



THE LIFE CYCLE OF AN OIL & GAS WELL

An Exploration and Production Project



PLANNING

DRILLING

COMPLETIONS

PRODUCTION

ABANDONMENT



+ Survey

- Well Locations
- Unitization Surveys
- State Lease Nominations
- Flowline Surveys
- Magnetometer Surveys
- Bathymetric Surveys
- Aerial Base Maps
- Routing and Planning
- Base Maps
- 3D Laser Scanning
- SUE
- Due Diligence for Lease Acquisition

+ Environmental

- FAA Permitting
- Wetlands / Coastal Permitting
- Wetland Delineations
- Oyster Assessments
- Environmental Assessments / NEPA
- Threatened and Endangered Species
- Biological Assessment
- Parish and County Approvals
- State Highway Approvals
- Air Permitting
- Water Permitting
- Due Diligence – Phase I and II
- Pre-drill Soil Sampling and Analysis
- Due Diligence for Lease Acquisition

+ Engineering

- Flood Elevation Certificates
- No-Rise Certificates
- Front End Engineering Design (FEED) Studies
- Specification Development
- Access Roadway Design
- Civil Site Work
- Drainage Systems
- FEMA Floodplain Development Permits (FDP)
- Due Diligence for Lease Acquisition

+ Survey

- GPS Positioning
- Drilling Permits and Compliance
- Permit to Drill Oil and Gas Wells and Amendments
- SUE

+ Environmental

- Drilling Permits and Compliance
- Permit to Drill Oil and Gas Wells and Amendments
- Fresh Water Well and Frac Supply Well Permits
- Work Permits (Oil, Gas and Injection Wells)
- Texas Commission on Environmental Quality's (TCEQ) Water Board Letter Requests
- Drilling Rig Regulatory Plans (SPCC, Emergency, Coast Guard)

+ Survey

- Completions Well Bore Details-Used for Completions Planning Showing Perforation Points

+ Environmental

- Work Permits (Oil, Gas and Injection Wells)
- Completion Packages (Oil, Gas and Injection Wells)
- RRC and OOC Completion Forms

+ Survey

- 3D Laser Scanning
- Flowline Surveys
- Subsidence Surveys
- As-Built Surveys
- Asset & Data Management
- Base Maps
- Unit Survey Plats
- UAS Services

+ Engineering

- Utility Line Engineering
- Production Facilities Layout and Design
- Equipment Sizing
- Horizontal Directional Drilling (HDD)
- Pump and Compressor Stations
- Meter and Regulatory Stations
- Pig Launcher / Receiver Stations
- Tank Storage Facilities
- Vent / Flare Relief Systems
- Process Flow Diagrams, P&IDs, Isometrics, Plans & Elevations, Alignment, Alignment Sheets, 3D Modeling
- Specification Development
- Piping Design Including Pipe Specifications, Supports, Valves, Insulation, Specialty Items
- Piping Network Hydraulic Studies
- Pipe Stress Analysis
- Equipment Sizing and Specification
- ASME Pressure Vessel Detailed Design and Analysis
- Equipment Foundations
- Pipe Racks and Supports
- Equipment and Personnel Platforms

+ Environmental

- Commingling and LACT Unit Permitting
- TIER II Reporting
- SPCC/ICP/USCG/EPA
- Air Permitting and GHG Reporting
- Saltwater Disposal Well Permitting
- Work Permits (Oil, Gas & Injection Wells)
- Allowables/Authority to Transport (R-4)
- Weekly Drilling Reports
- Monthly Production Reporting
- T-4 Pipeline Reporting

+ Electrical & Instrumentation Engineering

- Cable Tray, Duct Bank, Wire-way and Conduit Systems
- Control and Monitoring Systems (PLC, DCS, Remote I/O, etc.)
- Grounding
- Lighting Systems
- Lightning Protection
- Medium and Low Voltage Power Distribution
- Security Systems, CCTV, Access Control
- Control Logic
- Instrument Loop Sheets
- Instrument Plans
- Panel / Rack Design
- Systems Integration

+ Survey

- Site Clearance Applications and Verifications
- Trawling and Sonar Surveys
- Hazard Surveys
- Positioning
- Dive Vessel Support
- Platform / Pipeline Removal Support

+ Environmental

- Wetlands / Coastal Permitting
- Wetland Delineations
- Oyster Assessments
- Environmental Assessments
- Threatened & Endangered Species
- Biological Assessment
- Parish and County Approvals
- State Highway Approvals
- Phase I and II Due Diligence for Divestiture and Clean-up
- Plug & Abandonment Packages (Oil, Gas and Injection Wells)

