



**CAVERN SOLUTIONS, INC.**

11200 Broadway, Suite 2743 • Pearland, TX 77584 • 832.895.6644

[CAVERNSOLUTIONS.COM](http://CAVERNSOLUTIONS.COM)



## Company Introduction

Cavern Solutions, Inc. (CSI) is an Engineering and Contract Technical Consulting Company uniquely specializing in servicing the Subsurface Hydrocarbon Storage, Brine Extraction and Brine Disposal Industries. *CSI is the Subject Matter Expert (SME) that our government and corporate clients rely on for providing technical assistance and consultation.*

Texas S Corp, Est. April 4, 2014

## Company Management

- President & GM – John C. Kyle Cell – 979-236-9464
- VP – Sci & Eng – Joel Warneke, Ph.D., P.E. Cell – 281-384-4838
- Vice President – Tony Norris, M.A. Cell – 832-715-8538

## Company LinkedIn Profile

- <https://www.linkedin.com/company/10836966>

## Professional Affiliations

- Southern Gas Association
- Solution Mining Research Institute
- American Association of Drilling Engineers
- American Petroleum Institute
- Society of Petroleum Engineers
- Society of Exploration Geophysicists

## Registered

- ISNetworld (400-225225)
- Veriforce (19619)
- NCMS (CAVSOLINC)
- Avetta (139959)

## Staff

- John Kyle – President & General Manager
- Joel Warneke, Ph.D., P.E. – Vice President – Science & Engineering
  - Kansas PE#25840, Louisiana PE#40673, Mississippi PE#28448, Montana PE#19000, Texas PE#107974
- Kyle Morris, P.E. – Cavern Engineer – Texas
- Ray Mayet, P.E. – Cavern Engineer – Louisiana
- Robby Vetter – Cavern Engineer
- Whitney Warneke – Manager of Workovers, Geophysicist
- Maggy Squier – Geophysicist – G.I.T.
- Dean Tumlinson – Project Controls Specialist
- Moe Jambon – Cavern Specialist, Safety Specialist
- Mike Beassie – Cavern Specialist, Drilling Superintendent
- Tony Norris, M.A. – Vice President – Project Controls, AP & AR, Contract Administration
- Rae Haskins – Office Manager



## Mission

Cavern Solutions, Inc. strives to be the premier engineering and consulting services firm for the solution mining and underground storage industry in North America by providing first in class service and personal attention to every customer on every job.

## Vision & Values

Cavern Solutions, Inc. will achieve unprecedented industry growth, industry recognition of our capabilities, and community support through our personal and corporate values driven by innovation, conservation, cooperation, hard work, integrity, honesty, friendships, loyalties, and charitable actions.

## Strategy & Philosophy

Cavern Solutions, Inc. is in the service business. We understand this and are focused on providing the absolute best quality service in the industry.

We are a small, hands-on management team and quickly adapt to meet our client's needs. Our work is mobile; we go where we must, to best serve our clients.

We operate with minimum overhead. We have not utilized expensive office space nor employed a mass of administrative assistants and clerks.

We strive to communicate openly, frequently, clearly, and concisely with all our clients in order to avoid the difficulties, and pitfalls of poor quality or limited communication.

We value your need to control cost and understand where the dollars are at any point in your project. We have developed procedures and methods to do this in the most efficient and timely manner possible. From our Cavern Specialists to Project Controls personnel, on to our Accounting and Project Management staff, we document and track project cash flows and spending so there are no surprises.

We work for you and understand it is our job to get you the absolute best value for your dollar. We base our vendor selection on safety, quality of service, and price and we work to get you the best of all three. We have established relationships with the best well service providers in the industry and can pull together their assets and expertise quickly and professionally to tackle projects of any size or complexity.

We know how the competition operates and can duplicate their successful strategies while avoiding repeating their weaknesses.



We hire the most knowledgeable, motivated people and help them succeed, and in turn our clients succeed. By offering our employees competitive salaries, profit sharing, performance bonuses, clear goals and professional opportunities our clients get the best quality and service.

## Business Overview

Our business is to design, construct, develop, maintain, and test wells and caverns in underground salt formations for the production of salt and bulk storage of hydrocarbons under pressure. Our business is built on relationships. The key to CSI's success is establishing trust with our clients and providing quality personal service. We have assembled a quality team to secure a dependable client base and grow CSI into the respected leader in the industry.

### Recently completed projects include:

- 24" Completion cavern re-entry drilled
- 20" Completion cavern re-entry drilled
- 2 Brine disposal wells coil tubing nitrogen lift cleanouts, re-perforated and acidized
- Multiple Brine disposal wells coil tubing nitrogen lift cleanouts
- Multiple Mechanical Integrity Tests (MIT's)
- Multiple Storage Cavern Wells worked over for casing inspections, sonars, and MIT's
- Cavern Well Plugged & Abandon
- Subsidence Survey execution, report and submittal
- Hydrocarbon storage well remediation (cementing liner)
- Third party review of Mechanical Integrity Test procedures, data, and reports
- Developed and presented Gas Storage Operator Training Course (API RP 1170 & 1171)
- Developed and presented Liquid Storage Operator Training Course
- Cavern workover technical advice to client self-performing work
- Disposal well diagnostics performed saving client major workover costs
- Multiple cavern sonars
- Well sealing with nitrogen
- Well sealing with pad oil
- Wellhead replacements
- Dilution string removal and reinstallation on different well
- Cavern product (brine, oil, etc.) sampling for quality analysis
- Interface logging for volume determination
- Drilling permits
- Operator permitting
- Texas & Louisiana state submittals
- Professional engineering services in Texas, Louisiana, and Mississippi
- Cavern field layouts, well leaching simulations, plans, and optimization
- Cavern integrity management plan development
- Operations manual development



## Client List

- Boardwalk Louisiana Midstream, LLC
- Boardwalk Pipeline Partners, LP
- Caliche Development Partners
- Chevron Phillips Chemical Company, LP
- Coastal Caverns I, LP
- Enstor Gas, LLC
- Enstor Katy Storage and Transportation, LP
- ExxonMobil Pipeline Company
- Fluor Federal Petroleum Operations, LLC
- Golden Triangle Storage, Inc
- Grama Ridge Storage and Transportation, LP
- Hill Geophysical Consulting
- INEOS Olefins & Polymers USA
- Jefferson Island Storage & Hub, LLC
- NAmerico Energy Holdings, LLC
- Norbert Heitmann Cavern Consulting, LLC
- Pine Prairie Energy Center
- Plains Natural Gas Storage, LP
- S&D Services, Inc
- Shell
- Sonic Surveys, Ltd.
- Southern Company Gas
- Southern Pines Energy Center
- Targa Downstream, LLC
- Texas Brine Company, LLC
- Texas Gas Transmission, LLC
- U.S. Department of Energy
- Waha Storage and Transportation, LP
- Vitol Group





## Client Reference List

### **Boardwalk Louisiana Midstream, LLC / Boardwalk Pipeline Partners, LP / Texas Gas Transmission, LLC**

Contact – Mike Brandau, Director of Underground Storage  
mike.brandau@bwpmlp.com; 713-479-8654

7 SWD cleanouts, 14 Cavern Sonars, 2 Cavern Workovers, Diluter String Removal and Installation, 2 MIT's, Casing Inspection of Reservoir Storage Wells in KY, contract to drill new disposal well, various support as needed

### **Caliche Development Partners, LLC / Coastal Caverns I, LP**

Contact – David Branch, Chief Operating Officer  
dbranch@calichestorage.com; 832-500-7582

2 Well Cavern Drilling Program, Leaching Plan and Design, Cavern Field Layout Optimization

### **Fairway Energy Partners, LLC**

Contact – Mark Erskine, Director of Caverns  
mark.erskine@fairwaymidstream.com; 713-960-4734

2 Well Cavern Re-Entry Drilling Program, Permitting, Cavern Workovers, MIT's, Plug & Abandon Wellbore, Product Sampling, Interface Logging & Sonars, Product Transfers

### **Fluor Federal Petroleum Partners, LLC**

Contact – Bob Murray, Director of Cavern Integrity  
bob.murray@spr.doe.gov; 504-734-4618

SME for technical analysis of MIT program and procedures, supervision of remediation activities and cementing, remediation procedure consultation and review, cementing program redesign, cavern well troubleshooting, consultation on all issues cavern related.

### **INEOS Olefins & Polymers USA**

Contact – Gary Grable, Cavern Operations Engineer  
gary.grable@ineos.com; 281-581-4263

2 Storage Cavern Workovers, 2 Cavern Sonars, 6 MIT's, 2 Subsidence Surveys, Operator Training, and Facility Asset Evaluation

### **Southern Company Gas / Jefferson Island Storage & Hub, LLC / Golden Triangle Storage, LLC**

Contact – Robert Cornell, Director of Midstream Operations  
rcornell@southernco.com; 409-242-4890

Cavern Integrity Assessment, API 1170 consultation, Site Operation and Maintenance Manuals, Cavern Operator Training



## Sampling of Existing 3rd Party Subcontractors

- AHERN Rentals
- American Drilling Fluids
- Antelope Oil Tools
- ARC Fluid Technologies, LLC
- Archer
- Baker Hughes, a GE Company
- BJ Services, LLC
- Bunker Steel Corp
- Cactus Pipe & Supply
- Cajun Well Service
- Cameron International
- CH Vacuum Service
- Coach Safety, Inc.
- Conquest Drilling Fluids
- Control Flow, Inc.
- Core Labs
- D&D Services
- Davies Construction
- Deep South Chemicals
- DeepWell Energy Services
- Derrick Corp, Inc
- Dialog Wireline Services
- Empire Wireline, LLC
- Express Energy
- Expro, Inc.
- FESCO, Ltd.
- Forum Energy Technologies
- Frank's International
- Greene's Energy Group
- Gulf Coast Coil Tubing
- Gulf Coast Crane Service
- Gullett & Associates – Surveyors
- Halliburton Energy Services, Inc.
- Hawkins Lease Service, Inc.
- Hole Opener Corp, Inc.
- Hudson Services Inc.
- Industrial Matt Co
- Infinity Energy Services
- Integrated Quality Consultants
- Jaguar Energy Services
- Janic Directional Survey, Inc.
- K-3BMI
- Knight Oil Tools
- L&L Oilfield Services
- Legacy
- Lynco Well Service
- Maverick International
- Moncla Coil Tubing, LLC
- Moncla Workover & Drilling, LLC
- N2 Solutions, LLC
- Nitro-Lift Technologies, LLC
- NOV
- NXT Oilfield Rentals
- Offshore Energy Services, Inc.
- Oilfield Innovators Limited, LLC
- Oil Patch Group, Inc.
- Oil Patch Transportation, Inc.
- Patriot Oilfield Services, LLC
- Performance Wellhead & Frac
- Pioneer Energy Services
- Pipe Pros
- Precision Drilling
- Precision Wireline Services
- Professional Pumping Services
- SageRider
- Scientific Drilling International
- Schlumberger
- SOCON Well Services
- Sonarwire Global
- Stabil Drill, LLC
- Stellar Drilling Fluids
- Stellar Oilfield Services
- Stellar Well Control
- Tejas Tubulars
- Tejas Tubular Oilfield Services, LLC
- Tiger Safety
- Tiger Well Service
- TNT Crane
- United Fire & Safety
- VERSA Integrity
- Von Energy
- Weatherford International