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|  | COOMET Document | COOMET P5/2018 |
| | Programme of Joint CRM Production within COOMET | |

**PROGRAMME
OF JOINT CRM PRODUCTION
WITHIN COOMET
(PROJECT No. 186/RU/99)**

As of 05 September 2018

| Ind .NN | Country, CRM producer, contact person | Project | Certified characteristics | Planned values (range) of certified characteristics | Period of CRM development | Notes |
|---|--|---|---|--|---------------------------|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| <i>Part 1 (projects for which the forms of Proposed (P) or Agreed (A) Projects are prepared)</i> | | | | | | |
| 1. | <p>Russia All-Russian Research Institute for Petroleum Refining (OJSC “VNII NP”) Moscow</p> <p>Contact Person: Irina V. Tereshina Head of Metrological Research Laboratory Tel:(495)788-1553, 787-48-87, ext.1367 E-mail: metrology@vniinp.ru</p> <p>Scientific and Production Association “INTEGRSO” Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> <p>FGUP “UNIM“ Ekaterinburg acting Head of Department Olga N. Kremleva Tel.: (343) 350-60-68 E-mail: kremleva77@yandex.ru</p> | <p>Development of CRMs of volume (mass) fraction of oxygenates in petrol: (3 types): CRM OMD OKG -1; CRM OMD OKG -2; CRM OMD OKG-3</p> <p><u>358/RU/06 (A)</u></p> | <p>CRM OMD OKG -1: Volume (mass) fraction, % ethanol isopropanol Mass fraction of organically bound oxygen, %</p> <p>CRM OMD OKG -2: Volume (mass) fraction of MTBE, % Mass fraction of organically bound oxygen, %</p> <p>CRM OMD OKG -3: Volume (mass) fraction, % ethanol isopropanol MTBE Mass fraction of organically bound oxygen, %</p> | <p>0,10-0,30 0,10-0,30 0,10-0,20 1,0-3,0 0,2-0,6 0,5-1,5 2,0-4,0 4,0-6,0 2,0-3,0</p> | 2011-2019 | <p>Participants of work: 1. Belarus -202 chemmological fuel centre at the RB Ministry of Defense; -OJSC “Naphtan” 2. Moldova -Standardization and Metrology Service of Republic of Moldova</p> |

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| 2. | <p>Russia All-Russian Research Institute for Petroleum Refining (OJSC “VNII NP”) Moscow Contact Person: Irina V. Tereshina Head of Metrological Research Laboratory Tel:(495)788-1553, 787-48-87, ext.1367 E-mail: metrology@vniinp.ru</p> <p>Scientific and Production Association “INTEGRSO” Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> | <p>Development of CRMs of calcium and zinc content in oils (3 types)</p> <p><u>521/RU/11 (P)</u></p> | <p>Mass fraction, %</p> <p>CRM MDKC – 1: Ca 0,10 – 0,20 Zn 0,10 – 0,15</p> <p>CRM MDKC – 2: Ca 0,20 – 0,30 Zn 0,05 – 0,10</p> <p>CRM MDKC – 3: Ca 0,30 – 0,40 Zn 0,07 – 0,12</p> | | 2011–2019 | <p>Participants of work:</p> <p>1. Belarus - OJSC “Mozyr Petroleum Processing Plant” - OJSC “Naphtan”</p> <p>2. Kazakhstan - “Centrgeoanalyte, Ltd”</p> <p>3. Ukraine -The Centre of Certification Tests, State Research and Design Institute of Titanium.</p> |
| 3. | <p>Russia All-Russian Research Institute for Petroleum Refining (OJSC “VNII NP”) Moscow Contact Person: Irina V. Tereshina Head of Metrological Research Laboratory Tel:(495)788-1553, 787-48-87, ext.1367 E-mail: metrology@vniinp.ru</p> <p>Scientific and Production Association “INTEGRSO” Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> | <p>Development of CRMs for sulphur microimpurities content in petroleum products (5 types)</p> <p><u>536/RU/11 (P)</u></p> | <p>Mass fraction of sulphur microimpurities, %</p> <p>CRM MDMS -1 0,0000 – 0,0005 CRM MDMS -2 0,0005 – 0,0020 CRM MDMS -3 0,0020 – 0,010 CRM MDMS -4 0,010 – 0,020 CRM MDMS -5 0,020 – 0,040</p> | | 2011–2019 | <p>Participants of work:</p> <p>1. Belarus - OJSC “Naphtan”; - OJSC “Mozyr Petroleum Processing Plant”</p> <p>2. Kazakhstan - D. Serikbaev East-Kazakhstan GTU on certification tests of motor fuel and oil “SATandM”; - JSC “KazMunaiGas Onimderi”; - “Neftechem Company LTD” - West-Kazakhstan JSC “NaTsEkS”</p> <p>3. Lithuania -State Scientific and Research Centre of Physical and Technological Sciences</p> <p>4. Ukraine - OJSC “NPK-Galichina”; -IP “SZHS Ukraine”</p> |

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| 4. | <p style="text-align: center;">Russia All-Russian Research Institute for Petroleum Refining (OJSC "VNII NP") Moscow Contact Person: Irina V. Tereshina Head of Metrological Research Laboratory Tel:(495)788-1553, 787-48-87, ext.1367 E-mail: metrology@vniinp.ru</p> <p style="text-align: center;">Scientific and Production Association "INTEGRSO" Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> | <p>Development of CRMs of ultimate temperature of diesel fuel filterability on a cold filter (2 types)</p> <p><u>537/RU/11 (P)</u></p> | <p>Ultimate temperature of filterability on a cold filter, °C</p> <p style="text-align: center;">CRM PTF DT -1 CRM PTF DT -2</p> | <p>0 – minus 20° C minus 20 – minus 40° C</p> | 2011–2019 | <p>Participants of work:</p> <p>1. Belarus -OJSC "Naphtan"; - OJSC "Mozyr Petroleum Processing Plant";</p> <p>2. Kazakhstan West-Kazakhstan JSC "NaTsEkS"</p> <p>3. Ukraine - OJSC "NPK-Galichina";</p> |
| 5. | <p style="text-align: center;">Scientific and Production Association "INTEGRSO" Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> | <p>Development of CRMs of lead concentration in motor petrol (4 types)</p> <p><u>538/RU/11 (P)</u></p> | <p>Lead concentration, mg/dm³</p> <p style="text-align: center;">CRM KSB-1 CRM KSB-2 CRM KSB-3 CRM KSB-4</p> | <p>0 - 0,1; 2,0 - 3,0; 4,0 - 7,0; 8,0 - 10,0.</p> | 2011–2019 | <p>Participants of work:</p> <p>1. Belarus - OJSC "Naphtan" - OJSC "Mozyr Petroleum Processing Plant"</p> <p>2. Kazakhstan - JSC "KazMunaiGas Onimderi";</p> <p>3. Lithuania -State Scientific and Research Centre of Physical and Technological Sciences</p> <p>4. Ukraine - OJSC "NPK-Galichina";</p> |
| 6. | <p style="text-align: center;">Scientific and Production Association "INTEGRSO" Ufa Anvar H. Muhamedzyanov General Director Tel. (347) 275-31-38 (347) 270-86-13, 8-901-813-75-29 E-mail: integrso@mail.ru</p> | <p>Development of CRMs of iron concentration in motor petrol (4 types)</p> <p><u>539/RU/11 (P)</u></p> | <p>Mass concentration of iron, mg/dm³</p> <p style="text-align: center;">CRM MKJ-1 CRM MKJ-2 CRM MKJ-3 CRM MKJ-4</p> | <p>0 - 3; 3 - 8; 8 - 15; 15 - 25.</p> | 2011–2019 | <p>Participants of work:</p> <p>1. Belarus - OJSC "Naphtan" - OJSC "Mozyr Petroleum Processing Plant"</p> <p>2. Lithuania -State Scientific and Research Centre of Physical and Technological Sciences</p> <p>3. Ukraine - OJSC "NPK-Galichina";</p> |

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| 7. | <p align="center">Russia</p> <p align="center">Federal State Budgetary Enterprise of Science A.P. Vinogradov Geochemistry Institute Siberian Branch of Russian Academy of Sciences</p> <p align="center">1a, Favorsky Str. Irkutsk, 664033</p> <p align="center">Contact Person: Irina E. Vasilieva Head of Laboratory of Optical Spectral Analysis and Reference Materials E-mail: vasira@igc.irk.ru Tel./fax: +7 (3952) 42 58 37 Mob.: +7 964 226 4811</p> | <p>Development of CRM for composition of wolframite hubnerite concentrate (hard- alloy) – KVG(T)</p> <p><u>617/RU/13 (A)</u></p> | <p>Mass fraction of elements, %</p> <p>Tungsten Manganese Aluminium Beryllium Vanadium Bismuth Iron Gold Yttrium Cadmium Calcium Silicon Copper Molybdenum Arsenic Niobium Tin Lead Sulphur Silver Scandium Antimony Titanium Uranium Phosphor Fluoride Zinc Zirconium</p> <p><i>Note: Elements in bold are of the main interest during certification</i></p> | <p>45 – 50 10 – 12 0,7 – 1,0 0,0007 – 0,002 0,01 – 0,05 0,006 – 0,009 7,0 – 8,0 0,0005 – 0,003 0,002 – 0,005 0,001 – 0,0001 1,5 – 2,5 1,8 – 2,2 0,004 – 0,007 0,0015 – 0,003 0,00007 – 0,0007 0,02 – 0,10 0,02 – 0,04 0,06 – 0,08 0,15 – 0,20 0,0004 – 0,001 0,007 – 0,05 0,0001 – 0,003 3,3 – 4,0 0,001 – 0,003 0,001 – 0,05 0,3 – 0,4 0,015 – 0,025 0,007 – 0,03</p> | 2013-2019 | <p>Participants of work:</p> <p>1.Belarus</p> <p>2.Bulgaria GEOLAB Analytical Laboratory of Geological Institute BAN</p> <p>3.Kazakhstan - “Centrgeanalyte, Ltd” - Riddersk mining and processing complex “Kazzinc, Ltd” - Central Chemical Laboratory of Balkhash region “Kazakhmys Corporation, Ltd.”</p> <p>4. Uzbekistan GP “Central Laboratory” of State Committee of Geology and Mineral Resources of the Republic of Uzbekistan, 64-a, N. KHodzhibaev Str., Tashkent, Head of laboratory KHamro Sabirov hsabirov@yandex.ru</p> |

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| 8. | <p>Ukraine State Enterprise “State Research and Design Institute of Titanium” (SE “SRD Titanium Institute”) 180 Lenin pr., Zaporozhe, Ukraine, 69035</p> <p>Contact Person: Alexey D. Suschinsky, Deputy General Director The Institute of Titanium Tel., (+38 061) 289-91-00 Fax (+38 061) 289-91-30 E-mail: nii@nii.timag.org</p> <p>NSC “Institute of Metrology” 42 Mironositskya str., Kharkov, 61002, Ukraine</p> <p>Contact Person: Andrey G. Ivkov, Leading Researcher Tel.: (+ 38 057) 704-97-45 Fax: (+ 38 057) 700-34-47, E-mail: standard@metrology.kharkov.ua E-mail: crm-ua@ukr.net</p> | <p>Development of CRM of Guinean and Guyanese bauxites composition for chemical and XRD analyses</p> <p><u>619/UA/13 (P)</u></p> | <p>Mass fraction of components , %</p> <p><i>Chemical composition:</i> Aluminium oxide Silicon dioxide Titanium dioxide Chromium oxide Iron (III) oxide total Manganese oxide Magnesium oxide Vanadium oxide Calcium oxide Gallium oxide Phosphorus oxide Sulphur Total carbon Carbon (IV) oxide Mass loss at calcination</p> <p><i>Phase composition:</i> Gibbsite Goethite Hematite Rutile Kaolinite Octahedrite</p> | <p>40-60 2-10 1-3 0,01-0,5 1-30 0,01-0,5 0,05-0,15 0,03-0,1 0,1-0,2 0,005-0,03 0,1-0,2 <i>less than 0,1</i> 0,1-0,5 0,05-0,5 20-30 50-70 10-20 10-20 1-5 10-20 10-20</p> | 2013-2015 | <p>Participants of work:</p> <p>1. Belarus -BelGIM - Central laboratory of RUP “Belgeologia” branch;</p> <p>2. Kazakhstan - “Centrgeanalyte, Ltd” - “Topaz, Ltd” - JSC “Kazakhstan Aluminium” - JSC “Kazakhstan Electrolysis Plant”</p> <p>3. Russia -OJSC “West-Siberian Testing Centre” (OJSC “WSTCentre”)</p> |

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| 9. | <p>Ukraine State Enterprise “State Research and Design Institute of Titanium” (SE “SRD Titanium Institute”) 180 Lenin pr., Zaporozhe, Ukraine, 69035</p> <p>Contact Person: Alexey D. Suschinsky, Deputy General Director The Institute of Titanium Tel., (+38 061) 289-91-00 Fax (+38 061) 289-91-30 E-mail: nii@nii.timag.org</p> <p>NSC “Institute of Metrology” 42 Mironositskya str., Kharkov, 61002, Ukraine</p> <p>Contact Person: Andrey G. Ivkov, Leading Researcher Tel.: (+ 38 057) 704-97-45 Fax: (+ 38 057) 700-34-47, E-mail: standard@metrology.kharkov.ua E-mail: crm-ua@ukr.net</p> | <p>Development of CRMs of disthene- sillimanite concentrate composition for chemical and spectral analyses</p> <p><u>620/UA/13 (P)</u></p> | <p>Mass fraction of components , %</p> <p><i>For chemical analysis:</i> Aluminium oxide Iron (III) oxide Titanium (IV) oxide Magnesium oxide Calcium oxide</p> <p><i>For spectral analysis:</i> Iron (III) oxide Titanium oxide Magnesium oxide Calcium oxide</p> | <p>40-60 0,3-1,0 0,3-3,0 0,1-0,5 0,05-0,3</p> <p>0,3-1,0 0,3-3,0 0,1-0,5 0,05-0,3</p> | <p>2013-2015</p> | <p>Participants of work:</p> <p>1. Belarus -BelGIM - Central laboratory of RUP “Belgeologia” branch;</p> <p>2. Kazakhstan - “Centrgeoanalyte, Ltd” - “Topaz, Ltd”</p> <p>3. Russia -OJSC “West-Siberian Testing Centre” (OJSC “WSTCentre”)</p> |

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|---|---|---|---|---|--|---|--------------------------|--|--|----|---------|--------|----|---------|----|---------|----|---------|----|---------|----|---------|----|---------|-----------------------------------|--|--|----|---------|--------|----|----|----|----|----------|--------|----|----|-----------------------------------|--|--------|-----------------------------|--|--------|---|--|--------|--------------------------------|--|--------|--------------------|--|--------|--|--|------|---|---|---|--------------------------|--|----|---------|----|---------|----|---------|----|---------|----|---------|----|---------|----|---------|-----------------------------------|--|----|---------|----|----|----|----|----------|----|----|-----------------------------------|--|-----------------------------|--|---|--|--------------------------------|--|--------------------|--|--|--|-----------|--|
| 10. | <p align="center">Ukraine</p> <p>Institute of Animal Science of National Academy of Agrarian Sciences of Ukraine Kharkov 3 7th Guards Army str., Kulinichi, Kharkov region, Ukraine, 62404</p> <p>Contact Person: Sergey O. Shapovalov Deputy Director Kharkov Tel.: (+38 057) 740-33-03 Fax: (+38057) 740-39-94 E-mail: shapovalov73@rambler.ru</p> <p>NSC "Institute of Metrology" 42 Mironositskya str., Kharkov, 61002, Ukraine</p> <p>Contact Person: Andrey G. Ivkov, Leading Researcher Tel.: (+ 38 057) 704-97-45 Fax: (+ 38 057) 700-34-47, E-mail: standard@metrology.kharkov.ua E-mail: crm-ua@ukr.net</p> | <p>Development of CRM for composition of raw milk main components (set)</p> <p>632/UA/14 (P)</p> | <table border="1"> <tr> <td colspan="2">Interval of permissible certified values for CRM types in a set</td> <td>Limits of permissible values for errors of certified values at P=0,95</td> </tr> <tr> <td colspan="3">Mass fraction of fat, %:</td> </tr> <tr> <td>F1</td> <td>2,0-2,5</td> <td rowspan="7">± 0,06</td> </tr> <tr> <td>F2</td> <td>2,6-3,0</td> </tr> <tr> <td>F3</td> <td>3,1-3,5</td> </tr> <tr> <td>F4</td> <td>3,6-4,0</td> </tr> <tr> <td>F5</td> <td>4,1-4,5</td> </tr> <tr> <td>F6</td> <td>4,6-5,0</td> </tr> <tr> <td>F7</td> <td>5,1-5,5</td> </tr> <tr> <td colspan="3">Mass fraction of total protein, %</td> </tr> <tr> <td>F1</td> <td rowspan="4">1,7-2,7</td> <td rowspan="4">± 0,04</td> </tr> <tr> <td>F2</td> </tr> <tr> <td>F3</td> </tr> <tr> <td>F4</td> </tr> <tr> <td>F5</td> <td rowspan="3">2,71-5,5</td> <td rowspan="3">± 0,04</td> </tr> <tr> <td>F6</td> </tr> <tr> <td>F7</td> </tr> <tr> <td colspan="2">Mass fraction of protein (tru), %</td> <td>± 0,03</td> </tr> <tr> <td colspan="2">Mass fraction of lactose, %</td> <td>± 0,12</td> </tr> <tr> <td colspan="2">Mass fraction of dried skim milk residue, %</td> <td>± 0,07</td> </tr> <tr> <td colspan="2">Mass fraction of dry matter, %</td> <td>± 0,08</td> </tr> <tr> <td colspan="2">Freezing point, °C</td> <td>± 0,01</td> </tr> <tr> <td colspan="2">Number of somatic cells, ths/cm³</td> <td>± 15</td> </tr> </table> | Interval of permissible certified values for CRM types in a set | | Limits of permissible values for errors of certified values at P=0,95 | Mass fraction of fat, %: | | | F1 | 2,0-2,5 | ± 0,06 | F2 | 2,6-3,0 | F3 | 3,1-3,5 | F4 | 3,6-4,0 | F5 | 4,1-4,5 | F6 | 4,6-5,0 | F7 | 5,1-5,5 | Mass fraction of total protein, % | | | F1 | 1,7-2,7 | ± 0,04 | F2 | F3 | F4 | F5 | 2,71-5,5 | ± 0,04 | F6 | F7 | Mass fraction of protein (tru), % | | ± 0,03 | Mass fraction of lactose, % | | ± 0,12 | Mass fraction of dried skim milk residue, % | | ± 0,07 | Mass fraction of dry matter, % | | ± 0,08 | Freezing point, °C | | ± 0,01 | Number of somatic cells, ths/cm ³ | | ± 15 | <table border="1"> <tr> <td>Interval of permissible certified values for CRM types in a set</td> <td>Limits of permissible values for errors of certified values at P=0,95</td> </tr> <tr> <td colspan="2">Mass fraction of fat, %:</td> </tr> <tr> <td>F1</td> <td>2,0-2,5</td> </tr> <tr> <td>F2</td> <td>2,6-3,0</td> </tr> <tr> <td>F3</td> <td>3,1-3,5</td> </tr> <tr> <td>F4</td> <td>3,6-4,0</td> </tr> <tr> <td>F5</td> <td>4,1-4,5</td> </tr> <tr> <td>F6</td> <td>4,6-5,0</td> </tr> <tr> <td>F7</td> <td>5,1-5,5</td> </tr> <tr> <td colspan="2">Mass fraction of total protein, %</td> </tr> <tr> <td>F1</td> <td rowspan="4">1,7-2,7</td> </tr> <tr> <td>F2</td> </tr> <tr> <td>F3</td> </tr> <tr> <td>F4</td> </tr> <tr> <td>F5</td> <td rowspan="3">2,71-5,5</td> </tr> <tr> <td>F6</td> </tr> <tr> <td>F7</td> </tr> <tr> <td colspan="2">Mass fraction of protein (tru), %</td> </tr> <tr> <td colspan="2">Mass fraction of lactose, %</td> </tr> <tr> <td colspan="2">Mass fraction of dried skim milk residue, %</td> </tr> <tr> <td colspan="2">Mass fraction of dry matter, %</td> </tr> <tr> <td colspan="2">Freezing point, °C</td> </tr> <tr> <td colspan="2">Number of somatic cells, ths/cm³</td> </tr> </table> | Interval of permissible certified values for CRM types in a set | Limits of permissible values for errors of certified values at P=0,95 | Mass fraction of fat, %: | | F1 | 2,0-2,5 | F2 | 2,6-3,0 | F3 | 3,1-3,5 | F4 | 3,6-4,0 | F5 | 4,1-4,5 | F6 | 4,6-5,0 | F7 | 5,1-5,5 | Mass fraction of total protein, % | | F1 | 1,7-2,7 | F2 | F3 | F4 | F5 | 2,71-5,5 | F6 | F7 | Mass fraction of protein (tru), % | | Mass fraction of lactose, % | | Mass fraction of dried skim milk residue, % | | Mass fraction of dry matter, % | | Freezing point, °C | | Number of somatic cells, ths/cm ³ | | 2014–2016 | <p>Participants of work:</p> <p>1. Kazakhstan (9 organizations)</p> <ul style="list-style-type: none"> - Astana branch of JSC "NCEC" - Atyrau branch of JSC "NCEC" - East Kazakhstan branch of JSC "NCEC" - RSE "East-Kazakhstan regional center of sanitary-epidemiological examination" of the Committee for State Sanitary-Epidemiological Surveillance of the Ministry of Health of the Republic of Kazakhstan (hereafter referred to as CSSES MH RK) - RSE "West-Kazakhstan regional center of sanitary-epidemiological examination" of CSSES MH RK - RSE "Kyzylorda regional center of sanitary-epidemiological examination" of CSSES MH RK - RSE "Pavlodar regional center of sanitary-epidemiological examination" of CSSES MH RK - RSE "South-Kazakhstan regional center of sanitary-epidemiological examination" of CSSES MH RK - RSE "Center of sanitary-epidemiological examination" Medical Center of President's Affairs Administration of the Republic of Kazakhstan <p>2. Russia (8 laboratories)</p> |
| Interval of permissible certified values for CRM types in a set | | Limits of permissible values for errors of certified values at P=0,95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of fat, %: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | 2,0-2,5 | ± 0,06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F2 | 2,6-3,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F3 | 3,1-3,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F4 | 3,6-4,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F5 | 4,1-4,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F6 | 4,6-5,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F7 | 5,1-5,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of total protein, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | 1,7-2,7 | ± 0,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F5 | 2,71-5,5 | ± 0,04 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of protein (tru), % | | ± 0,03 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of lactose, % | | ± 0,12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of dried skim milk residue, % | | ± 0,07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of dry matter, % | | ± 0,08 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Freezing point, °C | | ± 0,01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of somatic cells, ths/cm ³ | | ± 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interval of permissible certified values for CRM types in a set | Limits of permissible values for errors of certified values at P=0,95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of fat, %: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | 2,0-2,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F2 | 2,6-3,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F3 | 3,1-3,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F4 | 3,6-4,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F5 | 4,1-4,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F6 | 4,6-5,0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F7 | 5,1-5,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of total protein, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F1 | 1,7-2,7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F5 | 2,71-5,5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of protein (tru), % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of lactose, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of dried skim milk residue, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mass fraction of dry matter, % | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Freezing point, °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of somatic cells, ths/cm ³ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|--|---|--|---|------------------|---|
| 11. | <p style="text-align: center;">Russia FGUP "The Central Scientific Research Institute of Geology of Industrial Minerals (FGUP "TsNIIgeolnerud") 4, Zinin Str. Kazan, the Republic of Tatarstan, 420097 Evgeny M. Aksenov Director тел.: +7 (843) 236-47-93 факс: +7 (843) 236-47-04 <i>e-mail: atsic@geolnerud.net</i></p> <p style="text-align: center;">Contact person: Taliya Z. Lygina Deputy Director for Science tel. +7 (843) 236-53-73 fax +7 (843) 236-47-04 <i>e-mail: lygtal52@mail.ru</i></p> <p style="text-align: center;">Olga M. Ilicheva, Head of the testing laboratory "MinAnalyt" tel./fax: +7 (843) 23-83-750, E-mail: o.m.ilicheva@gmail.com</p> | <p>Development of CRM for composition of quartz concentrate (QC of DODO deposit vein 233) – KK-233</p> <p><u>659/RU/15 (P)</u></p> | <p>Mass fraction of elements:</p> <p style="padding-left: 40px;">Aluminium Titanium Calcium Magnesium Copper Manganese Sodium Potassium Lithium Phosphor Vanadium Chromium Nickel Zinc Cobalt Germanium Zirconium Cadmium Antimony Strontium Iron Barium Boron</p> | <p>Mass fraction, ppm</p> <p style="padding-left: 40px;">1-15 0,1-2,0 0,1-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,5-3,0 0,1-2,0 0,1-2,0 0,1-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,1 0,001-0,01 0,01-0,5 0,01-0,1 0,01-2,0 0,01-0,5 0,01-0,5</p> | <p>2015-2019</p> | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work: 1. Belarus - BelGIM; - Central laboratory of RUE "Belgeologiya" 2. Kazakhstan 3. Uzbekistan GP "Central Laboratory" of State Committee of Geology and Mineral Resources of the Republic of Uzbekistan, 64-a, N. KHodzhibaev Str., Tashkent, Head of laboratory KHamro Sabirov hsabirov@yandex.ru</p> |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|--|--|--|--|------------------|--|
| 12. | <p style="text-align: center;">Russia</p> <p>FGUP “The Central Scientific Research Institute of Geology of Industrial Minerals (FGUP “TsNIIgeolnerud”) 4, Zinin Str. Kazan, the Republic of Tatarstan, 420097 Evgeny M. Aksenov Director тел.: +7 (843) 236-47-93 факс: +7 (843) 236-47-04 <i>e-mail: atsic@geolnerud.net</i></p> <p>Contact person: Taliya Z. Lygina Deputy Director for Science tel. +7 (843) 236-53-73 fax +7 (843) 236-47-04 <i>e-mail: lygtal52@mail.ru</i></p> <p>Olga M. Ilyicheva, Head of the testing laboratory “MinAnalyt” tel./fax: +7 (843) 23-83-750, E-mail: o.m.ilyicheva@gmail.com</p> | <p>Development of CRM for composition of quartz concentrate (QC of Vyazov deposit, vein 5) – KK-5</p> <p><u>660/RU/15 (P)</u></p> | <p>Mass fraction of elements:</p> <p>Aluminium Titanium Calcium Magnesium Copper Manganese Sodium Potassium Lithium Phosphor Vanadium Chromium Nickel Zinc Cobalt Germanium Zirconium Cadmium Antimony Strontium Iron Barium Boron</p> | <p>Mass fraction, ppm</p> <p>1-15 1,0-5,0 0,05-2,0 0,01-2,0 0,01-0,5 0,01-0,5 0,1-3,0 0,1-3,0 0,1-2,0 0,01-1,0 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,01-0,5 0,1-3,0 0,01-0,1 0,005-0,05 0,01-0,5 0,01-0,5 0,05-2,0 0,01-0,5 0,01-0,5</p> | <p>2015-2019</p> | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work: 1. Belarus -BelGIM; - Central laboratory of RUE “Belgeologiya” 2. Kazakhstan 3. Uzbekistan GP “Central Laboratory” of State Committee of Geology and Mineral Resources of the Republic of Uzbekistan, 64-a, N. KHodzhibaev Str., Tashkent, Head of laboratory KHamro Sabirov hsabirov@yandex.ru</p> |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|--|--|--|---|------------------|---|
| 13. | <p style="text-align: center;">Russia</p> <p>FGUP “The Central Scientific Research Institute of Geology of Industrial Minerals (FGUP “TsNIIgeolnerud”) 4, Zinin Str. Kazan, the Republic of Tatarstan, 420097 Evgeny M. Aksenov Director тел.: +7 (843) 236-47-93 факс: +7 (843) 236-47-04 <i>e-mail: atsic@geolnerud.net</i></p> <p>Contact person: Taliya Z. Lygina Deputy Director for Science tel. +7 (843) 236-53-73 fax +7 (843) 236-47-04 <i>e-mail: lygtal52@mail.ru</i></p> <p>Olga M. Ilyicheva, Head of the testing laboratory “MinAnalyt” tel./fax: +7 (843) 23-83-750, E-mail: o.m.ilicheva@gmail.com</p> | <p>Development of CRM for composition of quartz concentrate (QC of Karayan deposit, vein 17) – KK -17</p> <p><u>661/RU/15 (P)</u></p> | <p>Mass fraction of elements:</p> <p style="padding-left: 40px;">Aluminium Titanium Calcium Magnesium Copper Manganese Sodium Potassium Lithium Phosphor Vanadium Chromium Nickel Zinc Cobalt Germanium Zirconium Cadmium Antimony Strontium Iron Barium Boron</p> | <p>Mass fraction, ppm</p> <p style="padding-left: 40px;">0,1-10,0 0,5-5,0 0,01-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,1-3,0 0,05-2,0 0,01-2,0 0,01-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,01-1,0 0,01-0,5 0,1-3,0 0,01-0,5 0,005-0,05 0,01-0,5 0,01-0,5 0,1-3,0 0,01-0,5 0,01-0,5</p> | <p>2015-2019</p> | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work:</p> <p>1. Belarus -BelGIM; - Central laboratory of RUE “Belgeologiya”</p> <p>2. Kazakhstan</p> <p>3. Uzbekistan GP “Central Laboratory” of State Committee of Geology and Mineral Resources of the Republic of Uzbekistan, 64-a, N. KHodzhibaev Str., Tashkent, Head of laboratory KHamro Sabirov hsabirov@yandex.ru</p> |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-----|---|---|---|--|-----------|---|
| 14. | <p style="text-align: center;">Russia FGUP “The Central Scientific Research Institute of Geology of Industrial Minerals (FGUP “TsNIIgeolnerud”) 4, Zinin Str. Kazan, the Republic of Tatarstan, 420097 Evgeny M. Aksenov Director тел.: +7 (843) 236-47-93 факс: +7 (843) 236-47-04 <i>e-mail: atsic@geolnerud.net</i></p> <p style="text-align: center;">Contact person: Taliya Z. Lygina Deputy Director for Science tel. +7 (843) 236-53-73 fax +7 (843) 236-47-04 <i>e-mail: lygtal52@mail.ru</i></p> <p style="text-align: center;">Olga M. Ilyicheva, Head of the testing laboratory “MinAnalyt” tel./fax: +7 (843) 23-83-750, E-mail: o.m.ilicheva@gmail.com</p> | Development of CRM for composition of quartz concentrate (QC of Kyshtym deposit, vein 175) – KK -175 <u>662/RU/15 (P)</u> | Mass fraction of elements: Aluminium Titanium Calcium Magnesium Copper Manganese Sodium Potassium Lithium Phosphor Vanadium Chromium Nickel Zinc Cobalt Germanium Zirconium Cadmium Antimony Strontium Iron Barium Boron p 12 of 22 | Mass fraction, ppm 0,1-10,0 0,5-5,0 0,01-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,1-3,0 0,05-2,0 0,01-2,0 0,01-2,0 0,01-0,5 0,01-0,5 0,01-0,5 0,01-1,0 0,01-0,5 0,1-3,0 0,01 – 0,5 0,005 – 0,05 0,01- 0,5 0,01 – 0,5 0,1-3,0 0,01– 0,5 0,01 – 0,5 | 2015-2019 | Participation of all COOMET member-countries is desirable Participants of work: 1. Belarus -BelGIM; - Central laboratory of RUE “Belgeologiya” 2. Kazakhstan 3. Uzbekistan GP “Central Laboratory” of State Committee of Geology and Mineral Resources of the Republic of Uzbekistan, 64-a, N. KHodzhibaev Str., Tashkent, Head of laboratory KHamro Sabirov hsabirov@yandex.ru |

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| 15. | <p style="text-align: center;">Russia FGUP "UNIIM" 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Sergey V. Medvedevskikh Director</p> <p style="text-align: center;">Contact Person: Olga N. Kremleva acting Head of the Scientific Methodical Centre of State Service of Reference Materials for Composition and Properties of Substances and Materials (SMC of SSRM)</p> <p style="text-align: center;">Tel.: +7 (343) 350 60 68 Fax.: +7 (343) 350 24 68 E-mail: kremleva77@yandex.ru E-mail: intermetron@uniim.ru</p> | Pilot comparisons of CRM for composition of ferric ion solution <u>700/RU/16 (P)</u> | It is proposed to conduct pilot comparisons of CRM for composition of ferric iron (III) solution, intended for verification, calibration and graduation of measurement instruments, certification of measurement procedures, accuracy control of measurement results and other metrological activities and control. The comparisons are relevant due to the need of comparing the degree of equivalence of reference materials to be compared for the demonstration of the capability to obtain compatible measurement results in testing laboratories of COOMET member-countries and other countries, which use these reference materials; establishing the possibility of mutual replacement of reference materials to be compared in their use in accordance with their purpose; the implementation of sub-clause 5.12 of ISO Guide 34:2009 by the producer of reference materials. The pilot NMI (UNIIM) plans and performs comparisons with participation (by decision of the pilot NMI) of organizations of COOMET member-countries, following the rules of COOMET and having technical competence for each particular case. | | 2016-2019 | Participants of work: 1. Kazakhstan - KazinMetr 2. Russia - FGUP "UNIIM" |

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| 16. | <p style="text-align: center;">Russia FGUP “UNIIM“ 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Sergey V. Medvedevskikh Director</p> <p style="text-align: center;">Contact Person: Elena V. Osintseva Olga N. Kremleva acting Head of the Scientific Methodical Centre of State Service of Reference Materials for Composition and Properties of Substances and Materials (SMC of SSRM)</p> <p style="text-align: center;">Tel.: +7 (343) 350 60 68 Fax.: +7 (343) 350 24 68 E-mail: kremleva77@yandex.ru E-mail: intermetron@uniim.ru</p> | <p>Pilot comparisons of CRM for composition of copper ion solution</p> <p><u>701/RU/16 (P)</u></p> | <p>It is proposed to conduct pilot comparisons of CRM for composition of copper ion solution, intended for verification, calibration and graduation of measurement instruments, certification of measurement procedures, accuracy control of measurement results and other metrological activities and control. The comparisons are relevant due to the need of comparing the degree of equivalence of reference materials to be compared for the demonstration of the capability to obtain compatible measurement results in testing laboratories of COOMET member-countries and other countries, which use these reference materials; establishing the possibility of mutual replacement of reference materials to be compared in their use in accordance with their purpose; the implementation of sub-clause 5.12 of ISO Guide 34:2009 by the producer of reference materials.</p> <p>The pilot NMI (UNIIM) plans and performs comparisons with participation (by decision of the pilot NMI) of organizations of COOMET member-countries, following the rules of COOMET and having technical competence for each particular case.</p> | | 2016-2019 | <p>Participants of work:</p> <p>1. Kazakhstan - KazinMetr</p> <p>2. Russia - FGUP “UNIIM”</p> |

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| 17. | <p style="text-align: center;">Russia Federal State Budgetary Scientific Institution D.N. Pryanishnikov All-Russian Research Institute of Agrochemistry (VNIIA), the Federal Agency for Scientific Organizations (FASO Russia) 31A, Pryanishnikov Str., Moscow, 127550</p> <p style="text-align: center;">Contact person: Galina A. Stupakova Head of laboratory Tel.: (499) 976-05-52 Fax.: (499) 976-37-39 E-mail: vniiia@list.ru</p> | <p>Development of CRM for composition (agrochemical parameters) of brown heavy-loamy alkali soil SaSolP-05</p> <p><u>729/RU/16 (P)</u></p> | <p>Labile phosphorus Mobile potassium Organic matter Exchangeable Ammonium Nitrogen Nitrate nitrogen Cation exchange capacity</p> <p>Cation-anion composition of aqueous extract: Bicarbonate ion Chloride ion Sulphate ion Potassium Sodium Calcium Magnesium Solid</p> <p>Electric conductivity</p> | <p>10,0-50,0 ppm 200-900 ppm 1,00-5,00 %</p> <p>2,00-10,0 ppm 1,00-20,0 ppm</p> <p>10,0-40,0 ppm</p> <p>0,10-1,0 mmol/100g 5,00-20,0 mmol/100g 0,50-2,00 mmol/100g 0,01-0,20 mmol/100g 5,00-20,0 mmol/100g 0,50-2,00 mmol/100g 0,50-2,00 mmol/100g 0,10-1,50 %</p> <p>1,00-4,00 mS/cm</p> | <p>2017-2019</p> | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work: 1. Belarus - KUP “Gomel OPISKH” Pladunova V. Irina Tel.: + 375 0232 99-93-05 - The Institute for Soil Science and Agrochemistry Galina G. Karpovich Tel.: + 375 17 212-09-10 2. Ukraine NSC “Institute for Soil Science and Agrochemistry Research named after O.N. Sokolovsky”</p> |

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| 18. | <p>Russia JCS “Krastsvetmet”, 1, Transportny proezd, Krasnoyarsk the Russian Federation 660027 Director Mikhail V. Dyagilev</p> <p>Tel. +7 391 259 3333 E-mail: info@krastsvetmet.ru</p> <p>Contact person: Konstantin A. Shatnykh, Acting Manager of Shop No. 27</p> <p>tel. +7 391 259 33 33 (29-06) mobile phone.: +7 913 83 07 331 E-mail: KShatnyh@krastsvetmet.ru</p> | <p>Development of a CRM set for composition of refined platinum</p> <p><u>733/RU/17 (P)</u></p> | <p>Mass fraction of elements:</p> <p>Aluminium Calcium Magnesium Copper Manganese Chromium Nickel Cadmium Iron Bismuth Silver Palladium Rhodium Ruthenium Tin Lead Silicon Tellurium Iridium Molybdenum Arsenic Zinc</p> | <p>Массовая доля, ppm</p> <p>10-50 1-40 5-70 1-140 5-70 5-70 1-70 5-70 10-260 5-50 5-130 5-230 10-350 1-100 5-130 1-70 20-40 1-70 5-70 1-100 1-70 5-100</p> | <p>2017-2020</p> | <p>Participants of work:</p> <p>1. Bosnia and Herzegovina Institute of metrology, Sarajevo</p> <p>2. Kazakhstan - “The Cash Operations and Valuable Storage Center”, National Bank of Kazakhstan;</p> <p>3. Russia - “NAZ”, Novosibirsk; - FGUP “UNIIM”, Ekaterinburg; - “EZ OTsM”, Ekaterinburg; - “ANSERTEKO”, Moscow; - “KMEZ”, Kyshtym.</p> <p>4. Switzerland - Valcambi SA, Balerna.</p> <p>5. Ukraine Institute for Single Crystals, National Academy of Sciences of Ukraine</p> |

| In d. NN | Country, CRM producer, contact person | Project | Certified characteristics | Planned values (range) of certified characteristics | Period of CRM development | Notes |
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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 1. | <p>Russia West-Siberian Research Institute of Physico-technical and Radiotechnical Measurements (VS NIIFTRI) V.N. Egorov Director</p> <p>Contact Person: Margarita V. Kaschenko Head of Laboratory Tel.: (3952) 46-80-18 E-mail: kaschenko@niiftri.irk.ru</p> | Development of CRM for complex permittivity (quartz glass) | Relative permittivity (ϵ), Loss tangent of a dielectric ($tg\delta$) | 2 – 400 $5 \cdot 10^{-5} - 1 \cdot 10^{-3}$ | 2013–2018 | Participation of all COOMET member-countries is desirable; |
| 2. | <p>Russia FGUP “Siberian Research Institute for Metrology” (FGUP “SNIIM”) Novosibirsk V.F. Matveychuk Director</p> <p>Contact Person: Sergey N. Sibirtsev Deputy Head of Department Tel.: (383) 229-75-89 Fax: (383) 210-13-60 E-mail: sibirsev@sniim.siberia.net</p> | Development of CRM set for complex permittivity within the frequency range of 1 -18 GHz | Relative permittivity (ϵ'), Loss tangent of a dielectric ($tg\delta$) | 2 – 300 0,00005 – 0,005 | 2013–2018 | Participation of all COOMET member-countries is desirable, especially: Belarus Germany Moldova Russia Ukraine |

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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 3. | <p style="text-align: center;">Russia All-Russian Research Institute for Petroleum Refining (OAO “VNII NP”) Moscow Contact Person: Irina V. Tereshina Head of Metrological Research Laboratory Tel:(495)788-1553, 787-48-87, ext.1367 E-mail: metrology@vniinp.ru</p> | Development of CRM of actual gum concentration in jet fuel SO KFSA-1 | Concentration of actual gums, mg/100 cm ³ of fuel/ mg/cm ³ of fuel CRM KFSA-1 | 1,0 – 5,0 (0,01 – 0,05) | 2013–2018 | Participation of all COOMET member-countries is desirable Participants of work: 1. Belarus - OJSC “Mozyr Petroleum Processing Plant” |
| 4. | | Development of CRMs of phosphor content in oil (2 types) SO MDF – 1; SO MDF – 2 | Mass fraction , % CRM MDF – 1 CRM MDF – 2 | 0,02 – 0,10 0,10 – 0,20 | 2013–2018 | Participation of all COOMET member-countries is desirable Participants of work: 1. Belarus - OJSC “Mozyr Petroleum Processing Plant” |
| 5. | | Development of CRM of fractional yield SO FS TN | % of distillation at the temperature CRM FS TH up to 200°C up to 300°C | 20-30 40-50 | 2013–2018 | Participation of all COOMET member-countries is desirable Participants of work: 1. Belarus - OJSC “NAPHTAN” - OJSC “Mozyr Petroleum Processing Plant” 2. Kazakhstan -Scientific and Production Centre for Certification of Automobile Fuel and Oil “SATM and M” RSE EKSTU |

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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 6. | <p style="text-align: center;">Ukraine</p> <p style="text-align: center;">Cattle Breeding Institute National Academy of Agrarian Sciences of Ukraine Kharkov</p> <p style="text-align: center;">Contact Person: Igor A. Ionov Director Tel.: (057) 740-31-81, Fax: (057) 740-39-94 E-mail: ionov.i.a@mail.ru E-mail: it_uaan@bk.ru</p> | <p>Development of CRM for chemical composition of feedstuffs</p> <p>Note: CRM for chemical composition of feedstuffs will be uniform free-flowing powder of grey colour with particle size of 50 µm (30-40g)</p> | <p>Mass fraction of components, %</p> <p>Dry substance 5,0-96,0 Crude ash 0,5-70,0 Crude fat 0,1-30,0 Crude protein 0,5-80,0 Crude fiber 0,1-42,0 Calcium 0,01-40,00 Phosphor 0,01-34,00</p> <p>Mass fraction of microelements, mg/kg</p> <p>Copper 0,2-16,0 Zinc 1,0-85,0 Manganese 3,0-200,0 Iron 10,0-1300,0</p> | | 2015–2017 | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work:</p> <p>1. Kazakhstan West-Kazakhstan JSC “ NaTsEkS” - Republican Scientific and Methodical Centre of Agrochemical Service of the Ministry of Agriculture of RK</p> <p>2. Russia (11 laboratories)</p> |
| 7. | <p style="text-align: center;">Russia</p> <p style="text-align: center;">“Institute Gipronickel, Ltd.” Centre for Development of Certified Reference Materials 11, Grazhdansky Pr., S. Petersburg, 195220 S.M. Kozyrev Research and Development Director</p> <p style="text-align: center;">Contact Person: Tatiana V. Shabelnikova Tel.: (8-812)-335-30-73 Fax: (812) 335-31-87 E-mail: shabco2008@mail.ru</p> | <p>Additional certification of GSO 9932-2011 for composition of nickel (NNMK-1) <i>CRM for composition of nickel is fine chips (1-3 mm)</i></p> | <p>Mass fraction of components, ppm:</p> <p>Sulphur 3-4 Carbon 25-35 Cobalt 250 – 350</p> | | 2014 – 2018 | <p>Participation of all COOMET member-countries is desirable</p> <p>Participants of work:</p> <p>1. Bulgaria GEOLAB Analytical Laboratory of Geological Institute BAN</p> |

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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 8. | <p>Russia “Institute Gipronickel, Ltd.” Centre for Development of Certified Reference Materials 11, Grazhdansky Pr., S. Petersburg, 195220 S.M. Kozyrev Research and Development Director</p> <p>Contact Person: Tatiana V. Shabelnikova Tel.: (8-812)-335-30-73 Fax: (812) 335-31-87 E-mail: shabco2008@mail.ru</p> | <p>Development of CRM for composition of cobalt <i>CRM for composition of cobalt is fine chips (1-3 mm)</i></p> | <p>Mass fraction of components, ppm:</p> <p>Nickel Iron Copper Oxygen Hydrogen Nitrogen</p> | <p>130 – 180 25 – 35 3,4 – 4,0 120 – 200 19-25 0,7 – 1,2</p> | 2014 – 2018 | Participation of all COOMET member-countries is desirable |
| 9. | <p>Russia FGUP “UNIIM” 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Sergey V. Medvedevskikh Director</p> <p>Contact Person: Olga N. Kremleva acting Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva77@yandex.ru</p> | <p>Development of CRM for isotope composition of lead enriched by ²⁰⁶Pb, in nitrate solution</p> | <p>Mass fraction of lead isotopes:</p> <p>with mass number 204 with mass number 206 with mass number 207 with mass number 208</p> | <p>0,01 – 5,00 25,2 – 97,0 1,00 – 22,0 1,00 – 52,0</p> | 2015–2019 | Participation of all COOMET member-countries is desirable |

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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 10. | <p style="text-align: center;">Russia FGUP “UNIIM” 4, Krasnoarmeyskaya Str. Ekaterinburg, 620075 Sergey V. Medvedevskikh Director</p> <p style="text-align: center;">Contact Person: Olga N. Kremleva acting Head of Department Tel.: (343) 350-60-68 Fax.: (343) 350-24-68 E-mail: kremleva77@yandex.ru</p> | Development of CRM for isotope composition of nickel enriched by ⁶⁰ Ni isotope, in nitrate solution | Mass fraction of nickel isotopes: with mass number 58 with mass number 60 with mass number 61 with mass number 62 with mass number 64 | 0,1 – 68,2 27,0 – 99,8 0,01 – 10,0 0,01 – 10,0 0,01 – 1,0 | 2015–2019 | Participation of all COOMET member-countries is desirable |

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| Part 2 (projects, proposed for initial consideration are included) | | | | | | |
| 11. | <p>Russia JCS “Krastsvetmet”, 1, Transportny proezd, Krasnoyarsk the Russian Federation 660027 Director Mikhail V. Dyagilev</p> <p>Tel. +7 391 259 3333 E-mail: info@krastsvetmet.ru</p> <p>Contact person: Konstantin A. Shatnykh, Acting Manager of Shop No. 27</p> <p>tel. +7 391 259 33 33 (29-06) mobile phone.: +7 913 83 07 331 E-mail: KShatnyh@krastsvetmet.ru</p> | Development of a CRM set for silver | <p>Mass fraction of elements:</p> <p>Aluminium Arsenic Gold Bismuth Calcium Cadmium Cobalt Chromium Copper Iron Indium Magnesium Manganese Nickel Lead Palladium Platinum Rhodium Antimony Selenium Silicon Tin Tellurium Zinc</p> | <p>Mass fraction, ppm</p> <p>1-100 1-70 1-350 0,5-150 0,5-20 1-50 1-150 1-60 4-500 1-150 1-50 0,5-100 0,5-150 1-150 2-100 2-500 1-500 1-150 1-150 2-150 1-100 0,5-500 3-500 1-200</p> | 2018-2019 | Participation of all COOMET member-countries is desirable |