



COAL QUALITY QUARTERLY

Standard Laboratories, Inc. Newsletter

Fall 2019

Where Quality Is Standard

Standard Labs Corporate Update

Don Merritt, COO

I have set a goal to visit all labs before the end of this year. I'm about half-way there. So, to some of you this information will be familiar.

Industry

The forecast for 2020 coal production is 635,000,000 tons. If you tend to have a "glass half empty" view, that is about a 36% reduction from the 1,000,000,000 tons six years ago. If you see the glass half full, 635,000,000 tons is still a big industry. To add a little more to the glass:

- SL provides service to the best and largest producers in the U.S. SL provides production analysis to more than 70% of the tons produced.
- SL provides service to the largest Coke producer in the U.S. SL provides receiving analysis to several of the end users of the coal produced.
- SL provides a critical service to hundreds of customers in all three major coal basins and throughout the U.S.

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*Keep your eyes on the
stars and your feet on the
ground.*

~ Theodore Roosevelt



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COAL 101, Part 1

By: Allan Seaman

Note: This will be the first article in a series about coal. These articles will appear intermittently as we discuss the many aspects of the commodity that keeps our labs open.

Coal is a sedimentary rock made from the organic material from various types of vegetation that have been deposited and buried. The natural components of coal can be divided into two groups: the organic fraction which can be further subdivided into microscopically identifiable macerals (more on this term later) and the inorganic fraction which is usually called ash. The organic part of coal consists of carbon, hydrogen, oxygen and smaller amounts of nitrogen and sulfur. The rank (thermal maturity) of the organic fraction of the coal is determined by the burial depth (pressure) and temperature.



The composition of the organic fraction changes with rank and some of the main indicators of rank are the reflectance of the vitrinite, carbon, and volatile matter content on a dry ash free basis. Coal rank is defined in ASTM D388. It is a means of differentiating coals based on their degree of metamorphosis from lignite (lowest rank) to anthracite (highest rank). Higher rank coals are classified based on dry basis fixed carbon. Lower rank coal is classified on a moisture, mineral matter-free basis.

According to ASTM D121, Standard Terminology of Coal and Coke, a *maceral* is an organic substance in coal originating from plant tissues or secretions that have been altered by geological processes. They have structures that can be observed under an optical microscope. You can read more about plant structures defined as macerals in the body of the standard's definition of *maceral*.

One predominant *maceral* found in coal is vitrinite. Vitrinite is a shiny, glass-like material composed of plant cellular matter such as bark, trunks, stems, and roots. The "shininess" of vitrinite, measured optically by reflecting light off of it, increases as the rank of the coal increases. Lower ranked coals, such as lignites have a reflectance value of around 0.3% and higher ranked coals, such as anthracites, have reflectance values approaching 2.0%. The identification of the various macerals contained within the coal, as well as, the amount of reflected light from the vitrinites can provide invaluable information about the rank of the coal, whether or not the coal sample represents a blend of different ranked coals, and how the coal sample might perform as a coking coal.

Not all coal ranking is about whether or not a coal will make good metallurgical coke. We'll talk more about coal in future articles.

Stop the Spread of Cold and Flu Germs...

Our first Safety Article will be about stopping the spread of cold and flu germs, and healthy habits to help prevent the flu. Yes, this too is a Safety issue!

Does that pile of used tissues on your co-worker's desk or work area make you nervous about getting sick? Or are you worried you may give your cold to your family? Then it's time for action. Take some simple steps now to stop the spread of germs.

Wash your hands . It's the single best way to avoid a cold. Once germs are on your hands, it's easy for them to get into your body when you touch your eyes or mouth. Wash thoroughly: Use soap and warm water, scrub for at least 20 seconds, rinse well with warm water. Always wash before you eat or prepare food and after you use the bathroom; if you're taking care of someone who's sick, wash your hands before and after being with them.

Use hand sanitizer. It's the next best thing if you can't get to a sink. Keep a small bottle with you - at work, in your car, etc. Use one with at least 60% alcohol. Rub it all over your hands until they're dry.

Avoid Close Contact. Avoid close contact with co-workers who are sick. When you are sick, keep your distance from others to protect them from getting sick too.

Cover your nose and mouth. It's one of the best ways to keep a cold or flu away from your friends and co-workers. Cough or sneeze into a tissue, then throw it out right away. If you don't have one with you, **don't cough into your hand**. You'll just smear germs on the next thing you touch. Instead, cough into the crook of your elbow.

Disinfect your space. During cold and flu season, use disposable disinfectant cloths to wipe down high-traffic spots: computers, phones, doorknobs, light switches, toilet handles, and faucets.

Get a flu vaccine . This is of course a personal choice. But it is recommended that anyone over 6 months old should get one. It's especially important if you're in a group that doctors say is at high risk for getting sick: Children, adults over 50, pregnant women, people with asthma or a long-term heart or lung condition, diabetes or another condition that weakens the immune system. For the best protection, get the flu vaccine when it comes out each year in October or November. But even later is better than not at all. It takes 2 weeks for the flu vaccine to take effect, and flu season can last into March or April.

Take care of yourself. Make sure you eat nutritious food, exercise regularly, and get enough sleep. These things help boost your immune system.

Stay home when you're truly sick. If you go to work when you are ill, you can make a lot of other people sick. The flu can be serious for people with weak immune systems. Working while you're sick isn't good for you, either. It can make it harder for your body to fight off infection. So, do what's best for you, and everyone else. Take a couple of days off if needed.

The CDC estimates 959,000 hospitalizations and 79,400 deaths during the 2017-2018 flu season.

familiar faces from our Western Division



Kelly Olenyk
Western Div. Mgr.



Ed Smith
Western Div. Mgr. of Tech Services



Steve Johnson
NARM & NARM North Lab



Mike Kulow
Huntington Lab



Jane Kuta
Somerset Lab



Billie Leeper
Cabalo & Rawhide Labs



Judy Looney
Buckskin Lab



Shelle Thomas
Cordero Lab

Full Steam Ahead for Standard Laboratories, Inc.

By Rick Malcolm



Standard Laboratories, Inc. is moving *“full steam ahead”* in the upper Ohio Valley region. On April 1, 2019, SLI acquired a Wheeling-based laboratory. The acquisition allows SLI to better serve the thermal coal market in the eastern Ohio, northern West Virginia, and southwestern Pennsylvania area.

SLI Wheeling provides a full spectrum of coal and environmental services for both producers and utilities. The major producers in the area include Murray American Corporation, Alliance Resource Partners, and CONSOL Energy. SLI Wheeling provides services to the local power generation companies including American Electric Power, Buckeye Power, and FirstEnergy. We also serve the analytical needs of hospitals, municipalities and local government entities.

The facility is located in the Wheeling Industrial Park. The laboratory is precisely positioned at the arterial-node for the region including the Ohio River, National Road, SR 7, WV 2, US 250, and I-70. Built in 2009, the facility was specifically designed and constructed for its current purpose. The physical address is 8 Industrial Park Drive, Wheeling, WV 26003.

SLI acquired TraDet, Inc. from Gloria Kalb. Mrs. Kalb's late husband, Dr. William Kalb, founded TraDet in 1974. Dr. Kalb was active in ASTM, CPSA and the International Coal Preparation Congress. Dr. Kalb was considered a world leading authority on thermal drying of coal. Over the course of many years, the Stallard family collaborated on several projects with the Kalb family.

The 24-member SLI Wheeling staff is well educated and trained. As a group, they average more than ten years of experience. Nine staff members have degrees in a variety of fields including engineering, chemistry, biology, business, and accounting. We welcome SLI Wheeling to the SLI family.

This will be the first article in a series about the history of Standard Labs. Troy Stallard, retired, is in the process of writing a history of Standard Laboratories, Inc. including its formation, its successes, its failures and its hopes for the future. This is to be a story of the rise of a small, closely held family business and how it emerged during the last half of the 20th century and the first part of the 21 century to become the dominant player in the United States coal laboratory industry and a major participant in other coal markets throughout the world.

We would like to put a chapter of this story in each newsletter and consequently this first segment is the introduction:

Introduction

Coal is not a simple material. It is extremely heterogeneous by nature, being a vastly complex mixture of organic and inorganic compounds and free elements. It not only varies from place to place, from seam to seam, from stratum to stratum, from lump to lump, but even from maceral to maceral. (The maceral is the smallest sub-structure of coal identifiable under the electron microscope.)

"Coal - having been formed from plant substances preserved from decay in a favorable environment and acted upon by various chemical and physical agencies --- is not a simple substance but a complicated mixture of organic and inorganic compounds. It may never be possible to untangle the skeins of linkages and combination of atoms in a single gram of coal. So the coal laboratory must content itself, for the most part, with measurements of various generalities, such as the amount of ash formed when a coal burns or the relative difficulty or ease of grinding a coal from one size to another." Quote by Gladys Stallard Berchtold in "The Laboratory's Role in the Coal Industry", 1976 Keystone Coal Industry Manual.

Therefore, because of coal's diverse nature, it is among the most difficult of all natural materials to properly sample and analyze. As such, the establishment of coal laboratories has been very important in the development of the coal industry worldwide. Sampling procedures have been developed to provide for reliable representation of the coals being sampled, and repeatable laboratory results have allowed coal producers and users to mutually understand the quality characteristics. This important information permits users to more efficiently utilize a given coal and thereby contributes to both energy and steel production across the entire world. A particular type of coal lab is the "independent" coal lab and it can be defined as "a lab which does not have a vested interest in the outcome of the analytical results it generates." That lab, therefore, has no ownership interests in the coal production and utilization industry in any way. As such, coal labs that are captive such as ones for a coal fired utility, a coal producer or even a coal research lab cannot qualify as an "independent" lab. Sometimes independent labs are referred to as "commercial" labs.

Standard Laboratories, Inc., hereinafter referred to as SL, is an independent lab whose ownership resides entirely in one family which has no ownership whatsoever in the mining or utilization of coal.

SL was established on a very noble principle. Its founder, Gladys Stallard Berchtold and her son, Troy F. Stallard, and now grandson, W. Todd Stallard and its shareholders have been convinced that the compound "coal" was a wonderful and, at the same time, critical gift to the human species. For them, coal has formed the major bridge allowing mankind to move from an agrarian society to an industrial society and thus has benefited humanity greatly in its journey into a more modern future. While aware of coal's very finite supply on earth and cognizant of its potential adverse properties, they recognize that the proper utilization of coal is absolutely essential in producing energy in today's world.



They remain firm in the conviction that by generating accurate and reliable information regarding coal's chemical and physical properties, the foundation is set to allow for more efficient use of coal until the supply is exhausted and new ways to produce energy are discovered. The provision of a laboratory service dedicated to supplying such data is a very valuable contribution not only to this nation but to the whole world. Consequently, each succeeding generation at Std Labs has made its goal to remain true to this noble principle.

Quality Article

By Claudette Young

At Standard Labs we have straight-forward quality policy that states "We are committed to providing testing and analytical services in a timely and accurate manner that meets or exceeds customer expectations. This shall be accomplished through a program of continual improvement, making Standard Laboratories, Inc. the laboratory of choice." It takes proper training and adequate resources to achieve a quality product. At SL, our most valuable resource is our employees. Along each step, from field sampling and material collection to preparation to laboratory analysis to data review and reporting, effort is made to provide reliable results to our customers. The tool by which we measure our overall performance is our quality system. Processes and procedures are in place to help ensure competence in all our activities; and promote consistency between locations to achieve our motto of "Where Quality is Standard." Thanks to each of you for your role in the SL quality system.



Later...In Quality news:

- The Assurance of ISO 17025 Compliance
- Training is Key
- When Quality and Safety Come Together

Thank You

As many of you are aware, Rick Flesher and Steve Miladinovich have either retired (Rick) or will be retiring at the end of this year. Both of them have played a huge role in the success of Standard Labs. We could easily fill this newsletter listing all their accomplishments.

Both Steve and Rick worked very hard and were extremely dedicated, but I am most appreciative of their integrity and ethics while running this company.

It is not an accident that SL is the premier laboratory testing firm. The leadership, starting from my grandmother & father and continuing with Rick & Steve has created a culture and a reputation of a first-class business that will make the right and tough decisions regardless of the financial consequences.

I have always been proud to be a part of SL, and today am as proud as I ever have been. It is sad to lose such good people, but we have an excellent group ready for their turn in leadership, and I appreciate Steve and Rick for developing such a strong management team to prepare us for the next chapters in SL history.

Thank you, Todd Stallard

Corporate

Fiscal 2018 Sales - \$27.286 Million

Fiscal 2019 Sales - \$29.252 Million

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The difference in sales for Fiscal 2019 is largely due to the addition of the Wheeling Lab. So, essentially sales were flat as expected. We were able to increase profits slightly, but not to the target of 6.0% that I have been explaining allows us the ability to operate as needed.

We have worked very hard to extend our large contracts and build in yearly increases. Although not 100% successful, we do have most in place for two or more years. We continue to work closely with our customers building relationships at all levels.

Challenges

Transitions, Joint Ventures, Bankruptcies, and Ownership changes in our customer base have become everyday events for us. We need to recognize that change is inevitable and must learn to react accordingly. We must work hard to maintain our customers at all levels. We will continue to work safely, provide the highest possible customer service, and be fiscally responsible.

Don Merritt

Benefit Reminder....

Have you seen the "Amendment to Vacation" recently enacted? A copy should be posted at your lab, and you should have received a copy to go with your current Employee Handbook.

- Employees may now carry over 40 hours of unused vacation time from calendar year to calendar year
- Employees may still receive up to 40 hours of vacation paid out on the last check of the calendar year
- Negative vacation balances are limited to 24 hours
- No one may have a negative vacation balance at the end of the calendar year

No changes were made to PTO at this time.

If you have not yet received a copy for your reference, please check with your manager.

New Website

www.standardlabs.com

It's been at least 10 years since SL has modernized it's website. So, check it out and let us know what you think.



Contact Us

Labs or employees wishing to contribute any news, announcements, births, marriages, anniversaries, accomplishments, etc. for future issues please submit your information to Becky/HR.

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