The Alta Mesa Project

The Challenges to Starting a New ISL Uranium Operation in Today's Market

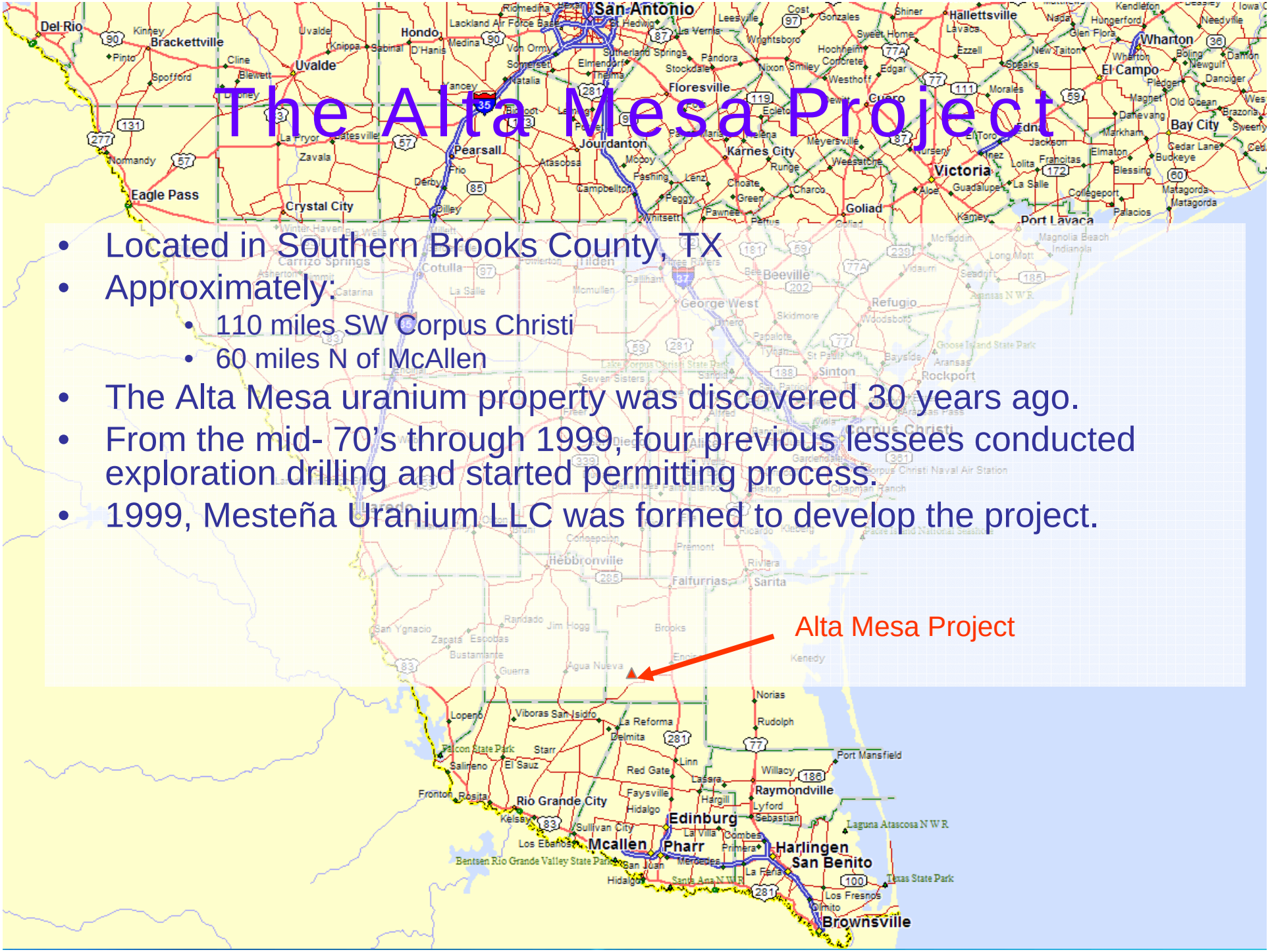
Alta Mesa Facility at dawn

New Project Challenges

- Permitting and Licensing
- Availability of Trained Personnel
  - Experienced Workers
  - Technical Staff
- Equipment Availability
- Experienced Contractors
  - Construction
  - Drilling
- Cost Increases

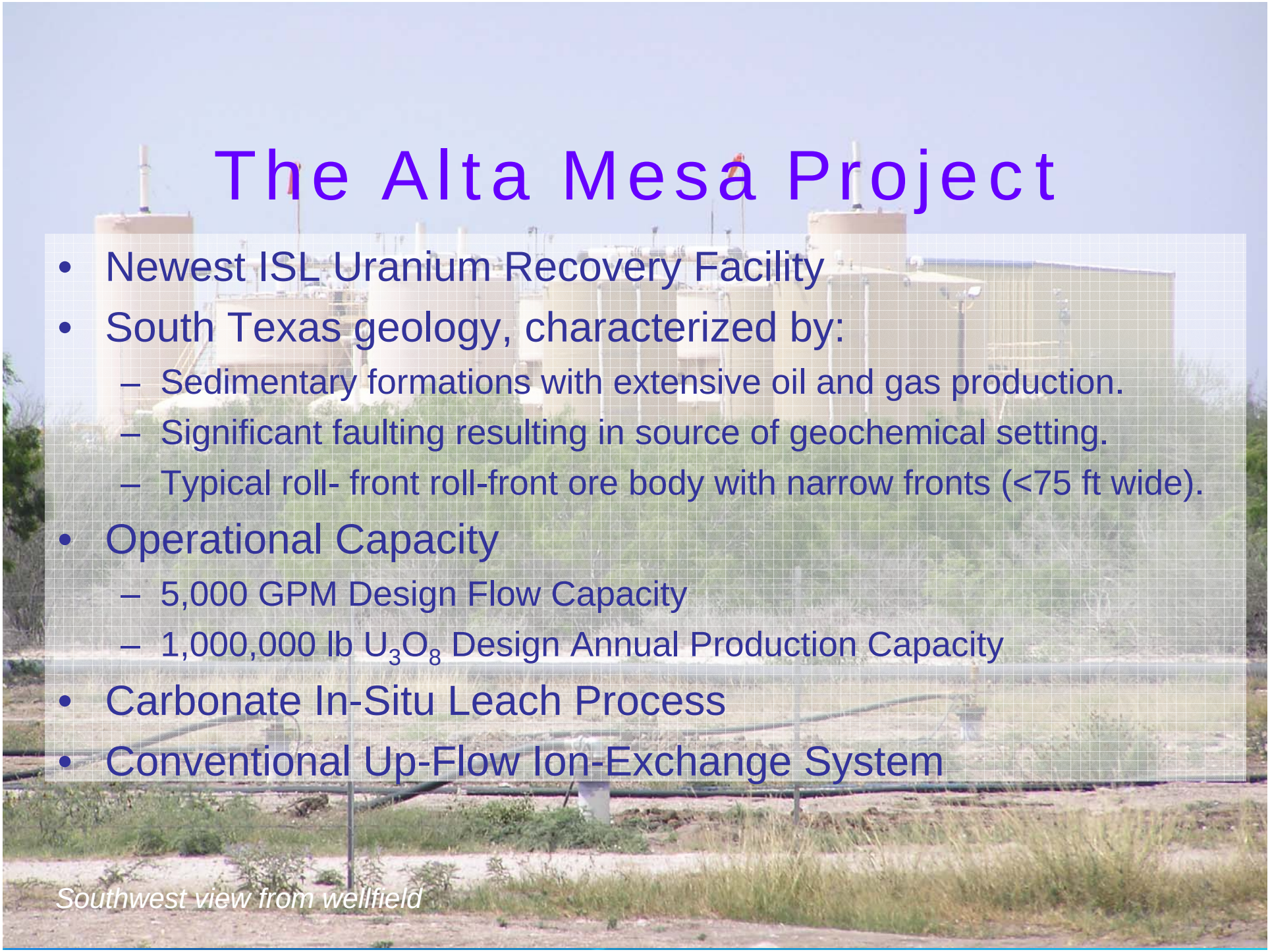
The Alta Mesa Project

- Located in Southern Brooks County, TX
- Approximately:
  - 110 miles SW Corpus Christi
  - 60 miles N of McAllen
- The Alta Mesa uranium property was discovered 30 years ago.
- From the mid- 70's through 1999, four previous lessees conducted exploration drilling and started permitting process.
- 1999, Mesteña Uranium LLC was formed to develop the project.



The Alta Mesa Project

- Newest ISL Uranium Recovery Facility
- South Texas geology, characterized by:
  - Sedimentary formations with extensive oil and gas production.
  - Significant faulting resulting in source of geochemical setting.
  - Typical roll- front roll-front ore body with narrow fronts (<75 ft wide).
- Operational Capacity
  - 5,000 GPM Design Flow Capacity
  - 1,000,000 lb U_3O_8 Design Annual Production Capacity
- Carbonate In-Situ Leach Process
- Conventional Up-Flow Ion-Exchange System



Southwest view from wellfield

The Alta Mesa Project

- Licensing and Permitting (1999 – 2004)
- Project Development Commenced August 2004
  - Installation of Monitor Well Ring
  - Installation of Disposal Well
  - Commencement of Wellfield Development
- Plant Construction commenced January 2005.
- Commercial Operations started October 28, 2005
- First shipment of yellowcake product in January 2006.

Alta Mesa Facility

Licensing and Permitting

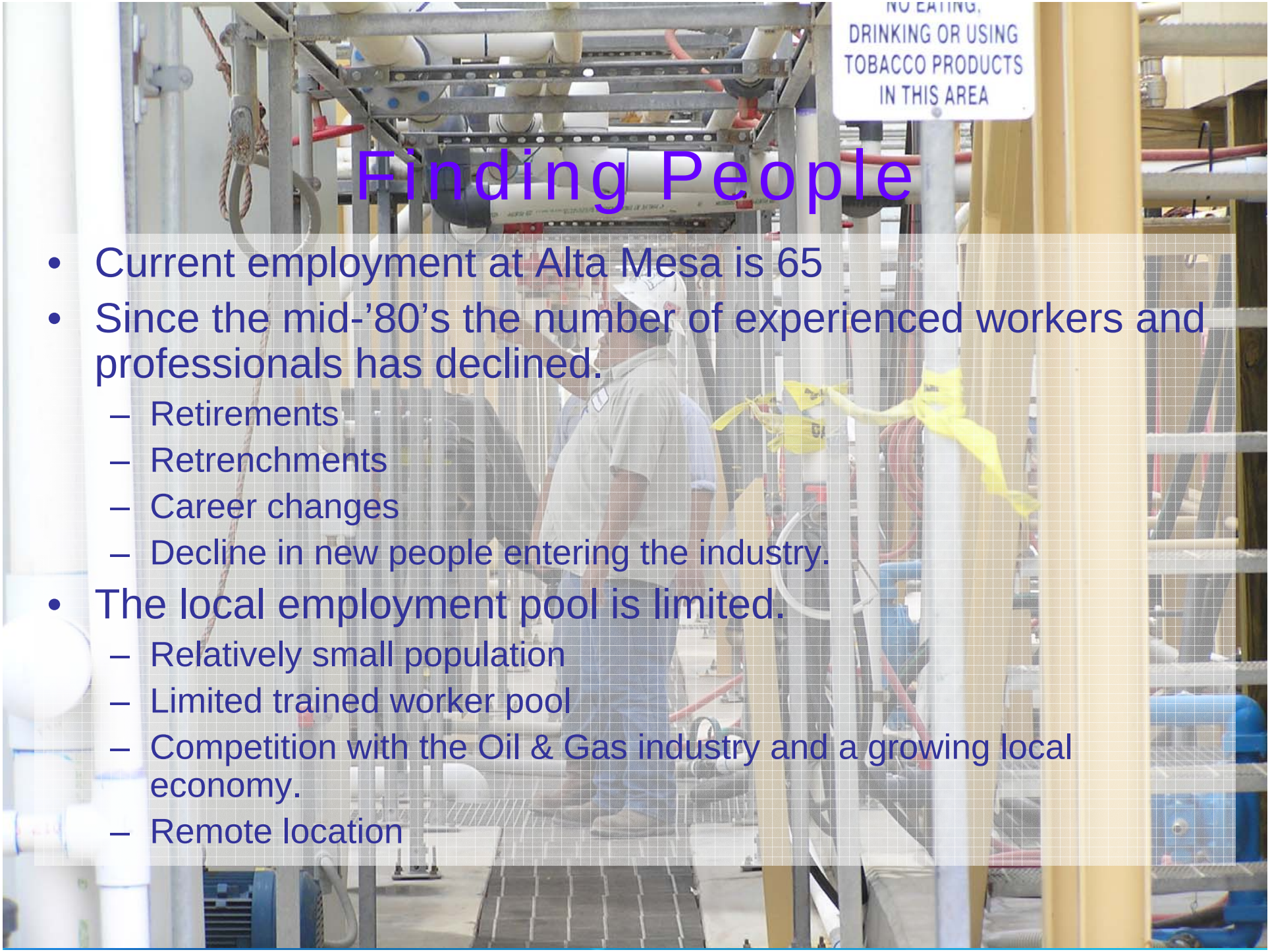
- Provides the greatest uncertainty to the timing of the startup of a new project.
- All ISL Uranium Recovery Facilities in the U.S. are required to obtain the following:

  (In Texas)
  - Radioactive Materials License (DSHS)
  - Class III UIC Permit (TCEQ)
  - Production Area Authorization (TCEQ)
  - Exploration Permit (TRC)
  - Class I UIC Permit (Disposal Well) (TCEQ)
- The time required for these approvals is varied.

Factors Effecting Approval Time

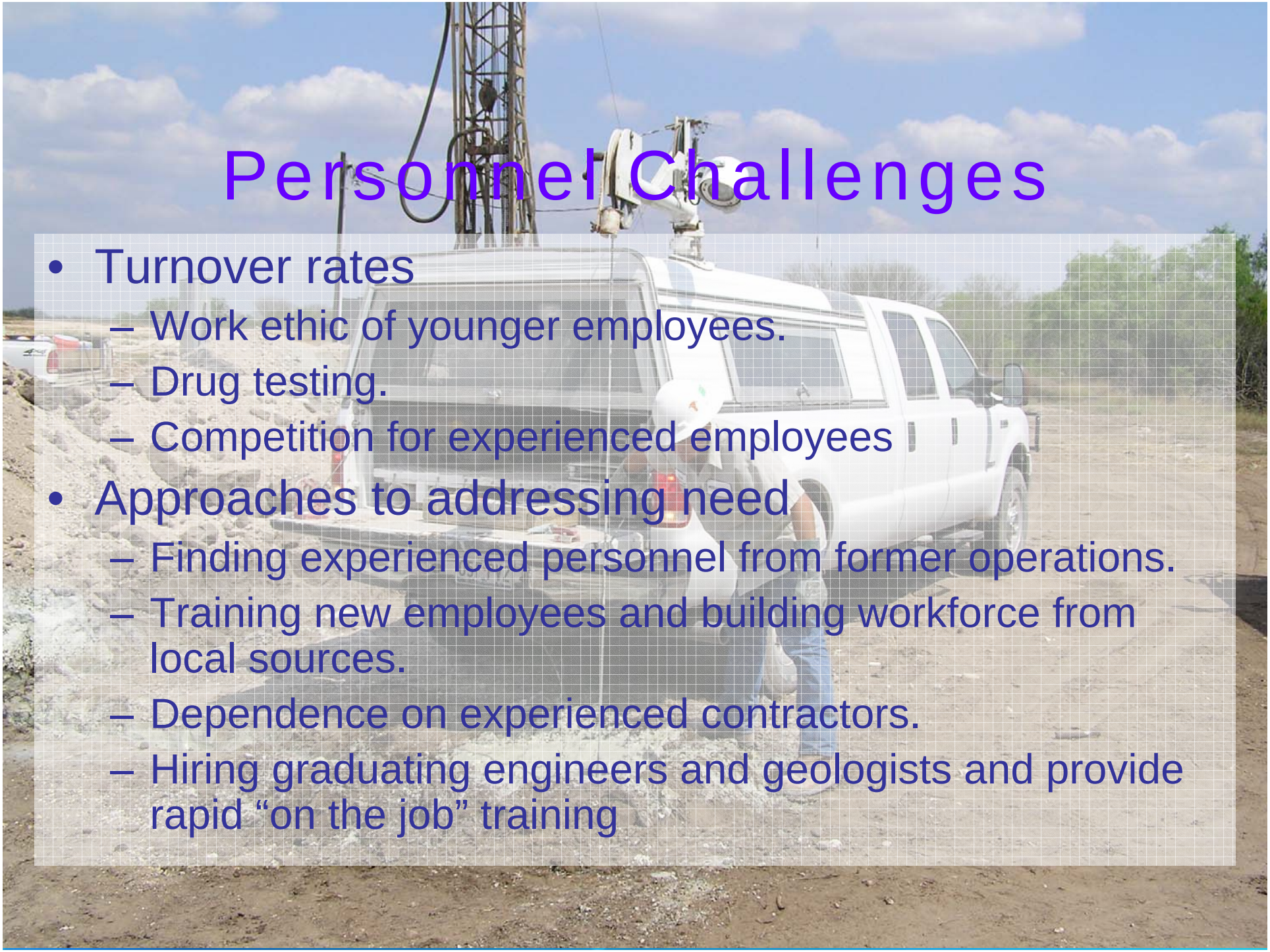
- Agency Staffing Levels
  - With the exception of a few operations, the focus of regulatory activity has been decommissioning.
  - As a result staffing levels have declined.
  - Retirements and transfers
- Regulations
  - Overlap in the regulating ISL facilities
    - NRC regulations, guidance, and policy.
    - UIC regulations.
    - Dual Regulation

Typical Wellfield manifold



Finding People

- Current employment at Alta Mesa is 65
- Since the mid-’80’s the number of experienced workers and professionals has declined.
  - Retirements
  - Retrenchments
  - Career changes
  - Decline in new people entering the industry.
- The local employment pool is limited.
  - Relatively small population
  - Limited trained worker pool
  - Competition with the Oil & Gas industry and a growing local economy.
  - Remote location



Personnel Challenges

- Turnover rates
  - Work ethic of younger employees.
  - Drug testing.
  - Competition for experienced employees
- Approaches to addressing need
  - Finding experienced personnel from former operations.
  - Training new employees and building workforce from local sources.
  - Dependence on experienced contractors.
  - Hiring graduating engineers and geologists and provide rapid “on the job” training

Construction Challenges

- Getting Started
  - Material shortages
  - Steel for superstructure
  - Concrete and cement
- Finding equipment
  - Lead times extended during construction.
  - Vessels
    - New Fiberglass IX vessels had not been constructed in over 10 years.
    - Fabrication of large fiberglass vessels limited manufacturers.
    - Steel pressure vessels (sand filters) had long lead times.
  - To address the lead time issues
    - Multiple supply sources
    - Material substitution, polyethylene tanks rather than fiberglass.

Placement of IX Columns 03/05

Construction Challenges

- Prepare for the unexpected
- Impacts of three hurricanes
  - Emily
    - 20 inches of rain
    - Flooding
      - Hampered construction progress
      - Stopped drilling activities for 2 weeks.
  - Katrina
    - Impacted fuel supplies and costs
    - Shortage of building materials (principally for metal buildings)
    - Significant delays in equipment as normal transit was disrupted.
  - Rita
    - Mandatory Evacuation
    - Loss of manufacturing base for poly-ethylene piping
    - Gulf Coast refineries (bulk chemical sources)
    - Material shortages and supply source loss mandated process changes and adjustments operating requirements

Wellfield Development

- At Alta Mesa, 10 drill rigs are currently in use.
  - All are owned and operated by 3rd Party Contractors.
  - Drilling costs increased during 2004 and 2005,
    - Drilling costs increased by 20% driven by increased fuel, insurance, and labor costs
    - Higher costs are creating additional cost increase pressure.
- Material costs for wellfield installation increased overall by almost 15% through 2005.
  - Portland Cement (over 60% increase)
  - PVC Casing (over 30% increase)
  - Poly-ethlylene piping (over 50% increase)

Plant Construction

- During construction, significant and unanticipated cost increase occurred.
- Foundation and superstructure construction costs nearly doubled.
  - Concrete shortages and cost increases
  - Steel prices
- Electrical Installation Costs almost tripled.
  - Raw material cost increases (copper)
  - Installation of additional motor controls to accommodate electrical supplier limitations

Dryer facility 11/05

Operations

- Operating costs have increased principally as a response to increased fuel costs
- Unit costs for bulk chemicals increased.
  - Energy costs for manufacture.
  - Transportation costs.
  - Competition for raw materials.
- Increased energy costs have a direct impact on operations.
  - Fuel for mobile equipment and vehicles.
  - Electricity costs

Yellowcake weighing area 03/06

Conclusions

- The greatest uncertainty for a new project is the licensing and permitting process.
  - Regulatory certainty is a key factor in project planning.
  - Timelines for approval are too dependent on factors outside of operators control.
- Resources such as experienced personnel and trained contractors are a valued commodity.
- Old assumptions of relative cost stability during construction and operations no longer hold.
- Cost contingencies should be re-evaluated for being too conservative.
- Currently, product prices are staying ahead of production cost increases.

Dried Alta Mesa product 05/06