LT LOST TREASURE

JANUARY 2012
$5.50

LARGEST CIRCULATION OF ANY TREASURE PUBLICATION- THE TREASURE HUNTER'S MAGAZINE OF CHOICE

www.LostTreasure.com

# Lost Treasure®

THE TREASURE HUNTER'S GUIDE TO ADVENTURE & FORTUNE

## $13.6 Million in GOLD

One of the strangest tales in the annals of maritime history.

Page 19

## New Evidence of the Beale Treasure

Page 27

## Confederate Cavalry Carbines

Page 48

## State Treasure Tales:

Indiana
South Carolina
South Dakota

## The Key to GOLD Panning Success

Page 11





0 09128 48800 4

*By Andy Sabisch*

# The OKM Rover UC

This issue's field test covers a piece of equipment that, in all likelihood, very few readers have ever heard of and an even smaller number have thought of using for treasure hunting here in North America.

OKM GmbH is a German company founded in 1999 that has achieved a loyal and growing following of users throughout the world, building a family of instruments called "geophysical measuring instruments," which function quite differently than the typical metal detector most treasure hunters are familiar with.

Unlike conventional metal detectors designed to only detect metallic objects at depths up to a maximum of 4 or 5 feet, geophysical instruments are able to detect targets of metallic and non-metallic composition, as well as voids or changes in soil density at depths that can exceed 50 feet.

Instruments of this type have been used for decades in the areas of archeology, commercial mining, heavy industry, oil or gas exploration, and the utility arena with a great deal of success…an Internet search will produce scores of articles that describe the various types of equipment available and how they have been used for a wide range of applications.

Treasure hunting – particularly that conducted by the hobbyist – is an area that has experienced limited use of this equipment due to a combination of the cost and a narrow understanding of how it could be used for optimal results.

Recently, I had the opportunity to visit the OKM factory located near Altenburg, Germany, spending some time with the owners and their staff.

***The entire Rover UC package consists of a sensor configured like a standard hiking stick and an Android-based cell phone.***

During the visit, I looked over their products and spent a good deal of time getting familiar with the newest addition to their line, the Rover UC, at the factory, in their test field, and at several actual locations scanning targets that dated back 100's of years.

The intent of this field test is to cover the Rover UC's features and functions, its performance, and some potential uses for it in the field.

**Features**

While the UC portion of the Rover UC's name does stand for "Under Cover," OKM did not develop this piece of equipment to be used in areas where metal detecting or underground surveying is not allowed or may in fact be illegal.

This model was designed to be used without attracting the attention of passersby in areas where the use of a conventional metal would be allowed, which as anyone that has tried to spend an afternoon hunting a crowded beach or public park can attest to, answering the all too common questions - "Have you found anything?" or "What are you looking for?" - can get old very quickly.

The Rover UC is a perfect example of how rapid technical advances in the electronics field can translate to lighter, faster equipment for users in the field. The entire package, which consists of a sensor and a controller, are housed in two lightweight components with one resembling a standard hiking stick and the other being an Android-based cell phone.

The handheld sensor assembly is fully adjustable from 29" to 55" in length and weighs less than 1.5 pounds with the two AA batteries installed, which provide up to three hours of operation.

Unlike a conventional metal detector, where the basic theory of operation is understood by the vast majority of *Lost Treasure's* readers, OKM's products operate for the most part on an entirely different principle. For those that want more technical details on this segment of the treasure hunting equipment market, spending a little time reviewing OKM's website and other online

information will provide a wealth of information on the subject.

While OKM does build equipment that incorporates VLF or PI metal detection technology, most of their line is equipment that allows for the surveying of areas and the subsequent generation of a computer image showing what lies beneath the surface of the ground, which can be metallic, non-metallic, or even a void, such as a cave, tunnel, well or cellar.

Without getting into a 5-page technical paper on exactly what the principle of operation is for each of the OKM models, the simplest way to describe the Rover UC's circuitry is that it is a combination of a Magnetometer and an Earth Frequency Receiver.

Since only ferrous objects are detectable by a magnetometer, the earth frequency receiver is used to allow non-ferrous objects and voids to be detected as well.

The resulting signals are then processed using the Smartphone application, and further enhanced by the proprietary Visualizer 3D software, to allow users to evaluate underground objects and anomalies for possible recovery with a high degree of accuracy.

The Rover UC's interface was designed to simplify setup and operation to eliminate possible "operator errors" that can occur on high-end, complex equipment, especially when being marketed to users worldwide that may have a wide range of technical skills.

The sensor has a single multi-function button located on the handle that controls the Rover UC's operation in conjunction with the Smartphone application. An LED on the top of the handle lets the users know if the unit is on, if a Bluetooth connection has been established with the phone, or if the batteries require replacement.

The setup for conducting an area survey is done through the OKM Rover UC application on the Smartphone that is part of the package. Launching the application reveals six icons, which include three separate search mode options, an option to review previously saved scans, a language selection icon, and one for information about the application itself.

***The door marks the entrance to the tunnel of a WWII bomb shelter that heads straight back into the hillside. A scan was performed walking across the tunnel approximately 30 feet above the entrance (see the white shirt in the woods above the entrance).***

All three search mode options will start out the same way, which is to establish a Bluetooth connection with the sensor unit. Once the connection has been established, the LED on the handle will turn blue and the screen will change to either a real-time scan (when in the Magnetometer or Discrimination modes) or the setup screen (3D Ground Scan mode).

The particular search mode selected will depend on what type of target is being sought, its suspected depth, and whether a permanent record of the scan is desired for subsequent evaluation or assessment. The Magnetometer mode is intended to locate only ferrous (containing iron) objects at relatively shallow depths (up to six feet for very large items).

The Discrimination mode provides slightly more detection depth and can detect metallic as well as non-metallic targets and voids. The specific response it produces aids users in determining what the target is composed off - i.e., ferrous or non-ferrous. Both of these modes produce a real-time, continuously moving display on the Smartphone's screen; however, they do not allow a scan to be saved and, as such, are more suited for quick in-field surveys on shallower targets or to pinpoint specific anomalies that have been identified in the 3D Ground Scan mode.

The primary search mode of the Rover UC will be the 3D Ground Scan, as it provides the deepest detection capability, produces a scan record that can be analyzed using the tools built into the Smartphone application as soon as the scan is completed, and generates a file that can be further analyzed on a computer using the Visualizer 3D software.

**Field Test**

As I mentioned, I had the opportunity to visit the OKM factory, spending some time becoming familiar with the equipment and then using it in the field under the guidance of one of the owners – Andreas Krauss – and several of his employees.

The demonstrations and hands-on training greatly shortened the learning curve typical of a new piece of equipment, and my time there will serve as the basis for this field test report.

We started in the OKM test area located on the grounds of the factory itself. Two objects had been buried years earlier - an aluminum briefcase filled with discarded metallic objects at approximately 3 feet, and the steel bucket from a backhoe at more than 6 feet.

Turning on the Rover UC, choosing the 3D Ground Scan mode and selecting the specific search options - Scan Mode (the direction of each individual pass of a scan), Impulse Mode (the option of either automatic or manual data acquisition), and Field Length (the length of each pass), I proceeded to walk through the test field looking for the aluminum briefcase. Frank Casser, one of OKM's technical trainers, watched my efforts and provided me with real-time feedback on my technique.

In order to obtain consistent and accurate results with the equipment, one needs to practice to ensure one's pace remains the same on each consecutive scan, that the probe is maintained at a constant height above the ground, and that it is not rotated left/

right or up/down as the scan is being conducted.

Frank's experience with the equipment was clearly evident when comparing scans he performed to mine; however, while the computerized images of his scans were much smoother and contained far fewer errors than mine did, the location of the aluminum briefcase was clearly visible on the scans performed by both of us.

An interesting aspect of the scan of the aluminum briefcase target was one could actually identify some ferrous targets present that were actually the items inside of the case itself.

Moving over to the backhoe bucket, it, too, was readily identifiable both on the screen of the Smartphone and on the computer when the saved scan was downloaded and analyzed using the Visualizer 3D software.

The next site we visited was a bomb shelter complex constructed during WWII. The entrances could be seen at street level and the tunnels went straight into the hillside for some distance until opening up into a large rooms and storage bunkers.

A path traversed the side of the hill some 30 feet above the street and crossed the tunnels at right angles that would provide a good test of the Rover UC's ability to locate a void or cavity.

Starting at a point that was above undisturbed ground, we selected the 3D Ground Scan and a scan length of 25 meters (75 feet). After making multiple passes over the area containing the access tunnel, we saved the scan and reviewed the image on the screen. It was quite clear where the tunnel crossed our scan path by the blue area of the scan and, upon returning to the factory and transferring the file to a computer, the Visualizer 3D software was able to further define the location of the tunnel as well as provide a fairly accurate depth using the cursor measurement option in the software.

Over the years, I have had the opportunity to search a number of areas throughout Europe, Asia and Africa, and the history these areas contain always intrigues me.

In the United States, sites dating back to the 1800's are considered old while, overseas, structures from the 1700's are considered "new" in many areas. Despite the numerous wars that have swept across the continents over the centuries, there are still many areas where historically interesting sites remain visible.

Heading out by myself one morning in the small town of Altenburg, which had been founded more than 1,000 years ago, I put the Rover UC to the test.

One of the first things that quickly became apparent was that, despite children and parents walking past me on the way to the nearby schools, I garnered hardly a second glance by anyone as I conducted scans in several very public areas. I am certain that, had I been using any type of metal detector, I would have had a crowd following me and asking 100 questions, so the "Under Cover" portion of the Rover UC's name proved itself under actual conditions.

Some of the scans I performed identified the steel rebar in a storm drain under a road, a metal drain pipe connected to a fired clay drain line in a small park (where both types of material could be identified and distinguished), and, most notably, an old brick lined culvert some 25 feet beneath a city street that was visible on one end.

Additional details on the Rover UC and the field testing conducted, along with additional photos and images showing the results of the scans, are available online on the *Lost Treasure* website under Field Tests.

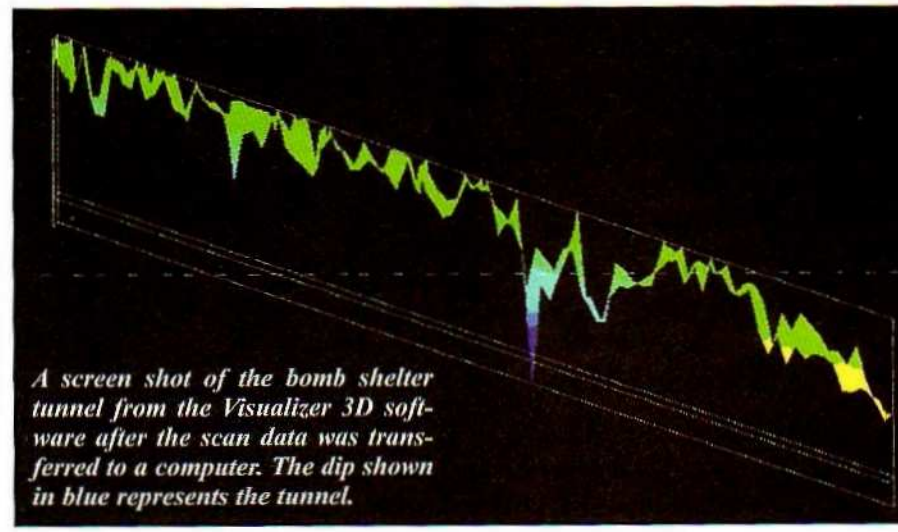
**Summary**

After spending some time with the OKM Rover UC and testing it over a wide range of targets, it became clear that it's a tool that can provide users with information that would not be obtainable through the use of a conventional metal detector alone.

While I could see that practice is required to ensure the results obtained are consistent and give an accurate representation of what lies beneath the surface of the ground, OKM does provide a number of resources to aid in mastering their equipment, including well-written operating manuals, DVD's and online training videos, free analysis of scans by factory personnel, and, if required, hands-on training at either the factory or at your location (Note: There is a cost for onsite training).

I don't profess to have as strong a technical understanding of the principle of operation used in OKM's equipment as I do of conventional metal detectors, but I was able to obtain fairly consistent results using the Rover UC in areas containing both objects (metallic and non-metallic) and voids (culverts and tunnels) during my time at the factory.

If you are like me, you have looked



*A screen shot of the bomb shelter tunnel from the Visualizer 3D software after the scan data was transferred to a computer. The dip shown in blue represents the tunnel.*

at ads in *Lost Treasure* Magazine and the OKM website showing finds dating back 1,000's of years throughout the world, and wondered how the equipment could be used by treasure hunters in the U.S. You might even have wished you lived in a country with centuries of history waiting to be found.

The online version of this field test provides additional details on how U.S. treasure hunters could benefit from geophysical survey equipment, such as the Rover UC and other OKM products, for applications like bottle, relic, and cache hunting, and prospecting, to name just a few.

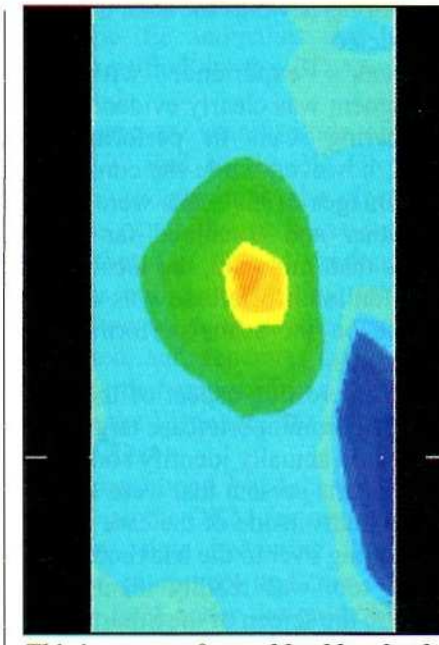
Is the Rover UC expensive? To answer that question one needs to define what they will be searching for, how serious one is in finding it, and what the "cost" of missing the target would be.

There are scores of people that opt for and are satisfied with a basic sub-$200 detector, while others use models that cost more than many used cars do…Why?

Because 1) the users need specialized equipment that offers unique features; 2) they recognize the benefits higher priced equipment can provide, and 3) can justify the additional cost based on the performance it provides and the type of target(s) being sought.

Equipment such as the Rover UC is no different. Being able to locate underground anomalies, be they metallic, non-metallic, or even voids at depths that clearly surpass that of a conventional metal detector, offers advantages that easily offset the initial purchase price based on the recoveries that can be made over the ownership period.

A comment voiced by the OKM staff was that some feedback has been that the Rover UC does not appear to be a serious piece of equipment based on its overall size and light weight.



***This is a scan of a steel backhoe bucket buried just over 6 feet deep in the OKM test field; the object can be clearly distinguished in the center of the image.***

Nothing could be further from the truth, as OKM's engineers listened to users and reduced the size and weight while simplifying its operation without impacting performance in the field.

The Rover UC provides performance on par with other OKM products with minimal adjustments in a package that makes taking it to even the most remote location possible.

The Rover UC is just one of the products in the OKM line of geophysical detection instruments that offer a range of features for various applications.

If you want to explore a new facet of treasure hunting, taking a closer look at today's geophysical equipment may be warranted.

For more information about the different tools for treasure hunting, prospecting, and other uses produced by OKM, visit their website at http://www.okmmetaldetectors.com, request information by e-mail at info@okm-gmbh.de, or write OKM GmbH, Fünfminutenweg-Süd 6, 04603 Windischleuba, Germany.

Be sure to mention you read about the Rover UC in *Lost Treasure* Magazine. LT