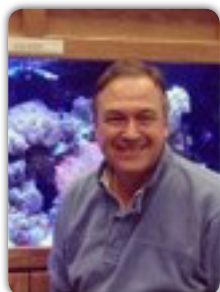


# Petroleum Engineering, Oil and Gas

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## Steven A Tedesco

*Energid Energy Inc, USA*


### Microseeps as pathfinder and regional filtering tool in petroleum exploration

**M**icroseeps are the non-visual forms of macroseeps that are detected by use of iodine, soil gas, radiometric, chemical and magnetic methods. They are typically referred to as surface geochemistry as they are limited to the upper 20 feet of the soil or bedrock section. Off-shore surface geochemistry has been used in the form of detecting microseeps in the water column or as analysis of cores from the upper one to three meters of the sea floor substrate. Surface geochemistry can be an integral part in finding petroleum reservoirs in mature or new areas when used in conjunction with subsurface and seismic data. The concept of microseeps are viable based on the concept vertically migrating hydrocarbons migrate from a reservoir to the surface along micro-pores, micro-fractures and micro-unconformities. The petroleum fluids migrate as the result of simple physics whereby they move higher toward an area of ever decreasing pressure. The petroleum compounds eventually enter the soil substrate and react with existing oxides, carbonates, metals, plants, bacteria, water and clay's. They cause changes in Eh, pH, deposition of or removal of radioactive, halogen and carbonate minerals. Petroleum compounds, such as methane and ethane will escape into the atmosphere. One of the pressing questions for an explorationist is whether a target defined by subsurface geology, 3D or 2D seismic contains hydrocarbons. The only direct method of determining the presence or absence of hydrocarbons prior to drilling is detecting the presence of macro or microseeps.

Both the mining and environmental industries use surface geochemical methods to detect buried ore deposits or areas of contamination. The mining industry is using soil gas methods to define ore deposits affiliated too organic material whether organic shales, bitumen or "live" petroleum such as the Carlin Gold District in Nevada. The environmental industry uses various forms of soil gas methods as well as analyzing for halogenated hydrocarbons, specifically iodine, to delineate and define contaminated areas. Several case histories will be presented.

### Speaker Biography

Steven A Tedesco serves as the chief executive officer and president of Running Foxes Petroleum Inc. He was chief executive officer of Admiral Bay Resources Inc., from November 2005 and was its president from February 2005. He was acting as chief financial Officer of Admiral Bay Resources Inc., from September 2010 to June 13, 2018. He serves as the founding president of Atoka Geochemical Services Corp., the parent company of Atoka Coal Labs, a leading service provider to the CBM industry and also serves as the president of Atoka Coal bed Methane Laboratories Corp. He serves as a CBM Consultant of Peabody Coal, Newfield Exploration, Calpine, Berry Petroleum and Wolverine Gas & Oil. He is responsible for geological concepts and has financed the assembly of 12 coal bed methane projects for 1.6 million acres in the Illinois and Western Interior Basin with several private and public companies. He served as chief executive officer and president at Advanced Cannabis Solutions, Inc., until August 14, 2013. He served as the chief executive officer and president of Promap Corporation since November 1987. He was director of Admiral Bay Resources Inc. from March 2, 2004 to June 13, 2018. He served as a director of Promap Corporation since November 1987 and Advanced Cannabis Solutions, Inc., until August1, 2013. He is the sole author of one technical book and has developed a unique method for calculating gas from mechanical logs, which is patent pending. He holds a master's in science in geology from Southern Illinois University, specializing in coal in 1981.

e: [s.a.tedesco14@gmail.com](mailto:s.a.tedesco14@gmail.com) Notes: