Oil shale misinformation abounds

It never ceases to amaze me when I am at a party, or read letters to editors, that I hear and see such unbelievably erroneous information about oil shale. I think I spoiled one of my friends parties when I responded somewhat abruptly to one guest when he said to me: “yes, I have heard about oil shale—it uses more energy than it produces, uses so much water that it will dry up our rivers and kill all the fish, and basically has no positive benefits, so we should be against it. And, don’t you remember Black Sunday?”

It was at that point I tried to control my emotions and I laid out the facts and figures.

Energy

Oil shale processing produces a minimum of three and as much as six times the energy it takes to produce it, depending upon the quality of the resource and the technology used to extract it. Many scientific and engineering studies have confirmed these results. Further, no company would be investing in oil shale if it was an energy loser.

Water

Some water is needed for oil shale development, but its use compares favorably with other energy producers (see information and chart on page 3).

Water used for oil shale will benefit the citizens in the oil shale region by enhancing economic development. There is unallocated water in the region and many developers already have water rights. Many groups that object the loudest to oil shale want to move the water out of the area.

Benefits

Shale oil production will bring positive benefits to the nation and the west, including tax and royalty income for local communities.

Along with other energy alternatives, oil shale can begin to move the country and North America, in the direction of energy independence.

Over 90% of the energy that fuels our transportation system—cars, trucks, trains and planes—comes from petroleum. We need domestic sources of petroleum to reduce the financial and political implications of importing so much oil from countries outside North America. Domestic oil production will reduce the price we pay at the pump, provide jobs, and help our debt crisis. Although renewable energy sources are important they cannot supplant petroleum for a long time.

Black Sunday

Yes, I remember Black Sunday. It was the day in 1982 when an oil shale boom ended. Oil prices had dropped from $40 to $10 per barrel, many companies cancelled oil shale projects, and the domestic oil and gas business went through a steep decline. Conditions are entirely different now with new technologies and no Federal government funding incentives or a push for unrealistic production goals. Oil shale development is being funded solely by companies with no government incentives. New technologies can evolve into successful commercial projects that are profitable, environmentally acceptable, and meet public expectations.

BLM issues draft PEIS for oil shale leasing

In 2011 the Department of Interior (DOI) announced it would revisit the 2008 oil shale PEIS and commercial leasing regulations. BLM cited changed conditions (e.g. sage grouse habitat and new USGS oil shale resource estimates), and the settlement of law suits brought against DOI challenging the earlier PEIS and regulations. In January of 2012 the BLM issued a new draft PEIS. The comment period ended May 5th. Draft amended oil shale leasing regulations had not been issued at the time this update was completed.

BLM’s preferred alternative in this new PEIS severely reduces the acreage available for leasing, and only authorizes R,D&D leases—no commercial leasing. Comments from industry and two thirds of those from Cooperating Agencies recommended BLM return to Alternative I—No Change to 2008 Decision. The scope of the 2008 PEIS was already limited to allocating the acreage where oil shale leasing could be considered. Neither the 2008 version nor the 2012 PEIS authorize leasing without further environmental reviews and public input.

Inside this issue:

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Special points of interest:

Oil Shale Symposium and NOSA Annual Meeting scheduled for October 2012
Some oil shale Myths and Misconceptions put to rest

Educational brochure OIL SHALE—AMERICA’S UN-TAPPED ENERGY SOURCE available on NOSA Web Site www.oilshaleassoc.org
R, D&D oil shale lease activities

1st round R, D&D leases

BLM issued the first round 160 acre R,D&D leases in 2007 after the lessees had completed Development Plans and BLM had conducted Environmental Assessments for each lease (see BLM map above). Leases are for 10-years with an option to extend for an additional 5-years. Lessees may expand the leases to 5,120 acres if BLM’s technical, economic and environmental requirements are met.

AMSO

American Shale Oil, a partnership of Total and Genie Energy is starting up a one well pilot demonstration of its CCR insitu technology. The test is being conducted on AMSO’s R,D&D lease in Colorado in an oil shale zone below fresh water aquifers where the oil shale is over 200 feet thick. AMSO plans to have this one well test concluded in about 6-month.

Shell

Shell has begun construction on its first 160-acre BLM RD&D site in the Piceance basin of Colorado. This new phase of research, called the Multi-Mineral Test, will involve drilling 2,200 feet below the surface, lower than the level of known groundwater. Shell plans to first solution mine and recover the nahcolite from the formation to create porosity, followed by application of Shell’s In-Situ Conversion Process (ICP) to heat the zone and recover the hydrocarbons. Shell is also decommisioning its successful Freeze Wall Test, which it ran from 2005-2011.

Chevron

announced it would not continue activities on its R,D&D lease.

Enefit American Oil

See article on page 3.

2nd round R, D&D leases

Both ExxonMobil and Natural Soda were selected in 2009 by BLM to take the next steps in securing 160 acre R,D&D leases in Colorado. A draft Environmental Assessment covering both companies activities was recently completed and comments submitted to BLM by June 17, 2012. The BLM made a Finding of No Significant Impact so the projects should move quickly forward with both firms preparing development plans for BLM approval.

Heating and recovery would occur below and isolated from fresh water aquifer zones of the Green River Formation for both projects.

2nd Round R,D&D leases may be expanded to 640 acres if BLM requirements are met.

Natural Soda proposes an insitu technology test on its lease that would convert kerogen into shale oil and extract it to the surface from a depth of 2500 feet, and below fresh water aquifers, using high temperature supercritical or near supercritical water in conjunction with carbon monoxide, sodium bicarbonate and sodium aluminate to break the chemical bonds of kerogenesice oil shale.

ExxonMobil proposes to test its insitu technology that conducts electricity through planar heating elements. The process is designed to heat oil shale in situ by drilling horizontal cased heater wells at the desired depth within the targeted oil shale zones up to 1,200 feet in length, and up to 120 feet apart.

AuraSouce

No information is available about the status of applications to advance its Utah BLM R,D&D lease application.

Paraho II™ Australian Demo Plant in production phase

“Throughout the past two years, Shale Tech International Services, LLC (STI) has provided engineering design and on-site operational engineering support to Queensland Energy Resources Pty Ltd (QER) in the design, commissioning and operation of its Technical Demonstration Plant outside of Gladstone, QLD Australia. The Plant, which features the Paraho II™ technology, is succeeding in demonstrating a safe and environmentally sound operation, thereby building community and government support. Planning is progressing on the development of a commercial program for QER in Queensland with STI providing ongoing technical support.

STI, based in Rifle, CO, continues to operate its Research and Development Center and fully equipped pilot plant to further develop the Paraho II™ technology. With a history spanning more than 45 years, STI and its predecessors have invested $100’s million in the research and development of the Paraho processes for extracting oil from oil shale. This level of investment has advanced the development of the Paraho technology to a point ready for commercial application on a world-wide scale. STI has placed itself in an advantageous position to serve the needs of the oil shale industry through its technology licensing program, combined with its continuing research and commercialization efforts.

In addition, STI is providing laboratory testing, bench-scale retorting, and use of its pilot plant facilities for retorting of various shale resources for other national and international clients. The STI pilot plant facilities provide an exceptional test bed for developing optimal operational conditions and engineering design inputs for commercial scale, oil shale development.”

For more information go to www.oilshaleassoc.org and tab to “Portfolio” and then “Links to Current Oil Shale Projects”. Also see www.blm.gov/co/st.

http://shaletechinternational.com/
Enefit American Oil advances Utah Project

Enefit American Oil, a 100% subsidiary of Enefit, was established in 2011 to develop an integrated oil shale industry with a capacity of 50,000 barrels of shale oil per day at full production based on a portion of the company’s property in Utah. The property is estimated to contain 2.6 billion barrels of shale oil in place. The project is expected to create around 2000 jobs and even more indirect employment in associated industries and services.

It is estimated that the project development phase will take six years and will be followed by a construction period lasting three years. The first oil is planned to be produced in 2020. The industry will be based on the Enefit technology which is regarded by its founders as the cleanest and most energy efficient shale oil production technology available today.

Presently, BLM is evaluating a Research, Development, and Demonstration lease for oil shale on 160 acres at the site of the White River Oil Shale Mine. The mine was developed on a lease issued during the prototype oil shale leasing program in the 1970’s.

Red Leaf Resources Utah project moves ahead

In late March, Red Leaf Resources, a small energy company in Sandy, Utah, received a state permit allowing the company to break ground on an oil shale production facility in eastern Utah. Company officials predict that within the next 18 months, Red Leaf will begin commercial oil shale production -- the first in the United States in 30 years.

To produce oil, the company plans to mine the oil shale and place the crushed rock into a clay-lined pit. Layering the rock with pipes, the company will seal the rock enclosure and pump heated gas into the pipeline network. Once the oil shale is heated to at least 650 degrees Fahrenheit, the solid hydrocarbon material in the rock, known as kerogen, will chemically convert into oil and natural gas.

"It takes a few months to heat it up to a temperature high enough to sweat the oil and hydrocarbons out of the rock," said Jeff Hartley, a government affairs consultant to Red Leaf.

Questerre Energy Corporation indicates that it has successfully concluded its Letter of Intent with Red Leaf Resources, Inc. to invest in the company and its oil shale assets in Wyoming and Utah. Questerre is affiliated with Total, a French international energy company.

Water and oil shale

Water is a precious commodity in the arid west, and using it in the most beneficial and socially responsible way is what oil shale developers will do.

The amount of water needed for oil shale development compares favorably with other energy sources (see chart on right compiled by Jeremy Boak, Colo Sch of Mines). It is much less than ethanol from irrigated crops and not significantly more than fuel from conventional petroleum sources.

The amount of water required for an oil shale industry has been estimated at 120,000 acre feet for 1.55 million barrel per day of shale oil production—which is a small percentage (2 to 3 %) of the water in Colorado River as it enters Lake Powell.

The data above comes from a report prepared for the Colorado, Yampa and White River Roundtables and the State of Colorado.

The required amount of water will likely be less as technologies evolve and alternative sources of water are developed.
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NOSA Celebrates Five Years of Service

- The mission of the National Oil Shale Association (NOSA) is to educate the public about oil shale.
- NOSA is a not-for-profit 501(c)(6) corporation.
- The Association was formed in the 1970's when it actively engaged in oil shale education.
- NOSA was reinstated in 2007 in response to a renewed interest in oil shale.
- There are two classes of membership: Sustaining and Associate Members. Sustaining Members are profit making firms and Associate Members are individuals and not-for-profit groups.
- NOSA's Web Site at www.oilshaleassoc.org provides copies of the bylaws and a membership application.

NOSA EDUCATIONAL BROCHURE

OIL SHALE—AMERICA’S UNTAPPED ENERGY SOURCE

On Web Site—Hard Copies available—email request to NOSA

32nd Annual Oil Shale Symposium to be held in Golden, CO
October 15-19, 2012 - For details log on to
http://csmspace.com/events/oilshale2012/

The information presented in this document has been prepared by the staff of NOSA and is intended to give a snapshot of the status of oil shale technology and projects, and is not endorsed by the principals of those technologies or projects, or the members of NOSA. NOSA has drawn upon publicly available information.

Other oil shale activities

Idaho National Laboratory
For information on INL oil shale studies go to www.inl.gov.

Energy Dynamics Lab
Enefit American Oil (EAO) and Utah State University Research Foundation’s Energy Dynamics Laboratory (EDL) signed a cooperation agreement to coordinate their efforts on issues related to air quality in the Uintah Basin where EAO is planning to develop an oil shale project.

For more information go to www.energydynamicslab.com

Projects Outside U.S.

In light of the high price of oil a number of countries around the world that have had little interest in the recent past are investigating their oil shale resources. They include Serbia, Mongolia, Syria, Morocco, New Zealand, Australia, India, and Thailand to name a few.

Estonia, China and Brazil continue to produce shale oil in commercial quantities. Estonia is expanding its output of shale oil, and China continues to find more oil shale resources.

Jordan
Enefit in cooperation with its partner – YTL Power International - Berhad of Malaysia and Near East Investments of Jordan, reached agreement with the Jordanian Ministry of Energy and Mineral Resources and the National Electric Power Company for the development of Jordan’s first direct burning oil shale fired power plant.

Enefit is an international energy company operating in Estonia, Latvia, Lithuania, Finland, Jordan and the United States.

China
IEI was founded by IDT Corp. Its chief scientist is Dr. Harold Vinegar, who was formerly chief scientist for oil shale projects at Shell Oil in the United States.

China
The construction of the large scale ATP retort is complete at Fushun . Delays have been encountered in the commissioning of the plant due to reported faulty construction practices.

Australia
See article on page 2 discussing Paraho technology demonstration in Queensland for QERL.

India
Directorate General of Hydrocarbons reported “oil shale resources are not known with any measure of confidence. Much more ground work needs to be undertaken before the reserves can be established. Once this is done, selection of the appropriate technology can be taken up”.

For more information see links page on www.oilshaleassoc.org and individual project web sites.

COSTAR Update
The Center for Oil Shale Technology and Research (COSTAR) is housed at the Colorado School of Mines.

The Oil Shale Information Office, a COSTAR initiated effort, is engaged in developing a global database of information on oil shale starting from the Tell Erri Oil Shale Repository (TEOSR) in the Arthur Lakes Library at Mines. The Office has already published the Synthetic Fuels Quarterly on the TEOSR website. A major effort is underway to obtain permission to post all of the Proceedings of the Oil Shale Symposia from 1964 to 1992.

MEETING ANNOUNCEMENT
NOSA will hold its 2012 Annual Meeting in conjunction with the 32nd Annual Oil Shale Symposium in Golden the third week in October. Date, time and room to be announced at the Conference and earlier by email to members.