PETROLEUM Bits Bytes

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First Quarter 2016



From the 1920s Land and Title Office to the futuristic ride on the exciting PetroTrekker ...

We've Arrived! Celebrate Opening April 2

It is finally here! Years of planning, months of construction, and now just days from opening, the Petroleum Museum is celebrating! The opening of the new petroleum exhibits this spring is the culmination of countless people and teams who have been dedicated to this project. From our education, technical and history teams to the designers, project managers, and exhibit fabricators – many people worked hard to bring this dream to life.

Come celebrate with us on **Saturday**, **April 2**, **from 10 a.m. to 5 p.m.** and experience the petroleum industry as never before. Crack some common myths about the industry in "Mythcrackers Theatre." Wander through the beautiful Permian Sea then stroll through Boom Town and enjoy the view of McCamey in 1924 through the eyes and talent of artist Don Parks. Trace the history of America's petroleum industry in the 1940's and '50's with period gas pumps, industry equipment and story stations. Celebrate the introduction of Mobil's Pegasus, stored for over 50 years and now the centerpiece of the "Growth of the Industry" gallery.

Then step into the "Extreme Science" gallery and get ready to experience science in a whole new way! The "PetroTrekker" will take you on a fascinating journey, exploring for oil and gas in new areas, in new ways. Feel the gentle vibration of a seismic wave, drill your own well, and learn how technology is changing the industry. Our kid-size "Energy City" will keep young ones busy learning about energy and its sources. Celebrate today's petro-leum industry and the people who make it happen in our "Enspirations" gallery and learn the many and varied career opportunities available in the field today.

The Petroleum Hall of Fame celebrates those individuals who dared to dream, who inspired others, and who changed the face of the petroleum industry. They are recognized



Energy and its many sources. *Photography: Mark Swindler*

and remembered in the "Hall of Fame" prominently featured in the Museum's West Wing hall. Visitors can choose to search for an individual by induction year or last name to learn more about their contributions. Mark your calendars and come help us celebrate the petroleum industry and the dedication of so many members of our community who helped make this project happen.



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Visitors explore a timeline of industry history and prophecies in the Peaks and Prophecies exhibit.





From how the Permian Basin was formed millions of years ago, photo at left, to how the media portrayed the industry in the 1950s, the Museum's exhibits tell an exciting story.

Photography: Mark Swindler

Volunteer John Kennedy 'Museum Future Bright'

John L. Kennedy can't stay away from Midland. The newest Petroleum Museum Board of Trustees member was born in Midland, moved away when he was 10, and returned in 1980 after graduating

Permian Basin Petroleum Museum, Library and Hall of Fame ...exploration, innovations and legends...

from college with a BBA degree in finance. He left again in 2000 and returned in 2007 to work with Diamond K Petroleum.

Remembering how much he and his children enjoyed the Petroleum Museum years ago, Kennedy wanted to contribute his time as the Museum enters another phase. "I told Mark Philpy (board president) that I was interested in serving on the board," he said, and began his three-year term in January.

As the Museum prepares to celebrate its renovated space and new exhibits, Kennedy sees this as an opportunity to expand the facility's mission to the state and the country.

"We (the petroleum industry) are the worst lobbying force. The public still thinks we are JR Ewing in the television show 'Dallas.' People are finally starting to understand the U.S. economy is more dependent on the oil industry than they realized. It's time to help everyone understand the business is a big component of our nation's economy."

People of all ages can learn a lot about the industry from the new exhibits. "We can help people understand our business and make this place an attraction. A lot of people drive right by it on I-20. The Museum's future is super bright," Kennedy said.

Distinguished Lecturer Gorman: Code Talkers



The Arlen Edgar Distinguished Lecture Series presents Zonnie Gorman on Thursday, May 24, at 7 p.m. Gorman will speak on the Marine Corps Navajo Code Talkers, who played a vital role in the Pacific campaigns during World War II.

Recognized historian of the Navajo Code Talkers of World War II, Gorman is an expert in her field and a dedicated teacher. She is the daughter of the late Dr. Carl Gorman – artist, teacher and one of the original "first 29" Navajo Code Talkers who devised the initial Navajo code. In 1989 Gorman started a journey to discover her father's role as a Code Talker. Her journey led her through 15 years of in-depth research and interviews. Gorman shares

a touching story of young teen-age boys seeking adventure and escape. The Code Talker story is the ultimate paradox – a shining achievement for Native America.

Gorman has lectured extensively throughout the United States, including several universities and colleges as well as N.A.S.A. Headquarters in Washington, DC, and the Museum of the American Indian in New York. She has appeared in and been consultant to several documentaries including the History Channel documentary, Navajo Code Talkers, the movie Windtalkers, and the documentary True Whispers.

The Distinguished Lecture series is generously sponsored by the Abell-Hanger Foundation.

Arlen Edgar Distinguished lecturer Zonnie Gorman 7 p.m. Thursday, May 24 Free tickets! Call Museum at 432-683-4403.

Scolecite: Out of India Mineral Gallery

Scolecite is a member of the zeolite group, and is closely related to Natrolite and Mesolite. It forms a series with those two minerals and is the calcium-rich end member. Chemical analysis or optical tests may be required to distinguish Scolecite from Natrolit. A single crystal may even contain part of each mineral within different zones of the same crystal.

Though somewhat rare, scolecite is a popular mineral among collectors. It forms in volcanic bubbles called vesicles along with other zeolites. Scolecite is very brittle and easily broken, so these specimens must be handled with care.

Scolecite is named after the Greek term "skolec," which means "worm," alluding to its reaction to a blowpipe test. Scolecite's sprays of radiating crystals are magnificent and awe-insiring.

For you chemists out there, scolecite's chemical formula is $CaAl_2Si_3O_{10} \cdot 3H_2O$ and is composed of calcium aluminum silicate. Scolecite colors range from white to colorless, light yellow, or light pink. Scolecite commonly occurs as sprays of thin, prismatic needles, frequently flattened on one side, with slanted terminations and striated parallel to the length of the needles.

India is the most important producer of Scolecite, where excellent specimens are found in the basalts of the Deccan Traps in the state of Maharashtra.

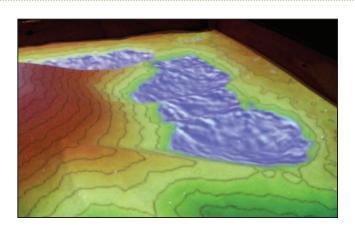


Scolecite Gift of Doug and Maria Fisk

Check out The Mineral Gallery with numerous specimens from around the world.

HANDS ON FUN

HANDS ON FUN: The Petroleum Museum will soon house an augmented reality sandbox thanks to SM Energy! Visitors can engage in 3D visualization of topography models that will aid in teaching earth science concepts, including geography and geology.



New exhibits offer youngsters the chance to "feel" the world around them.

Education Classes, Camp-Ins, Engineering, Science, Movies

Gearing Up For Summer: Movies, Science Classes



Summer is almost here, which means it's time to start planning for those long, hot days! Join us for Summer Science Classes and Movie Camps. Don't miss out on fun-filled days of hands-on experiments, movies, crafts, and Museum exploration. Kids ages 5 and up can enjoy Movie Camps held every Tuesday and students entering 2nd-6th grade in the 2016-2017 school year can keep those cobwebs at bay with a variety of Summer Classes.

For more information, visit our website at **pbpetro.org.** Be sure to watch for your Summer 2016 brochure in the mail for more information!

Movie Camps

Tuesday, June 7:	"The Good Dinosaur"			
Tuesday, June 14:	"Finding Nemo"			
Tuesday, June 21:	"Hotel Transylvania 2"			
Tuesday, June 28:	"Minions"			
Tuesday, July 5:	"The Peanuts Movie"			
Tuesday, July 12:	"Home"			
Tuesday, July 19:	"Inside Out"			
Tuesday, July 26:	"Strange Magic"			
Tuesday, August 2: "Norm of the North"				
Tuesday, August 9: "Alvin and the				
Chipmunks: The Road Chip"				

Science Classes

Friday, June 17: Building Bots of Science - Robotics
Friday, June 24: Science Rocks: Geology
Friday, July 8: Mysteries of Science: Mad Science/Chemistry
Friday, July 15: Wild for Science: Wildlife
Friday, July 29: The Science of Life: Biology
Friday, August 5: Science Wars: Astronomy

Robotics: from building bots to competitions

Have you ever wanted to bring something you imagined to life? If you can dream it, we can help you build it with Building Bots! We have the ultimate invention tool box with workshops starting March 22. Motors, wheels, buzzers, and switches paired with simple controls can help even the youngest "tinkerer" bring their ideas to life. The classes are \$10 for K-6th graders, but space is limited. Be sure to reserve your spot today by calling 432-683-4403 or go online to **pbpetro.org.** Collaborating with Midland's Downtown County Library on this robotics adventure gives students in our community the opportunity to dream big – then build it! Join us for this exciting new educational adventure.

Building Bots will be held at the Petroleum Museum:

Date	Grade	Time	Grade	Time
March 22	K-3rd	4:00 – 5:00 pm	4th-6th	5:30 pm – 6:30 pm
April 5	K-3rd	4:00 – 5:00 pm	4th-6th	5:30 pm – 6:30 pm
April 19	K-3rd	4:00 – 5:00 pm	4th-6th	5:30 pm – 6:30 pm
May 3	K-3rd	4:00 – 5:00 pm	4th-6th	5:30 pm – 6:30 pm
May 17	K-3rd	4:00 – 5:00 pm	4th-6th	5:30 pm – 6:30 pm

The Petroleum Museum hosted its first Robotics Competition in December. Teams came from Midland High, Lee High, Andrews, UTPB STEM Academy, Midland Classical and Frenship. What a thrill to see so many young scientific minds at work!







Family Science Aight

CSI: May 12, 6 to 8 p.m.

This Family Science Night will have you searching for clues around every corner! Discover your inner detective as you investigate the world of science! Admission is FREE. Come experience a thrilling evening



of fun! Family Science Nights are brought to you by our generous sponsors at **Chevron.**







These young Cub scouts spent a night in the Museum learning and earning a badge. With the new exhibits opening, they will be among the first people to get their hands on the experiments.

Scout Camp-Ins Coming Up

Camp-Ins are a great way for Boy and Girl Scouts in the Permian Basin to work toward badge or patch requirements through hands-on experiments and activities. Plus, they get to spend the night at the Petroleum Museum!

Register your scouts today for our upcoming Camp-Ins! Call the Museum at 683-4403 or go online to **pbpetro.org.**

"Super Science:" Cubs/Webelos on Friday, April 1 "First Aid:" Juniors/Brownies on Friday, April 29

ASK Dr. Petro

What are some unusual oilfield terms?

A: When you hear these, you may have to think twice to understand what is meant.

PIG – A pig is a device with blades or brushes inserted in a pipeline for cleaning purposes. These robotic devices are called



pigs because of the squealing sound they make when they travel through the pipelines. The pressure of the oil stream behind pushes the pig along the pipeline to clean out rust, wax, scale and debris. Smart pigs are used to evaluate the inside of the pipeline and ensure that they are safe.

FISH – Anything left in a wellbore. It does not matter whether the fish consists of junk metal, a hand tool, a length of drillpipe or drill collars, or an expensive MWD (Measurement-While-Drilling) and directional drilling package. Once the component is lost, it is properly referred to as simply "the fish." Typically, anything put into the hole is accurately measured and sketched, so that appropriate fishing tools can be selected if the item must be fished out of the hole.

CAT LINE – A relatively thin cable used with other equipment to move small rig and drillstring components and to provide tension on the tongs for tightening or loosening threaded connections is called a cat line.

DOG HOUSE – The steel-sided room adjacent to the rig floor, usually having an access door



close to the driller's controls is the Dog House. The general-purpose shelter is a combination tool shed, office, communications center, coffee room, lunchroom and general meeting place for the driller and his crew.

FISH BONE – The fishbone well is a series of multilateral well segments that trunk off a main horizontal well. The appearance closely resembles the ribs of a fish skeleton trunking off the main backbone.

MOUSEHOLE – Mouseholes are shallow bores under the rig floor, usually lined with pipe, in which joints of drill pipe are temporarily suspended for later connection to the drill string.

RATHOLE – The rathole is a hole in the rig floor which is lined with casing that projects above the floor, into which the kelly and the swivel are placed when hoisting operations are in progress.

Notice Our New Look?

Using the benzene molecule as the "O" in "Petroleum" for our new logo seemed like a perfect fit for the exciting new exhibits at the Museum. This common hydrocarbon perfectly illustrates the science and technology story behind petroleum and its many uses.

Benzene is a natural constituent of crude oil and is one of the most elementary of the petrochemicals. The hydrocarbon is a colorless, flammable, sweet-smelling liquid at room temperature and a component of most gasoline mixes because of its high octane number.

PETRICLEUM SFI



Over 50 percent of all benzene is used to produce styrene and polystyrene plastics. It can also be converted to a molecule known as cyclohexane, which is important in the production of nylon. About 15 percent of benzene is used to produce cyclohexane. Smaller amounts are used in everything from pesticides to rubber to pharmacenticals

We are proud to incorporate accurate petroleum science into our new look and our new logo as we continue to tell the story of petroleum and energy!

Development

Continuing to Tell the Story **Membership Has Its Perks** PETROLEUM PETROLEUM Exciting times are headed your MUSEUM MUSEUM way!

The Petroleum Museum will be opening the newly renovated petroleum exhibits on April 2. Now is the time to join or renew Museum membership. For your convenience, the option to pay your membership monthly is now available online.

You will want to be a part of all the excitement! Museum membership has many perks beginning with free admission and store discounts.

To become a member log on to our secure website at:

www.pbpetro.org or contact Luanne Thornton at 432-683-4403.

Say "congratulations" to our newest special members who joined at the Contributing Level:

Mr. & *Mrs. Anthony Hightower* Susan Mahoney April McDonald Kathryn Nenaul Nomac Drilling Joy L. Ross Mr. & Mrs. Jeremiah Sewell Lisa Sims They already are enjoying the perks with their memberships!

APPLAUSE, APPLAUSE

Stacie Hanna, from left, Kathy Shannon and Luanne Thornton tell the Museum's story and explain the new exhibits at NAPE in Houston.

We want to give a round of applause to the following friends, companies and businesses. Their in-kind contributions of time, assistance or services are appreciated:

Bill Halepeska, Dave Entzminger, Robert Nail, Billy Harris, Toucan Dan's, Susan May, Cory Callaway, Bison Drilling Company, ASCO – Associated Supply Company, Inc., Alliance Field Services, Bruckner Mack Truck, Ingram Concrete

Memorials

Memorial contributions to the Petroleum Museum are deposited in the permanent endowment fund to provide ongoing tribute to the individuals recognized in bold. Donors are listed below the honoree. Contributors from November 19, 2015. through February 3, 2016, were:

IN MEMORY OF ...

Linnie Donnelly Ken Fricker Joe M. Parsley Mr. & Mrs. James D. Moring Edman R. Zink Sandette Investments

Notable Dates

MARCH

March 22:

Building Bots K-3rd Grade, 4 to 5 p.m. 4th-6th Grade, 5:30 to 6:30 p.m. Fee: \$10 per student. Pre-registration required. Register online at pbpetro.org or call the Education Department, 432-683-4403 for more information.

March 30-April 1:

West Texas Wanderers Central Texas Hill Country Trip For more information about this or future trips, contact Carey Behrends at cbehrends@petroleummuseum.org

APRIL

April 1: Boy Scout Camp-In: Cubs/Webelos "Super Science" 7 p.m. to 8 a.m. Pre-registration required. Call Education Department. 683-4403 for more information.

April 5: Building Bots

K-3rd Grade, 4 to 5 p.m. 4th-6th Grade, 5:30 to 6:30 p.m. Fee: \$10 per student. Pre-registration required. Register online at pbpetro.org or call the Education Department, 432-683-4403 for more information.

April 19:

Brown Bag Lunch & Lecture Series Speaker: James Beauchamp, President "MOTRAN Alliances, Inc." 11:30 a.m. to 12:30 p.m. Free Admission. Drinks & dessert provided.

Sponsor: Hahl Proctor Charitable Trust

April 19:

Building Bots K-3rd Grade, 4 to 5 p.m. 4th-6th Grade, 5:30 to 6:30 p.m. Fee: \$10 per student. Pre-registration required. Register online at pbpetro.org or call the Education Department, 432-683-4403 for more information.

April 29:

Girl Scout Camp-In: Brownies/Juniors "First Aid." 7 p.m. to 8 a.m. Pre-registration required. Call the Education Department, 683-4403, for more information.

MAY

May 3: Building Bots K-3rd Grade, 4 to 5 p.m.

4th-6th Grade, 5:30 to 6:30 p.m. Fee: \$10 per student. Pre-registration required. Register online at pbpetro.org or call the Education Department, 432-683-4403 for more information.

May 12:

Family Science Night: "CSI" 6 to 8 p.m. Free Admission. Sponsor: Chevron

May 17:

Building Bots K-3rd Grade, 4 to 5 p.m. 4th-6th Grade, 5:30 to 6:30 p.m. Fee: \$10 per student. Pre-registration required. Register online at pbpetro.org or call the Education Department, 432-683-4403 for more information.

May 19:

Brown Bag Lunch & Lecture Series Speaker: Angie Valenzuela, Executive Director "Midland Crime Stoppers" 11:30 a.m. to 12:30 p.m. Free Admission. Drinks & dessert provided. Sponsor: Hahl Proctor Charitable Trust May 24: Arlen Edgar Distinguished Lecture Series

Speake: Zonnie Gorman "Growing Up with Heroes...The Navajo Code Talkers of WWII: A Daughter's Journey" 7 p.m. Free ticketed event. Call for reservations.

Sponsor: Abell-Hanger Foundation

JUNE

Summer Movie Camp: "The Good Dinosaur" 9:30 a.m. to 12 noon or 1:00 to 3:30 p.m. \$5 per child, ages 5 and up.

June 14:

June 7:

Summer Movie Camp: "Finding Nemo" 9:30 a.m. to 12 noon or 1:00 to 3:30 p.m. \$5 per child, ages 5 and up.

June 17:

Summer Science Class: Building Bots of Science - Robotics 8 a.m. to 12 noon. Must be entering 2nd through 6th grade. Museum members, \$25; non-members, \$30. Pre-registration required. Call the Education Department, 683-4403, or online to pbpetro.org.

June 21:

Summer Movie Camp: "Hotel Transylvania 2" 9:30 a.m. to 12 noon or 1:00 to 3:30 p.m. \$5 per child, ages 5 and up.

June 24:

Summer Science Class: Building Bots of Science - Robotics 8 a.m. to 12 noon. Must be entering 2nd through 6th grade. Museum members, \$25; non-members, \$30. Pre-registration required. Call the Education Department, 683-4403, or online to pbpetro.org.

June 28:

Summer Movie Camp: "Minions" 9:30 a.m. to 12 noon or 1:00 to 3:30 p.m. \$5 per child, ages 5 and up.



For more information about any of these programs or events, contact the Petroleum Museum at 683-4403 or www.pbpetro.org



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Our Mission: We will share the petroleum and energy story and its impact on our lives

Museum Staff

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THE MUSEUM STORE



TO MARKET! TO MARKET! Executive Director Kathy Shannon flips through baskets of fossils at the Tuscon Gem & Mineral Show. She discovered some unique items for the Museum Store. Stop by and shop from 10 a.m. to 5 p.m. Monday through Saturday and 2 to 5 p.m. Sunday. Or shop online at pbpetro.org/shop.

Museum Bit & Bytes is published quarterly by the Petroleum Museum. For more information call 432-683-4403 or visit the website at pbpetro.org. 3/16