Lithogeochemistry

This brochure describes MEG’s sample preparation laboratory and related services. MEG is uniquely positioned as an independent prep-only lab servicing the mining industry. This gives the mining and exploration community assured third-party quality control on critical exploration samples.

OVERVIEW

MEG is an independent sample preparation laboratory working closely with several associate laboratories to provide geochemical data for the mining and environmental industries. Established in 1984, it is now highly regarded for its sample preparation, quality control, geochemical interpretation, and advanced mercury methods. It is fully equipped to handle rock, soil, sediment, vegetation, humus, and other exploration materials, providing special care to samples that may contain labile constituents at ppb and ppt concentrations.

MEG’s success is due in part to its use of sound quality control / quality assurance (QA/QC) procedures. Standards, replicates and blanks are dubbed blindly into every job as a daily monitor of its and associate laboratory performance. Randomization of sample submittals is frequently used to reveal systematic error during prep and analysis.

MEG is out of the data loop, creating double blind testing where only the client has all of the information to assess the quality of the analysis. This works particularly well because MEG is independent of the associate labs it works with.

ASSOCIATE LABORATORIES

Associate laboratories are those having sample preparation and analytical capabilities that stand up well to continual quality assurance monitoring.

Sample Preparation QAQC

As an advocate for the mining client, MEG is positioned to provide blind QAQC programs that independently monitor the quality of sample preparation that may be subcontracted to local labs. Everyone knows that internal QAQC is not particularly effective, and only third-party oversight truly works.

QAQC programs can include blind insertion of standards, replicates, and blanks. It can go a step further and include randomization of the submittal.

WORLDWIDE SERVICE:

As the mining industry has grown globally, so has MEG. Despite added shipping costs from remote exploration frontiers, MEG receives samples from around the world. We are also a preferred subcontractor for many major N.A. laboratories. Please note our import permits:

SOIL: P330-12-00341 (Expires 12-17-2015)
VEGETATION: PCIP-13-00190 (7-17-2015)

Permit and Quarantine Documents must be applied to the outside of all shipping containers.
Please notify MEG prior to shipping for late information on USDA import requirements.

This can occur prior to sample preparation, or after preparation and just before analysis.

Sample Analysis

There is a world of analytical capability that offers an ever increasing list of methods. Rather than create yet another, MEG uses the capabilities that are offered, looking for sensitivity and excellent precision that create data with reliable pattern development, especially for new exploration frontiers.

MEG is particularly on the search for laboratories that demonstrate an ability to do well with exotic media like vegetation, and soils that have been prepared for ultra-low detection and that will unmask deeply buried mineralization. This means you get the best prep, and because we work with all of the analytical labs in the industry, you get your choice of the best analysis without sacrificing one for the other.

In choosing a laboratory, you need to consider the suitability of a particular analytical method and the character of the material to be analyzed. The world of analytical capability is open to you now that shipping takes only a day for worldwide delivery. Please inquire about details by calling MEG.

PREP EQUIPMENT

We are focused at MEG on preparing your samples cleanly, accurately, and consistently. MEG operates 6 DCE Vokes Dust Collectors to assure that fugitive dust is not an issue. Our equipment inventory rivals the best in the industry:

Abbe 4x6 Ceramic Ball Mill
Denver 6X6 Corrugated Jaw Crusher (0.25 in, 6.3 mm)
Bico 6X8 Flat Plate Jaw Crusher (10 mesh, 1.7 mm)
Rosskamp 12” Roll Crusher (10 mesh, 1.7 mm)
Bico 8” Plate Pulverizer (80 mesh, 180 um), 2 each
TM Ring&Puck Pulverizer (150 mesh, 106 um), 2 each
Ro-Tap Sieve Shaker, 2 each
12 Bucket Rotary Splitter, 2 each
Grieve B3H-500 480v Drying Oven
Grieve SB-350 480v Drying Oven
Grieve 3X3X3 230v Drying Oven
Despatch 230v Drying Oven
250 Kg Ceramic Ball Mill
6 ea 3-Place Electronic Scales
1 ea 4-Place Electronic Scale
1 ea 2-Place Electronic Scale

**QUALITY CONTROL PROGRAM**

Known controls and several blind standards, replicates & blanks are included with every job that leaves MEG. These QA/QC samples are strategically positioned so that every batch of 30 within the submittal is monitored for precision & accuracy. This adds only about 5% the total cost.

Blind standards, replicates & blanks US $6.25
Known controls ............... each US $6.25
Randomization ............ each US $1.35

MEG LABS operates as an independent prep service to assure your geochemical samples are properly treated prior to analysis. MEG and the analytical labs will each invoice for their respective services. Data reporting is strictly proprietary, between you and the analytical laboratory. MEG is involved only to assure quality through randomization, controls, and blind standards, replicates and blanks.

**ROCK LABORATORIES**

**DRILL & ROCK CHIP SAMPLES**

MEG subcontracts drill cutting and core sample preparation to local laboratories, while providing oversight with respect to quality assurance related to sizing, sand and gravel washing, metal carryover between samples, and chemical homogeneity. Current benchmarks include 90% pass 20 mesh crush, and 95% pass 200 mesh pulverization for analytical subsamples of 250 grams. Mild steel barrels can be used to avoid Cr, W, or Mo traces. For those samples that are likely to have severe nugget effects, rotary splitting methods are used to maximize subsample representation.

**Soil & Sediment Item Charges**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Charge</th>
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<tbody>
<tr>
<td>Weigh &amp; Login</td>
<td>US $ 1.30</td>
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<tr>
<td>Dry</td>
<td>US $2.20 + ($0.45/ Kg)</td>
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<tr>
<td>Crush w/ Gravel Wash</td>
<td>US $3.00 + ($0.65/ Kg)</td>
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<tr>
<td>Riffle Split</td>
<td>US $1.00 + ($0.40/ Kg)</td>
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<tr>
<td>Ring Pulverize w/ Sand Wash</td>
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<tr>
<td>Rotary split + $1.25/Kg</td>
<td>US $ 2.80</td>
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<tr>
<td>Transfer to drying tray</td>
<td>US $ 1.20</td>
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<tr>
<td>Composite (dry wt)</td>
<td>US $ 2.65</td>
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<tr>
<td>Standards Replicates Blanks (each)</td>
<td>US $ 6.25</td>
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<tr>
<td>Randomize</td>
<td>US $ 1.35</td>
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<tr>
<td>Disposal</td>
<td>US $ 0.95</td>
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<tr>
<td>Surcharges</td>
<td>US $65/hr</td>
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<tr>
<td>Shipping</td>
<td>COST + $5 Handling</td>
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<td>Rush jobs</td>
<td>add 50%</td>
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**FIELD SERVICES:**

Sample Collection Services are subcontracted. Typical charges are less than $25 per sample.

Training services are charged at consulting rates:
- Office ................. US $ 120 /hour
- Field .................. US $1200 /day

**DRILL SAMPLE PICKUP**

Please call for a quotation.

**TOTAAL SALT ANALYSIS:**

In 2013, MEG R&D created several new in-field and mobile lab methods for the detection of subsurface structures, applicable to phytogeochmistry and lithogeochmistry. This soil method uses the -325 mesh (-44um) soil fraction, and has successfully tested it against mercury soil gas data at several central Nevada project areas. The results map buried structures through soils in evaporative basins and pediment aprons, and can be used as a preliminary and in-field blind mapping tool. Call MEG for details.

Total Salt Soil Analysis .............. US $ 8.50