AMPLIFIED GEOCHEMICAL IMAGING LLC

CASE HISTORY

MULTI-LAYER GAS EXPLORATION – TEXAS

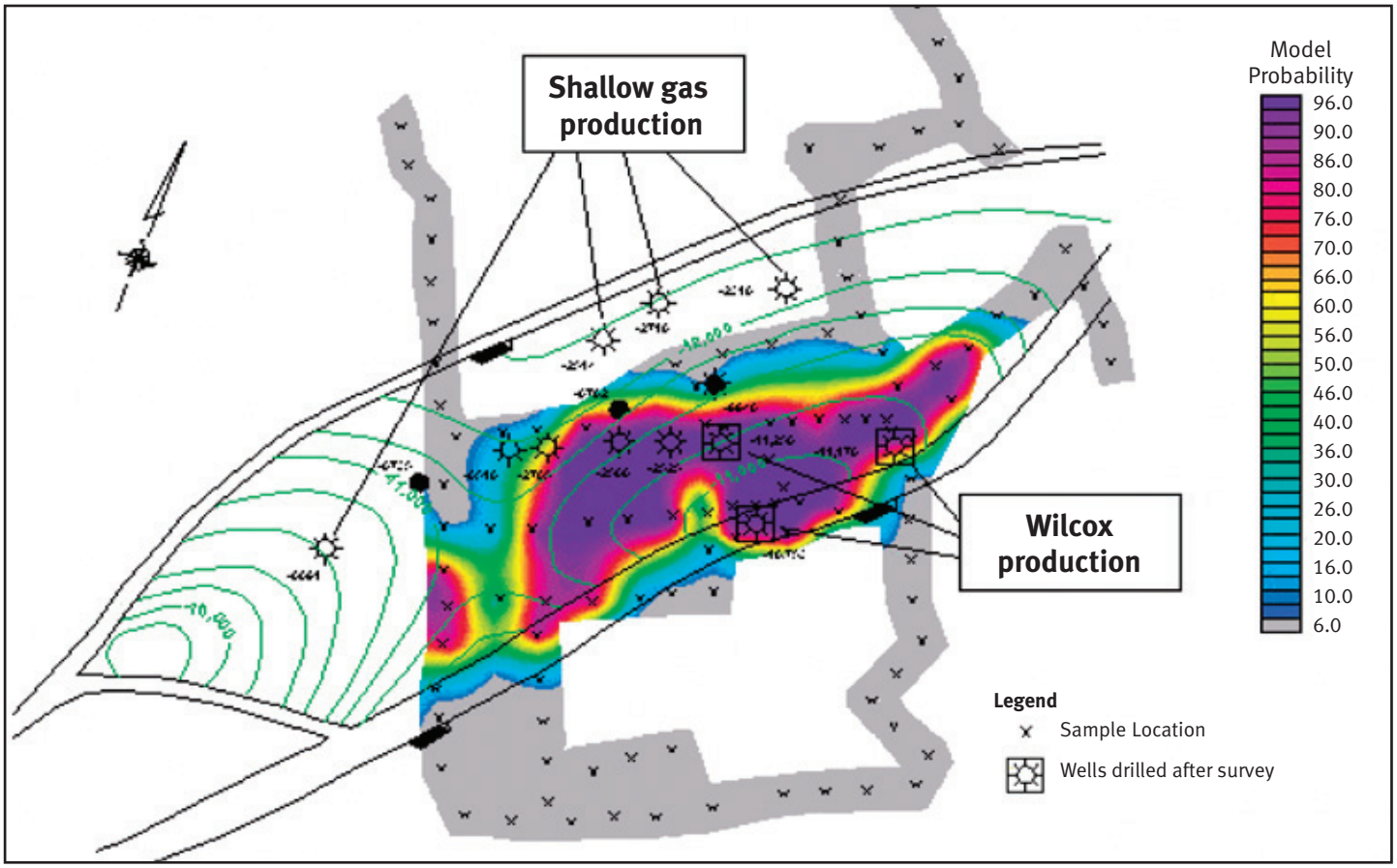

Figure 1: Surface geochemical anomaly for Wilcox gas, Texas USA. Three wells have been drilled on the positive geochemical anomaly identified by the survey, all of which have encountered natural Wilcox gas.

Survey Summary

- Texas, USA, multi-layer prospect
- Natural deep Wilcox gas, overlying shallow production
- 150 sample collectors installed
- Sample spacing – 150 to 250 m irregular grid
- Three economic natural gas wells drilled in positive geochemical anomaly

Introduction

A surface geochemical survey was conducted on a natural gas exploration prospect in Texas, USA. The exploration target was a structure, defined by seismic data and located at depths of 3,300 meters, thought to contain Wilcox gas. Producing oil and gas wells exist in the area along a major upthrown growth fault. Overlying the target structure were shallow oil and gas producing zones.

The client wanted to determine the potential to encounter Wilcox gas prior to lease acquisition in the prospect being explored. To evaluate this properly, the survey had to determine geochemical differences between the Wilcox gas at depth, and the oil and gas produced from the shallow production zones.

AGI Survey

A total of 150 surface geochemical samples were collected from the prospect. For statistical modeling purposes, additional samples were collected at well locations known to produce natural gas from the target formation, from wells in the shallow production zones, and from dry holes. All passive samples were analyzed identically, and several classes of hydrocarbon compounds indicative of natural gas and oil were observed. Geochemical signatures characterizing the production wells and dry holes (background) were developed.

These signatures were compared to the signatures from the collectors placed across the prospect area. The similarity of each of the these to the known signatures from the producing wells and dry holes, was established in terms of a probability at each sample location. The probabilities were contoured revealing a surface geochemical anomaly indicative of Wilcox gas (Figure 1).

Survey Results

Surface geochemical modeling of the known oil and natural gas production revealed a significant anomaly in the prospect area. The sensitivity and accuracy of the sample collector, along with the geochemical analysis and statistical modeling, clearly differentiated the Wilcox gas from the more shallow production of gas and oil. Integration of this data with the client's geological and geophysical data led to the successful drilling of three economic gas wells in the geochemcially anomalous area, all of which encountered Wilcox natural gas.

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