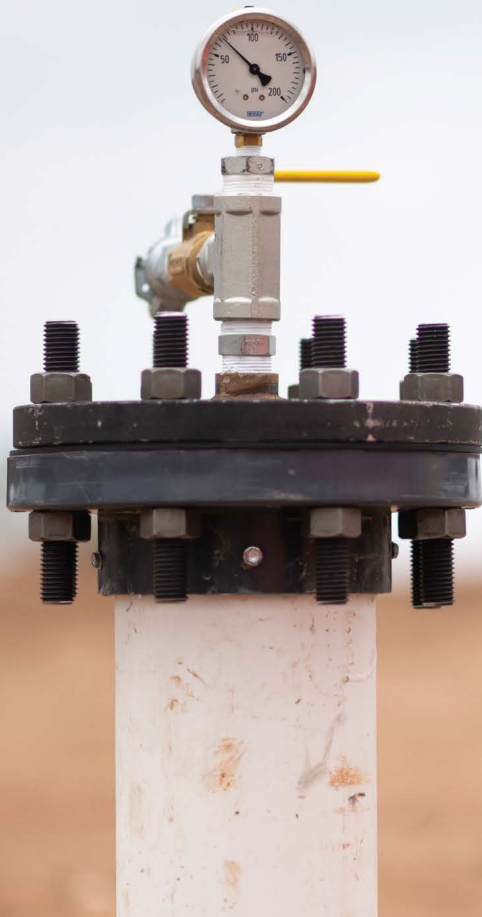




**GRANTS ENERGY**



## Environmentally Responsible Uranium Recovery

Grants Energy operates the Grants Precision ISR Project, located on private land, about 20 miles from the community of Grants. We are evaluating the potential to extract uranium utilizing the proven, environmentally friendly In-Situ Recovery (“ISR”) technology. Grants Energy is committed to respecting the People, Water, Air and Land.

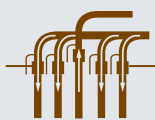
# Our Technology: In-Situ Recovery

In-Situ Recovery (ISR) is a proven, safe, and eco-friendly method of uranium extraction that returns the groundwater and land back to its original purpose and use once finished. ISR has been safely used around the world for over 50 years with minimal environmental impact.

Today, ISR accounts for about 60% of global uranium production. ISR is highly regulated in the United States by federal and state agencies. Operations are conducted under strict environmental standards. ISR is designed with multiple layers of protection to prevent contamination of groundwater. The groundwater solution used in ISR typically includes a mild bicarbonate (just like the baking soda found in your kitchen cabinet) and oxygen (in the air you breathe).

Utilizing ISR technology, Heathgate Resources, an affiliate of Grants Energy, has safely produced more than 40 million pounds of uranium oxide in South Australia, contributing \$7.5 billion to the local economy to-date. Heathgate is a world leader in advanced ISR mining technology, committed to environmentally sustainable uranium exploration and extraction. The Grants Precision ISR Project will build upon the expertise, knowledge, and diligence of the South Australian operations.

## ISR uranium extraction in the Nuclear Energy Industry:



### Wellfield

Oxygenated water liquifies uranium, which is pumped to the surface.



### Processing Plant

There are 11 licensed and constructed ISR Plants in the United States.



### Yellow Cake ( $U_3O_8$ )

Uranium extracted from the ground purified, concentrated, and dried.

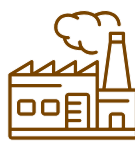


### Transport



### Conversion

The yellowcake powder is converted to a gas.



### Enrichment

The gas is enriched to 5%  $U_{235}$  for use in nuclear plants.



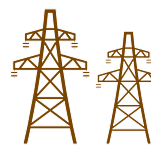
### Fabrication

The now enriched uranium is fabricated into fuel.



### Nuclear Plant

Nuclear plants use the fuel to produce heat, creating steam to spin turbines and generate carbon-free electricity.



### Domestic Consumers

All receive reliable and affordable domestic energy to power homes and businesses thanks to a very dense and powerful energy source.

# The ISR Process

## Extraction:

ISR wellfields simply use water mixed with bicarbonate (baking soda) and oxygen; this is injected into uranium ore zones through wells, oxidizing the uranium and pumping it to the surface.

## Monitoring and Containment:

To show that solutions are controlled and contained, monitoring wells are installed surrounding these wellfields.

## Processing:

The uranium solution is processed using resin at an ion exchange facility, precipitated into solid form, and is then washed, dried and packed into secure drums for shipment.

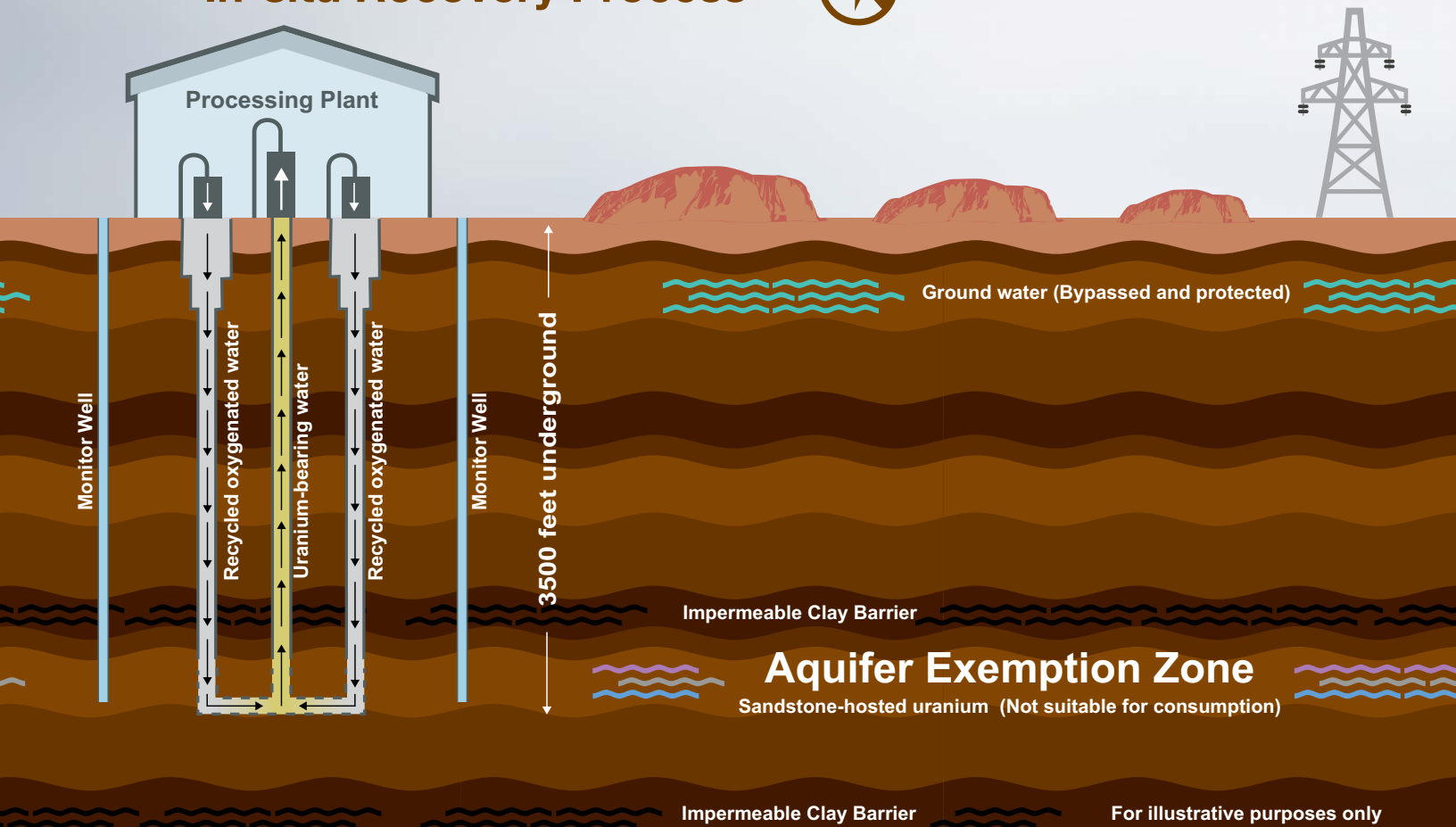
## Reclamation:

Groundwater is restored using reverse osmosis, and surface areas are fully reclaimed, resulting in a smaller environmental footprint than conventional mining.

## In-situ Recovery Process



**GRANTS ENERGY**



**Eliminates**

⊘ Tailings

⊘ Blasting

⊘ Ore Trucks

⊘ Fracking

⊘ Tunneling

⊘ Open Pits

# Our Project: Grants Precision ISR

## *Environmentally Responsible Uranium Recovery*

### ISR 2.0

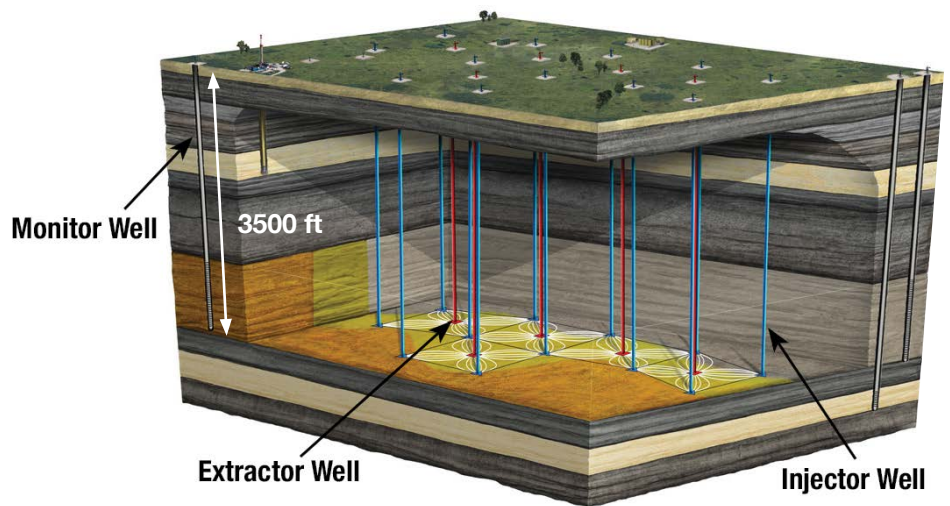
The Grants Project plans to combine ISR, a widely used method of uranium extraction, with horizontal wells, a method used in oil and gas production.

By successfully combining these two proven technologies (ISR and horizontal wells), the project can extract uranium ore in a cleaner and more efficient way than ever before. Importantly, unlike oil and gas, fracking is never used in vertical or horizontal ISR wells.

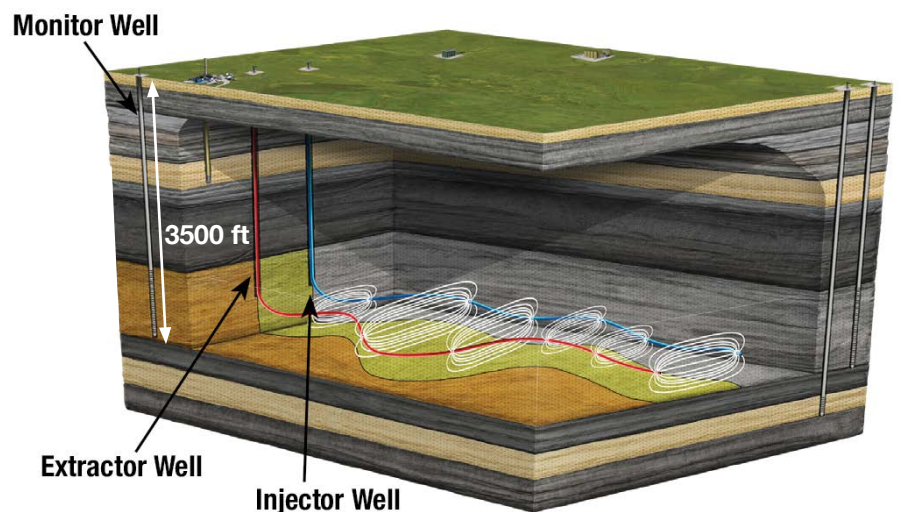


**Cibola and  
McKinley Counties,  
New Mexico**

### Vertical ISR



### Horizontal ISR



# Our Impact: Powering Local Economy

**\$400M+**

## State/local tax revenue

A project of this magnitude can generate substantial jobs and economic benefits throughout New Mexico.

**300+**

## Jobs

Expected to employ more than 200 people at peak operations, resulting in indirect community employment of at least 100 new jobs.

**30+**

## Year project duration

Expected to last for over 30 years and would require a wide array of skilled labor to design, operate, and maintain the ISR operation.

**50+**

## Labor skill types

Requires a wide spectrum of skilled labor, drawing from the existing workforce in the oil and gas industry, providing an opportunity for New Mexico workers to transition from fossil fuels to clean energy.

## Respect the People, Water, Air and Land

Clean water, air, and land are critically important to our local tribal communities, as well as families in our neighboring areas. Grants Energy is committed to using the most environmentally friendly ISR processes possible.



### People:

- Grants Energy gratefully acknowledges the Native Peoples on whose ancestral homelands we gather and work, as well as the diverse and vibrant native communities who make their home in McKinley and Cibola counties.
- We are committed to learning from the past and ensuring that our communities are not exposed to conventional mining hazards.



### Air:

- ISR facilities do not produce large volumes of greenhouse gas emissions.
- Radiation hazards are low at ISR facilities and Grants Energy follows stringent federal safety standards to protect workers and to ensure that exposure remains within occupational limits.



### Water:

- In 2009, the U.S. the Nuclear Regulatory Commission (“NRC”) provided an assessment of domestic ISR operations. The NRC did not find any indications that ISR degraded or impacted nearby drinking water sources.
- The uranium ore is found 3,500 feet below the surface, beneath layers of shale and sandstone. This depth and natural geologic boundaries protect the shallower municipal water sources from potential contamination.



### Land:

- With ISR, there are no tailings, no blasting, no tunneling, and no open pits.
- Once production of an area is completed, reclamation commences. Reclamation typically includes recontouring and re-seeding the area with native vegetation to support grazing and/or wildlife, returning the land to its original use.





**GRANTS ENERGY**

Founding member of the



## Management

Craig Bartels, President & CEO

Benjamin Russ, PhD, Project Director

Daria Sayan, Director of Regulatory Affairs

Janet Lee Sheriff, Director of Communications



Heathgate ISR Project, Australia

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