WESTWATER FARMS RECYCLING FACILITY

EVOLVING MARKETS

New Horizontal Drilling and fracturing techniques developed over the last two years has enabled a whole new natural gas supply to be extracted from shale formations. Natural gas locked in shale formations were until very recently thought to be unrecoverable and not even recorded as a recoverable reserve. The new techniques have been perfected and Exxon is moving in 30 H & H rigs into the Piceance shale formations to produce 200 million cubic feet per day by years end and ultimately one billion cubic feet per day from a field estimated to contain 45 trillion cubic feet of recoverable natural gas.

The Uinta Basin located in the Book Cliffs just north of the Westwater Farms Recycling Facility contains an even larger, over 50 trillion cubic feet reserve of recoverable natural gas in shale formations. The $3 billion dollar 42" diameter Ruby Pipeline being installed north of the Uinta Basin connecting to the California, Las Vegas, and Pacific NW Markets will be able to move over 1.5 billion cubic feet of natural gas per day to market in two years.

Westwater Farms Recycling Facility plans to recycle much of the natural gas production water for re-use in the oil shale water intensive extraction processes, helping to conserve the water in our streams and rivers.

Shale gas now a rival

New technology can recover the material, which means less investment for the Rocky Mountain fields.

By Mark Jaffe *The Denver Post*

Competition from new natural-gas reserves may delay the rebound for Colorado gas production — now at a three-year low, industry analysts and operators say.

Emerging shale-gas fields — the Barnett in Texas, the Haynesville in Louisiana and the Marcellus in Pennsylvania and New York — will compete for drilling dollars when the market rebounds.

"We are looking at a major realignment of the natural-gas markets," said Pete Stark, vice president for industrial relations at energy consultant IHS Inc. "This is a good thing. It means there is a lot more gas."

It might, however, be less good in the short term for the Rocky Mountain region.

"Some investment is going to flow to the shale plays, so the Rockies rebound might take four years instead of two," said Ward Polzin, a managing director at energy investment bank Tudor, Pickering, Holt & Co.

The story of shale gas mirrors that of Western tight-sands gas. In both cases, the reserves were known, but there wasn't a way to get at them.

"Technology is the key that unlocks the reserves, and it wasn't until the last few years that shale technology was perfected," Stark said.

Shale-gas recovery uses horizontal wells and fracking — a technique to create fissures in rock to release gas — and while it is more expensive to sink such a well, the yield is greater.

Fracking is also used in Colorado wells. Where it creates cracks in the tight sands, it shatters the shale like glass, said Jeff Wojahn, president of EnCana Oil & Gas USA.

"The Barnett shale before horizontal technology was going nowhere," said Wojahn, whose company has operations in Colorado and in the Barnett and Haynesville fields.

As a rough comparison, Stark said, a well in Colorado's Piceance Basin might cost $1 million and yield 800,000 cubic feet per day of gas, while a shale well's price tag might be $2.5 million with a yield of 5 million cubic feet per day.

"The logic is you are going to go to the place you can produce the most gas and get it to market, so shale gas may have an advantage," said Kobi Platt, an economist with the federal Energy Information Agency.

The agency projects shale gas' share of U.S. national dry gas tripling to about 18 percent in the next two decades.

Colorado, Wyoming, Utah, New Mexico and Montana accounted for 32 percent of reserves in 2006 and 22 percent of production in 2007, according to the most recent Energy Information Agency data.

Still, the potential for the shale reserves — not even part of the national estimates four years ago — are huge.

The Barnett field may have 30 trillion cubic feet of developable reserves; the Haynesville may hold 70 trillion cubic feet and the Marcellus 52 trillion cubic feet, according to analysis by Tristone Capital, a Houston-based energy consultant.

There are also shale plays in Arkansas and Oklahoma.

The Rocky Mountain region is estimated to have a total of 123 trillion cubic feet of gas, according to the Potential Gas Committee, a nonprofit, independent group backed by industry.

Cracking the shale was "a game-changing event," Polzin said.

While shale is the hot play, that does not mean the eclipse of Rocky Mountain gas, said Ray Dinkins, an analyst with Pritchard Capital Partners.

"There is a lot of infrastructure that the shale needs — pipelines, cryogenic plants to separate out liquids — and in this credit crunch, that investment is hard to come by," Dinkins said.

The development of the Rockies Express pipeline heading east and El Paso Corp.'s proposed Ruby Pipeline heading west will help keep Western gas competitive, Dinkins said.

EnCana's Wojahn said there are a number of factors that go into deciding where to drill, including the geology, the cost structure of wells and the regulations at different sites.

Still, Dinkins said: "If you have a choice to drill one place or another, you choose the cheaper one."

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Europeans invest billions to tap U.S. shale projects

By Mark Williams
The Associated Press

COLUMBUS, OHIO» With one eye cast toward home, giant European energy companies are investing billions in U.S. natural-gas and oil fields where huge, hard-to-get reserves have been unlocked with new drilling technology.

That technology is the prize in Europe, where gas production has declined and where an international utility dispute recently left people in more than a dozen countries shivering in unheated homes.

Europe's natural-gas supply is routed through Ukraine from Russia. Russia supplies about one-quarter of the EU's natural gas, with 80 percent of it shipped through Ukraine. A rift between the two nations left more than a dozen European countries with little or no gas for two weeks last month.

Declines in European gas production have potentially made the new techniques used in the U.S. even more pivotal.

At least three European oil and gas giants are developing or have bought interests in oil and gas shale projects in the U.S. — Norwegian oil company StatoilHydro, the U.S. unit of British oil company BP Plc and the French company Total.

StatoilHydro and BP have agreed in recent months to pay billions of dollars for stakes in shale gas projects from the top U.S. producer of gas, Chesapeake Energy. Total has bought a 50 percent stake in a U.S. company exploring for oil shale in the Rocky Mountains.

Shale is a kind of layered, sedimentary rock that exists in formations throughout the world. In the U.S., gas production from shale dates to the 1800s.

But the gas, tightly locked in rock formations, had been extraordinarily expensive to extract. That began to change about 15 years ago as producers developed new techniques such as horizontal drilling, where the drill is turned in a right angle to bore into a gas reservoir horizontally.

Buying into the technology in the U.S. makes sense and could spare European companies years of development, said Don Hertzmark, an international energy expert.

"The Europeans never bothered to develop this stuff," he said.

RUBY PIPILINE PROJECT SUMMARY
$3 BILLION PIPILINE CONNECTION
NE UTAH GAS FIELDS TO WESTERN USA

RUBY PIPELINE LLC

Project Summary

Proposed Project | Signed Agreements

To address our nation's growing demand for natural gas and associated transportation infrastructure, Ruby Pipeline, L.L.C. (Ruby) filed an application with the Federal Energy Regulatory Commission (FERC) on January 27, 2009, for a certificate of public convenience and necessity authorizing the construction and operation of the Ruby Pipeline Project (Project).

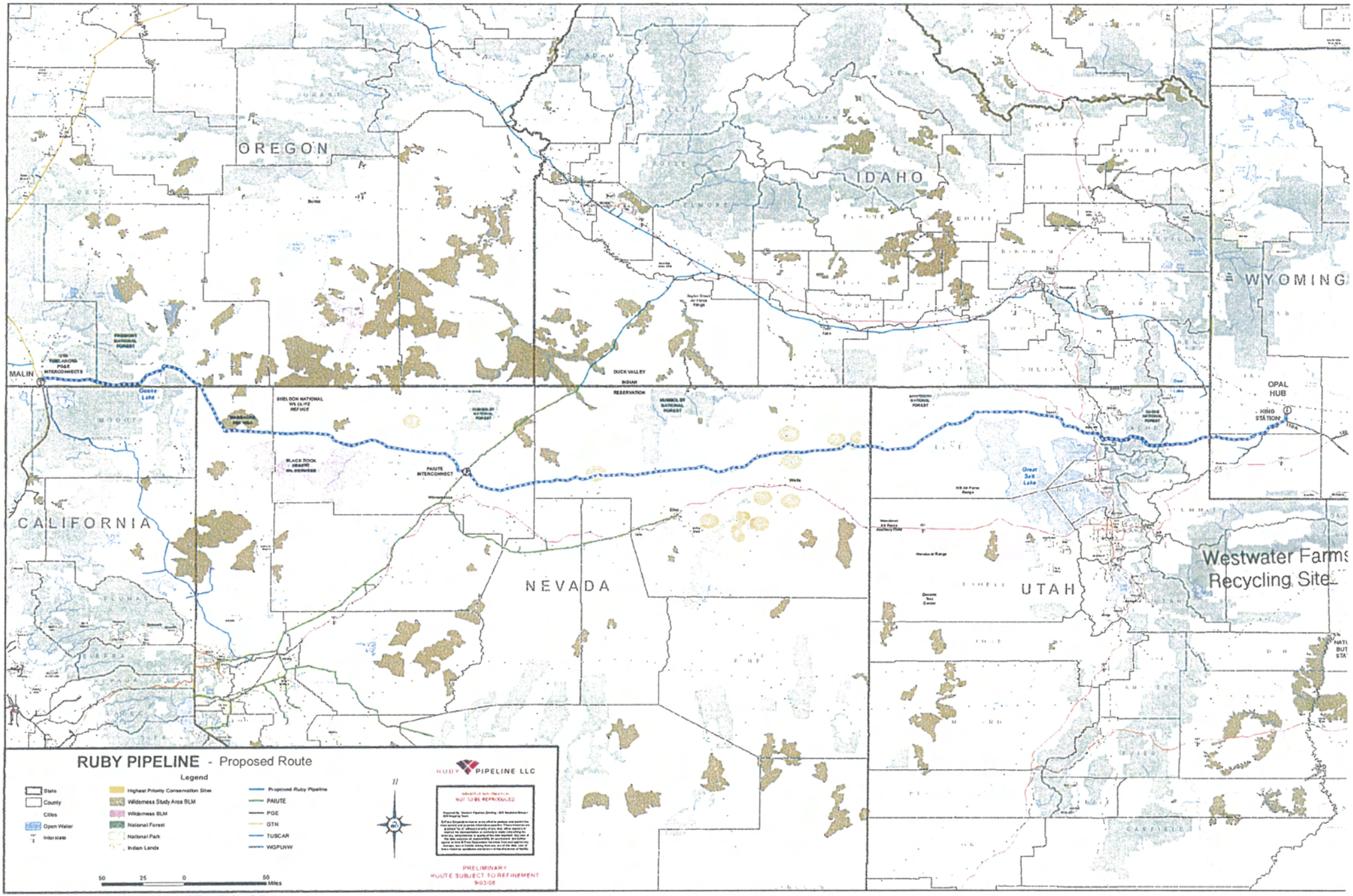
The Ruby Pipeline is a win-win project for natural gas consumers and producers. It represents an approximate $3 billion investment in new pipeline infrastructure that will connect clean-burning and competitively priced natural gas reserves in the Rocky Mountain region with growing markets in the western United States.

As proposed, the Project is expected to include approximately 675 miles of 42-inch natural gas transmission pipeline, beginning at the Opal Hub in Wyoming and terminating at interconnects near Malin, Oregon. Contracts for the pipe have been signed and pipeline construction companies have been selected. The Project will have an initial design capacity of up to 1.5 billion cubic feet per day (Bcf/d) and will traverse portions of four states: Wyoming, Utah, Nevada, and Oregon. Four compressor stations are proposed for the project: one near the Opal Hub in southwestern Wyoming; one south of Curlew Junction, Utah; one at the mid-point of the project, north of Elko, Nevada; and one in northwestern Nevada.

Ruby is committed to being the neighbor to have. As part of that vision, the Project will incorporate technology to minimize greenhouse gas emissions and will offset those emissions that cannot be reduced. Environmental reviews conducted during the planning for the Project identified several key areas for special attention or avoidance during construction: big game winter ranges, calving areas, and river crossings, as well as a number of federally protected species. Ruby is continuing to conduct surveys along the proposed route, including archaeological/cultural resource surveys to identify important historic sites, as well as biological and civil surveys. This information, along with stakeholder and community input, will be analyzed and, where needed, appropriate changes will be made to the route. Once the Project is thoroughly reviewed by the FERC in cooperation with state and federal agencies, including the Bureau of Land Management and the U.S. Forest Service, a certificate of public convenience and necessity may be granted and construction could begin in early 2010. The estimated in-service date is March 2011.

El Paso Corporation, parent company of Ruby Pipeline, L.L.C., provides natural gas and related energy products in a safe, efficient, and dependable manner. The company owns North America's largest interstate natural gas pipeline system and one of North America's largest independent natural gas producers. For more information, visit www.elpaso.com, or call our toll free telephone number 1-866-683-5587.

RUBY PIPELINE



BUSINESS

Exxon project ready to go

The energy giant will produce gas in the Piceance Basin by the end of the month, using a new fracturing technique.

By Andy Vuong *The Denver Post*

Exxon Mobil's latest project in western Colorado will produce natural gas by the end of this month, the energy giant said Thursday.

The first phase of the company's Piceance Basin project will produce 200 million cubic feet of gas per day — about 10 percent of the current total daily production in the basin, according to consultant Bentek Energy in Evergreen.

Exxon said the project, located in Rio Blanco County, will use a new fracturing technique that allows it to extract more gas at lower costs.

"They drill down holes to a certain depth, and they perforate the first intervals and begin producing gas out of it, and as that well begins to decline, they come back up the hole and drill up and perforate other intervals to keep the well flowing at the same rate," said Anthony Scott, a senior production analyst at Bentek.

The technology could give Exxon an advantage over other producers in the Rockies, where a pipeline shortage for transporting gas creates an oversupply and, as a result, lower prices.

"If you can keep the production at a higher sustained rate for months on end because you're hitting all of these other intervals that you weren't hitting before, then it should really drive the cost down for Exxon in the Piceance and allow them to produce economically even at lower gas prices," Scott said.

Exxon said it expects the project to ultimately produce 1 billion cubic feet of gas per day, enough to supply 8 percent of U.S. households.

The development was announced in 2007. Costs haven't been disclosed.

Exxon produces about 55 million cubic feet per day in the Piceance, a prolific basin that the company said could hold as much as 45 trillion cubic feet of recoverable gas. Exxon holds leases to 300,000 acres of land in the area.

The Texas-based company on Thursday also said it will spend up to $30 billion annually over the next five years on exploration and production.

The announcement, made at an analysts meeting in New York, comes as competitors scale back on drilling as energy prices plunge.

There were 31 rigs in the Piceance at end of February, down 64 percent from the third quarter of 2008, according to analyst David Tameron.

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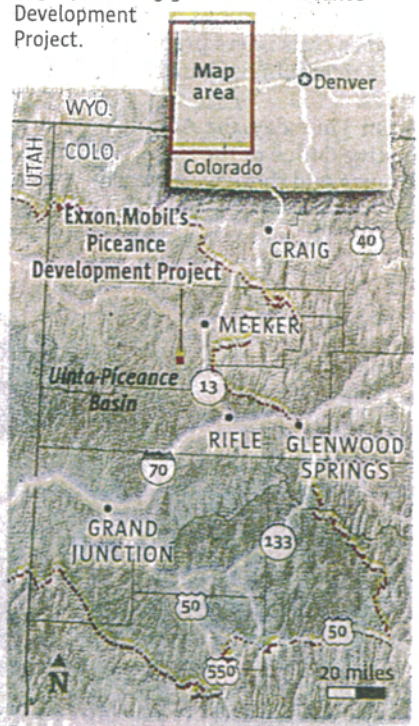
Gas project to start

By the end of this month, Exxon Mobil will begin producing gas from its Piceance Development Project.



Source: U.S. Geological Survey

Thomas McKay, The Denver Post

▲ Sections of pipeline are lowered into the ground in eastern Missouri as part of the construction of the Rockies Express pipeline that will carry natural gas from Colorado to the Ohio Valley. *Special to The Denver Post*

Rockies Express pipeline

The completion of REX won't raise natural-gas prices in the Rockies, Bentek Energy says. It will probably force producers in the Gulf Coast region to lower their prices to match Rockies prices, Bentek says.

Sources: Bentek Energy, HaynesvilleshaleMap.com, Westside Energy Corp. and geology.com

The Denver Post

Gas war»

Shale-gas reserves figure to cut into Colorado natural-gas production. »B8

Steady as she goes

Study: New line shouldn't boost natural-gas price

By Andy Vuong *The Denver Post*

The pending completion of a $6 billion natural-gas pipeline from the Rockies to Ohio won't lead to a surge in prices for Colorado residents.

Instead, this year's opening of the east portion of the Rockies Express pipeline probably will force producers currently serving the Ohio area to lower prices to compete with Rockies supplies, according to a new study by Evergreen-based Bentek Energy.

Rockies natural-gas prices have long been lower than in other parts of the country because of the surplus created by a shortage of pipeline capacity.

"Unfortunately for Rockies producers, they have been so successful as a group at increasing production in the region that the pipeline is already full," said Rusty Braziel, Bentek's managing director. "Although the lower prices will be effectively exported to the Ohio Valley, that doesn't mean higher prices for Rockies producers."

The completion of the pipeline, however, will help bridge the gap between Rockies prices and national averages. That's because supplies for the Ohio area come from the Henry Hub region in Louisiana, the central pricing point for natural gas in the United States.

The gap between Rockies and national prices has traditionally ranged from $2 to $5 per million British thermal units. The differential Thursday was $1.52, with Henry Hub prices at $4.48 and Colorado Interstate Gas at $2.96.

"The good news for Rockies consumers is that prices will remain low," Braziel said.

The west wing of the Rockies Express opened last year, running from Weld County to Missouri. The pipeline will open in Lebanon, Ohio, in June and reach Clarington, Ohio, in November.

"The pipeline is fully subscribed, and so while it certainly is a positive development, there's more pipeline capacity that's needed to really help raise the prices in the Rockies," said Doug Hock, a spokesman for EnCana Oil & Gas.

The region's next major pipeline project is El Paso Corp.'s Ruby Pipeline, scheduled to open in March 2011 and ship 1.5 billion cubic feet of gas per day from the Rockies to the Pacific Northwest.

For producers, "a bigger factor to worry about is what kind of imports we might see this summer," said John Harpole, president of Mercator Energy, a natural-gas broker.

Prices could drop further if liquefied-natural-gas projects in Russia, Indonesia and other countries are completed and supplies are imported to the United States, Harpole said.

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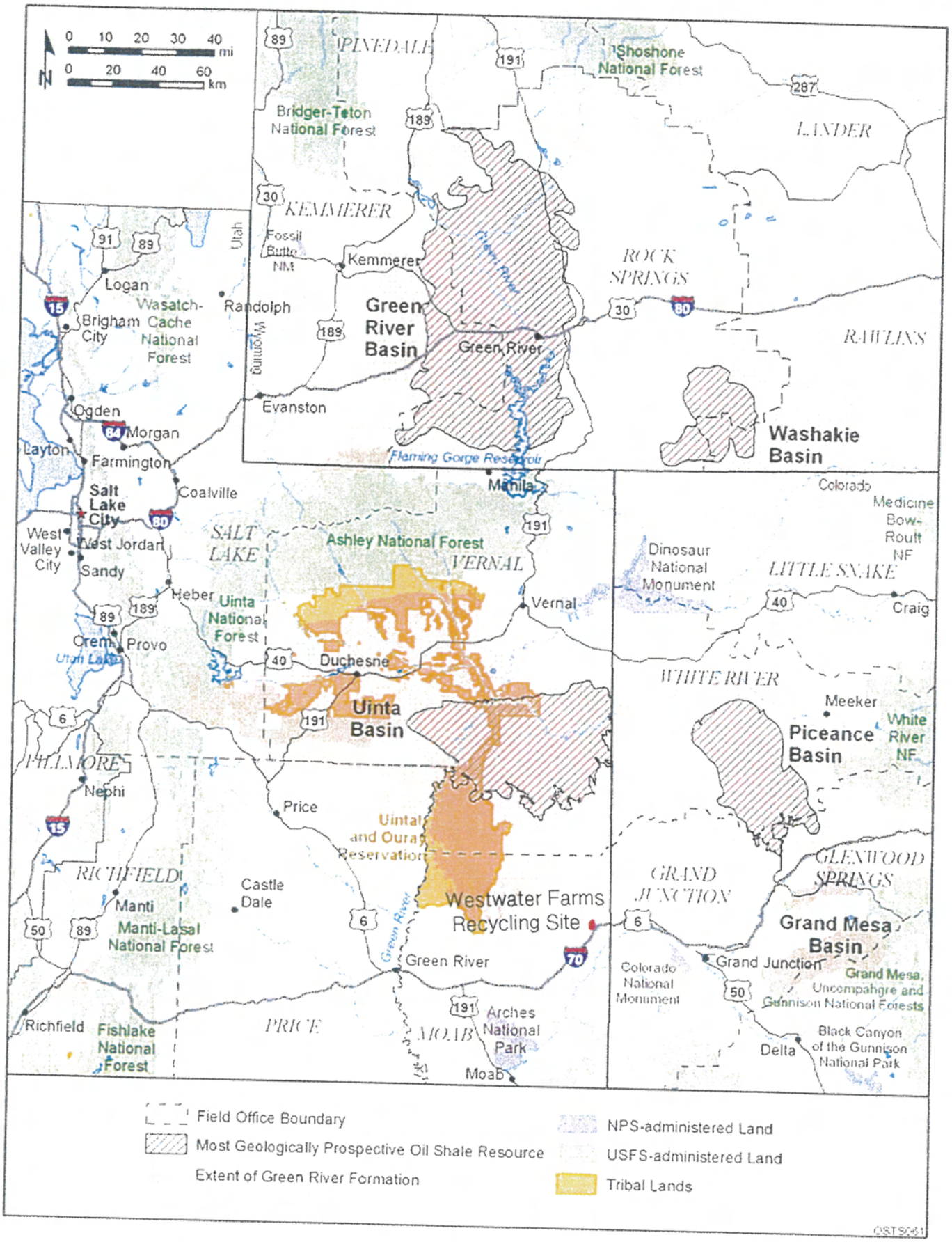
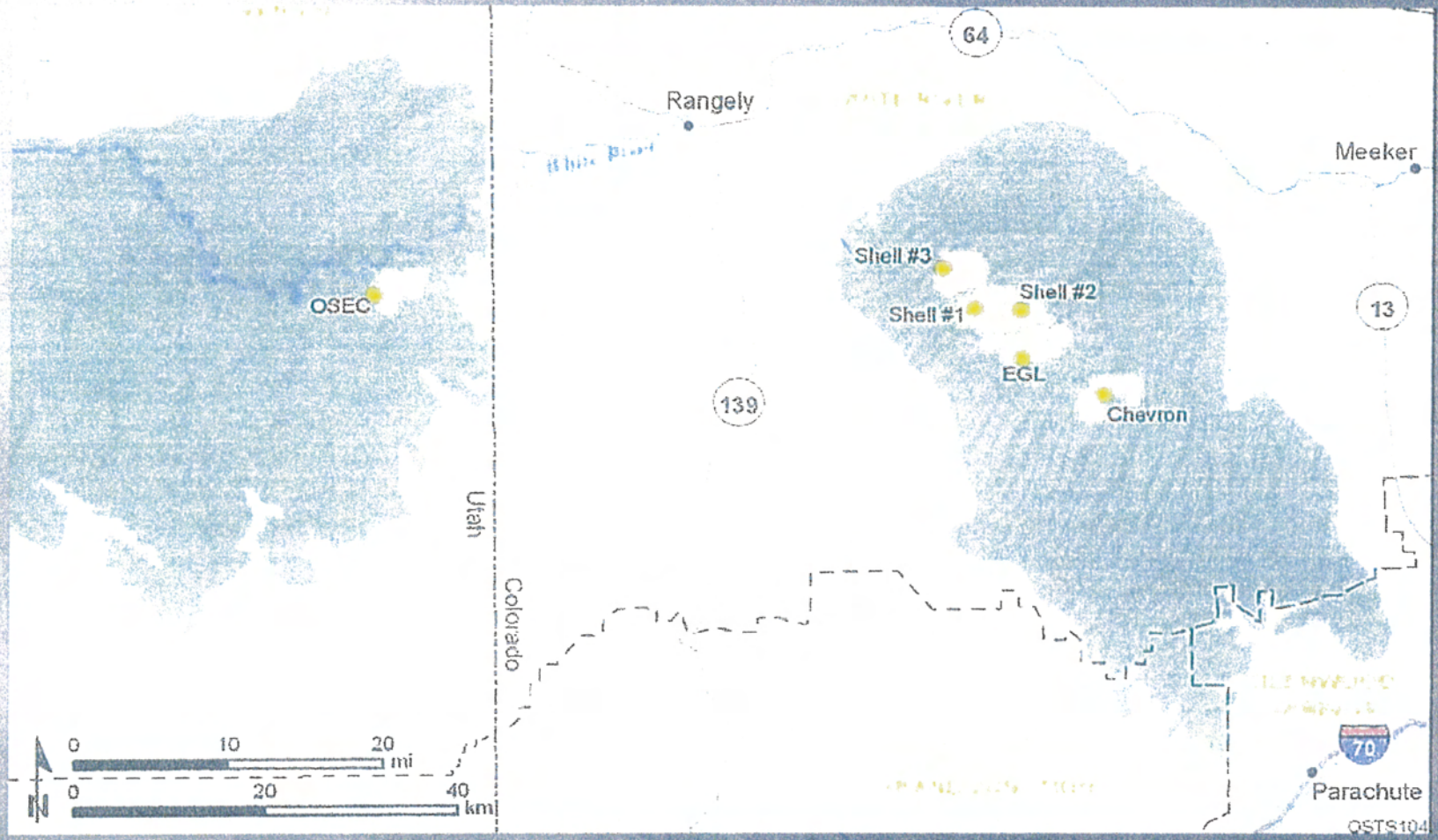
Draft: OSTS PEIS

OIL SHALE DEPOSITS

December 2007



Colorado/Utah BLM R,D&D Leases



COGIS - Production Data Inquiry

You requested production by:	county
Maximum records are limited to:	5000
Year range:	2008 to 2008
For monthly detail:	Click on year

Annual Production by County - 1 record(s) returned.

County	Year	Oil Production (barrels)	Oil Sales (barrels)	Gas Production (MCF)	Gas Sales (MCF)	Water Production (barrels)
MESA	2008	84,850	86,742	25,406,531	24,727,422	1,857,074

COGIS - Production Data Inquiry

You requested production by:	county
Maximum records are limited to:	5000
Year range:	2008 to 2008
For monthly detail:	Click on year

Annual Production by County - 1 record(s) returned.

County	Year	Oil Production (barrels)	Oil Sales (barrels)	Gas Production (MCF)	Gas Sales (MCF)	Water Production (barrels)
GARFIELD	2008	1,234,195	1,213,750	376,694,716	374,510,403	12,431,701

MESA COUN: RODUCTION 2007

Annual Production by Operator - 19 record(s) returned.						
Operator	Year	Oil Production (barrels)	Oil Sales (barrels)	Gas Production (MCF)	Gas Sales (MCF)	Water Production (barrels)
.ARAMIE ENERGY LLC - #10054	2007	16,255	17,385	5,128,141	4,963,820	186,082
ETRO MEX RESOURCES - #10059	2007			453	453	
(OG OPERATING LLC - #10144	2007					
BLACK HILLS PLATEAU PRODUCTION LLC - #10150	2007			1,201,672	1,055,224	19,068
SLATE RIVER RESOURCES LLC - #10164	2007			368,204	368,204	7,627
PLAINS EXPLORATION AND PRODUCTION COMPANY - #10223	2007	5,836	4,062	1,945,993	1,821,908	49,584
DELTA PETROLEUM CORPORATION - #16800	2007	10,450	10,212	2,772,513	2,720,623	19,717
D & G ROUSTABOUT SERVICE - #22370	2007			11,716	11,716	
EES JR AND SON OIL & GAS* WALTER S - #29470	2007	81	166	78,466	78,466	179
GORDON ENGINEERING INC - #34720	2007					
GRYNBERG* JACK J - #36200	2007	758	481			
.ONE MOUNTAIN PRODUCTION CO - #51090	2007			22,824	22,048	
MARALEX RESOURCES, INC - #53255	2007			90,083	78,295	8,309
NATIONAL FUEL CORPORATION - #62340	2007	107	174	707,226	707,226	
P & M PETROLEUM MANAGEMENT LLC - #66565	2007					
BLACK HILLS EXPLORATION AND PRODUCTION INC - #95715	2007			275,785	252,280	2,673
WILLIAMS PRODUCTION RMT COMPANY - #96850	2007					
ENCANA OIL & GAS (USA) INC - #100185	2007	4,051	1,808	5,377,376	5,350,031	319,581
NOBLE ENERGY INC - #100322	2007	76	60	59,737	57,282	14,800
		37,609	34,348	18,040,189	17,487,576	627,620

COGIS - County Monthly Production

PRODUCTION DATA REPORT -- for County Selection only

County:	RIO BLANCO
County Code:	103

PRODUCTION YEAR: 2008

Month	# of Prod. Wells	# of Prod. Days	OIL Produced	OIL Sold	GAS Prod	GAS Sold	GAS Flared	GAS Used	GAS Shrinkage	WATER Prod
Jan	2,560	51260	467,973	466,209	3,719,149	3,451,840	69,779	46,609	150,921	8,992,760
Feb	2,549	48267	437,791	436,487	3,336,285	3,178,842	12,470	37,198	107,775	8,427,454
Mar	2,454	50313	455,511	455,018	3,216,758	3,031,054	36,261	41,983	107,460	8,903,679
Apr	2,556	52289	448,797	448,961	3,377,655	3,229,908	23,965	38,912	84,870	8,239,759
May	2,563	52317	472,795	479,255	3,401,819	3,227,739	16,199	38,971	118,910	8,935,436
Jun	1,878	35357	24,306	22,856	2,666,857	2,605,145	15,646	29,717	16,349	366,452
Jul	2,533	50700	454,761	457,172	2,933,117	2,821,423	12,137	37,846	61,711	8,478,874
Aug	1,438	23961	26,342	24,962	2,081,095	2,009,035	1,024	29,125	41,911	456,312
Sep	2,569	49088	422,356	419,497	2,728,087	2,624,414	17,835	37,392	48,446	8,345,838
Oct	1,936	35487	430,532	430,785	2,554,706	2,398,353	7,518	35,505	113,330	8,279,159
Nov	2,368	34822	429,694	426,520	2,173,441	2,047,262	4,288	32,047	89,844	8,183,964
Dec	1,185	20901	435,333	429,378	793,132	674,058	5,084	22,239	91,751	8,090,055

Annual Production by Operator - 33 record(s) returned.

Operator	Year	Oil Production (barrels)	Oil Sales (barrels)	Gas Production (MCF)	Gas Sales (MCF)	Water Production (barrels)
BEARTOOTH OIL & GAS COMPANY - #6975	2007			12,238	12,238	
CDX GAS LLC - #10026	2007	382	354	162,593	162,215	80
LARAMIE ENERGY LLC - #10054	2007	40		20,445	18,309	117
PETRO MEX RESOURCES - #10059	2007			3,863	3,863	
BARRETT CORPORATION" BILL - #10071	2007	385,843	383,420	23,804,425	23,577,960	1,745,769
ANTERO RESOURCES PICEANCE CORPORATION - #10079	2007	30,886	25,063	3,499,947	3,499,947	637,451
WINDSOR ENERGY GROUP LLC - #10081	2007	10,623	8,122	827,956	772,568	371,779
PIONEER NATURAL RESOURCES USA INC - #10084	2007			127,253	125,605	1,246
BERRY PETROLEUM COMPANY - #10091	2007			4,763,348	4,666,026	
ORION ENERGY PARTNERS LP - #10101	2007	601	394	39,012	37,255	1,352
BLACK HILLS PLATEAU PRODUCTION LLC - #10150	2007					
NONSUCH NATURAL GAS INC - #10163	2007			401,009	401,009	
QUANTUM RESOURCES MANAGEMENT LLC - #10183	2007	638	233	264,774	264,774	834
PLAINS EXPLORATION AND PRODUCTION COMPANY - #10223	2007	45		8,934	8,074	
LARAMIE ENERGY II, LLC - #10232	2007	6,333	5,892	604,912	604,912	13,266
CHEVRON MIDCONTINENT LP - #16695	2007	783	892	530,596	516,154	
CHEVRON U S A INC - #16700	2007	1,899	1,833	407,455	401,152	33,544
D & G ROUSTABOUT SERVICE - #22370	2007			24,807	24,807	
FEES JR AND SON OIL & GAS* WALTER S - #29470	2007	31		2,432	2,432	
LONE MOUNTAIN PRODUCTION CO - #51090	2007	183	194	340,624	323,510	
MARALEX RESOURCES, INC - #53255	2007			181,729	168,173	7,850
MERRION OIL & GAS CORP - #56680	2007					
MONT ROUGE INC - #59800	2007			2,920	2,920	
NATIONAL FUEL CORPORATION - #62340	2007	133		546,095	546,095	
NORTHSTAR GAS COMPANY INC - #64310	2007					
OXY USA WTP LP - #66571	2007	13,976	13,800	4,953,205	4,680,966	209,454
PETROGULF CORPORATION - #69100	2007	17,641	17,040	1,706,065	1,706,065	55,302
PETROLEUM DEVELOPMENT CORP - #69175	2007	16,814	17,610	9,244,122	8,998,411	133,609
TIMBERLINE ENERGY INC - #88348	2007					
WILLIAMS PRODUCTION RMT COMPANY - #96850	2007	340,826	325,772	184,468,510	184,468,510	3,622,044
ENCANA OIL & GAS (USA) INC - #100185	2007	470,052	463,223	106,482,673	105,346,475	3,266,068
NOBLE ENERGY INC - #100322	2007	5,628	5,611	3,271,954	3,248,023	192,741
PRESCO INC - #100465	2007	7		68,993	68,993	2,770
		1,303,364	1,269,453	346,772,889	344,657,441	10,295,276

NOSA
National Oil Shale Association

OIL SHALE UPDATE

National Oil Shale Association

Volume I, Issue I

April 2008

Steady Progress made on Oil Shale Projects

During the first quarter of 2008 a number of oil shale projects reported progress in a steady and measured manner with the goal of completing research and development on technologies that hold promise for becoming economic, sustainable and environmentally acceptable. This research and development is needed before any oil shale projects are expected to be commercialized.

The projects included those on BLM RD&D leases, state leases, and on private oil shale lands. Work is being conducted on the oil shale project sites and in laboratories around the country. Essentially all of the current oil shale development work is being conducted with private funds. There are currently no major government grants or incentive programs for oil shale.

The principal firms involved in oil shale development in the United States are Shell Unconventional Resources, American Shale Oil (formerly EGL Resources), Red Leaf Resources, Oil Shale Exploration (OSEC), Chevron, ExxonMobil, ConocoPhillips, ERTL Inc., Sage Geotech, and Shale Technologies International. A number of other firms are actively engaged in oil shale technology and project development in the United States.

Significant non-U.S. commercial oil shale programs are being carried out in China, Estonia and Brazil. Exploratory work and technology development is moving forward in Jordan, Israel, Morocco and Australia. Many other countries in the world have oil shale deposits that has been investigated and/or developed in past decades.

The federal government through the U.S. Department of Energy Office of Fossil Energy has completed a number of studies that indicate the value of oil shale for reducing dependence on foreign and expensive supplies of petroleum. A task force report can be found at

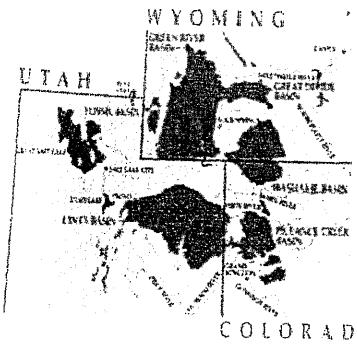
http://fossil.energy.gov/programs/reserves/npr/publications/

Challenges to successful oil shale commercialization are significant, expensive and time consuming.

- Technology must be demonstrated to be economic.
- Environmental issues must be solved.
- Political differences must be mediated.
- Both the public and government officials needs to be convinced of the potential for oil shale to help meet domestic energy demand.

U.S. Oil Shale Resources are Immense

"The largest known oil shale deposits in the world are in the Green River Formation, which covers portions of Colorado, Utah, and Wyoming. Estimates of the oil resource in place within the Green River Formation range from 1.5 to 1.8 trillion barrels. Not all resources are recoverable. For potentially recoverable oil shale resources, we roughly derive an upper bound of 1.1 trillion barrels of oil to a lower bound of about 500 billion barrels." [Bartis, James T. etal, Rand Corporation, Oil shale Development in the United States, ISBN: 0-8330-3848-6, 2005]



Inside this issue:

Special points of interest:

- IDT buys into EGL project and renames it American Shale Oil Project (AMSO)
- Schlumberger buys Raytheon technology
- Oil shale leasing PEIS comments submitted to BLM
- Several new oil shale technologies surface

National Oil Shale Association

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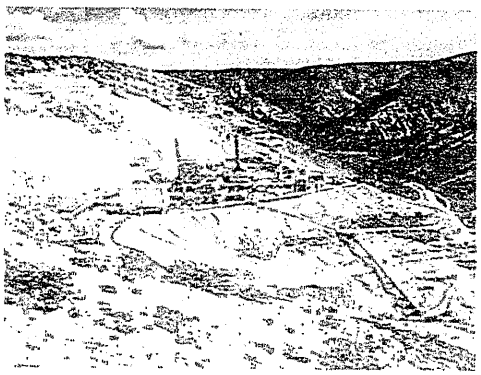

Unocal Oil Shale Plant circa 1982

NOSA Welcomes New Members

- 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.
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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. NOSA has drawn upon publically available information.

Innovative Technologies and Ideas

The resurgent interest in oil shale has resulted in new technologies and proposed research and development projects. A partial list of projects receiving attention during this period follows:

Shell Mahogany Project

Electric heated in-situ process pilot tested in the field. Freeze wall test in progress. Tests planned on three RD&D leases in Colorado.

Chevron

CO2 injected in-situ process planned for testing at its RD&D lease in Colorado.

AMSO

Indirect heated in-situ process planned for testing at its RD&D lease in Colorado.

OSEC

Surface retorting and underground mining project in Utah with mine opening planned in the near term.

ExxonMobil

In-situ Electrofrac process under development with field tests planned in the future.

Phoenix WY

Microwave in-situ oil shale process planned for testing in the future.

Raytheon/Schlumberger

Microwave in-situ technology tested at laboratory scale with field tests in the planning stage.

CRE Energy

Surface retorting process combined with coal gasification with pilot testing planned in the future.

Mountain West Energy

In-situ process that includes hot gas injection and in-situ vapor extraction.

Independent Energy Partners

In-situ process using geothermic fuel cells with plans for testing in the field.

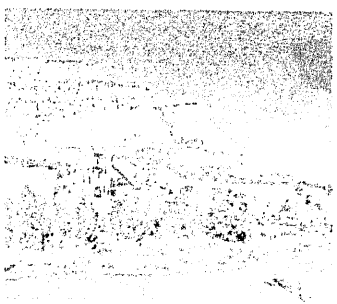
Blue Ensign Technologies

Surface retorting process using liquid extraction tested at laboratory scale. Funding being sought for test in Australia.

Shale Technology International

Paraho surface retorting technology with pilot plant in Colorado where tests have been conducted on oil shales from around the world.

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



Shale Technology International pilot plant near Rifle, Colorado

New Entrants in the Oil Shale Arena

"You're talking about tremendous reserves—if we can recover up to one trillion barrels of oil, that's more proven reserves than all of the proven reserves in the Middle East put together."

US Senator Orrin Hatch

This period saw the entrance of several new businesses and leaders in the oil shale arena.

American Shale Oil Co

EGL Oil Shale, LLC reportedly closed a deal to sell 75% of its assets to IDT Corporation. The new firm is called American Shale Oil Company, or AMSO. The President of the firm is Howard Jonas, Chairman of IDT and author of books on management. Alan Burnham, (PhD), Roger Day and Claude Pupkin are the key managers of the project on EGL's Oil Shale RD&D Lease in Rio Blanco County, Colorado.

Howard Jonas is quoted as saying "We intend to pursue, and are urging the other participants in the industry to join us in, an open collaboration approach to solving the challenges that have stymied shale oil extraction for decades."

Schlumberger

Raytheon announced that it was selling its oil shale technology to Schlumberger, a well known oil field service company. The technology developed by Raytheon uses microwaves to generate heat underground to release shale oil from the resource. Raytheon reportedly developed the technology with CF Technologies of Massachusetts. Earlier the Illinois Institute of Technology and other firms experimented with the use of micro waves to retort oil shale.

Frank Smith—Western Colorado Congress

Frank Smith was named oil shale coordinator for the Western Colorado Congress.

Red Leaf— EcoShale Oil Shale Project in Utah

According to its web site, the mission of Red Leaf Resources Inc. is to develop the Ecoshale In-Capsule Process to bring economical liquid hydrocarbon transportation fuels to the market from unconventional hydrocarbons (oil shale, tar sands, coal, lignite) soon enough, and in sufficient quantity, to significantly impact economic and political dependence on conventional oil.

The Great Basin of the western United States holds some of the world's richest deposits of oil shale. The states of Wyoming, Colorado, and Utah together represent more than a third of the earth's supply.

Red Leaf Resources, Inc owns School Institutional Trust Lands leases in Utah containing approximately 1.5 billion barrels of oil. The hydrocarbon resource is world class and lies beneath an average of 0.45 to 1.0 overburden ratio.

The property can sustain a multi-billion dollar mining project which could produce up to 50,000 barrels per day -- more oil than all of Utah's other conventional output combined.

Red Leaf is currently planning for field testing of its technology in Utah.

Oil Shale Exploration Company (OSEC) Project

OSEC has reported that it has a three phase research, development and demonstration (RD&D) program to mine and process oil shale from the Green River Formation in Utah.

Phase 1 began with the signing of the BLM lease, effective July 1, 2007, on the 160-acre RD&D site of the White River Mine. Oil shale samples have been sent to three independent laboratories for testing. In September 2007 OSEC processed 300-tons of crushed shale through the Alberta Taciuk Process (ATP) pilot plant in Calgary, Canada.

During Phase 2, the Company plans to construct a 250-ton-per-hour processing facility at the White River Mine near Bonanza, Utah. The facility would include an on-site shale oil upgrading plant and shale oil product storage tanks.

During Phase 3, OSEC will seek to secure the Preferential Lease Property so that commercial operations can be initiated.

Shell Mahogany Research Project

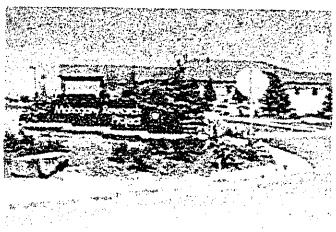
Research and development activities continue on Shell's private property in the northern Piceance Basin. Field activities have been ongoing since 1996, with the last heating test successfully recovering oil and confirming the viability of Shell's In-situ Conversion Process (ICP) technology. The main currently active project in Colorado is the Freeze Wall Test (FWT) where Shell is testing the ability to isolate an area to be heated, while protecting the adjacent water-bearing formations, by surrounding the perimeter of the area to be heated with a subsurface curtain of ice. This is being done in a novel application of conventional engineering technology typically used in places such as construction sites where soil moisture is an issue. The FWT was constructed in 2006 and 2007, became fully operational in late 2007, and will continue for 3-4 years as we learn more about how best to manage and protect groundwater in proximity to our operations.

In the next phase of testing, Shell intends to propose a pilot project on federal research leases to demonstrate a fully integrated application of combined heating and freeze wall technology.

The ultimate objective is to make a decision about commercial scale development in the middle of the next decade, depending on the timing and results of ongoing research and on the timely development of a supporting federal and state regulatory scheme that facilitates its implementation.

For more information, see web site

www.shell.com/us/mahogany.



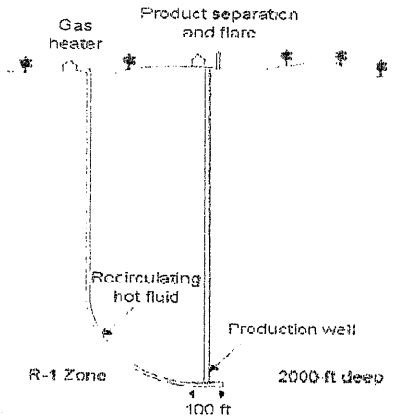
Shell's Office in Rio Blanco County, Colorado

American Shale Oil Project (AMSO)

AMSO's reported strategy is to produce shale oil and gas from the illite-rich oil shale 2000-ft below the surface of its RD&D lease in order to prevent contamination of drinking water aquifers. They are exploring how to prove and best implement EGL's patented Conduction, Convection, Reflux (CCR™) retort concept.

Upon completion of the RD&D program and approval, commercial operations employing these techniques could start sometime in the 2015 to 2020 time frame. Production could expand to the 100,000 bbl/day rate over the course of several years given favorable economics and acceptable impacts.

The figure at the right is a diagram of the initial field test envisioned by AMSO.



Programmatic EIS for Oil Shale Leasing

In December 2006 the Bureau of Land Management (BLM) issued a Draft Oil Shale and Tar Sands Programmatic Environmental Impact Statement (PEIS).

The purpose was to identify those areas where oil shale and tar sands resources are present, decide which of those areas will be open to application for commercial leasing, exploration and development, and amend the BLM's applicable land use plans.

Comments were encouraged from the public into April of 2008.

The PEIS offered three options for oil shale development, including a no-leasing option. The BLM expects several thousand comments. The issuance of a Final PEIS and Record of Decision is anticipated by the end of 2008 if funding is made available to BLM to complete its work.

NOSA submitted comments to BLM that focused upon the factual content of the document and can be found on the NOSA web site: www.oilshaleassoc.org .

"If commercial oil shale leasing occurs, it will not occur for a number of years."

Kent Walter, Field Manager, BLM White River Office, Meeker, CO—3/20/08

National Oil Shale Association

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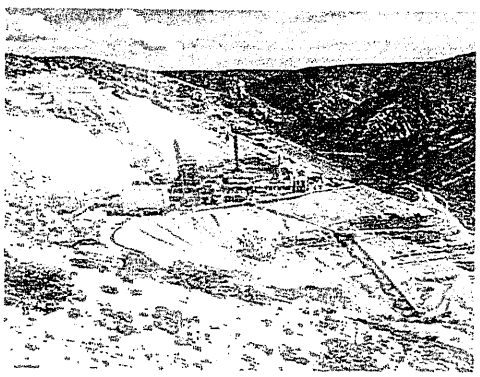
Gary Aho, Chairman



Unocal Oil Shale Plant circa 1982

NOSA Celebrated One Year Anniversary

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Estonia Announces International Oil Shale Symposium

Tallinn, Estonia—June 8/10, 2009

In association with the Colorado School of Mines

http://www.oilshalesymposium.com

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Innovative Technologies and Ideas

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Chevron

CO2 injected in-situ process planned for testing at its RD&D lease in Colorado.

AMSO

Indirect heated in-situ process with a unique ground water protection strategy planned for testing at its RD&D lease in Colorado.

OSEC

Surface retorting and underground mining project in Utah with mine opening planned in the near term. See more information on page 2.

ExxonMobil

In-situ Electrofrac process under development with field tests planned in the future.

Raytheon/Schlumberger

Microwave in-situ technology tested at laboratory scale with field tests in the planning stage.

EcoShale

Modified insitu retorting process being tested in Utah

Shale Technology International

Paraho surface retorting technology with pilot plant in Colorado.

Independent Energy Partners

Geothermic fuel cell process with work being conducted at PNNL.

PyroPhase

Radio frequency insitu process

Monarch Mining

Surface retorting process using proven mining methods and surface retort. Work conducted at Idaho National Laboratory.

University of North Dakota

Process uses water and ethyl alcohol in a surface reactor to recover shale oil.

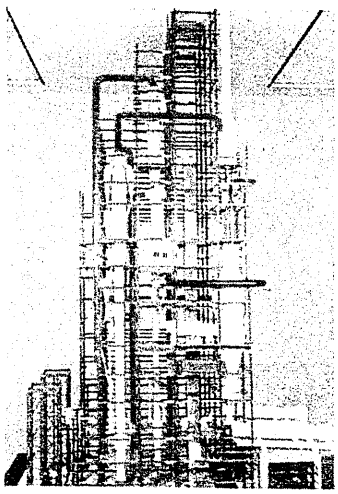
CRE Energy

Process uses a rotary kiln fired with hydrogen to reduce CO_2 emissions.

QER Australia

Surface mine and retort evaluating future commercialization approach at Stuart plant near Gladstone.

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



Colorado Water District issues water study

The Colorado Water Conservation District has recently issued for comment a report titled Energy Development Water Needs Assessment (Phase I Report). URS Corporation prepared the report for the District with the assistance of an advisory group from industry, government and private citizens. The report covers the needs for water in North Western Colorado through 2050 for natural gas, coal, uranium, oil shale and electric power generation. The study estimated the direct demands as well as the water requirements for communities. Phase II will estimate water availability.

Due to the large potential water demands for oil shale, it became the focus of the report.

Assumed production levels ranged from zero (2007-2017), zero to 550,000 b/d (2018-2035), and from zero to 1.55 million b/d (2035-2050) with a mix of surface and insitu retorting.

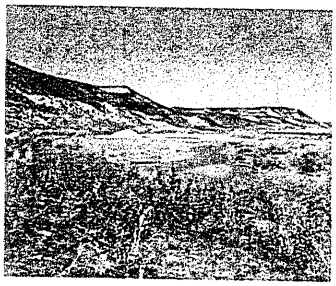
Direct water consumption was assumed to be 1.5 and 2.9 barrels of water per barrel of shale oil produced respectively for insitu and surface retorting.

Total direct water demand therefore equates to a maximum of 112,625 acre-ft/year for the maximum case described above.

Indirect oil shale industry related population increase for the maximum case was estimated to be 94,200. That equates to an additional estimated 21,100 acre-ft/yr totaling 133,725 acre-ft/yr of water demand for a 1.55 million b/d shale oil industry.

The conclusions reached in the study on oil shale are as follows:

- Great uncertainty and challenge if commercial oil shale industry emerges
- On the high end (1.5 million b/d) oil shale water demand could exceed available compact water
- Non compact sources of water will be investigated in Phase II (e.g. waste waters)



White River in Rio Blanco County

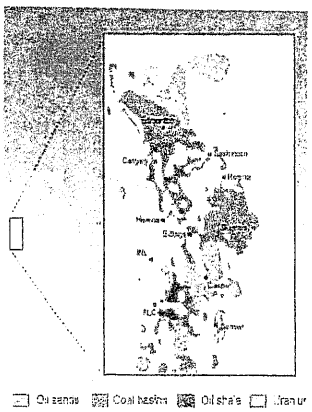
Western Energy Corridor Initiative

The Western Energy Corridor, which extends from Alaska through western Canada and the United States, contains some of the world's richest deposits of hydrocarbons and energy minerals, including trillions of barrels of oil equivalent in place (BOE) of conventional oil, natural gas, coal, oil shale, oil sands, heavy oil and uranium. Development of the world-class unconventional hydrocarbon resources within this corridor, could help alleviate U.S. energy supply vulnerability, providing a strategic source of energy, including liquids fuels and other products far into the future.

Concurrent development of unconventional fuels and other energy and mineral resources will create increasing competition for limited resources of water, and impacts to air, habitat, and wildlife in the region. Local communities, infrastructures, and economies will face increasing demand for roads, electricity, law enforcement, labor and other services as a result of this development.

Therefore, this initiative is focused upon an effort to coordinate, integrate, and organize the scientific and engineering efforts required to conclusively evaluate the potential impacts of this potentially large development activity.

Entities from government, industry, national laboratories and educational institutions are investigating how to proceed with this initiative.



Programmatic EIS and Regulations for Oil Shale Leasing

The Proposed Oil Shale and Tar Sands Programmatic Environmental Impact Statement was issued in final form in September 2008. BLM selected Alternative B as the Proposed Plan Amendment. Alternative B makes 1,991,222 acres of oil shale lands available for commercial leasing in Colorado, Utah and Wyoming. One million acres of these designated lands are in Wyoming, 631,000 acres in Utah, and 360,000 acres in Colorado. "Additional NEPA Analyses will be required before leases will be issued for commercial development."

Draft regulations to establish a commercial oil shale leasing program were issued and comments sought from the public by BLM . As of the writing of this report final regulations had not been issued.

A Congressional moratorium prohibiting BLM from competing the PEIS and regulations was allowed to expire September 30, 2008. No other Congressional action has been taken to date.