

## **Profile Plot Track Legends (Aug 2, 2010)**

**CURRENT # 1 (35-123-23588)**

**Operator: KGS-OGS**

**PONTOTOC County, OKLAHOMA**

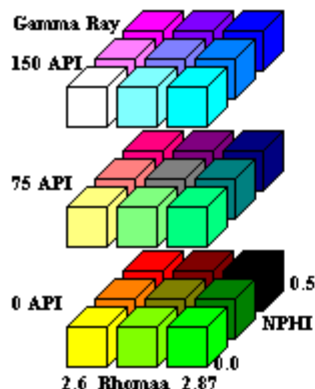
**Latitude: 34.706 Longitude: 96.638**

**Total Depth: 593.6 Ground Level: 775.0**

Log ASCII Standard (LAS) Curves		
Mnemonics	Description	Units
GR	Gamma Ray	API
CGR	Gamma Ray Minus Uranium	API
CAL	Caliper	IN
RDEP	Deep Resistivity	OHM-M
NPHI	Neutron porosity	PU
RHOB	Bulk Density	GM/CC
DPHI	Density porosity	PU
Th/U	Thorium/Uranium Ratio	LOG_RATIO
Th/K	Thorium/Potassium Ratio	LOG_RATIO

# Colorlith Image Tracks

## Rhomaa-NPHI Colorlith



- Dolomite
- Quartz
- Calcite
- Anhydrite
- Gypsum
- Halite
- Coal
- Illite
- Smectite
- Orthoclase
- Muscovite
- Glauconite

### Porosity Color Image Track

Increasing Porosity >>



**Linear Method:** The number of data points are distributed by magnitude into equal bins.

**Non-linear Method:** The number of data points over the given depth range is subdivided equally into each color bin.

### Resistivity Color Image Track

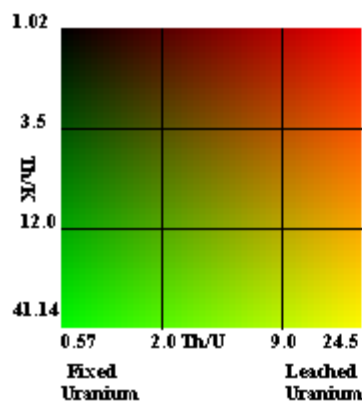
Increasing Conductivity >>



**Linear Method:** The number of data points are distributed by magnitude into equal bins.

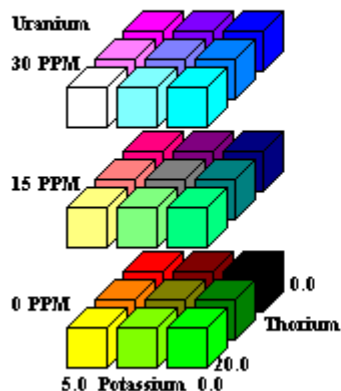
**Non-linear Method:** The number of data points over the given depth range is subdivided equally into each color bin.

## Spectral Gamma Ray Ratio Colorlith



- | Th/K       | Minerals                       |
|------------|--------------------------------|
| 0.5 to 0.6 | Feldspars                      |
| 0.6 to 2.0 | Micas                          |
| 2.0 to 3.5 | Illite                         |
| 3.5 to 12  | Smectite                       |
| 12 to 28   | Kaolinite - Chlorite           |
| 28 +       | Heavy Thorium Bearing Minerals |

## Hall K-Th-U Colorlith








Hall's method maps the gamma ray spectrum to the visible end of the electromagnetic spectrum.

- The Potassium log is represented by shades of red
- The Thorium log is represented by shades of green
- The Uranium log is represented by shades of blue



"Composite Colour Display of Spectral Gamma-Ray Logs, by Matt Hall, Canadian Well Logging Society, Dec 2005, v.24"

# Texture/Lithology Image Tracks



## Lithology Symbols Siliciclastic Lithotypes

	Sand, Sandstone (shaly)
	Sandstone
	Silt
	Clay
	Shale

## Limestone

	Limestone
	Shaly Carbonate

## Dolomite

	Dolomite
	Shaly Dolomite

## Evaporite Lithotypes
















	Gypsum
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## Misc Sediments Lithotypes

	Glaucinite
	Phosphate
	Pyrite

## Igneous Rock Lithotypes

	Igneous - Intrusive (Plutonic) Rocks
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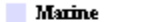







Level	Texture/Lithology by Description Symbol	Description
0		
2		shale
2		slightly calcareous shale
2		slightly silty shale
3		calcareous shale
3		silty shale
3		glaucinitic shale
3		dolomitic shale
3		silt shale
3		pyritic shale
3		glaucinitic silt
4		silt
3		mudstone
3		shaly limestone
5		limestone wackestone
4		phosphate

# Rock Image Tracks

## Rock Color Legend

Rock Color	Munsell Code
medium gray	3.3GY5.4/0.1
dark gray	2.5PB3.5/0
light gray	6.7Y7.4/0.2
brownish gray	5.65R3.4/0.9
dark brown	5.3YR1.6/3.4
grayish brown	5.5YR3.5/1.8
moderate yellowish brown	9.5YR4.4/3.9
pale green	7.6G6.4/1.7
light brown	5.4YR5.4/4.8
moderate green	6.3G4.5/5.1
greenish gray	7.5G5.5/1
grayish yellow green	4.4GY6/2.3
black	2.5PB1/0
light brownish gray	7YR5.4/1.2
dark greenish gray	1.5BG3.5/0.9
moderate brown	5.6YR3.5/3.9

## Fossils

 Fresh Water	 Few
 Brackish Water	 Many
 Marine	 Broken
 - Macrofossils	
 - Brachiopods	
 - Mollusks	
 - Cephalopods	
 - Ammonoids	
 - Burrows	


## Sedimentary Structure Symbols

### Depositional Structures


- Lamination


 Parallel Laminations


- Stratification

 Horizontal bedding

### Deformational Structures

 Nodules

 Nodules - Pyrite, Ironstone

 Ferruginous concretions or nodules