



SUBSURFACE INSTRUMENTS, INC.  
AML PRO™ & AML+™ PRODUCT GUIDE



Advanced Underground PVC Pipe Detection  
Patented Technology  
Advanced PVC & PE Pipe Detection  
FCC, IC & EU/CE Approved

# INTRODUCING THE TECHNOLOGICAL A

Both the AML Pro & AML+ are available in 3 optional housing colors.



Yellow



Black



Carbon  
Fiber

## AML+ SERIES

- > Lightweight Construction (2.0 lbs.)
- > Durable ABS Housing
- > New Microprocessor Intelligence
- > Patented Radio Wave Technology
- > 9 Sensitivity Settings
- > Headphones
- > USB Powered Port
- > Rechargeable Lithium Battery
- > 3 Year Limited Warranty

The All-New AML PRO™ & AML+™ Series “All Material Locators” are scientific instruments that utilize modulated, ultra-high radio frequencies to find differences in subsurface densities. This offers the best method for locating PVC & PE pipes and nearly any other subsurface object that has an edge. Utilizing technology that was developed for lunar exploration, the AML will locate subsurface materials indiscriminately - plastic, metal, wood, cable or pipe. Unlike the deficiencies of GPR (Ground Penetrating Radar), the AML will work in clay, wet soil, snow or even standing water. Redesigned specifically for the utility, water, gas and cable industries, the AML allows professionals to locate objects faster, while maximizing job efficiency.

# LY ADVANCED AML™ SERIES

REFINED.  
PROVEN.  
TRUSTED.



## AML PRO SERIES

### INCLUDES ALL AML+ FEATURES AND:

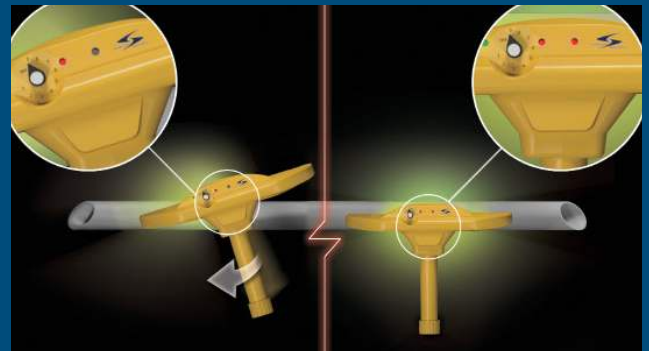
- > Lightweight Construction (2.5 lbs.)
- > Durable ABS Housing
- > Backlit Display
- > GPS Plotting & Tracking
- > 32 Sensitivity Settings
- > Digital Leveling Meter
- > Digital Targeting Indicator
- > Noise Isolating Headphones
- > Customizable User Preferences

## UNDERSTANDING HOW ULTRA-HIGH FREQUENCY (UHF) RADIO WAVES WORK

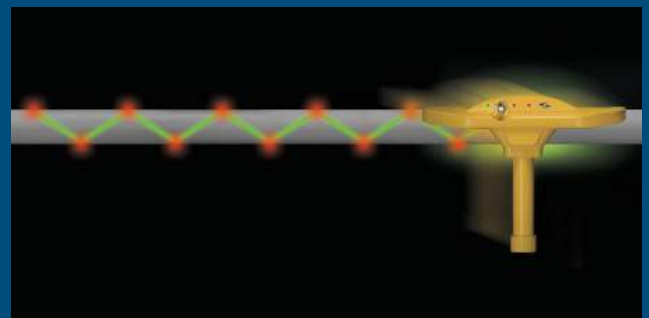
The key to how the AML works is to understand how its ground-penetrating UHF radio waves detect PVC pipes, PE pipes and other objects.



Holding the AML's handle parallel to the ground, scan the area of the undetectable buried object until one or both of the target indicators activate.



While the left or right target indicator is activated, rotate the AML until both LED target indicators light simultaneously, triggering the AML's tone and laser marker. This alert indicates that the pipe or object has been detected and that the AML is now parallel with the underground object.



With the AML parallel with the pipe or underground object, you can now scan the entire length of the object's edge. As an alternative, utilize the "W" method of scanning by sweeping the area in a back-and-forth "W" motion, marking the object's location and run direction as it is tracked.



# AML PRO SERIES

Patented Radio-Frequency Technology  
Proudly Made in the USA  
by SubSurface Instruments, Inc.  
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## EASY BATTERY ACCESS

Powered by a convenient 9-volt battery system, the AML features long, powerful on-the-job usage between power source changes.

## ERGONOMIC HANDLE

An ergonomic handle provides a firm grip in any weather condition.



## HEADPHONE JACK

A convenient headphone jack allows the user to listen to audio signals with premium noise isolating headphones (included).

## LIGHTWEIGHT, DURABLE CONSTRUCTION

The AML is constructed from lightweight, shock-resistant materials that make it easy to use and handle throughout the work day.

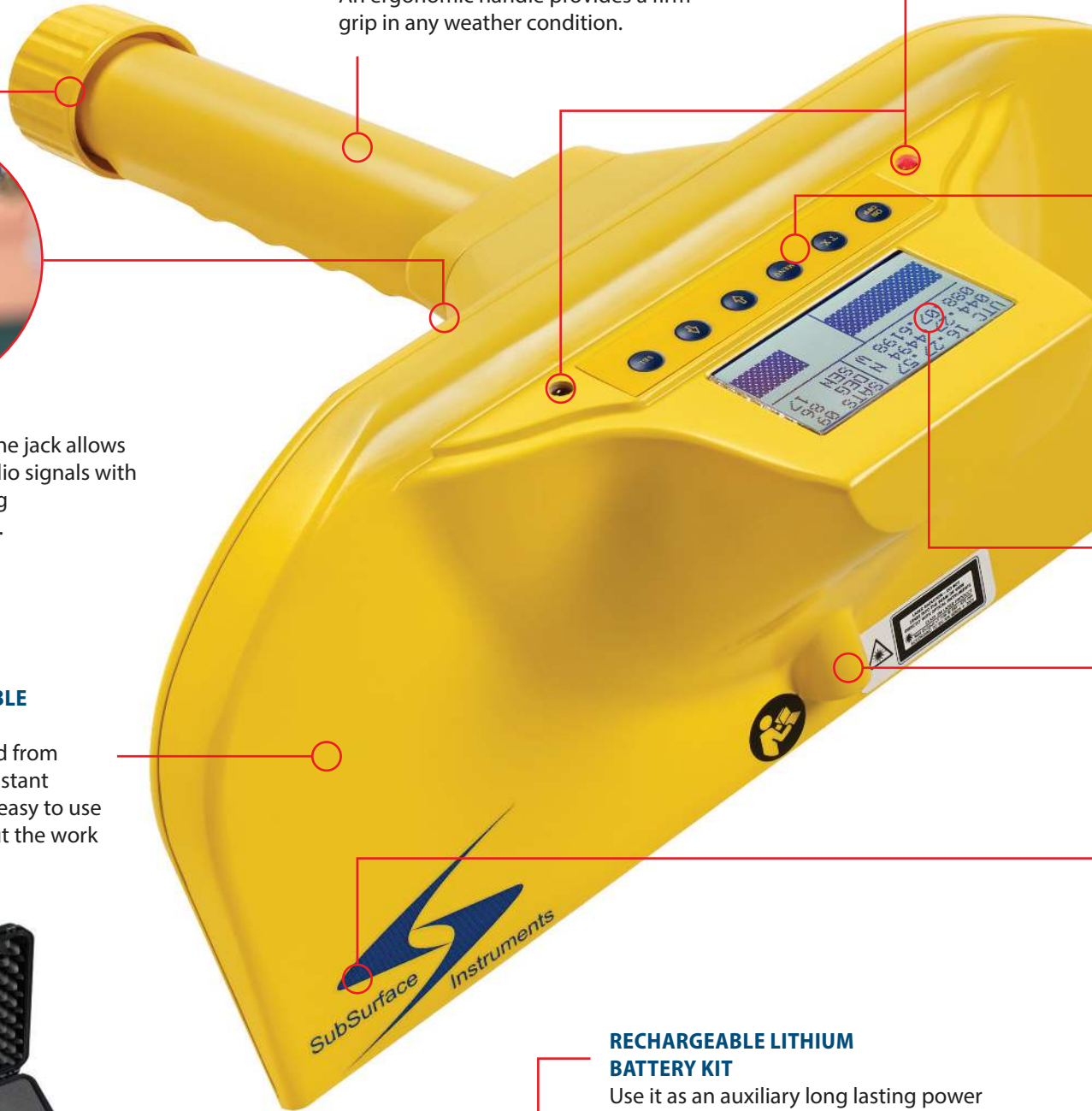


## DURABLE CARRYING CASE

The AML is a highly technical scientific instrument. To protect it, an impact resistant and water proof carrying case with a shock-absorbent foam housing protects your AML while in transit or on the job site.

## RECHARGEABLE LITHIUM BATTERY KIT

Use it as an auxiliary long lasting power source.



### RIGHT SIDE & LEFT SIDE TARGET INDICATORS

The LED indicators provide a visual signal when an undetectable object has been located. Individual left and right LED lights, as well as the digital target indicators provide the user with an accurate reading of the subsurface objects being scanned, allowing them to be marked and tracked efficiently.

### MULTI-BUTTON PANEL

Durable tactile membrane buttons control the unit's power source and menu options. Once the unit is on, the user can navigate its scrolling menu to adjust sensitivity and operational settings displayed on the LCD screen.

### ULTRA-HIGH FREQUENCY (UHF) RADIO WAVE TRANSMITTER

Using advanced circuit board technology, powerful 2.45 GHz ground penetrating, UHF radio waves locate PVC pipes easily. Man-made objects with a straight edge create a change in density or permeability from surrounding materials, which causes refracted radio waves to be detected by the AML.

### DIGITAL BACKLIT DISPLAY

A high contrast, backlit digital display provides superior visibility in both direct sunlight and dark environments.

### LASER TARGET INDICATOR

An easy-to-see laser indicator highlights the located object's position on the ground when it has been detected.

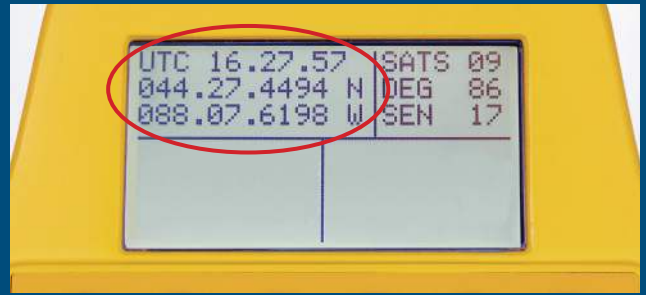
### ULTRA-HIGH FREQUENCY (UHF) RADIO WAVE RECEIVERS

Highly sensitive dual left and right receivers intercept frequency refractions set off by the edges of buried PVC pipes. When the unit is positioned parallel to a pipe, both the left and right target indicators are activated, allowing the user to identify the object's run direction.



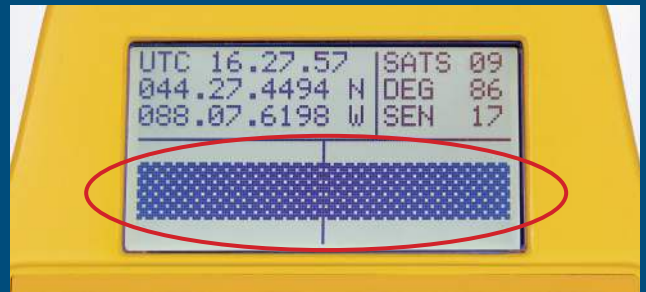
SEE VIDEOS, PHOTOS & ADDITIONAL INFORMATION ABOUT THE AML BY SCANNING OUR QR CODE.

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### ADVANCED GPS MAPPING

Map your coordinates on the job site with advanced GPS tracking and export to other devices via data transfer through the USB mini port.



### DIGITAL TARGET INDICATOR

Increase the accuracy and speed of finding sub surface objects. A digital left and right meter hones the operator to the exact location of an underground object so it can be marked and tracked efficiently.



### SENSITIVITY LEVEL

Designed to provide the highest degree of accuracy available, the AML Pro has 32 individual sensitivity settings that allows the user to zero out unwanted feedback and focus directly on the object itself.



### BUILT-IN USB MINI PORT

Powerful USB flexibility allows users to export GPS coordinates, import the latest firmware updates and connect to the auxiliary lithium battery source.

# AML+ SERIES

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## EASY BATTERY ACCESS

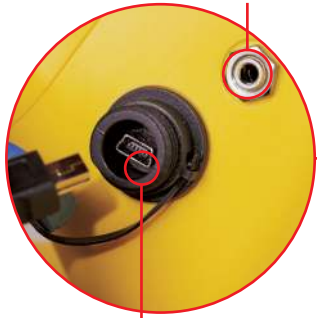
Powered by a convenient 9-volt battery system, the AML features long, powerful on-the-job usage between power source changes.

## ERGONOMIC HANDLE

An ergonomic handle provides a firm grip in any weather condition.

## HEADPHONE JACK

A headphone jack allows the user to listen to audio signals with high quality headphones (included).



## BUILT-IN USB MINI PORT

A protected USB mini port provides the ability to connect the supplied external Lithium Battery source.

## LIGHTWEIGHT, DURABLE CONSTRUCTION

The AML is constructed from lightweight, shock-resistant materials that make it easy to use and handle throughout the work day.

## ULTRA-HIGH FREQUENCY (UHF) RADIO WAVE RECEIVERS

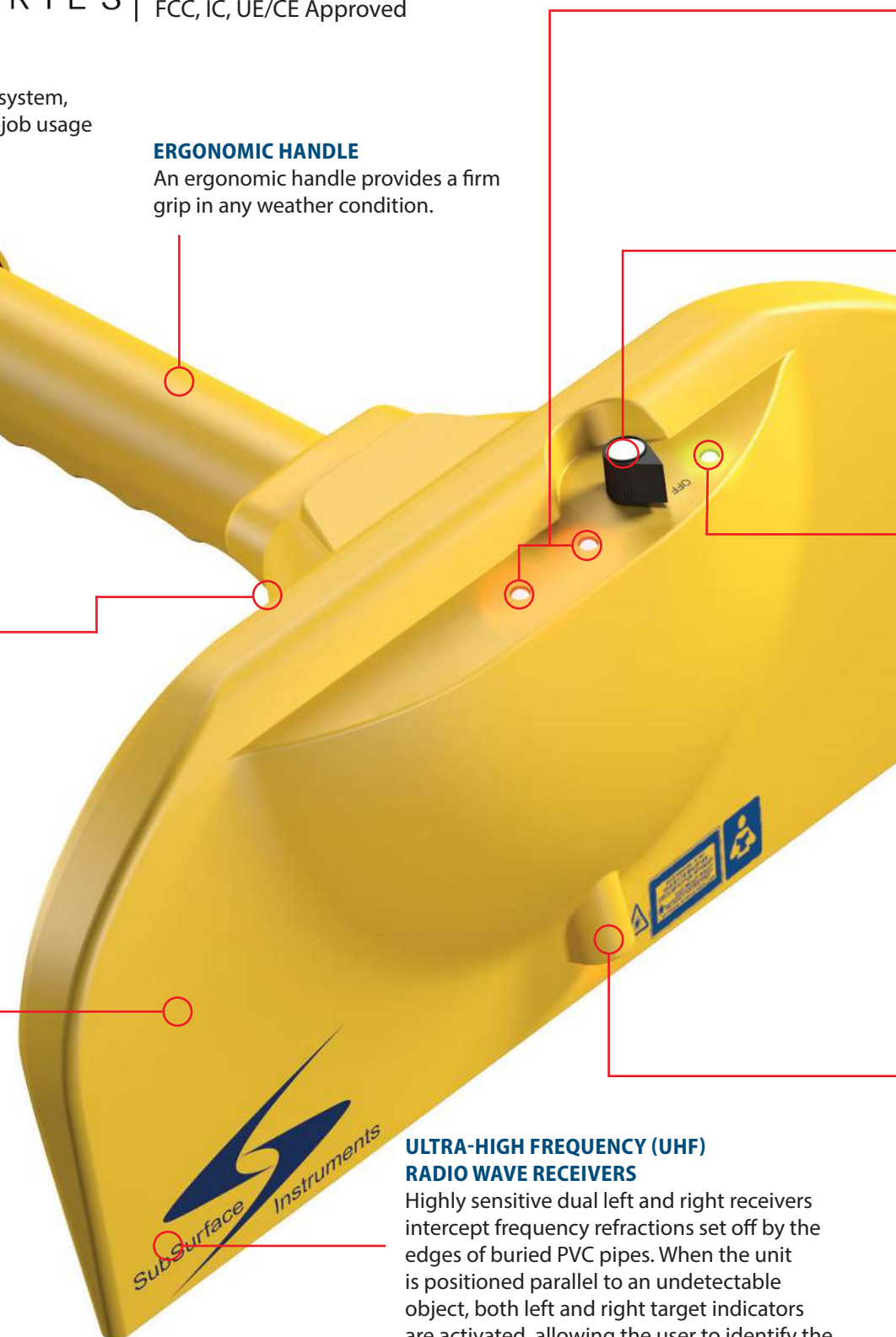
Highly sensitive dual left and right receivers intercept frequency refractions set off by the edges of buried PVC pipes. When the unit is positioned parallel to an undetectable object, both left and right target indicators are activated, allowing the user to identify the pipe's location and run direction.

## RECHARGEABLE LITHIUM BATTERY KIT

Used as a long lasting power source.

## DURABLE CARRYING CASE

The AML is a highly technical scientific instrument. To protect it, an impact resistant and water proof carrying case with a shock-absorbent foam housing protects your AML while in transit or on the job site.





### RIGHT SIDE & LEFT SIDE TARGET INDICATORS

Easy to read left and right LED target indicators identify when a PVC pipe has been located, and when the pipe is parallel with the AML. Audio and laser target indicators work in unison with the right and left LEDs to alert the operator of a pipe's presence, and to place its location.

### POWER & MULTI-POSITION SENSITIVITY SWITCH

This switch controls the unit's power source and sensitivity. Once the unit is turned on, the operator can choose from 9 different levels of sensitivity to match the needs of each job's conditions.

### LED POWER INDICATOR

The power indicator emits a bright green LED light when the unit is on. This LED also serves as the battery life indicator. It will alternate between green and red to indicate low battery life, blinking red more often as the batteries deplete. This feature will provide you with ample warning time to complete your current job before needing to change power sources.

### ULTRA-HIGH FREQUENCY (UHF) RADIO WAVE TRANSMITTER

Using advanced circuit board technology, powerful 2.45 GHz ground-penetrating, UHF radio waves locate PVC pipes with ease. Man-made objects with a straight edge create a change in density or permeability from surrounding materials, which causes refracted radio waves to be detected by the AML.

### LASER TARGET INDICATOR

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### LED POWER INDICATOR

The LED power indicator has 2 functions:

- 1) A green light indicates the unit is ready for use.
- 2) A blinking green and red light indicates a low battery and requires a change in power source.



### POWER & MULTI-POSITION SENSITIVITY SWITCH

This switch controls the unit's power supply and sensitivity. Once the unit is on, the operator can choose from 9 different levels of sensitivity depending on each job's conditions.



### TARGET INDICATORS

Easy to read left and right target indicators identify when an undetectable object has been located, and is parallel with the AML.



### ERGONOMIC HANDLE

The AML+ handle is designed to provide the user with a comfortable grip, ensuring an accurate reading when the fingers are placed along the knurls.



## AN INNOVATIVE DESIGN BACKED BY AN INDUSTRY-LEADING WARRANTY

SubSurface Instruments is known for producing highly dependable and trouble-free locating equipment. However, should a warranty issue occur, our goal is to make your warranty experience as hassle-free as possible and get you back on the job site as quickly as possible.

SubSurface Instruments provides a Limited Warranty for 36 months or 3 years from original user's purchase date. The AML Pro and AML+ are specifically guaranteed to be free of defects in both material and workmanship to the original purchaser.



PROUDLY MADE IN THE USA

### AML SERIES SPECIFICATIONS

#### Physical Dimensions

	AML PRO	AML+
Height	13 in. / 33.0cm	11 in. / 27.9cm
Length	14 in. / 35.6cm	14 in. / 35.6cm
Width	6 in. / 15.2cm	6 in. / 15.2cm
Weight	2.5 lbs. / 1.13kg	2 lbs. / 0.90kg

#### Power Specifications

Batteries	(3) 9-Volt Alkalines	(3) 9-Volt Alkalines
Battery Packs	2	1
Est. Alkaline Battery Life	typical life: 25 hours min. life: 4 hours	typical life: 40 hours min. life: 5 hours
Auxiliary Lithium Battery Packs	typical life: 80 hours min. life: 20+ hours	typical life: 100 hours min. life: 25+ hours
Transmitter Frequency	2.45 GHz	2.45 GHz

#### Shipping Dimensions (w/ Carrying Case)

Weight	17 lbs. / 7.7kg
Cube	20" x 17" x 8" / 50.8cm x 43.18cm x 20.32cm

#### Includes

- (1) AML Unit
- 9 volt Battery Packs:
  - AML PRO: (2) Battery Packs (Each Housing (3) 9-Volt Alkaline Batteries)
  - AML+: (1) Battery Pack (Housing (3) 9-Volt Alkaline Batteries)
- (1) Auxiliary Rechargeable Lithium Battery Kit
- (1) Pair of Headphones (AML PRO includes Noise Isolating Headphones)
- (1) Foam-Insulated Hard Case
- (1) User's Guide

SubSurface Instruments, Inc.

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