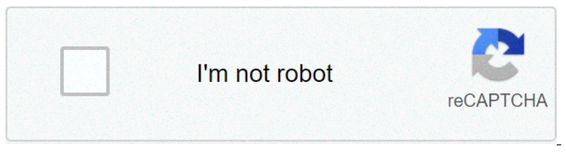


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# Oil exploration meaning

As of May 2020, there are nearly 8 billion human beings on Earth. High-speed jets and vehicles of every kind roam the land, air and sea, sometimes in weather conditions that would've stopped humans in their tracks just a few decades ago. The world is, in essence, getting smaller, leaving few places left unexplored. Given those circumstances, what exactly does it mean to be an explorer today? And why would you even try?Some people say that exploration is part of human drive, as our curiosity pushes us to seek out new places wherever we live, and even places we don't — like under the oceans' waves, in deep caves and into the depths of the galaxy.OK, so not all of us. Some people are fine with plush couches and plentiful pizza.The Call of the WildBut for others, the call of the unknown is irresistible, regardless of the hardships and lack of creature comforts. And these restless souls find that even in a shrinking world, exploration is very possible — if you know where to look.You can start by looking up."There are a variety of peaks in areas like Nepal, Pakistan and China that have yet to be climbed," says Eric Larsen, a polar explorer and mountain climber, in an email interview. He says untouched peaks also await in Antarctica, Greenland and on Ellesmere Island. "Exploring the depths of the oceans would be one of the larger 'tracts' of undiscovered 'terrain' (if you can call it that). I know there are probably some areas of the Pacific Ocean that remain somewhat untouched and definitely parts of the Amazon rainforest as well."Larsen has launched some major expeditions. In 2009-10, he journeyed to both the North and South Poles and the top of Mt. Everest, all within 365 days — the only person ever to achieve this feat in under a year.It was a grueling, though, and took a drastic toll on his mind and body. So, why does he do it?"I really enjoy the physical and mental aspects of big expeditions. From the planning and preparation to the decision making and stress involved in executing these adventures," he says. "I also really enjoy human powered travel and being along in vast untracked wilderness. I like blazing my own trail as well and being in places that I know no one has traveled previously."These kinds of adventures cost some people their lives. Take Percy Fawcett, who in 1925 disappeared trying to find a legendary city in the Amazon rainforest. Or Sir John Franklin and Francis Crozier, who met the same mysterious fate in the 1840s when they tried to find the fabled Northwest Passage.Larsen himself has almost died multiple times."I've had several very close encounters with polar bears. In 2005 off the coast of Siberia (on the Arctic Ocean), we had one jump on our tent while we're sleeping in it," he says. "We also were in some pretty sketchy situations in 2015 when trying to climb Jabou Ri [a peak in Nepal]. It took us three different attempts and we were in several situations where a wrong step would have meant death."The Expense of ExplorationAs if near death isn't bad enough, there are expeditions bills to be paid. Those kinds of journeys are expensive, and Larsen searches for sponsors to defray the costs."Sponsorship is an ever-evolving process. Back in the day it was more about just getting a logo on a jacket and maybe a newspaper story or two," Larsen says. "Now it has evolved into more of a business with measurable ROI (return on investment) for companies."That means Larsen is an active part of the business model."Today, I have sponsors where I am specifically involved with product development, writing (blogs), photo and video shoots, social media, events and more. Quite honestly, (Ernest) Shackleton had to do (something) very similar to secure sponsors for his expeditions (minus social media)."But that's not enough to support him. Larsen also does guiding and polar trainings as well as speaking, photography, and some other odds and ends. "It's a crazy puzzle where you don't have a picture to guide you and the shapes of the pieces are undefined," he says.Financial issues aside, Larsen says that the nature of exploration is changing, and that, yes, as of 2020 most of the Earth has already been witnessed by human eyes."However, the leading edge of exploration today is more about pushing personal limits — trying to do adventures in new, unique and challenging ways. For example, while people have skied to the South Pole many times, in 2012 I tried to bicycle to the South Pole."He didn't make it.He calls out another example — the steep pitch of El Capitan's Dawn Wall in Yosemite National Park. It's been climbed many times, but Tommy Caldwell and Kevin Jorgeson were the first to free climb it. Or Alex Honnold, who took things to a nerve-shattering extreme when he climbed the Dawn Wall without any ropes whatsoever. His climb, which is considered as one of the greatest athletic achievements of all time, was documented by National Geographic in the film, "Free Solo."Now, you don't have to take on these kinds of extreme adventures if you don't want to. You can leave it to the experts and witness their bravery (and insanity) from afar. But no matter how small the world gets, it's clear that there will always be people willing to push exploration just a little bit further.NOW THAT'S INTERESTINGAt a dinner on May 28, 1904, attended by 50 men well-known in the circles of exploration, The Explorers Club was born and soon began inviting explorers and scientists to speak of their adventures and discoveries with the goal of promoting scientific exploration and field study. It is particularly known for its five famous firsts list of places conquered by members: the North Pole (1909), the South Pole (1911), Mt. Everest (1953), the Mariana Trench (1960) and the Moon (1969). In 1981, the Club finally inducted its first female members, including Sylvia Earle, Dian Fossey, Rita Mathews, Anna Roosevelt and Kathryn Sullivan. On every bottle of motor oil there is a seal that gives you three pieces of information:The API service ratingThe viscosity grade"Energy Conserving" indicator (it either is or it isn't)The API service rating is a two-letter rating that tells you the type of engine the oil is meant for (gasoline or diesel) and the quality level.The viscosity grade (for example, 5W-30) tells you the oil's thickness, or viscosity. A thin oil has a lower number and flows more easily, while thick oils have a higher number and are more resistant to flow. Water has a very low viscosity -- it is thin and flows easily. Honey has a very high viscosity -- it is thick and gooey.Go to the next page to learn how viscosity is measured.The standard unit used to measure viscosity is the centistoke (cSt). According to the Automotive and Industrial Lubricants Glossary of Terms:Viscosity is ordinarily expressed in terms of the time required for a standard quantity of the fluid at a certain temperature to flow through a standard orifice. The higher the value, the more viscous the fluid. Since viscosity varies inversely with temperature, its value is meaningless unless accompanied by the temperature at which it is determined. With petroleum oils, viscosity is now commonly reported in centistokes (cSt), measured at either 40°C or 100 °C (ASTM Method D445 - Kinematic Viscosity).The centistoke rating is converted into the SAE weight designation using a chart like the one shown on the Superior Lubricants Web site.Multi-weight oils (such as 10W-30) are a new invention made possible by adding polymers to oil. The polymers allow the oil to have different weights at different temperatures. The first number indicates the viscosity of the oil at a cold temperature, while the second number indicates the viscosity at operating temperature. This page from the Sci.Electronics.Repair FAQ offers the following very interesting description of how the polymers work:At cold temperatures, the polymers are coiled up and allow the oil to flow as their low numbers indicate. As the oil warms up, the polymers begin to unwind into long chains that prevent the oil from thinning as much as it normally would. The result is that at 100 degrees C, the oil has thinned only as much as the higher viscosity number indicates. Another way of looking at multi-vis oils is to think of a 20W-50 as a 20 weight oil that will not thin more than a 50 weight would when hot. Auto Engine image by Andrew Breeden from Fotolia.com Automotive oil comes labeled with letters and numbers coding oil weight and additives. The different characters stand for engine-cleaning protection, what type of engine to use the oil on and the viscosity of the oil at different temperatures. Viscosity is the stickiness or thickness of the oil. It affects the oil's ability to lubricate the moving parts of the engine. Two letters that stand alone on the oil can label represent the engine type and the detergent additive. These are codes such as SE or CD, for example. S indicates the oil is for gasoline engines and the C indicates it's for diesel. The second letter indicates the level of cleansing protection. They are ordered alphabetically from worst to best. For example, F is better than E is better than D. Don't confuse "SE" with "SAE," which you may also see on the can. SAE stands for the Society of Automotive Engineers. They are mentioned on oil cans because they standardize the oil viscosity scale to which the other numbers on the can refer. Single or compound numbers convey the oil's weight or viscosity; 30 and 10W-30 are examples. With the introduction of new oil additives starting in the 1940s, the compound viscosities replaced single-viscosity motor oil. The "W" refers to "winter." The first number is the viscosity when the oil is cold. The number after the "W" is the viscosity after being warmed by the engine to operating temperature. Higher viscosity numbers mean a greater resistance to flow and greater friction between the oil and the parts it lubricates. The SAE scale ranges from 5 up to 50, with 50 being the thickest. The optimal viscosity depends on the operating temperature and the engine structure. Viscosity needs even vary within a single car trip. Viscosity normally decreases as temperature increases. The hydrocarbon molecules vibrate too fast at higher temperatures to stick together as much as at lower temperatures. The balancing trick for a motor oil is not to be so viscous, or thick, that auto parts can't slide past each other when the weather is cold or the engine is just warming up but also to be thick enough not to boil away at operating temperatures in warm or hot weather. Oil manufacturers add certain carbon polymers to motor oil to counter the inverse relationship between thickness and temperature. These "multi-weight" oils have the compound numbers with the "W" on the can. Before such additives were commercially widespread in the 1950s, oil cans had only one number for the viscosity. You would have to change your oil for the change of seasons. Drivers used low viscosity oil in the winter and high viscosity oil in the summer. By contrast, multi-weight oil can behave, say, like an SAE 10 oil in winter or when the engine first starts and an SAE 30 oil at normal operating temperatures. This allows proper lubrication of the engine through the whole range of temperatures in a single trip and in a whole year. Many people hear about lymph nodes within the body, but are unsure what they do. The lymph system has nodes and vessels which help move white blood cells... Order Reprints Print Article Guggenheim Securities Base decline rates have been a key topic this year. The metric influences 2016 guidance, rig activity, and maintenance capital. Exploration-and-production companies have addressed base declines with varying emphasis or have hesitated to put out a number at all. In this report, we calculate decline rates in a number of shale-oil plays (Bakken, Eagle Ford, Permian) using public data from 2010-2014 compiled by DrillingInfo. The focus of our analysis is on companies under our coverage, but also includes some of the larger producers in the basins. We then calculated the “maintenance” program by comparing the base decline rate to: 1) 2015 guidance; 2) current rig allocation by county; and 3) well productivity by county. In the Delaware Basin [in the Permian], we conclude that Devon Energy (ticker: DVN ) is drilling more wells than the number required to hold fourth-quarter levels flat. We calculate a 74-well program is required this year for maintenance and the company intends to complete 110-115 net wells in the Delaware. In the Eagle Ford, EP Energy ( EPE ) is drilling in excess of the maintenance program. We estimate that 55-60 wells are required to hold volumes flat with fourth-quarter production of 54,000 barrels of oil equivalent per day (boepd). EP Energy is drilling 120 wells this year. We have modeled 15% growth in the Eagle Ford in our estimates this year. To a lesser extent, Anadarko Petroleum ( APC ) and EOG Resources ( EOG ) appear to be drilling in excess of maintenance needs. But the “overage” is 10%, which can fall within the margin for error in our calculations. The companies that are not drilling their maintenance needs should see volumes decline. Or they may need well productivity to rise much higher than 2014 levels (which is easier to achieve in the first 30 days than over an entire year with enhanced completions). Examples of companies underinvesting this year, based on our analysis, are EOG and SM Energy ( SM ) in the Bakken, and Chesapeake Energy ( CHK ) and SM Energy in the operated Eagle Ford. EOG and SM Energy are similar in that they are building drilled, uncompleted wells (DUCs) this year, or purposely deferring completions. In the Bakken, we calculate that EOG needs about 140 wells per year to keep volumes flat. The company expects to complete 25 wells this year. This strongly suggests a decline in Bakken volumes this year, which is in sync with overall guidance for lower domestic oil volumes fourth quarter to fourth quarter. SM Energy is also building DUCs this year, from 50 in January to 95 by year end. This may figure into why Bakken completions this year are 25% short of maintenance requirements, according to our calculation. The deficit is 30% in the operated Eagle Ford. Bakken growth stalled in the first quarter but the Eagle Ford increased 5% sequentially. We have modeled Eagle Ford growth declining through the course of 2015 as the DUCs build through year end. Chesapeake also appears to be underinvesting by 30% in the Eagle Ford. Eagle Ford volumes were up 7% sequentially in the first quarter and we have modeled another 5% through year end. However, the forecasting risk is high as Chesapeake has not given completions by play. Also significant events could occur this year to reduce debt levels and outspend. -- Subash Chandra -- Marshall Coltrain To be considered for the Soapbox feature, please submit an original article of less than 1,000 words to research@barrons.com with “Soapbox Submission” in the headline. Please include your daytime telephone number and credentials. The opinions contained in Investors’ Soapbox in no way represent those of Barrons.com or Dow Jones & Company, Inc. The opinions expressed are those of the newsletter’s writer(s) or analysts at research firms. Some of the research firms have provided, or hope to provide, investment-banking or other services to the companies being analyzed. Comments? E-mail us at online.editors@barrons.com An error has occurred, please try again later. Thank you This article has been sent to