions remain constant.**
- 5.7. Prepare samples and standards by adding 1 g of sample or standard in a 15 ml vial. Add 2 ml of the solvent solution and mix well.
- 5.8. Place a portion of each sample and standard into a 2 ml Auto Sampler Vial and place them on the carousel.
- 5.9. Place heptane into Solvent A and Solvent B auto-sampler vials.

6. SEQUENCE PREPARATION AND RUN

- Vial1: Blank (nothing)
- Vial2: 1ml of Heptane solvent for baseline subtraction
- Vial3: Retention time solution
- Vial4: 1ml of 0% calibration solution
- Vial5: 1ml of 1% calibration solution
- Vial6: 1ml of 3% calibration solution
- Vial7: 1ml of 5% calibration solution
- Vial8: 1ml of 8% calibration solution

SAMPLE SEQUENCE

Vial1: Blank (nothing)
Vial2: 1ml of Heptane solvent for baseline subtraction
Vial3: Retention time solution
Vial4: 1ml of 0% calibration solution
Vial5: 1ml of 1% calibration solution
Vial6: 1ml of 3% calibration solution
Vial7: 1ml of 5% calibration solution
Vial8: 1ml of 8% calibration solution
Vial9: 1ml Sample 1
Vial10: 1ml Sample 2
Vial11: 1ml Sample 3
Vial12: 1ml Sample 4

7. DATA ANALYSIS

- 7.1. Data analysis is based upon the peak areas obtained (The GC sums the area between n-Decane and Octadecane automatically through integration). To prepare a standard curve using Excel:
- Subtract the area of the blank from the obtained areas to obtain corrected area.
 - Determine $R=A/B$, where A is the sum of the areas of the fuel peaks (i.e. the areas between the n-decane and octadecane peaks) and B is the n-decane area.
 - Use the standards to plot a standard curve of R vs % fuel and use the R values for the unknown samples to find the % fuel.

NOTE: The method must be calibrated daily. One calibration standard must be a blank (i.e. new oil - 0% fuel). It is advisable to verify the stability of the calibration periodically during the day using a check sample or standard with a known fuel content. The linear regression of plot R vs % fuel should yield an R2 value of >0.98.

8. ACCURACY AND PRECISION

- 8.1. The accuracy and precision of the results shall be reported according to ASTM Standard Test Method D3524.

RECORD OF AMENDMENTS

Revision No.	Section	Description	Date	Initials
07	-	The Quality Instruction has been changed to reflect the new instrumentation at NETE	2009-08-25	SJ
08	-	The Quality Instruction has been changed to reflect the new instrumentation at NETE	2012-02-27	SJ

APPENDIX V TO ANNEX A,

NAVAL ENGINEERING TEST ESTABLISHMENT WORK INSTRUCTION

DETERMINATION OF THE AMOUNT OF SEDIMENT FOUND IN COOLANT BY CENTRIFUGE

1. SCOPE

- 1.1. This instruction applies to the determination of the amount of sediment found within a coolant sample by centrifuge.

Safety Note

This work instruction does not fully cover all safety precautions. Employees carrying out these tests are required to read the appropriate Material Safety Data sheets (MSDS) for the chemical reagents used. Any questions regarding the safe use of this procedure should be addressed prior to proceeding. Laboratory coat, safety glasses and latex gloves are required.

2. SUMMARY

- 2.1. A coolant sample is placed into a centrifuge tube and then centrifuged and a visual inspection is made to determine the amount of sediment.

3. REFERENCES

- 3.1. ASTM D96
- 3.2. ASTM D2709

NOTE: This method provides details beyond those found in the above mentioned method specific to quality control practices at NETE. In case of conflict, the requirements of the aforementioned reference shall take precedence.

4. REQUIRED RESOURCES

- 100ml Centrifuge tube with graduations according to ASTM D96; and
- Centrifuge.

5. PROCEDURE

- 5.1. Shake the sample well and add 100ml to a centrifuge tube.
- 5.2. If you have two samples to analyze, ensure the tubes are balanced and on opposite sides of the centrifuge. If there is only one sample to analyze, fill a centrifuge tube with water and ensure it is balanced with the sample tube and place them on opposite sides of the centrifuge. **NOTE: Only use centrifuge tubes with graduations that abide by the specifications found in ASTM D96.**
- 5.3. Centrifuge the samples at 1610rpm for 20 minutes.
- 5.4. Remove and visually inspect the amount of sediment found at the bottom of the centrifuge tube.
- 5.5. Estimate the volume of sediment using the following precision table.

Solicitation No. - N° de l'invitation
W8482-229405/A
Client Ref. No. - N° de réf. du client
W8482-229405

Amd. No. - N° de la modif.
File No. - N° du dossier
2183G-10041-N.000879

Buyer ID - Id de l'acheteur
8715100
CCC No./N° CCC - FMS No./N° VME

Volume of Sediment	Read to the nearest, ml
0.0 – 0.2	0.025
0.2 – 1.0	0.05
> 1.0	0.10

5.6. Report this value as a percent.

RECORD OF AMENDMENTS

Revision No.	Section	Description	Date	Initials

Solicitation No. - N° de l'invitation
W8482-229405/A
Client Ref. No. - N° de réf. du client
W8482-229405

Amd. No. - N° de la modif.
File No. - N° du dossier
2183G-10041-N.000879

Buyer ID - Id de l'acheteur
8715100
CCC No./N° CCC - FMS No./N° VME

ANNEX B, ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):

- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI).