

## **Case Study Illustrating Use of Gamma and Electric Logs to Determine Favorable Site for Water Wells**

Examples show one good site and one bad in close proximity. Data obtained using Delta Epsilon GE-9409 combination Gamma, R, SP and 16" Normal resistivity tool on Delta Epsilon 300-1e Series Portable Borehole Logger.

Case compiled by Lynn Smith of Collier Consulting, 2001

Delta Epsilon Instruments, Inc.  
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## Sites South of the Alexander Highway Well Field Horton Cutoff Test Site



**Property Owner:** Ed Horton 968-5228

**Test Hole Identification:** 3163T201

**Date Drilled:** June 1, 2000

**GPS Coordinates:** 32.1039, -98.186

**Surface Elevation:** 1207 feet

**Test Hole Depth:** 420 feet

### Hydrogeological Evaluation (refer to the attached log):

Top of Trinity Sand: 173 feet  
Base of Trinity Sand: 322 feet

Predicted Water Level: 174 feet\*  
Gross Sand Thickness: 50 feet

\*Based upon the Spring 2000 Trinity Water Levels Map

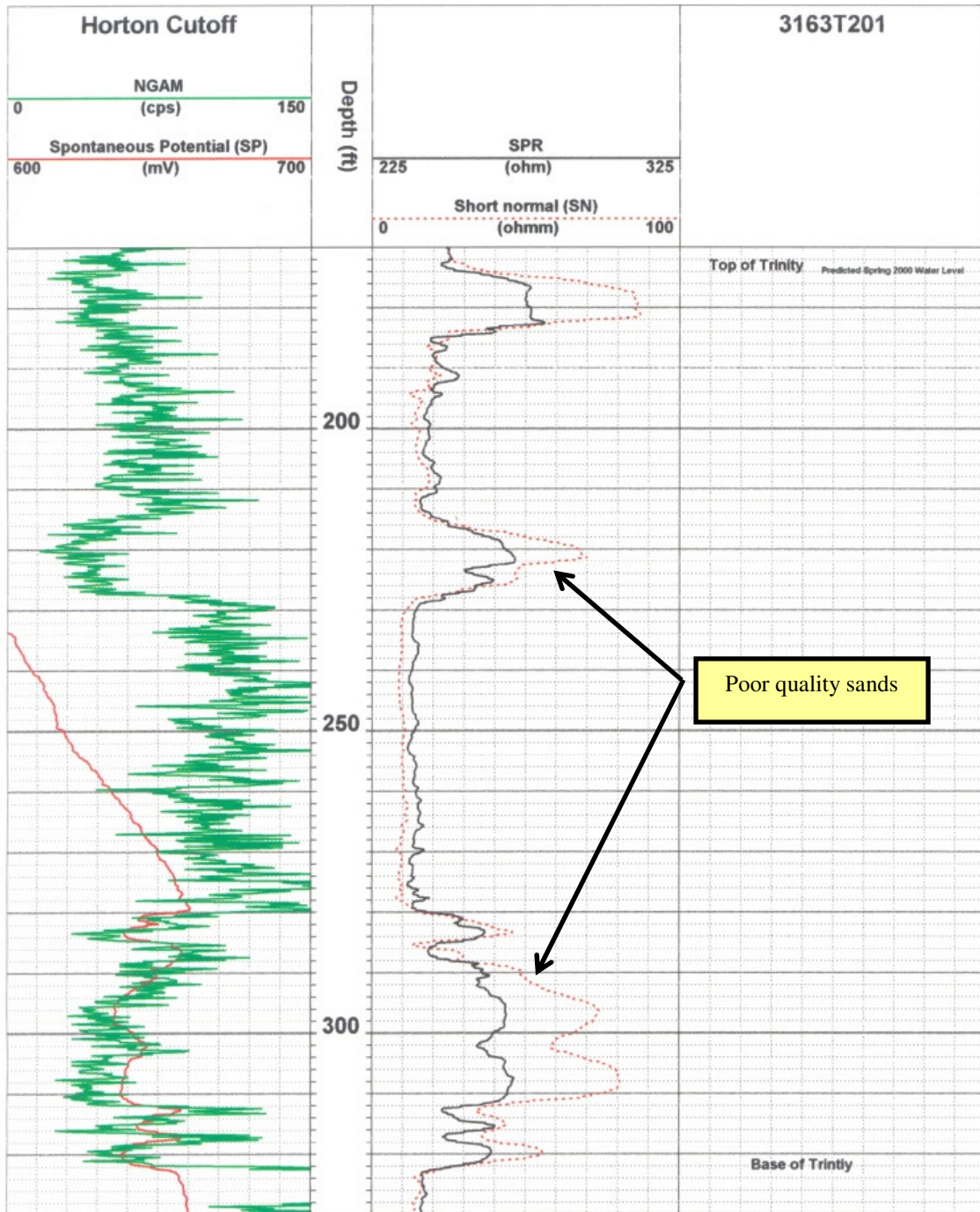
The sand is not of sufficient quantity and quality to make a good production well. There are few irrigation wells in the vicinity and most domestic wells are fully penetrating Trinity wells.

### Site Evaluation:

This site is a corner property bounded by Alexander Highway on the west and the north. It is an easily accessible site greater than 3000 feet from the nearest test site (Horton North East test site). It is close to the southern end of the Alexander well field and the location will tie in easily to a pipeline.

### Recommendation:

I do not recommend purchasing this site for a production well.





## Sites South of the Alexander Highway Well Field Horton North East Test Site



**Property Owner:** Ed Horton 968-5228

**Test Hole Identification:** 3163T202

**Date Drilled:** June 5, 2000

**GPS Coordinates:** 32.1117, -98.1912

**Surface Elevation:** 1260 feet

**Test Hole Depth:** 450 feet

### **Hydrogeological Evaluation (refer to the attached log):**

Top of Trinity Sand: 196 feet  
Base of Trinity Sand: 388 feet

Predicted Water Level: 226 feet\*  
Gross Sand Thickness: 95 feet

\*Based upon the Spring 2000 Trinity Water Levels Map

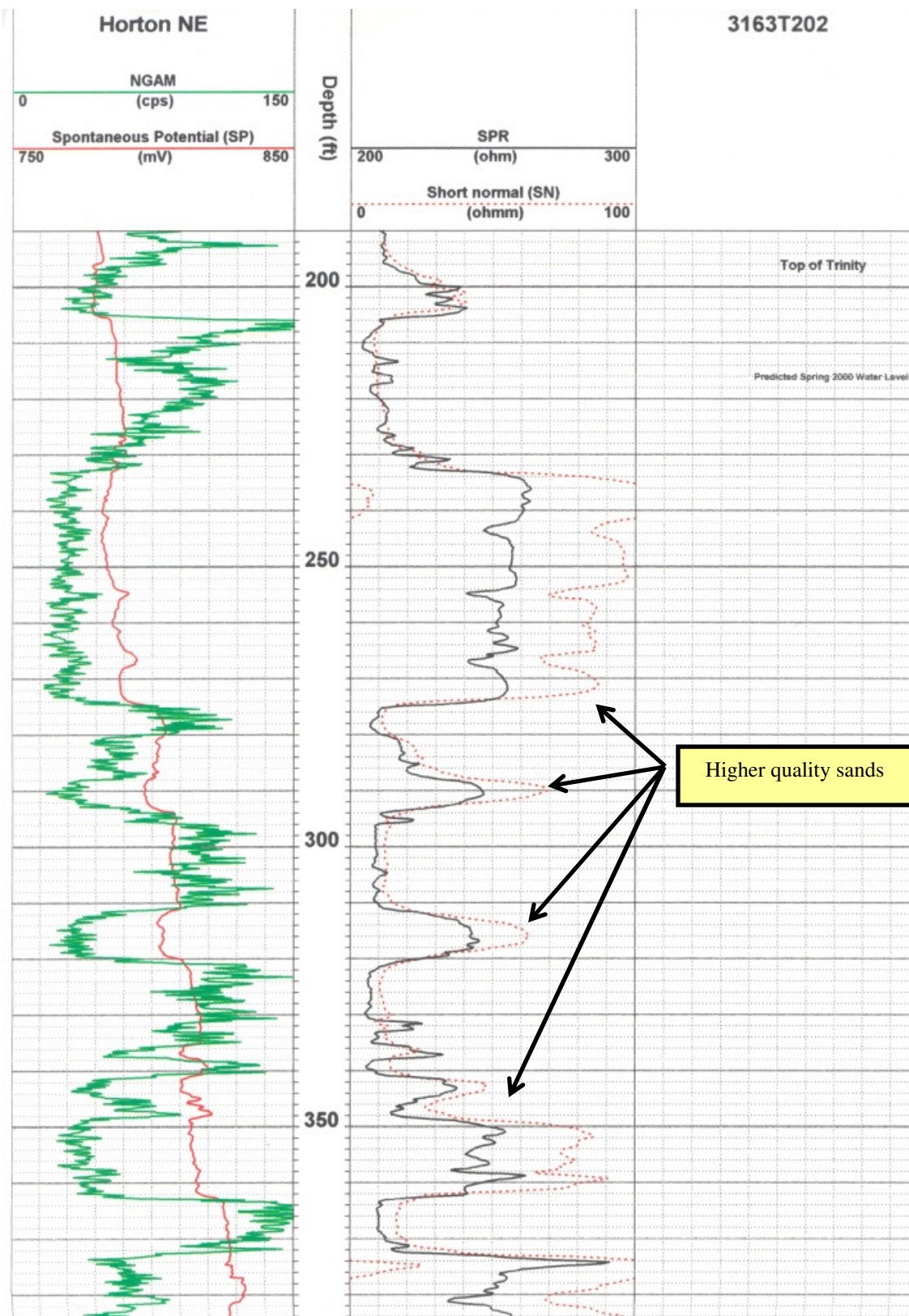
**The** sand is of sufficient quantity and quality to make a good production well.  
**There** are few irrigation wells in the vicinity and most domestic wells are fully penetrating Trinity wells.

### **Site Evaluation:**

This site is a corner property bounded by Alexander Highway on the east. It is an easily accessible site greater than 3000 feet from the nearest test site (Horton Cutoff test site). It is close to the southern end of the Alexander well field and the location will tie in easily to a pipeline.

### **Recommendation:**

I recommend property acquisition near this test site for drilling a production well. I also recommend drilling additional test holes on Mr. Horton's property and choosing the best location for a production well.





**LEGEND**

- Horton Cutoff Well Location with 3000 foot buffer
- Test Wells in Area
- Streets
- City Well Fields

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Scale 1" = 1500 feet

Designed By: Brandon Gartrell

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