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TSX:HPU
www.hpur.com



Executive Summary
August 2006



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This presentation contains forward-looking statements; these statements relate to future events or future performance and reflect management's current expectations and assumptions. Such forward-looking statements reflect management's current beliefs and are based on information currently available to management of High Plains. A number of factors could cause actual events, performance or results to differ materially from the events, performance and results discussed in the forward-looking statements. These forward-looking statements are made as of the date hereof and High Plains does not assume any obligation to update or revise them to reflect new events or circumstances.

Summary



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- **High Plains Uranium, Inc. (HPU) is engaged in the acquisition and exploration of previously explored uranium properties. Our goal is to become a uranium producer at the earliest possible opportunity utilizing in-situ leach mining technology.**
- **HPU has been in business for two years.**
- **HPU is currently incorporated in the Province of New Brunswick, Canada.**
- **Corporate office – Cheyenne, Wyoming
Field Offices – Casper, Wyoming and Karnes City, Texas**



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Key Personnel

Executive Officers and Senior Management



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Knowledgeable and experienced Management Team supported by a strong Board of Directors

Thomas Parker

(President & CEO, age 63)

- 40 years experience in the mining industry, including Executive Vice President with Anderson and Schwab, CEO of Costain Minerals and Vice President of ARCO Coal
- Prior Uranium experience with Conoco Minerals
- Assessment of management structure and effectiveness of a \$5-7 million per year gold exploration company.
- For the past six years, technical and industry advisor to UBS Warburg, the lender to Triton Coal Company in the Powder River Basin.
- Restructured Costain Minerals to focus on coal operations. Implemented and completed major mine construction/modernization projects.

Mr. Parker is a mining engineering graduate from the South Dakota School of Mines with a Master's Degree in mineral engineering management from Penn State.

Executive Officers and Senior Management



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Knowledgeable and experienced Management Team supported by a strong Board of Directors

John Ryan

(Secretary and CFO, Age 44)

- High Plains co-founder and financier of \$16 million of equity capital (2004-2005)
- Financed \$27.5 million for Cadence Resources. Took the company < \$5 million market cap in 2001 to >\$500 million today.
- Founder of Western Goldfields. Led \$20 million dollar acquisition of Mesquite Mine, CA.
- Founder of Metalline Mining Company that controls a major zinc project in Northern Mexico.

Mr. Ryan holds a BSc in Mining Engineering from University of Idaho and a Juris Doctor from Boston College

Pat Lorello

(Vice President, Age 47)

- Managed day-to-day production aspects of 18 million ton per year Wyoming surface coal mine with 200 employees. \$10 million annual budget and capital projects of \$3-5 million.
- Permitted 2,500 acre tailings expansion for large copper mining and smelting operation near Salt Lake City, UT.
- Assisted with environmental permitting for construction of \$880 million copper smelter in Salt Lake County, UT.
- Permitted two gold mining operations in South Carolina & Utah.

Mr. Lorello holds a B.Sc. in Environmental Engineering from Montana College of Mineral Science and Technology.



Knowledgeable and experienced Management Team supported by a strong Board of Directors

Leland Huffman

(ISL General Manager, Age 49)

- 25 years of ISL industry experience – 20 years on the construction, operations and ground water restoration of wellfields.
- Integral in the production of approximately 5 million pounds of uranium at Crow Butte Resources.
- Managed the first successful commercial wellfield groundwater restoration program approved by the Nebraska State Department of Environmental Quality and Nuclear Regulatory Commission.

Mr. Huffman holds a BSc with Major in Geophysics from New Mexico Institute of Mining and Technology.

Wayne Heili

(ISL Engineer, Age 44)

- 17 years providing engineering, construction, operations and technical support to the uranium mining industry.
- 1998-2004 Operations Manager of COGEMA's WY Christensen & Irigaray ISL uranium mines, Wyoming. Annual production of ~750K lbs of U_3O_8 with a \$9 million yearly operation budget.
- 1993-1997 Operations Manager, Texas Mining operations overseeing three ISL mine sites.

Mr. Heili holds a BSc in Metallurgical Engineering from Michigan Technological University with a Mineral Process emphasis.



Knowledgeable and experienced management team supported by a strong Board of Directors

Lonnie Tracy

(General Manager - Texas, age 58)

- 20 years of uranium mining experience in South Texas and Australia.
- Supervised the construction and start-up of a 2,000 ton/day gold plant in Western Australia costing \$10 million and served as Operations Manager.
- Operations Manager at Chevron Resources supervising 250+ personnel uranium mill producing up to 1.8 million lbs per year.
- Managed a commercial 11(e)2 byproduct disposal facility grossing in excess of \$20 million in revenue per year.
- Senior Manager at Mesteña Uranium LLC during the construction of \$4.5 million ISL uranium processing facility.

Mr. Tracy holds a BSc degree in Geology from Ross State University

Cal VanHolland

(Chief Geologist, age 56)

- 2004-2005 Supervised installation of Wellfield 1 at Alta Mesa, TX of 1 million lbs with 200 drill holes.
- 1992-1996 Supervised installation of Wellfields 5 & 6 at Christensen Ranch, WY of 2 million lbs with 600 production wells. Installed Wellfield 7 with 200 production wells.
- 1989-1992 Supervised delineation drilling of 5 million lbs at Alta Mesa, TX with ~500 drill holes.
- 1987 Supervised installation of Wellfield 3 at West Cole, TX, 800,000 lbs. with 200 production wells.
- 1978 Supervised field operations that discovered Ruth uranium deposit, WY - 3 million lbs with 250 drill holes.

Mr. VanHolland holds a BA in Geology from Hope College



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Our Projects

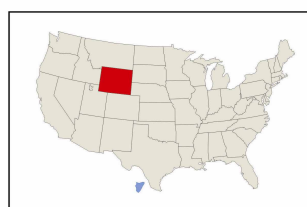
Company Fundamentals – The Projects



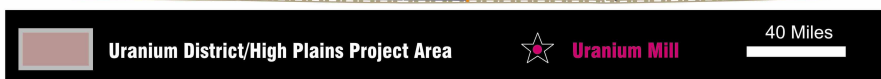
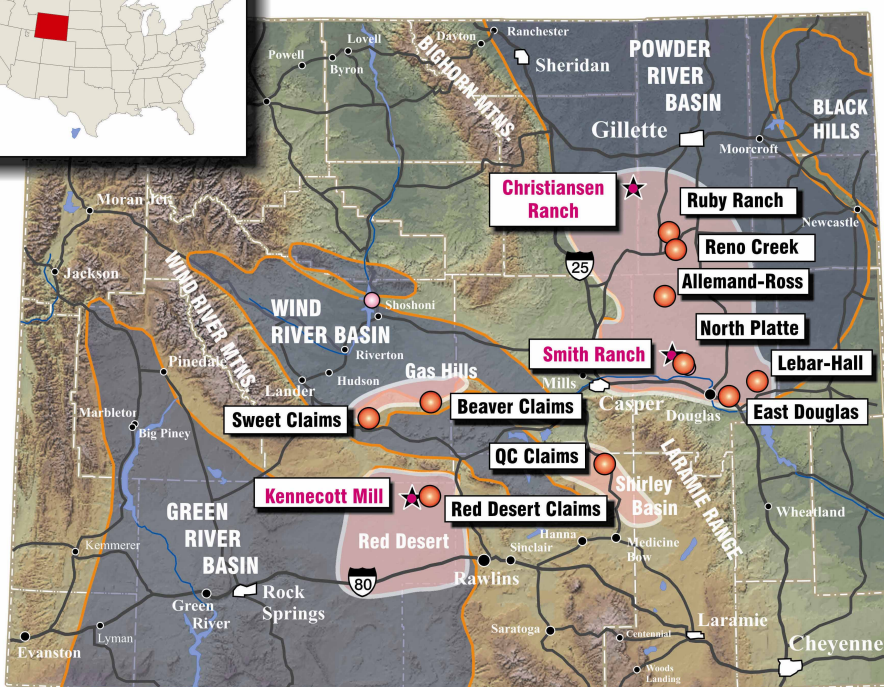
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61,000 acres in Wyoming

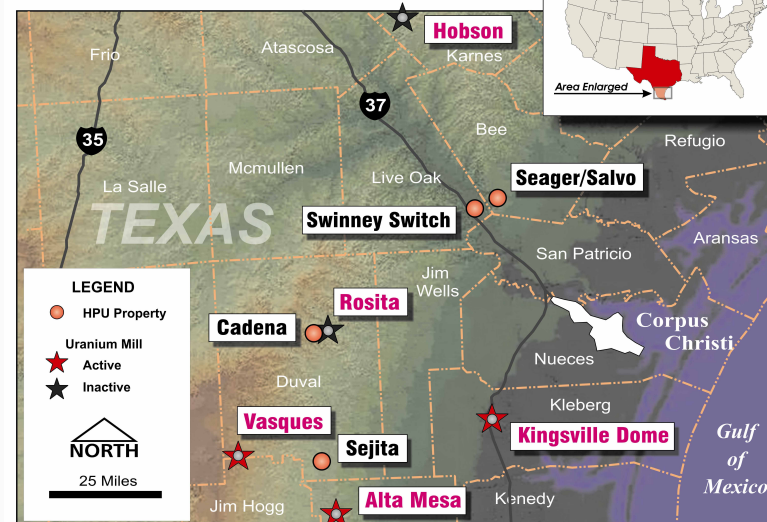
10,000 acres in Texas



High Plains Uranium Wyoming Projects



High Plains Uranium Texas Projects



Property Position



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- All HPU properties were drilled and defined in the last uranium bull market.
- High Plains Uranium Inc., (HPU), controls major uranium properties in Wyoming (61,000 acres) and Texas (11,500 acres)

STATE	Mineral & Surface (acres)	Mineral Rights Only (acres)	Surface Rights Only (acres)	Total Acres Controlled by HPU
Wyoming	47,310	11,450	2,240	61,000
Texas	11,198	225	77	11,500

High Plains Property Positions



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Property	Location By County	Total Acres	43-101 Compliant Uranium Lbs Or Historical Data	Corporate Plan
Allemand-Ross	Converse, Wy	14,279	Indicated 970,000, Inferred 4,617,700	Permit, Drill, Develop
North Platte	Converse, Wy	9,770	Historical Data	Permit, Drill, Develop
NP Extension	Converse, Wy	2,234	Historical Data	Permit, Drill, Develop
Herma	Converse, WY	959	Historical Data	Permit, Drill, Develop
LeBar-Hall	Converse, Wy	2,680	Historical Data	Expand or Trade
East Douglas	Converse, Wy	4,520	Historical Data	Joint Venture
Reno Creek	Converse, Wy	2,027	Historical Data	Joint Venture or Trade
Ruby Ranch	Converse, Wy	2,720	Historical Data	Joint Venture or Trade
Gas Hills	Fremont, Wy	4,920	Historical Data	Joint Venture or Trade
Shirley Basin	Carbon, Wy	390	Historical Data	Joint Venture or Trade
Brush Creek	Carbon, Wy	3,760	None	Joint Venture or Trade
Red Desert	Sweetwater & Fremont, Wy	12,830	Historical Data	Joint Venture or Trade
Swinney Switch	Live Oak & Bee, Tx	3,844	1,200,000 In-Situ Pounds	Joint Venture
Seagar-Salvo	Bee, Tx	1,514	Historical Data	Drill, Joint Venture
Sejita	Duval, Tx	2614	Historical Data	Drill, Joint Venture
Cadena	Duval, Tx	2,709	Historical Data	Drill, Joint Venture
Mound Creek	Karnes, Tx	701	Historical Data	Expand land position



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Wyoming Map



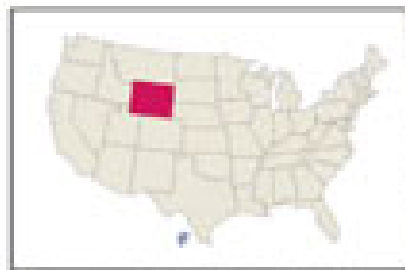
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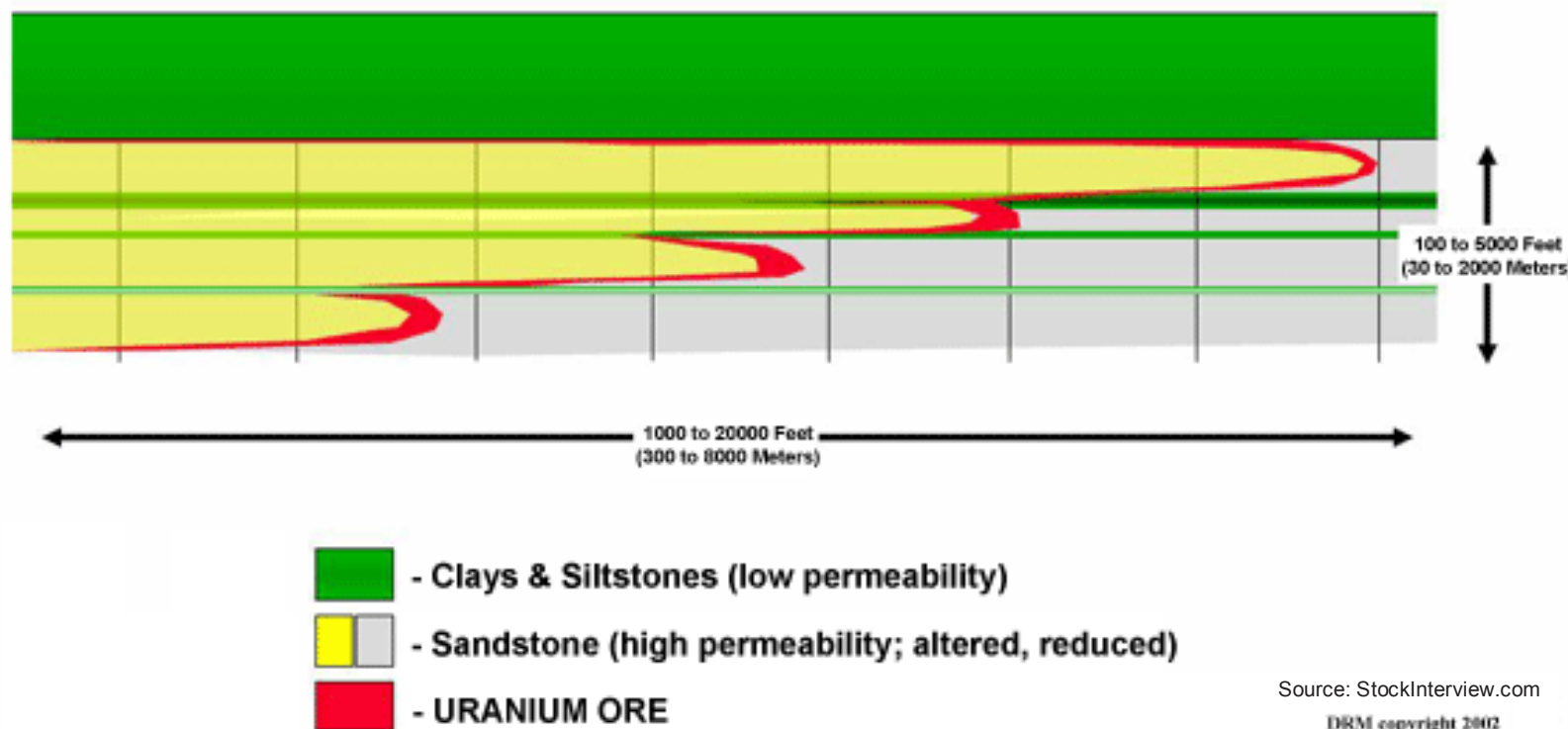


High Plains Uranium Wyoming Projects





SEDIMENTARY URANIUM EPIGENETIC MODEL Idealized Roll Front System Geometry

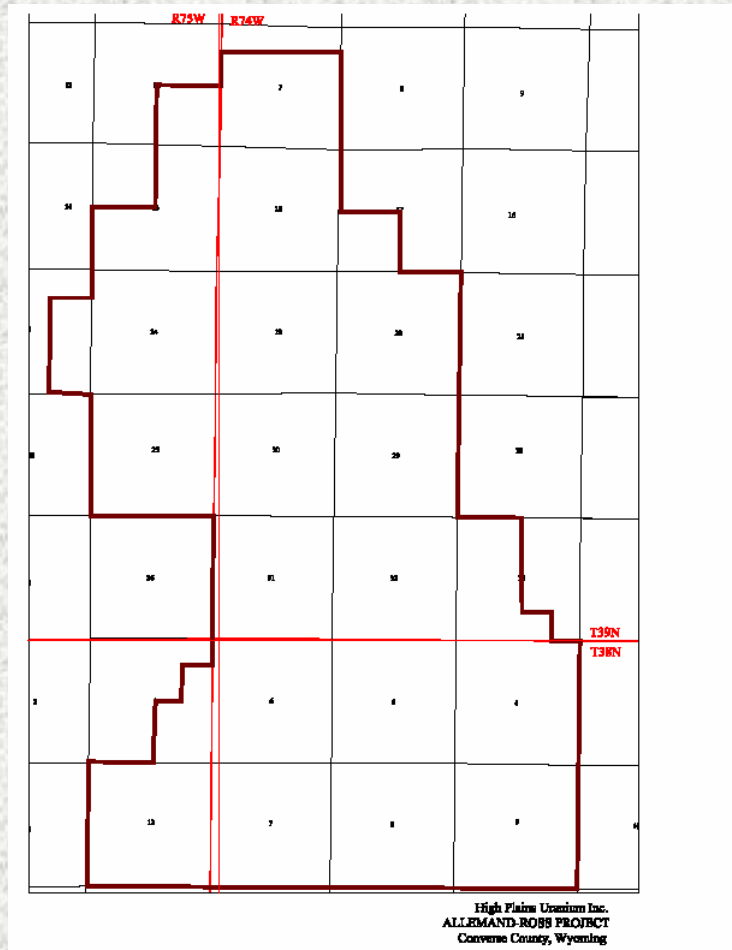


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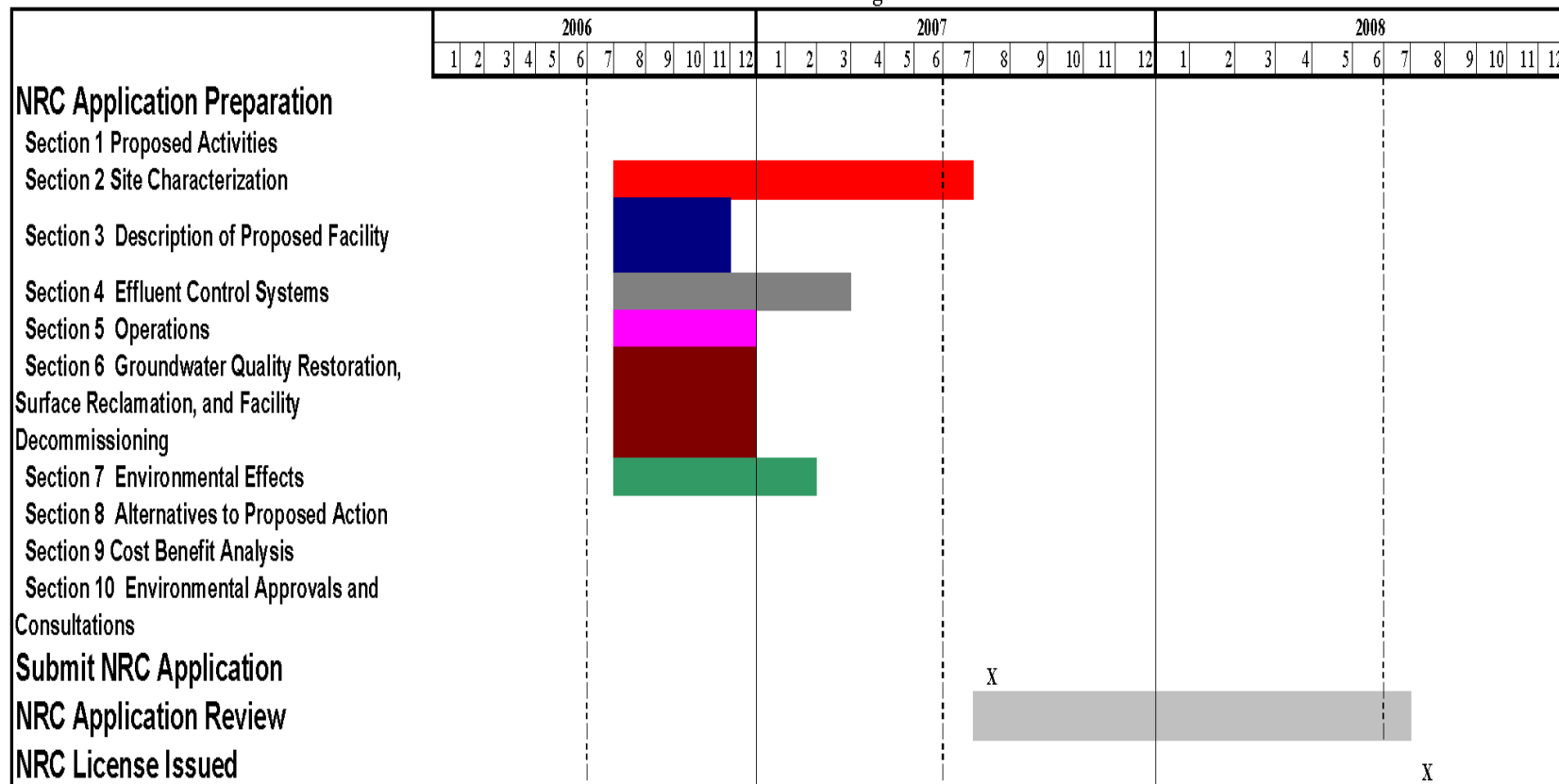
- Proposed Permit Boundary
- Sand Draw
- Bear Creek

Allemand Ross Project

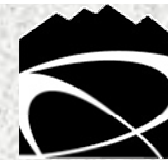


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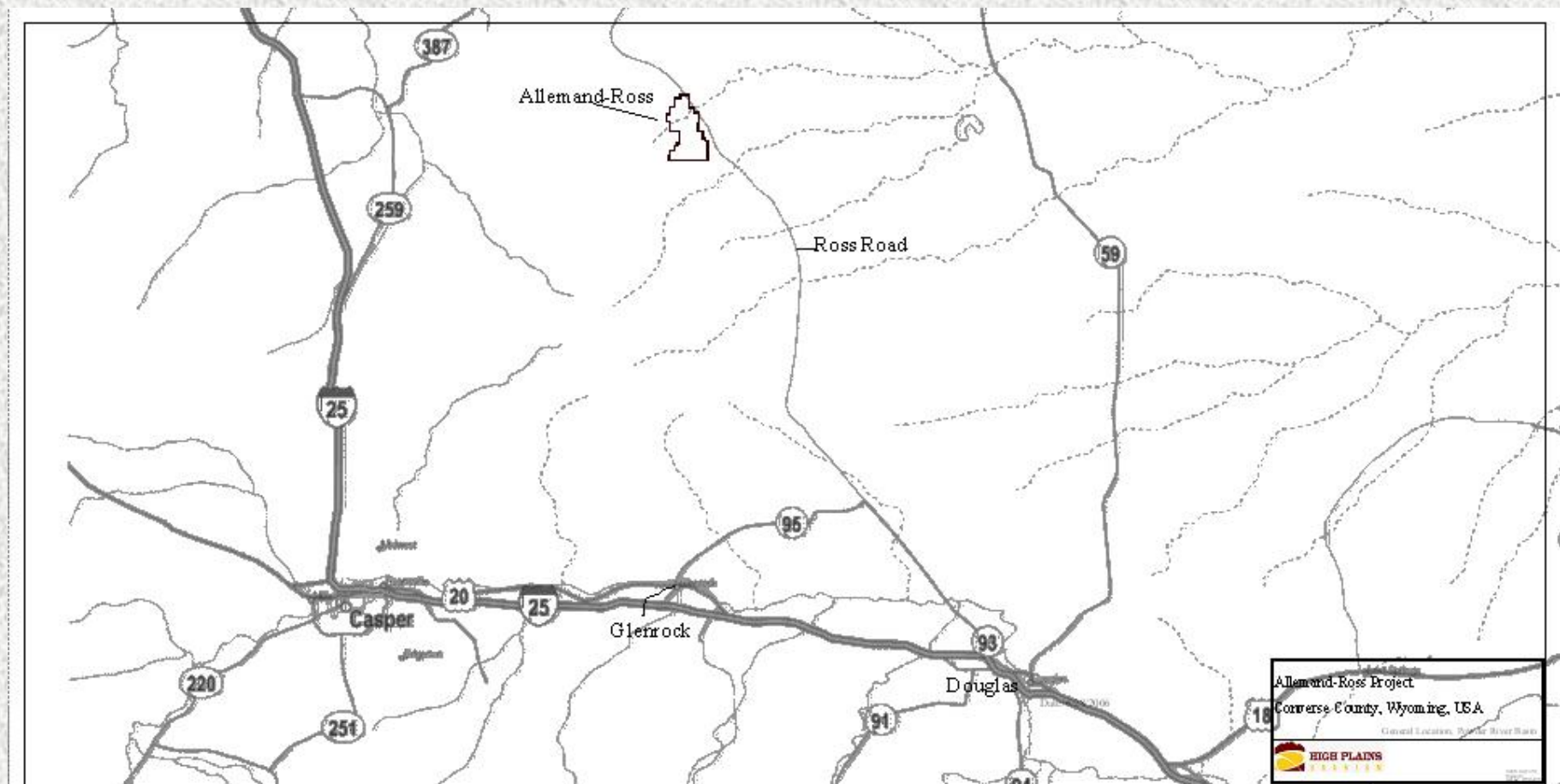
Allemand Ross NRC Licensing Schedule



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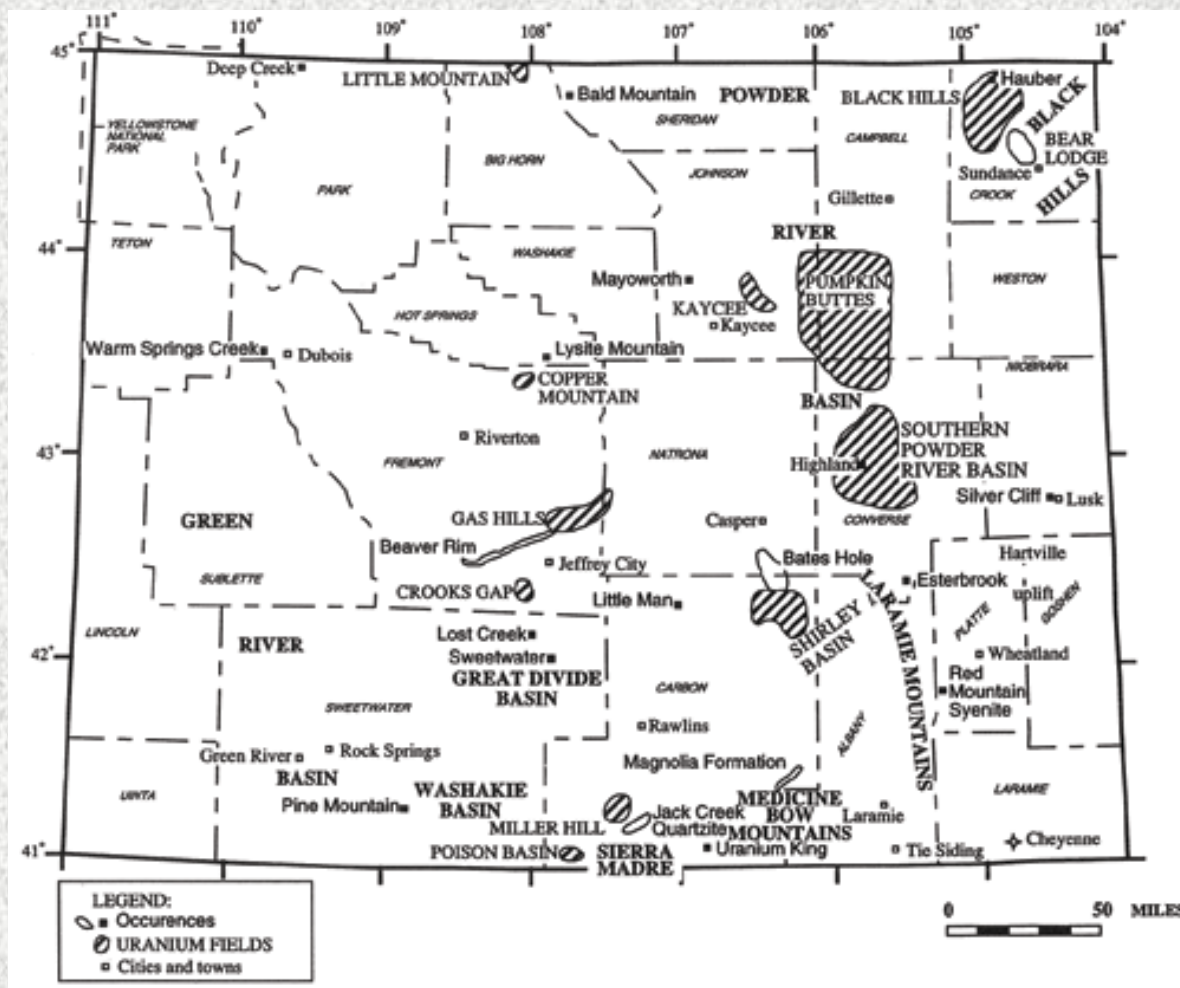
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Geology and Hydrology

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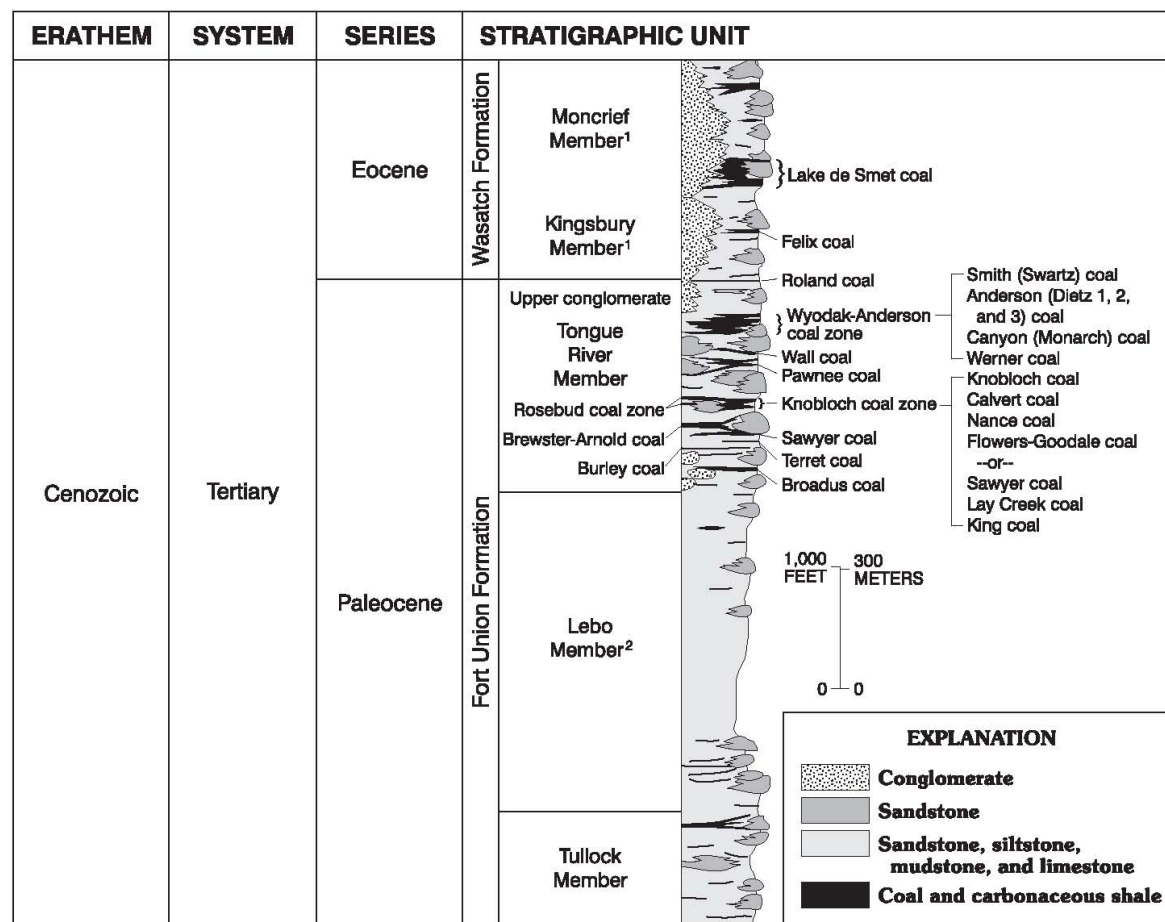


Source: StockInterview.com

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¹ Wasatch Formation not subdivided into members in study area (eastern Powder River Basin).

² Defined as the Lebo Shale Member of the Fort Union Formation in Montana.

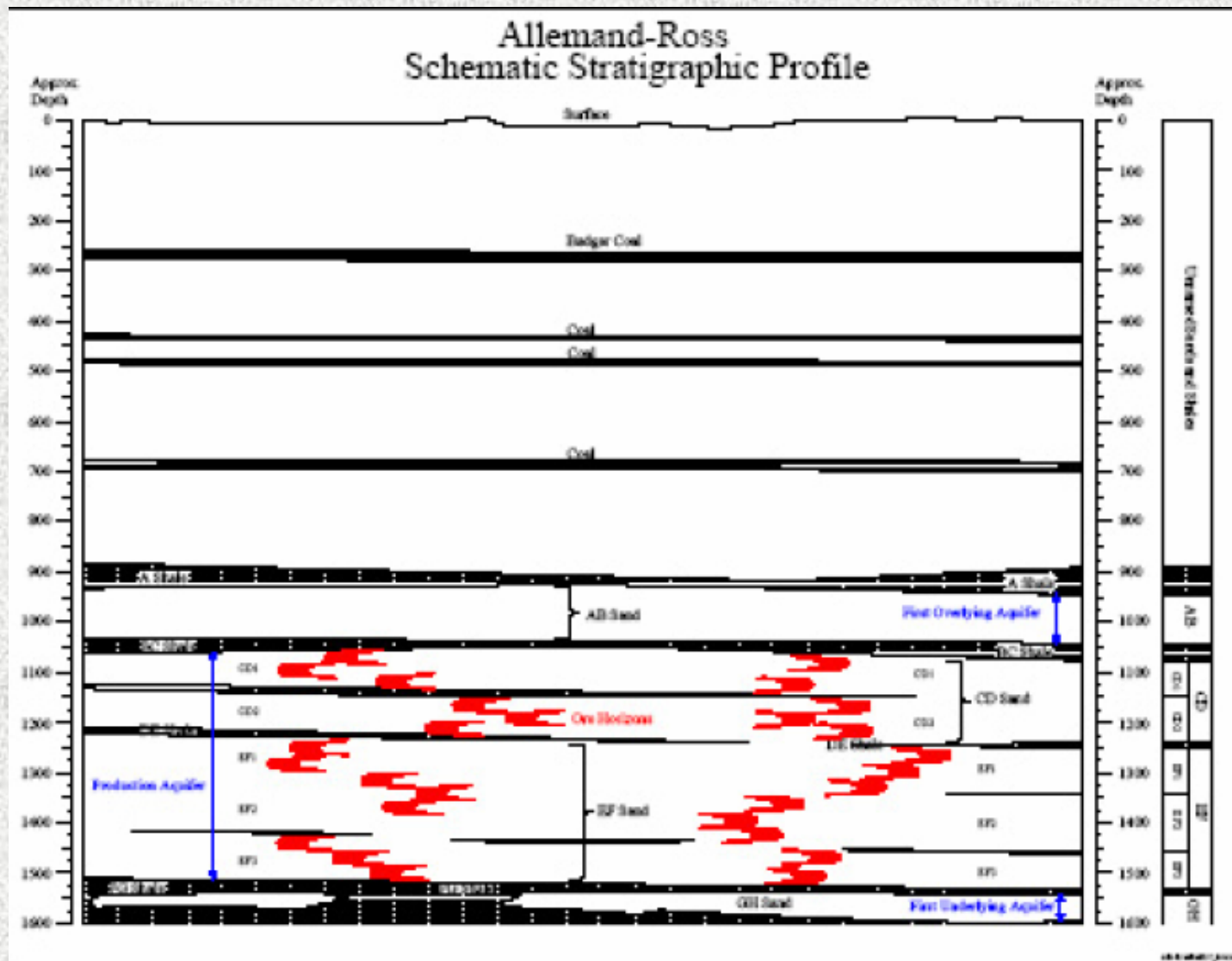
Figure 3. Generalized stratigraphic column of the Wasatch and Fort Union Formations in the central Powder River Basin, Wyoming (modified from Flores and Bader, 1999).

Source: USGS

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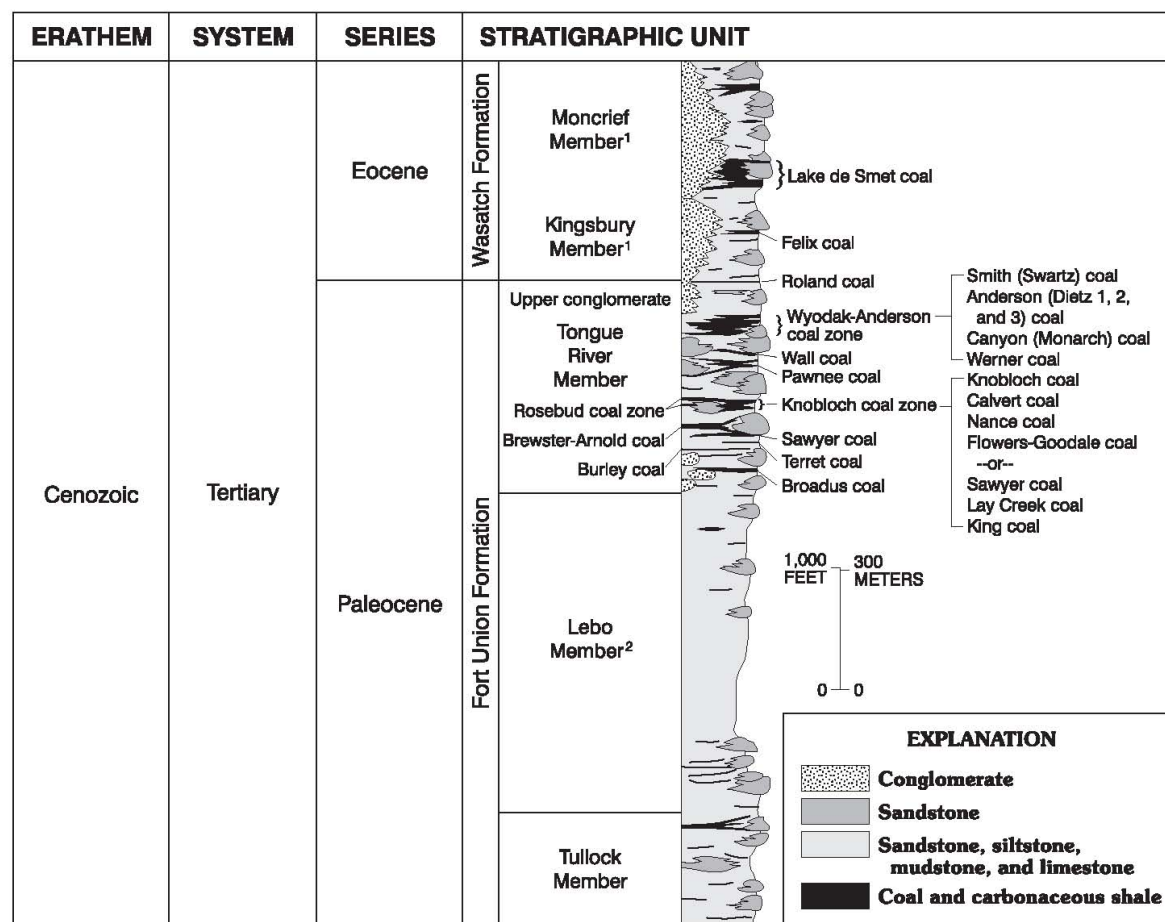


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Figure 3. Generalized stratigraphic column of the Wasatch and Fort Union Formations in the central Powder River Basin, Wyoming (modified from Flores and Bader, 1999).

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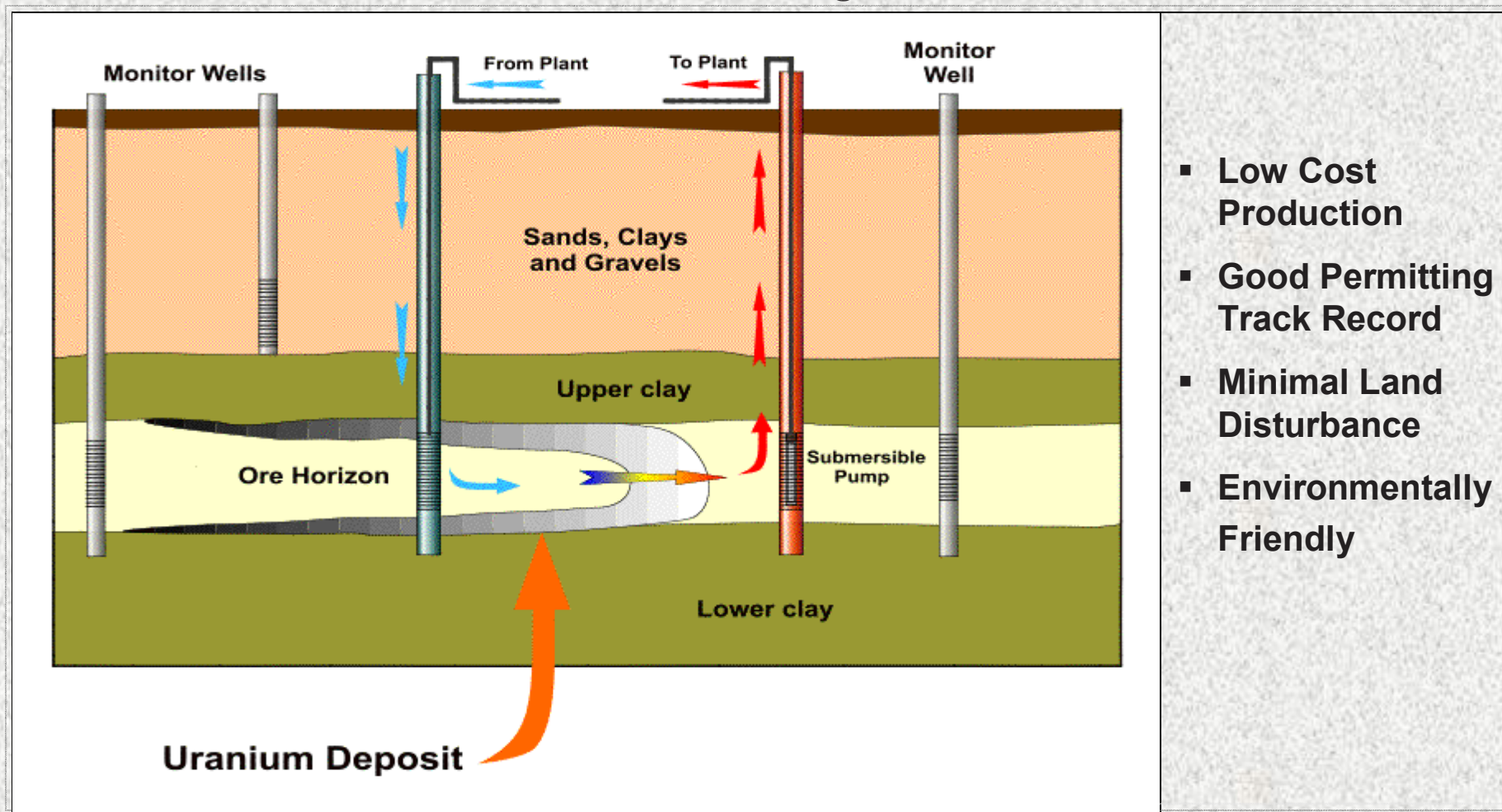


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ARP Operations Plan



In-Situ Leaching Process





CO₂ Addition

CO₂ is added upstream of the resin, favoring the formation of uranyl dicarbonate.

With one-half the ionic charge, uranyl dicarbonate loads twice the mass of uranium as does uranyl tr carbonate.

- $[\text{UO}_2(\text{CO}_3)_2]^{-2} + 2\text{R}^+\text{Cl}^- \rightarrow \text{R}_2^{+2}[\text{UO}_2(\text{CO}_3)_2]^{-2} + 2\text{Cl}^-$
(fluid pH = 6.5 to 7.9)
- $[\text{UO}_2(\text{CO}_3)_3]^{-4} + 4\text{R}^+\text{Cl}^- \rightarrow \text{R}_4^{+4}[\text{UO}_2(\text{CO}_3)_3]^{-4} + 4\text{Cl}^-$
(fluid pH > 7.9)

Source: StockInterview.com

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Source: StockInterview.com

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Source: StockInterview.com

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Source: StockInterview.com



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Closing

Why invest in HPU?



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- HPU's properties were all drilled and defined in the 60s-80s.
- Consequently, we believe we have a premier land position poised for future production
- The Company is continually evaluating acquisition and joint venture opportunities to facilitate near-term production.
- The spot price of uranium was USD\$28.00/lb one year ago; today it's USD\$45.00/lb.
- HPU has an experienced, focused management team, led by a board of directors with considerable uranium and industry experience.
- HPU will utilize low-cost in-situ leaching technology to develop and operate its uranium properties – cash costs estimated at \$20/lb uranium to produce
- HPU is one of a small number of uranium producers utilizing in-situ leaching technology



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