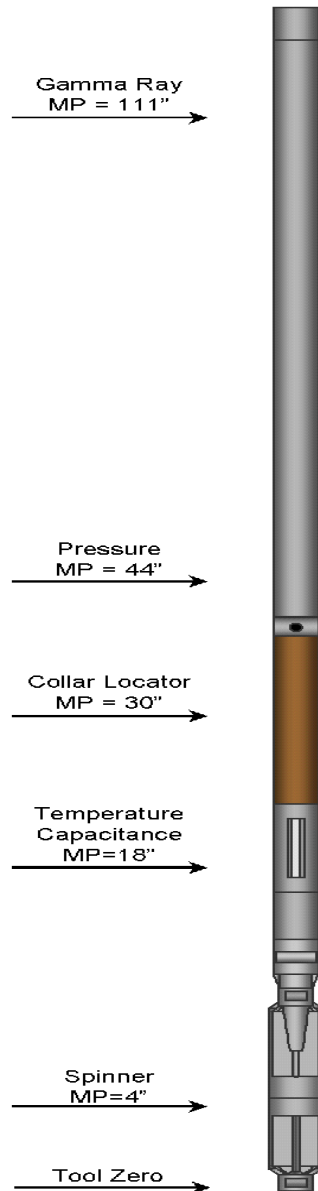


## Cardinal Surveys Company Tool Specifications



Let Cardinal's staff with a combined experience of over 175 years in the industry along with their superior tools provide the answers you need for your wells.

***"No one does it better!"***

Tools manufactured by  
Madden Systems, Inc.



***Cardinal Surveys Company***

P.O. Box 729  
Odessa, TX  
79760

Phone: 432-580-8061

Fax: 432-580-0547

Website: [www.cardinalsurveys.com](http://www.cardinalsurveys.com)



**Production Logging and  
Reservoir Analysis**

- Memory or Real Time
- Vertical or Horizontal

***Cardinal Surveys Company***

***"The Fluid Movement Specialists"***

**Tel: 432-580-8061**

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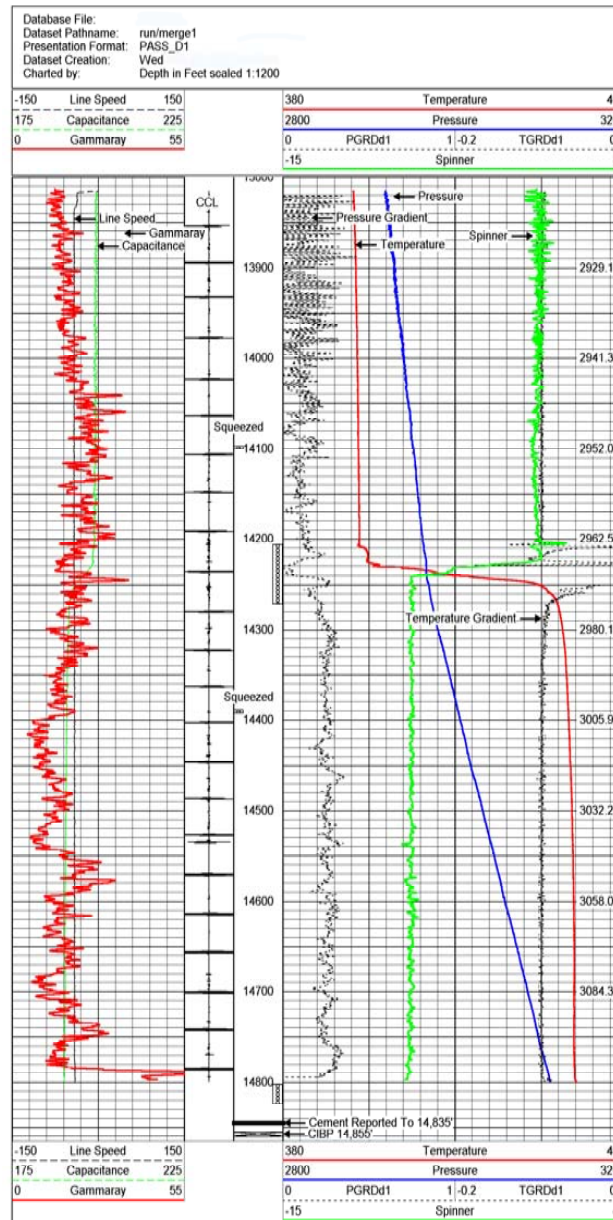
## Cardinal Surveys Co.

Cardinal Surveys Company is committed to providing the highest quality service with the best tools in the production logging and pressure analysis market. Our goal is to help our customers optimize the effective production of their reservoirs. Production logs are run to eliminate assumptions regarding the well and reservoir. We work closely with our customers to define the objective, plan a logging procedure, provide experienced and safe personnel to perform the job, and provide a professional log presentation and analysis. Cardinal Surveys can help you get the answers you need to maximize the production and life of your reservoirs.

### Production Logging Sensors

- Temperature
- Pressure
- Spinner
- Capacitance
- Gamma Ray
- CCL

### *"The Fluid Movement Specialists"*



### Features

- Able to acquire data in **"Real Time"** or **"Memory"** Mode
- All data acquired simultaneously
- All sensors that identify fluid and quantify flow are within 2 feet of bottom of tool
- Conveyance flexibility—can be conveyed by tractor, electric line, slick line, coil tubing, or sand line
- Designed for hostile environments, including high temperatures (up to **650 degrees**), extreme pressures (up to **20K PSI**), and corrosive fluids
- Compact length—15.5' with "Memory" and 10.5' with "Real Time"
- Small diameter
- Extremely mobile—"Suitcase" System
- Informative answer package and analysis package
- Transient pressure analysis including build-up/fall-off

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