

**TERMS OF REFERENCE**

**for the purchase of lubricants to be used by Maintenance department at the Kumtor mine**

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| **Item****№** | **List of basic** **data and requirements** | **Basic data and requirements** |
| 1. | Delivery location  | Balykchy Marshalling Yard (BMY), Balykchy, Kyrgyz Republic. |
| 2. | Client  | Kumtor Gold Company CJSC. |
| 3. | Contractor | To be selected according to the competition results. |
| 4. | Purpose of the purchase | Purchase of lubricants for heavy-duty equipment operation in high altitude environment, including low temperatures and significant altitude difference, at the Kumtor Mine in Kyrgyzstan. |
| 5. | Types of heavy-duty equipment models:  | * CAT Haul Trucks: 785C, 789C and 789D.
* CAT Crawler Bulldozer: D9R, D10R, D10T and D10T2.
* CAT Wheeled Bulldozer: 834H, 834K.
* CAT Wheel Loader: 966H, 988K, 992K and 993K.
* CAT Grader: 16H, 16M, 16M3, 24M.
* Sandvik Drills: DI550, D55SP, DR460, DR410I.
* Drills: Epiroc D65.
* Shovels: Liebherr R9350, HITACHI EX3600-6LD.
* CAT Shovels: 374FL, M320D2, 330 and 374.
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| 6. | General requirements/ Tolerances and standards. | * **1. Motor oil requirements:**

Viscosity: SAE 15W-40.Volume: Lubtainer /ISO TANKCompliance with requirements and classifications: API: CI-4, CH-4.Caterpillar: ECF-2.Cummins: CES 20078, CES 20077, CES 20076, approved in the list of registered oils according to the CES 20078 standard.* **2. Transmission and hydraulic oil requirements:**

Viscosity: SAE 10W.Volume: Lubtainer/ISO TANK Approved for use in transmissions, main gears and hydraulic systems.Compliance with requirements and classifications: Caterpillar TO-4.* **3. Hydraulic oil requirements:**

Viscosity: ISO VG 46.Volume: IBC (1000 l).Type: zinc free hydraulic fluid/Zinc Free,Compliance with requirements and classifications:DIN 51524-2 HVL. DIN 51524-3 HVLP.Without detergent additives.* **4. Gear oil requirements:**

Viscosity: SAE 50.Volume: IBC (1000 l).Caterpillar FD-1 and TO-4.* **5. Compressor oil requirements:**

Viscosity: ISO 32.Volume: Barrel (208 l).Type: Synthetics, polyalphaolefin-based (PAO).DIN 51506 VD-L.* **6. Transmission oil requirements:**

Viscosity: SAE 75W90.Volume: Barrel (208 l).Type: Synthetics.API: GL-4, GL-5, MT-1.* **7. Antifreeze requirements:**

OAT (Organic Acid Technology) antifreeze: XLC (Extra Life Coolant), ELC (Extended Life Coolant):Volume: IBC (1000 l).Type: Concentrate.**Notes:**Antifreeze shall be compatible with rubber, plastic and metal components of the cooling system to prevent damage to them.* 8. Plastic grease: No. 1

NLGI: 1 and 2. Type: MineralTemperature range: -40°C to +160°C.Thickener Type: Polyurea. Other thickener types that are compatible with polyurea.Additives: extreme pressure (EP).Excellent water resistance and corrosion protection.Volume: Barrel (Drum).* 9. Plastic grease: No. 2

NLGI: 2. Type: Synthetics.Temperature range: -30°C to +160°CThickener Type: Lithium complexes. Other thickener types that are compatible with lithium.Additives: extreme pressure (EP).Excellent water resistance and corrosion protection.Volume: Barrel (Drum).**Notes:**Lubricant shall not destroy the rubber or polyurethane seals used in the equipment components. |
|  | Individual requirements | 1. **Quality and Compliance**:
* Lubricants supplied shall comply with international quality standards (e.g. API, SAE, ISO).
* Products shall be certified according to international safety standards and environmental requirements.
* Product quality shall be confirmed by quality passports for each batch.
* Stability of physical and chemical properties of materials during the entire service life shall be guaranteed.
1. **Technical support and consultation**:
* Supplier shall provide technical consultation on the selection of optimal lubricants, considering the specifics of heavy-duty equipment operation and the mine's climatic conditions.
* Supplier shall, at the written request of the Client, provide a safe plan for transitioning to a new lubricant, considering the risks of mixing different types of oils, to prevent downtime. The plan shall consider the specifics of the Maintenance department and the mine's climatic conditions.
* Supplier shall organize “Lubricant Fundamentals” and “Oil Analysis Programs” trainings for the Maintenance Department personnel.
* Technical audit: A team of specialists from the supplier's plant shall arrive to improve the “Lube Management System” processes in the Maintenance Department, the specialists shall provide reports on the maintenance process improvement and if possible, propose projects to reduce the lubricant consumption costs.
* Supplier shall maintain a high level of service and promptly resolve all issues arising related to delivery and product quality.
1. **References and confirmation of reliability**:
* Supplier shall provide references from other clients confirming successful experience in supplying similar lubricants. References shall include examples of materials used to demonstrate that there is no equipment problems related to their quality.
* Particular attention will be paid to information on the maximum oil change intervals and component run times achieved when using the proposed lubricants.
* It is advisable to provide data on improvements in equipment performance and economic efficiency based on the use of the supplier's products, as well as contacts of key clients to confirm this information.
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|   | Warranty and Responsibility: | 1. In case of delivery of lubricants that do not meet the requirements specified in the Terms of Reference, related to the use of low-quality lubricants and if it leads to downtime or failure of the main units of the Heavy-Duty Equipment Maintenance Department equipment, Supplier shall be responsible for the damage caused.
2. Supplier shall provide a warranty for its products with the obligation to replace materials in case of non-compliance with technical specifications or presence of defects.
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| 8. | Warranty period | According to the Agreement. |
| 9. | Payment procedure | According to the Agreement. |
| 11. | Confidentiality | All data obtained during the work conducted by the Contractor shall be the Client's property and confidential. Disclosure to third parties shall be prohibited.  |
| 12. | Safety  | According to the Agreement. |

**Information from Manas system on 2025 lubricant consumption forecast:**

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| **№** | **Oil type** | **Container** | **Volume** | **Units** | **2025 consumption forecast (kg/l)** |
| 1 | SAE 15W40 | Lubtainer (ISO tank) |  | pcs. | 36 |
| 2 | SAE 10W | Lubtainer (ISO tank) |  | pcs. | 39 |
| 3 | SAE HD50 | Barrel | 1000 | L | 305500 |
| 4 | ISO VG 46AW | IBC | 1000 | L | 249167 |
| 5 | SAE 75W-90 | Barrel | 208 | L | 63579 |
| 6 | ISO 32 PAO | Barrel | 208 | L | 24336 |
| 7 | Antifreeze concentrate | IBC | 1000 | L | 138750 |
| 8 | Plastic grease EP (synthetic) | Barrel | 180 | Kg | 26910 |
| 9 | Plastic grease EP - 1 (mineral, winter) | Barrel | 180 | Kg | 110700 |
| 10 | Plastic grease EP - 2 (mineral, summer) | Barrel | 180 | kg | 42900 |
| 11 | SAE 10W | IBC | 1000 | l | 109500 |
| 12 | SAE 15W-40 | IBC | 1000 | l | 54250 |