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Analysis Begun

Start Time: 20.11.2019 14:55:03
Logged In Analyst: labo
Spectrometer Model: Optima 7000

Plasma On Time: 20.11.2019 14:54:40
Technique: ICP Continuous
Autosampler Model: S10

Sample Information File: C:\pe\ICP\Sample Information\CR7\SK HRGO Cu2.sif
Batch ID: SK HRGO Cu
Results Data Set:
Results Library:

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Method Loaded

Method Name: CR7

Method Last Saved: 13.11.2019 10:51:37

IEC File:

MSF File:

Method Description:

Initialize Optics completed successfully

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Sequence No.: 1

Autosampler Location: 9

Sample ID: blank

Date Collected: 20.11.2019 15:00:40

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: blank

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 111.0 kPa | 0.80 L/min |

Replicate Data: blank

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 1495.5 | 1495.5 | [0.00] mg/L | 15:02:22 |
| 2 | Cu 327.393 | 1660.4 | 1660.4 | [0.00] mg/L | 15:02:32 |
| 3 | Cu 327.393 | 1736.5 | 1736.5 | [0.00] mg/L | 15:02:41 |

Mean Data: blank

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|------------|--------------------------|----------|-------|-------------------|
| Cu 327.393 | 1630.8 | 123.16 | 7.55% | [0.00] mg/L |

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Sequence No.: 2

Autosampler Location: 10

Sample ID: Cu 0.075mg/l

Date Collected: 20.11.2019 15:03:28

Analyst:

Data Type: Original

Initial Sample Wt:

Initial Sample Vol:

Dilution:

Sample Prep Vol:

Nebulizer Parameters: Cu 0.075mg/l

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 112.0 kPa | 0.80 L/min |

Replicate Data: Cu 0.075mg/l

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 31005.4 | 29374.6 | [0.075] mg/L | 15:05:08 |
| 2 | Cu 327.393 | 30176.3 | 28545.5 | [0.075] mg/L | 15:05:16 |
| 3 | Cu 327.393 | 30376.3 | 28745.5 | [0.075] mg/L | 15:05:25 |

Mean Data: Cu 0.075mg/l

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|------------|--------------------------|----------|-------|-------------------|
| Cu 327.393 | 28888.5 | 432.64 | 1.50% | [0.075] mg/L |

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Sequence No.: 3

Autosampler Location: 11

| | |
|--------------------|---------------------|
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

| | | |
|------------------------------------|---------------|------------|
| Nebulizer Parameters: Cu 0.125mg/l | | |
| Analyte | Back Pressure | Flow |
| All | 113.0 kPa | 0.80 L/min |

Replicate Data: Cu 0.125mg/l

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 50457.1 | 48826.3 | [0.125] mg/L | 15:07:52 |
| 2 | Cu 327.393 | 49615.3 | 47984.5 | [0.125] mg/L | 15:08:00 |
| 3 | Cu 327.393 | 48727.9 | 47097.1 | [0.125] mg/L | 15:08:07 |

Mean Data: Cu 0.125mg/l

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|------------|--------------------------|----------|-------|-------------------|
| Cu 327.393 | 47969.3 | 864.71 | 1.80% | [0.125] mg/L |

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|------------------------|-------------------------------------|
| Sequence No.: 4 | Autosampler Location: 12 |
| Sample ID: Cu 0.25mg/l | Date Collected: 20.11.2019 15:08:54 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

| | | |
|-----------------------------------|---------------|------------|
| Nebulizer Parameters: Cu 0.25mg/l | | |
| Analyte | Back Pressure | Flow |
| All | 113.0 kPa | 0.80 L/min |

Replicate Data: Cu 0.25mg/l

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 99814.1 | 98183.3 | [0.25] mg/L | 15:10:34 |
| 2 | Cu 327.393 | 97902.8 | 96272.0 | [0.25] mg/L | 15:10:41 |
| 3 | Cu 327.393 | 96725.8 | 95095.0 | [0.25] mg/L | 15:10:49 |

Mean Data: Cu 0.25mg/l

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|------------|--------------------------|----------|-------|-------------------|
| Cu 327.393 | 96516.8 | 1558.64 | 1.61% | [0.25] mg/L |

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|------------------------|-------------------------------------|
| Sequence No.: 5 | Autosampler Location: 13 |
| Sample ID: Cu 0.5 mg/l | Date Collected: 20.11.2019 15:11:36 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

| | | |
|-----------------------------------|---------------|------------|
| Nebulizer Parameters: Cu 0.5 mg/l | | |
| Analyte | Back Pressure | Flow |
| All | 114.0 kPa | 0.80 L/min |

Replicate Data: Cu 0.5 mg/l

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 214378.3 | 212747.5 | [0.5] mg/L | 15:13:15 |
| 2 | Cu 327.393 | 207825.5 | 206194.7 | [0.5] mg/L | 15:13:21 |
| 3 | Cu 327.393 | 205759.0 | 204128.2 | [0.5] mg/L | 15:13:27 |

Mean Data: Cu 0.5 mg/l

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|---------|--------------------------|----------|-----|-------------------|
|---------|--------------------------|----------|-----|-------------------|

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Sequence No.: 6                               Autosampler Location: 14
Sample ID: Cu 1mg/l                           Date Collected: 20.11.2019 15:14:12
Analyst:                                       Data Type: Original
Initial Sample Wt:                             Initial Sample Vol:
Dilution:                                     Sample Prep Vol:
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Nebulizer Parameters: Cu 1mg/l
Analyte      Back Pressure    Flow
All          114.0 kPa        0.80 L/min
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Replicate Data: Cu 1mg/l

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|---------------|
| 1 | Cu 327.393 | 445680.7 | 444049.9 | [1] mg/L | 15:15:51 |
| 2 | Cu 327.393 | 443650.6 | 442019.8 | [1] mg/L | 15:15:55 |
| 3 | Cu 327.393 | 431028.5 | 429397.7 | [1] mg/L | 15:15:59 |

Mean Data: Cu 1mg/l

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Calib Conc. Units |
|------------|--------------------------|----------|-------|-------------------|
| Cu 327.393 | 438489.1 | 7938.56 | 1.81% | [1] mg/L |

Calibration Summary

| Analyte | Stds. | Equation | Intercept | Slope | Curvature | Corr. Coef. | Reslope |
|------------|-------|---------------|-----------|--------|-----------|-------------|---------|
| Cu 327.393 | 5 | Lin, Calc Int | -6533.6 | 440400 | 0.00000 | 0.999428 | |

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Sequence No.: 7                               Autosampler Location: 20
Sample ID: Sample 1                           Date Collected: 20.11.2019 15:16:41
Analyst:                                       Data Type: Original
Initial Sample Wt:                             Initial Sample Vol:
Dilution:                                     Sample Prep Vol:
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Nebulizer Parameters: Sample 1
Analyte      Back Pressure    Flow
All          114.0 kPa        0.80 L/min
=====

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Replicate Data: Sample 1

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|--------------------|---------------|
| 1 | Cu 327.393 | 5446711.4 | 5445080.5 | 12.38 mg/L | 12.38 mg/L | 15:18:20 |
| 2 | Cu 327.393 | 5608472.8 | 5606842.0 | 12.75 mg/L | 12.75 mg/L | 15:18:23 |
| 3 | Cu 327.393 | 5586411.1 | 5584780.3 | 12.70 mg/L | 12.70 mg/L | 15:18:26 |

Mean Data: Sample 1

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|--------------------------|--------------------|----------|--------------------|----------|-------|
| Cu 327.393 | 5545567.6 | 12.61 mg/L | 0.199 | 12.61 mg/L | 0.199 | 1.58% |

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Sequence No.: 8                               Autosampler Location: 21
Sample ID: Sample 2                           Date Collected: 20.11.2019 15:19:08
Analyst:                                       Data Type: Original
Initial Sample Wt:                             Initial Sample Vol:
Dilution:                                     Sample Prep Vol:
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Nebulizer Parameters: Sample 2
Analyte      Back Pressure    Flow
All          114.0 kPa        0.80 L/min
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Replicate Data: Sample 2

| Repl# | Analyte | Intensity | Intensity | Conc. Units | Conc. Units | Time |
|-------|------------|-----------|-----------|-------------|-------------|----------|
| 1 | Cu 327.393 | 1204997.4 | 1203366.6 | 2.747 mg/L | 2.747 mg/L | 15:20:47 |
| 2 | Cu 327.393 | 1235933.2 | 1234302.4 | 2.818 mg/L | 2.818 mg/L | 15:20:50 |
| 3 | Cu 327.393 | 1288509.1 | 1286878.3 | 2.937 mg/L | 2.937 mg/L | 15:20:53 |

Mean Data: Sample 2

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|--------------------------|--------------------|----------|--------------------|----------|-------|
| Cu 327.393 | 1241515.7 | 2.834 mg/L | 0.0959 | 2.834 mg/L | 0.0959 | 3.38% |

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| | |
|---------------------|-------------------------------------|
| Sequence No.: 9 | Autosampler Location: 22 |
| Sample ID: Sample 3 | Date Collected: 20.11.2019 15:21:34 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

Nebulizer Parameters: Sample 3

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 113.0 kPa | 0.80 L/min |

Replicate Data: Sample 3

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|--------------------|---------------|
| 1 | Cu 327.393 | 2547157.2 | 2545526.4 | 5.795 mg/L | 5.795 mg/L | 15:23:14 |
| 2 | Cu 327.393 | 2596693.0 | 2595062.2 | 5.908 mg/L | 5.908 mg/L | 15:23:17 |
| 3 | Cu 327.393 | 2460495.1 | 2458864.3 | 5.598 mg/L | 5.598 mg/L | 15:23:20 |

Mean Data: Sample 3

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|--------------------------|--------------------|----------|--------------------|----------|-------|
| Cu 327.393 | 2533151.0 | 5.767 mg/L | 0.1565 | 5.767 mg/L | 0.1565 | 2.71% |

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| | |
|---------------------|-------------------------------------|
| Sequence No.: 10 | Autosampler Location: 23 |
| Sample ID: Sample 4 | Date Collected: 20.11.2019 15:24:01 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

Nebulizer Parameters: Sample 4

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 114.0 kPa | 0.80 L/min |

Replicate Data: Sample 4

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|---------------|---------------------|--------------------|--------------------|---------------|
| 1 | Cu 327.393 | 1818143.3 | 1816512.5 | 4.140 mg/L | 4.140 mg/L | 15:25:42 |
| 2 | Cu 327.393 | 1881698.6 | 1880067.8 | 4.284 mg/L | 4.284 mg/L | 15:25:44 |
| 3 | Cu 327.393 | 1863950.0 | 1862319.2 | 4.244 mg/L | 4.244 mg/L | 15:25:47 |

Mean Data: Sample 4

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|--------------------------|--------------------|----------|--------------------|----------|-------|
| Cu 327.393 | 1852966.5 | 4.222 mg/L | 0.0745 | 4.222 mg/L | 0.0745 | 1.76% |

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| | |
|---------------------|-------------------------------------|
| Sequence No.: 11 | Autosampler Location: 24 |
| Sample ID: Sample 5 | Date Collected: 20.11.2019 15:26:29 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

Nebulizer Parameters: Sample 5

| Analyte | Back Pressure | Flow |
|---------|---------------|------|
|---------|---------------|------|

Replicate Data: Sample 5

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|------------------|------------------------|-----------------------|-----------------------|------------------|
| 1 | Cu 327.393 | 3387894.0 | 3386263.2 | 7.704 mg/L | 7.704 mg/L | 15:28:09 |
| 2 | Cu 327.393 | 3232967.2 | 3231336.4 | 7.352 mg/L | 7.352 mg/L | 15:28:13 |
| 3 | Cu 327.393 | 3191845.8 | 3190215.0 | 7.259 mg/L | 7.259 mg/L | 15:28:16 |

Mean Data: Sample 5

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|-----------------------------|-----------------------|----------|-----------------------|----------|-------|
| Cu 327.393 | 3269271.5 | 7.438 mg/L | 0.2348 | 7.438 mg/L | 0.2348 | 3.16% |

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| | |
|---------------------|-------------------------------------|
| Sequence No.: 12 | Autosampler Location: 25 |
| Sample ID: Sample 6 | Date Collected: 20.11.2019 15:28:58 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

Nebulizer Parameters: Sample 6

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 115.0 kPa | 0.80 L/min |

Replicate Data: Sample 6

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|------------------|------------------------|-----------------------|-----------------------|------------------|
| 1 | Cu 327.393 | 2734739.1 | 2733108.3 | 6.221 mg/L | 6.221 mg/L | 15:30:39 |
| 2 | Cu 327.393 | 2614056.3 | 2612425.5 | 5.947 mg/L | 5.947 mg/L | 15:30:43 |
| 3 | Cu 327.393 | 2600085.9 | 2598455.1 | 5.915 mg/L | 5.915 mg/L | 15:30:45 |

Mean Data: Sample 6

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|-----------------------------|-----------------------|----------|-----------------------|----------|-------|
| Cu 327.393 | 2647996.3 | 6.028 mg/L | 0.1681 | 6.028 mg/L | 0.1681 | 2.79% |

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| | |
|---------------------|-------------------------------------|
| Sequence No.: 13 | Autosampler Location: 26 |
| Sample ID: Sample 7 | Date Collected: 20.11.2019 15:31:27 |
| Analyst: | Data Type: Original |
| Initial Sample Wt: | Initial Sample Vol: |
| Dilution: | Sample Prep Vol: |

Nebulizer Parameters: Sample 7

| Analyte | Back Pressure | Flow |
|---------|---------------|------------|
| All | 114.0 kPa | 0.80 L/min |

Replicate Data: Sample 7

| Repl# | Analyte | Net Intensity | Corrected Intensity | Calib. Conc. Units | Sample Conc. Units | Analysis Time |
|-------|------------|------------------|------------------------|-----------------------|-----------------------|------------------|
| 1 | Cu 327.393 | 2365729.4 | 2364098.6 | 5.383 mg/L | 5.383 mg/L | 15:33:08 |
| 2 | Cu 327.393 | 2319445.9 | 2317815.1 | 5.278 mg/L | 5.278 mg/L | 15:33:10 |
| 3 | Cu 327.393 | 2364054.1 | 2362423.3 | 5.379 mg/L | 5.379 mg/L | 15:33:13 |

Mean Data: Sample 7

| Analyte | Mean Corrected Intensity | Calib. Conc. Units | Std.Dev. | Sample Conc. Units | Std.Dev. | RSD |
|------------|-----------------------------|-----------------------|----------|-----------------------|----------|-------|
| Cu 327.393 | 2348112.3 | 5.347 mg/L | 0.0596 | 5.347 mg/L | 0.0596 | 1.11% |