11253 91st Ave N
Maple Grove, MN 55369
763-424-4803
FAX: 763-424-9452

-Direct Sensing Report-

Client:	**Meridian Environmental Consulting, LLC.**
Project Name:	**Doug's Tire**
Location:	**Ladysmith, WI**
Project Number:	**101-MNDS-12UV**

The analysis and opinions expressed in this report are based upon data obtained from UVOST logs generated (and samples collected for emulations if applicable) at the location specified, and from other information discussed in this report. Exceptions, if any, are discussed in the accompanying discussion if applicable. This report is prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted practices. Reported results shall not be reproduced, except in full, without written approval of the lab. The sample results relate only to the analytes of interest tested. No warranties, expressed or implied are intended or made.

I certify that the data contained in this final report has been generated and reviewed in accordance with approved methods and our Standard Operating Procedure. Release of this final report is authorized by Laboratory management, which is verified by the following signature.

_____ _____

Approval Signature Date

LIF SYSTEM DESCRIPTION & ANALYSIS

UVOST

Fluorescence is a property of some compounds where absorbed UV light stimulates the emission of photons (light) of a longer wavelength relative to the source emission. The release of the photons can be used to detect small amounts of substance (i.e. polycyclic aromatic hydrocarbons or PAHs) in a larger matrix (soil). This method of detection has been used in laboratories for decades. Now, with the availability of lasers and optical fibers, this technology can be applied down hole in the field.

The UVOST system sends light (via 308 nm laser) through a fiber optic cable strung within probe rods. The light, reflected by a parabolic mirror, then exits through a sapphire window in the side of the probe. As the probe is advanced, the soil is exposed to the UV laser light. If PAHs are present (compounds in POLs that fluoresce, i.e. LNAPL) longer wavelength light is emitted by the contaminants. This "signal" light is transmitted through a fiber, back up hole to be analyzed. Responses are indicated in real-time on a graph of signal vs. depth. The UVOST log displays "color mixed" signal logs (contributions from 4 channels) and waveforms ("fingerprint" of multi-wavelength) to aid in identification of the contaminant present.

Prior to every log the UVOST system is checked for optical quality by observing the background signal for sources of signal in the fiber, filter, mirror and sapphire window. Also, the reference emitter (a standard proprietary NAPL mixture called the "RE") is placed on the window to determine the qualitative and semi-quantitative properties of the laser system. This is to assure that the RE response has the correct shape and intensity and that the UVOST system is ready to log. Typically the RE will fall between 10,000 and 12,000 pVs (picovolt-seconds, a measure of waveform area) and the background can vary from 0.1% to 1% (area of about 0-100 pVs). It is important to remember that the relationship between the NAPL in the ground and the RE depends on that particular NAPL. The calibration of the system is not to a concentration, but to a known fluorescence signature.

EC (Electrical Conductivity)

Electrical Conductivity (EC) is a measure of the soils ability to conduct an electrical current between two dipoles on the LIF/EC probe. Conductivity is the reciprocal of electrical resistivity and has the units (in our application) of millisiemens per meter (mS/m). Since soil is in the pathway of the charge flow, the grain size can be determined by comparing the EC log to a soil boring. Conductivity readings in the 100s indicate smaller grain (size such as clay). Larger grain size (sand and gravels) are typically in the 10s of mS/m range. Prior to every log the EC point of the UVOST probe is checked for proper operation by performing a voltage test with a voltage meter and a conductivity test with a test block.

Discussion

All LIF locations were preprobed to a depth of 5 feet in an attempt to prolong the life of the SPOC/dipole probe, therefore signal from less than 5 feet have not been commented on as the subsurface had been disturbed. There were two different waveforms encountered on the Doug's Tire site. The waveform yielding the green color on the false-color plot is consistent with diesel type compounds, and this was found mainly in the rear of the building. The second waveform, which yielded a bluish color on the false-color plot is consistent with a gas-type waveform, and was found mainly to the South and west of the building.

UVOST Log Reference Guide

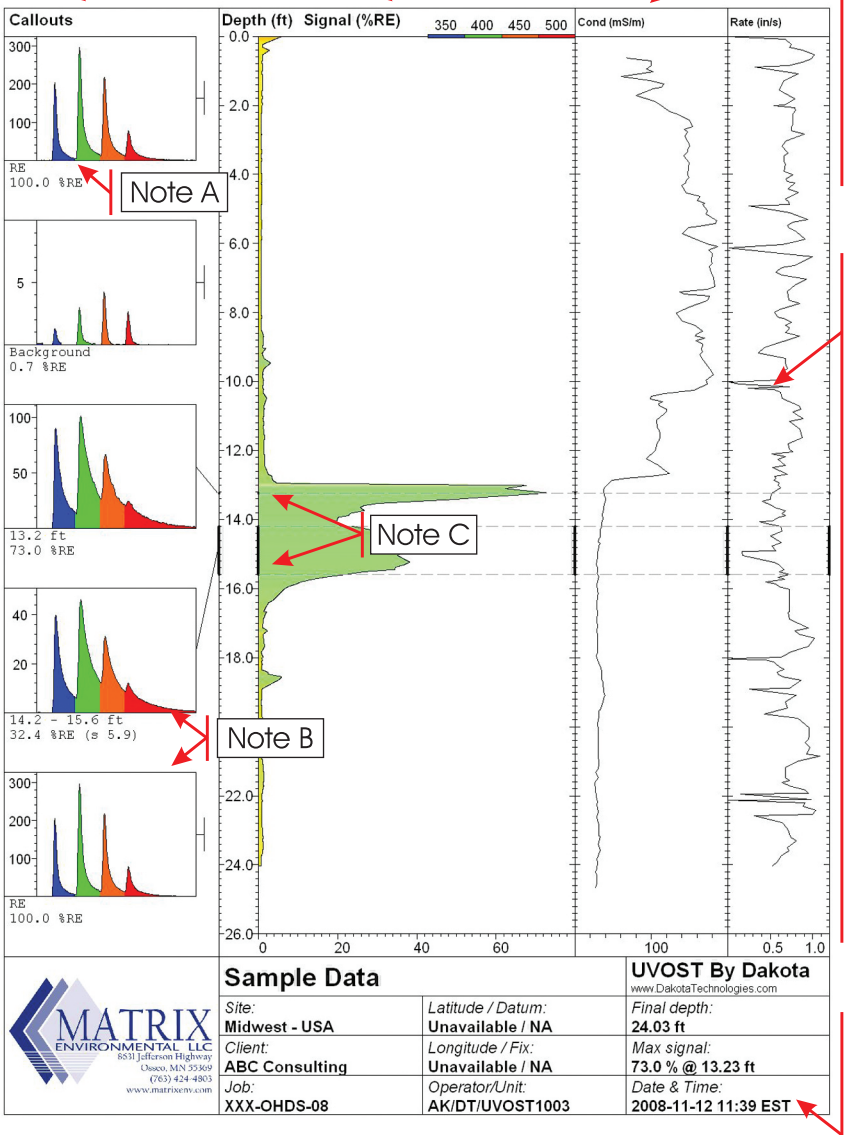
Main Plot :
Signal (total fluorescence) versus depth where signal is relative to the Reference Emitter (RE).The total area of the waveform is divided by the total area of the Reference Emitter yielding the %RE.This %RE scales with the NAPL fluorescence. The fill color is based on relative contribution of each channel's area to the total waveform area (see callout waveform).The channel-to-color relationship and corresponding wavelengths are given in the upper right corner of the main plot.

Callouts :
Waveforms from selected depths or depth ranges showing the multi-wavelength waveform for that depth.

The four peaks are due to fluorescence at four wavelengths and referred to as “channels”. Each channel is assigned a color.

Various NAPLs will have a unique waveform “fingerprint” due to the relative amplitude of the four channels and/or broadening of one or more channels.

Basic waveform statistics and any operator notes are given below the callout.



Conductivity Plot :
The Electrical Conductivity (EC) of the soil can be logged simultaneously with the UVOSTdata. EC often provides insight into the stratigraphy.
Note the drop in EC from 10 - 13 ft, indicating a shift from consolidated to unconsolidated stratigraphy.This correlates with the observed NAPL distribution.

Rate Plot :
The rate of probe advancement. ~ 0.8 in (2cm) per second is preferred.

A noticeable decrease in the rate of advancement may be indicative of difficult probing conditions (gravel, angular sands, etc.).

Notice that this log was terminated arbitrarily, not due to "refusal", which would have been indicated by a sudden rate drop at final depth.

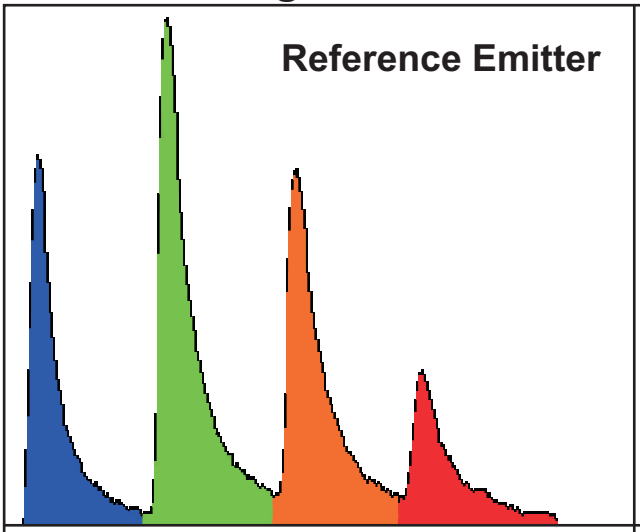
Info Box :
Contains pertinent log info including name and location.

NoteA:
Time is along the x axis. No scale is given, but it is a consistent 320ns wide.
The y axis is in mV and directly corresponds to the amount of light striking the photodetector.

Note B :
These two waveforms are clearly different.The first is weathered diesel from the log itself while the second is the Reference Emitter (a blend of NAPLs) always taken before each log for calibration.

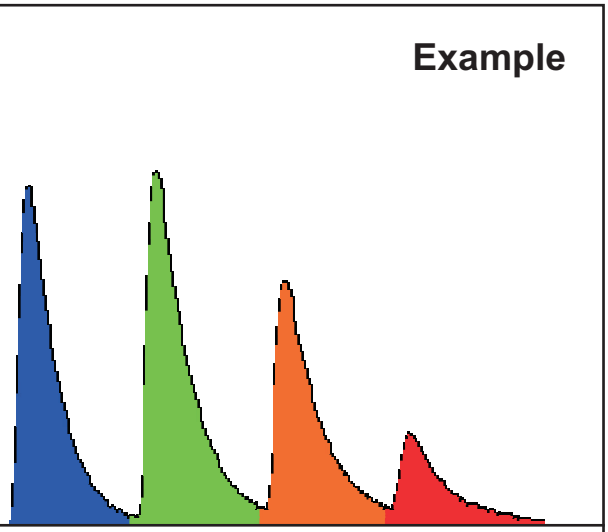
Note C :
Callouts can be a single depth (see 3rd callout) or a range (see 4th callout).The range is noted on the depth axis by a bold line. When the callout is a range, the average and standard deviation in %RE is given below the callout.

Waveform Signal Calculation



CH1		CH2		CH3		CH4		Total
4820	+	8108	+	6249	+	2984	=	**22161**
21.7		36.6		28.2		13.5		**100%**

Channel
Area (pVs)
Percent RE

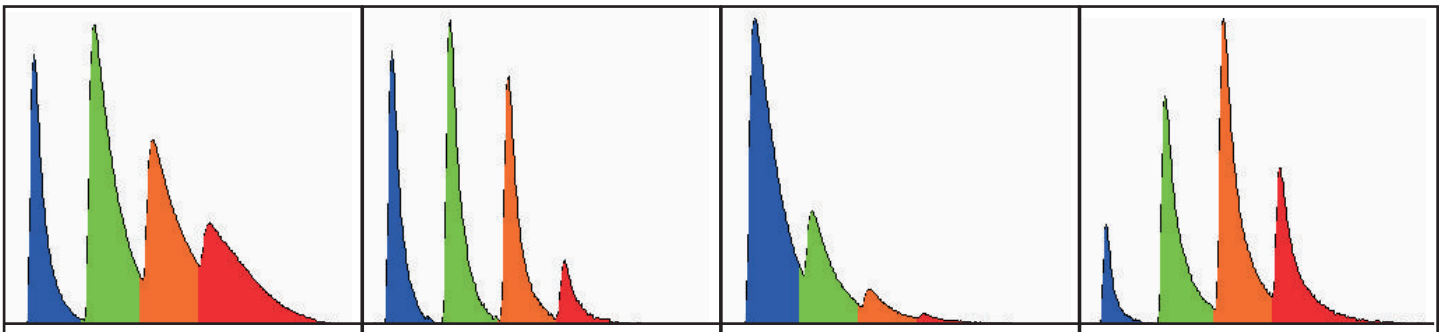


CH1		CH2		CH3		CH4		Total
4923	+	5743	+	4166	+	1735	=	**16587**
22.3		25.9		18.8		7.8		**75%**

Data Files

***.lif.raw.bin**	Raw data file. Header is ASCII format and contains information stored when the file was initially written (e.g. date, total depth, max signal, gps, etc., and any information entered by the operator). All raw waveforms are appended to the bottom of the file in a binary format.
***.lif.plt**	Stores the plot scheme history (e.g. callout depths) for associated Raw file. Transfer along with the Raw file in order to recall previous plots.
***.lif.jpg**	A jpg image of the OST log including the main signal vs. depth plot, callouts, information, etc.
***.lif.dat.txt**	Data export of a single Raw file. ASCII tab delimited format. No string header is provided for the columns (to make importing into other programs easier). Each row is a unique depth reading. The columns are: Depth, Total Signal (%RE), Ch1%, Ch2%, Ch3%, Ch4%, Rate, Conductivity Depth, Conductivity Signal. Summing channels 1 to 4 yields the Total Signal.
***.lif.sum.txt**	A summary file for a number of Raw files. ASCII tab delimited format. The file contains a string header. The summary includes one row for each Raw file and contains information for each file including: the file name, gps coordinates, max depth, max signal, and depth at which the max signal occured.
***.lif.log.txt**	An activity log generated automatically located in the OST application directory in the 'log' subfolder. Each OST unit the computer operates will generate a separate log file per month. A log file contains much of the header information contained within each separate Raw file, including: date, total depth, max signal, etc.

Common Waveforms (highly dependent on soil, weathering, etc.)



Diesel	Gas	Kerosene	Motor Oil

MATRIX ENVIRONMENTAL LLC

11253 91st Avenue North
Maple Grove, Minnesota
(763) 424-4803
fax (763) 424-9452

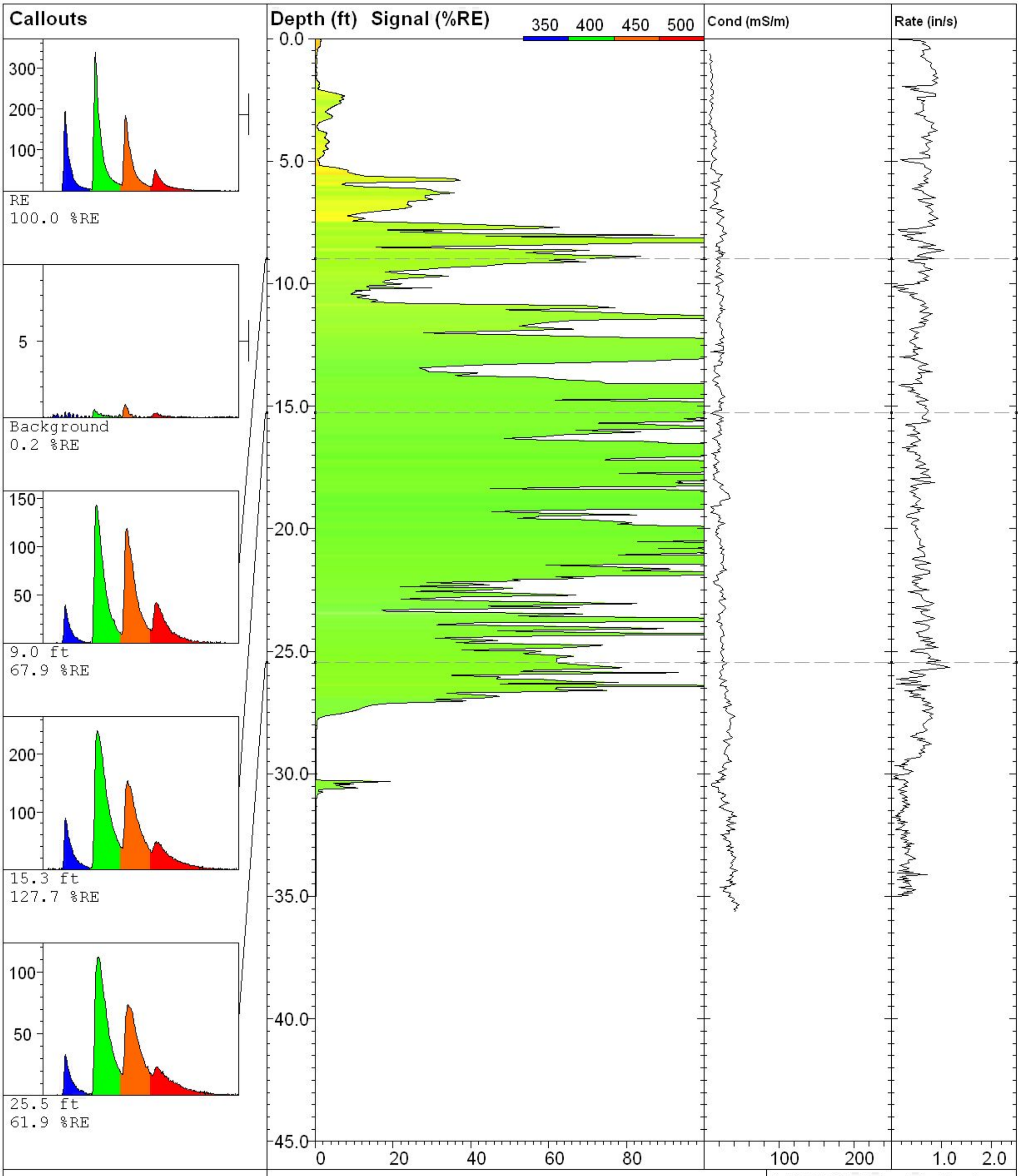
Client: Meridian Environmental Consulting, LLC.
Contact: Ken Shimko
Services: UVOST Logging

Date: 9/11 - 12/2012
Project: Doug's Tire
Project #: 101-MNDS-12UV
Address: Ladysmith, WI

UVOST Log Summary

File	Date/Time	Latitude	Longitude	Final Depth *(ft)*	Max Signal *(%RE)*	Max. Signal Depth *(ft)*	Initial RE Area *(pVs)*	Background Area *(pVs)*	Fluorescence Top - Bottom *(ft)*
LIF-01	9/11/2012 10:01	NA	NA	35.0	263	18.5	10185	22	2.1 - 27.8, 30.2 - 30.9
LIF-02	9/11/2012 10:48	NA	NA	38.0	428	26.1	10734	25	19.1 - 31.1, 32.3 - 33.7
LIF-03	9/11/2012 11:32	NA	NA	36.2	125	24.8	10785	27	20.7 - 31.6, 33.6 - 34.0
LIF-04	9/11/2012 12:55	NA	NA	34.0	62	26.3	10318	26	14.6 - 15.7, 25.6 - 27.6
LIF-05	9/11/2012 13:28	NA	NA	34.0	360	20.1	10738	16	2.5 - 27.0
LIF-06	9/11/2012 14:10	NA	NA	34.7	314	25.8	10532	25	20.8 - 32.6
LIF-07	9/11/2012 14:49	NA	NA	32.0	69	15.2	10679	21	5.0 - 24.9
LIF-08	9/11/2012 15:26	NA	NA	34.1	18	26.4	10686	19	14.9 - 19.5, 21.3 - 30.4
LIF-09	9/11/2012 16:35	NA	NA	34.0	150	25.5	10197	26	21.8 - 28.3
LIF-10	9/11/2012 17:08	NA	NA	34.1	4	0.3	10659	26	22.3 - 24.2, 26.7 - 27.6
LIF-11	9/11/2012 17:37	NA	NA	34.1	147	25.0	10120	23	22.9 - 28.4
LIF-12	9/11/2012 18:07	NA	NA	34.0	6	26.8	10979	24	25.9 - 28.1
LIF-13	9/11/2012 18:56	NA	NA	34.3	72	24.7	10562	27	7.6 - 12.1, 21.4 - 27.9
LIF-14	9/12/2012 9:01	NA	NA	34.0	129	23.9	10675	16	21.3 - 28.4
LIF-15	9/12/2012 9:42	NA	NA	34.1	89	10.8	10687	26	5.0 - 26.4
LIF-16	9/12/2012 10:16	NA	NA	24.9	70	8.2	10726	14	5.0 - 13.2, 20.6 - 24.9
LIF-17	9/12/2012 11:12	NA	NA	30.0	25	23.4	10559	28	20.9 - 26.3
LIF-18	9/12/2012 11:42	NA	NA	30.2	6	20.2	10694	32	18.1 - 21.1
LIF-19	9/12/2012 12:57	NA	NA	42.0	70	29.1	10844	44	26.4 - 37.2
LIF-20	9/12/2012 14:14	NA	NA	35.0	17	25.9	10660	0	23.2 - 29.4
LIF-21	9/12/2012 14:43	NA	NA	34.1	4	10.9	11101	4	5.0 - 16.9 *see log
LIF-22	9/12/2012 15:13	NA	NA	34.0	5	3.9	10628	6	5.0 - 10.8 *see log
LIF-23	9/12/2012 15:43	NA	NA	36.6	265	27.1	10487	8	22.8 - 32.1
LIF-24	9/12/2012 16:21	NA	NA	18.5	2	0.0	10562	6	NA
LIF-25	9/12/2012 16:45	NA	NA	13.4	0	0.1	10399	8	NA
LIF-26	9/12/2012 17:12	NA	NA	34.2	2	0.3	11137	22	NA

UVOST LOGS
@ 100% RE



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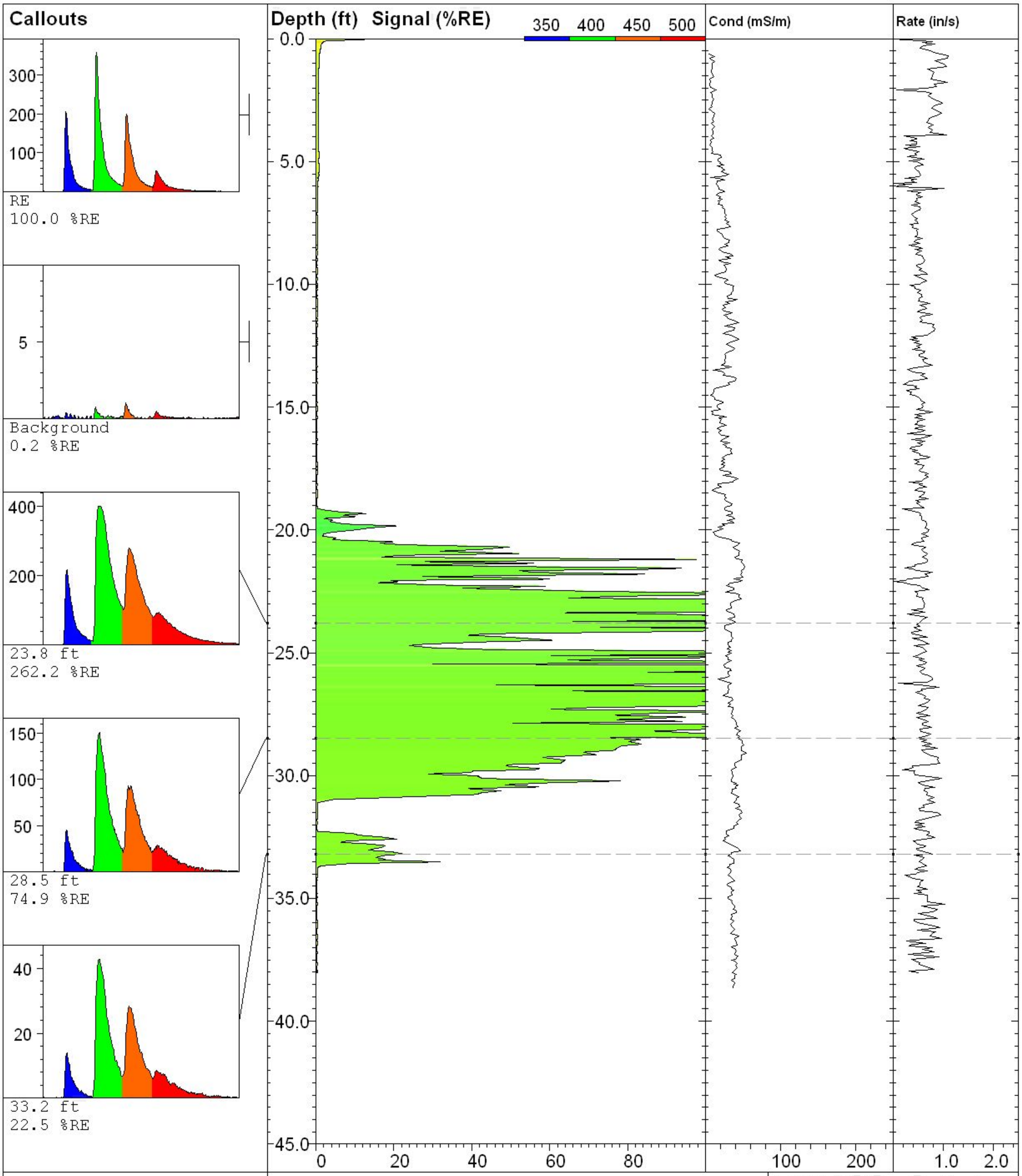
LIF-01

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **35.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **262.6 % @ 18.55 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:01 CDT**



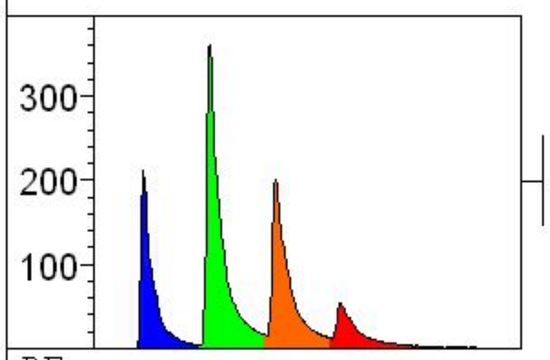
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-02

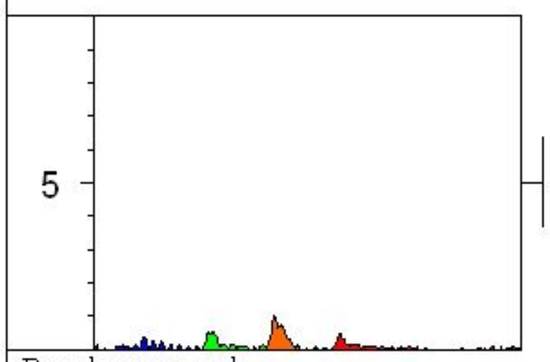
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **38.01 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **428.4 % @ 26.11 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:48 CDT**

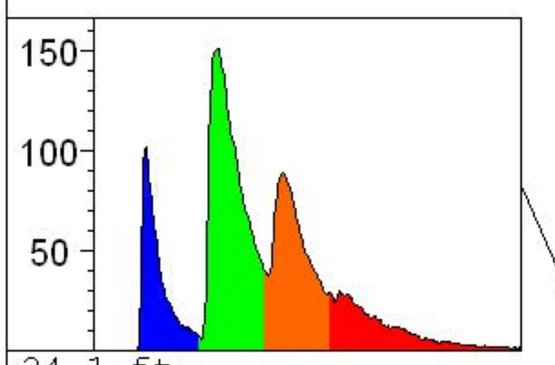
Callouts



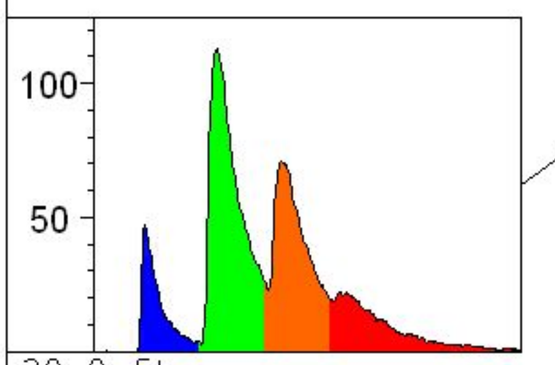
RE
100.0 %RE



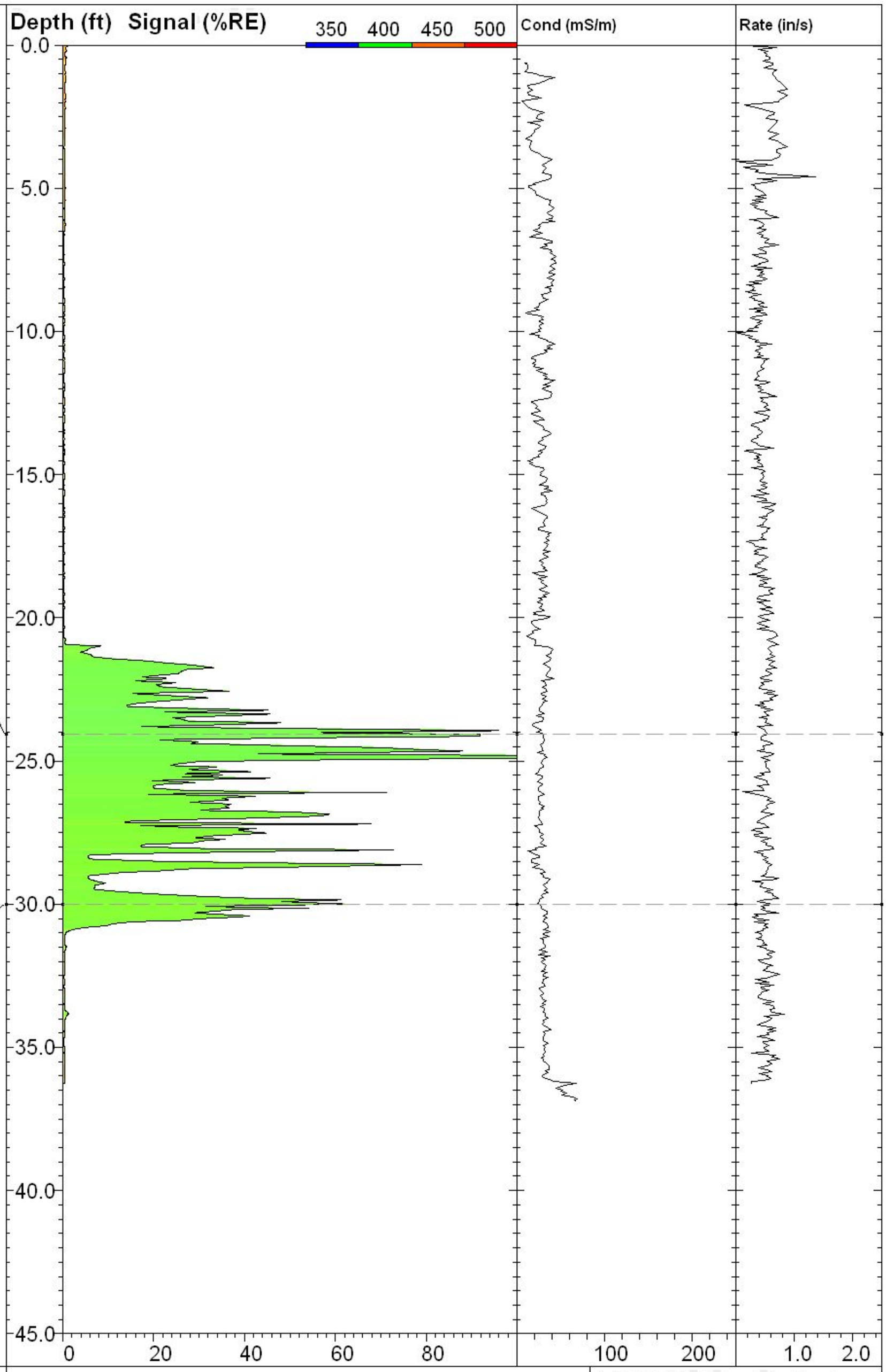
Background
0.3 %RE



24.1 ft
91.9 %RE



30.0 ft
63.4 %RE



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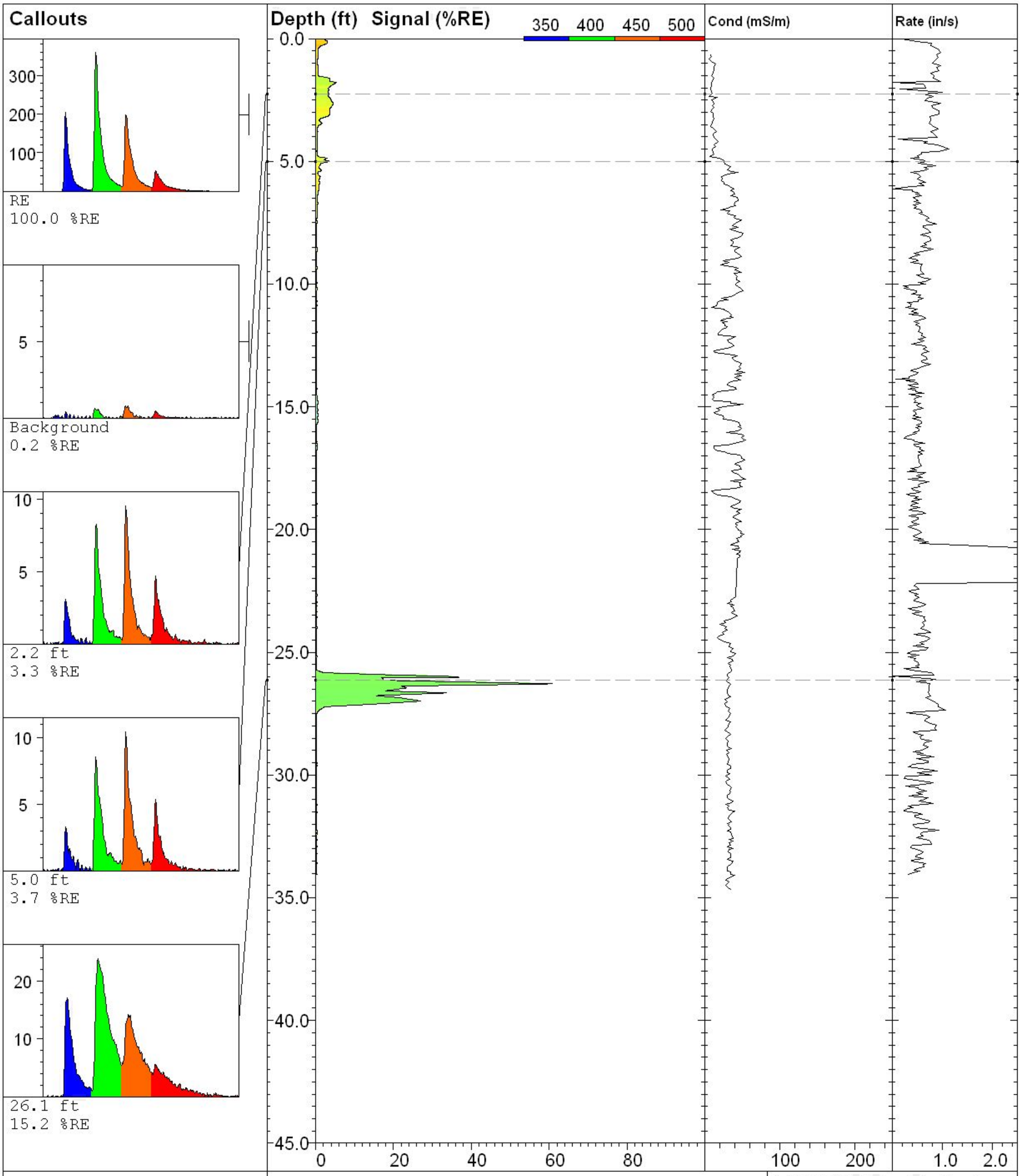
LIF-03

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.25 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **125.1 % @ 24.82 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 11:32 CDT**



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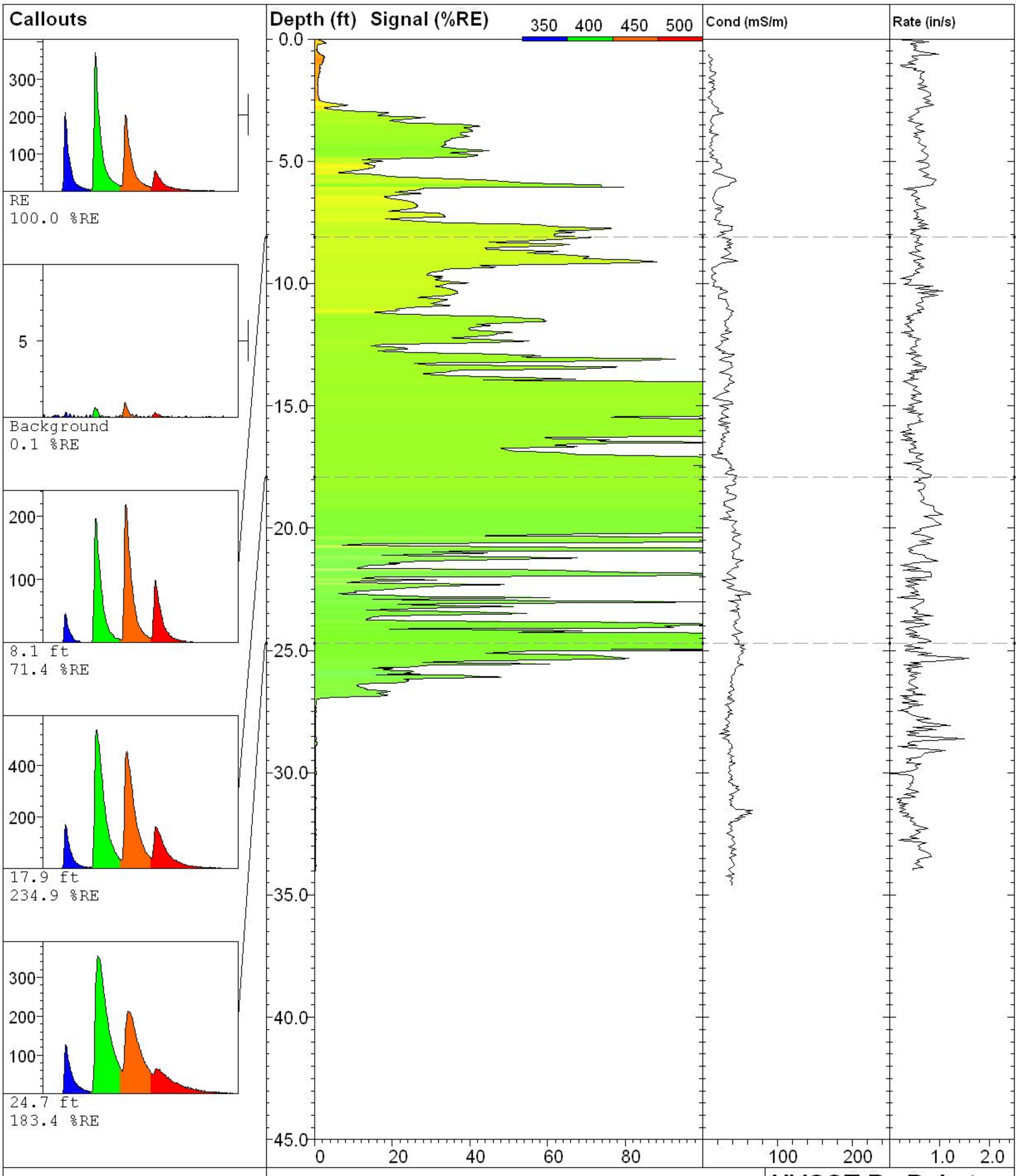
LIF-04

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.04 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **61.6 % @ 26.28 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 12:55 CDT**



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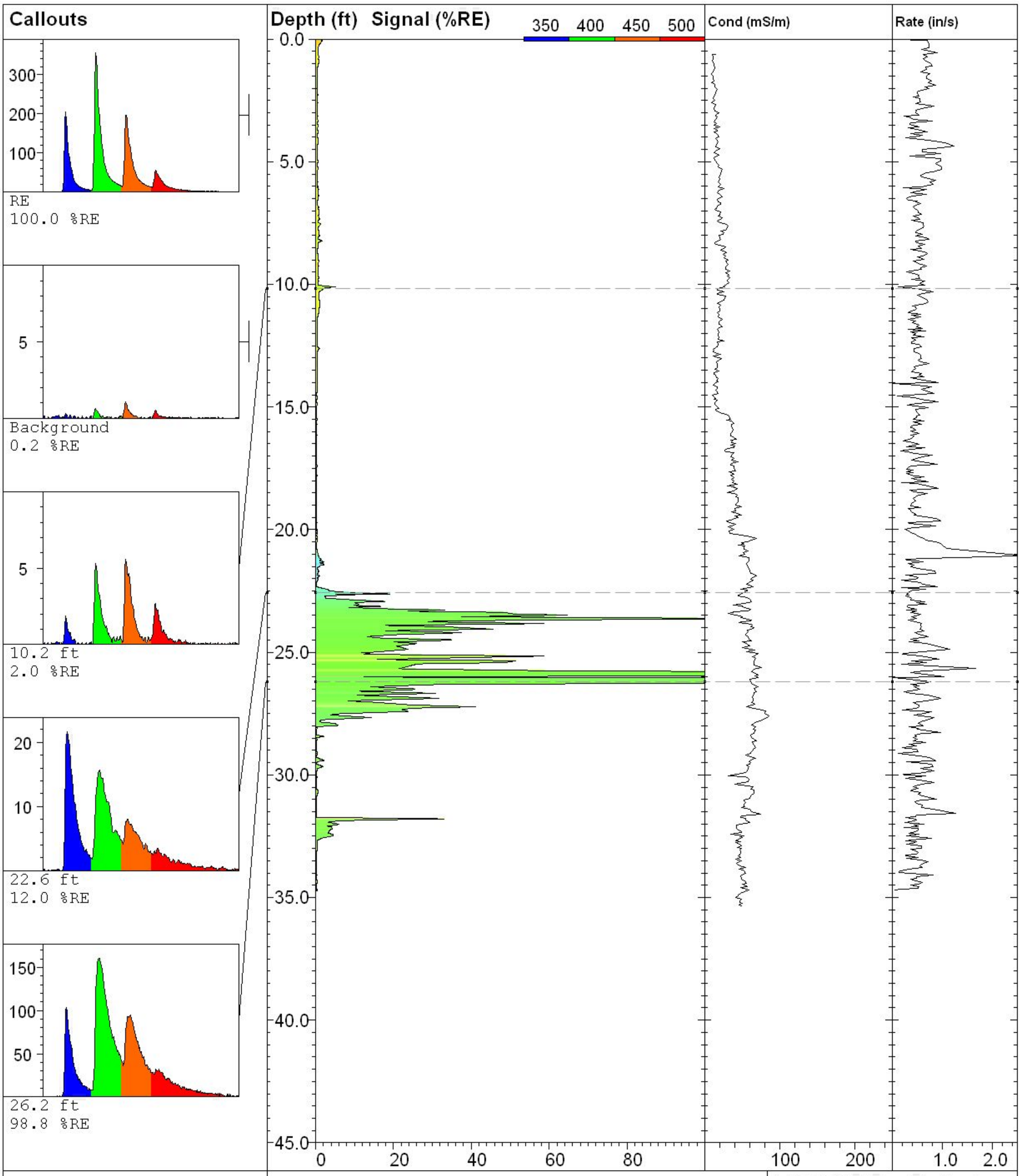
LIF-05

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **360.4 % @ 20.09 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 13:28 CDT**



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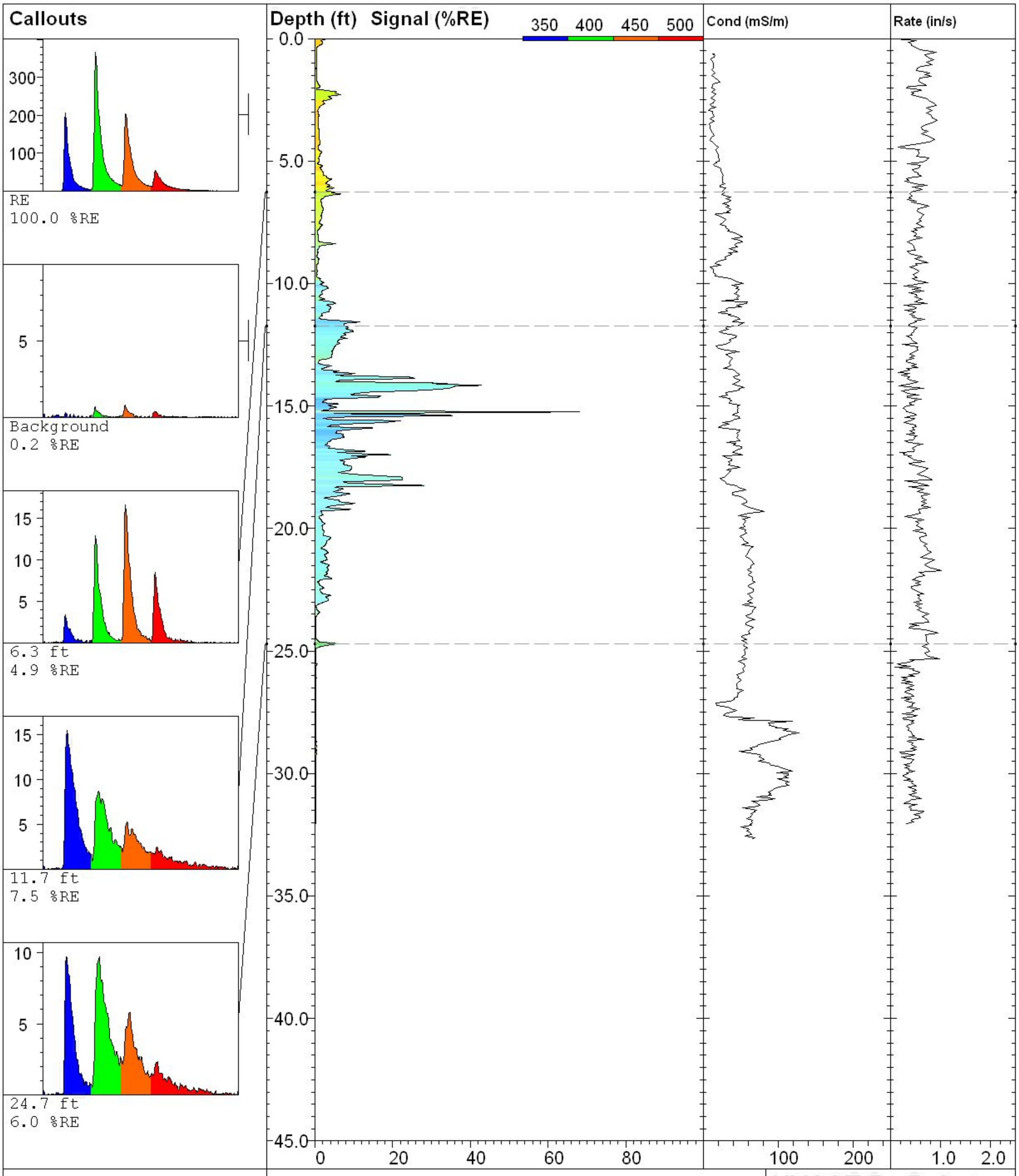
LIF-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.72 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **313.8 % @ 25.84 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 14:10 CDT**



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LIF-07

UVOST By Dakota
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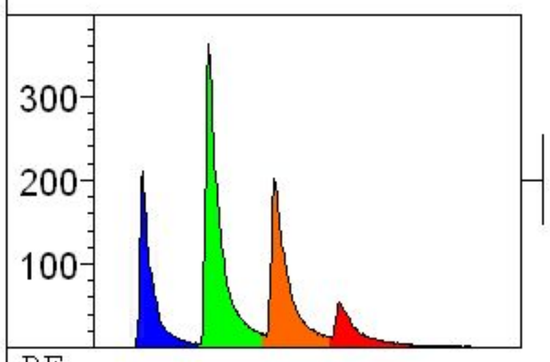
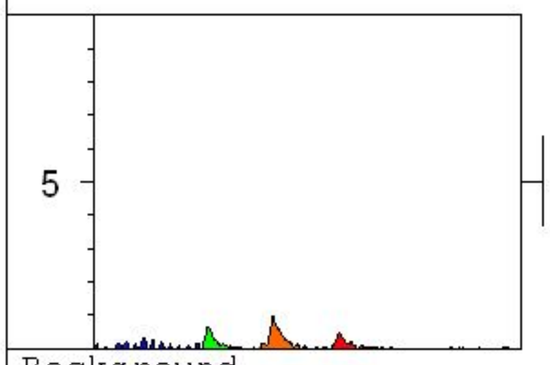
Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **32.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **68.5 % @ 15.24 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 14:49 CDT**

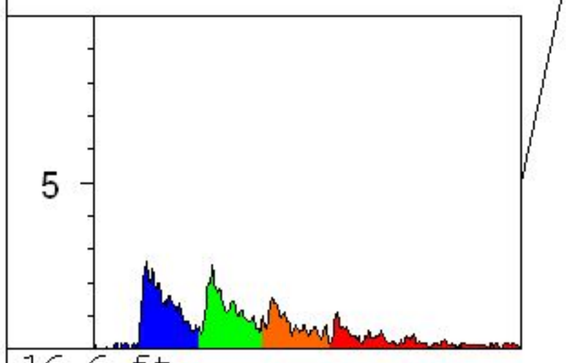
Callouts



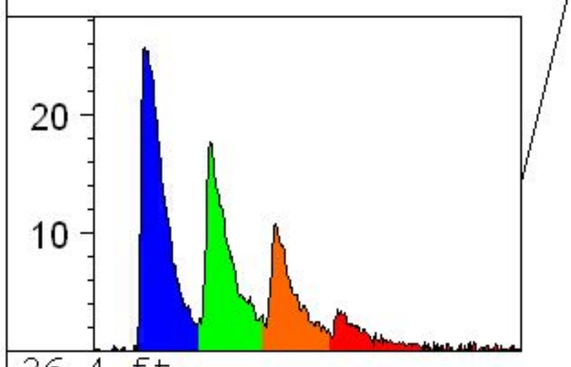
RE
100.0 %RE



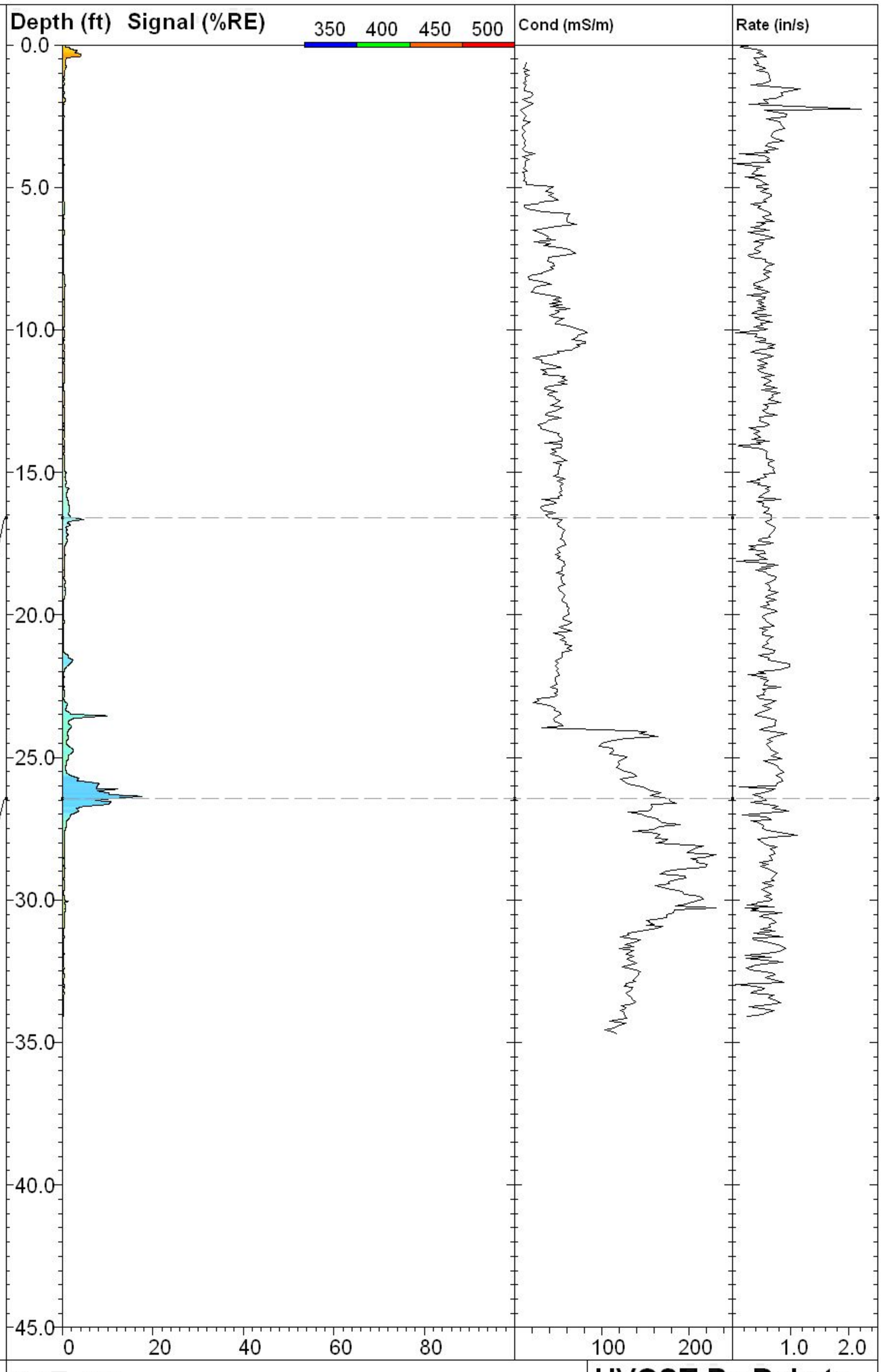
Background
0.2 %RE



16.6 ft
1.8 %RE



26.4 ft
11.6 %RE



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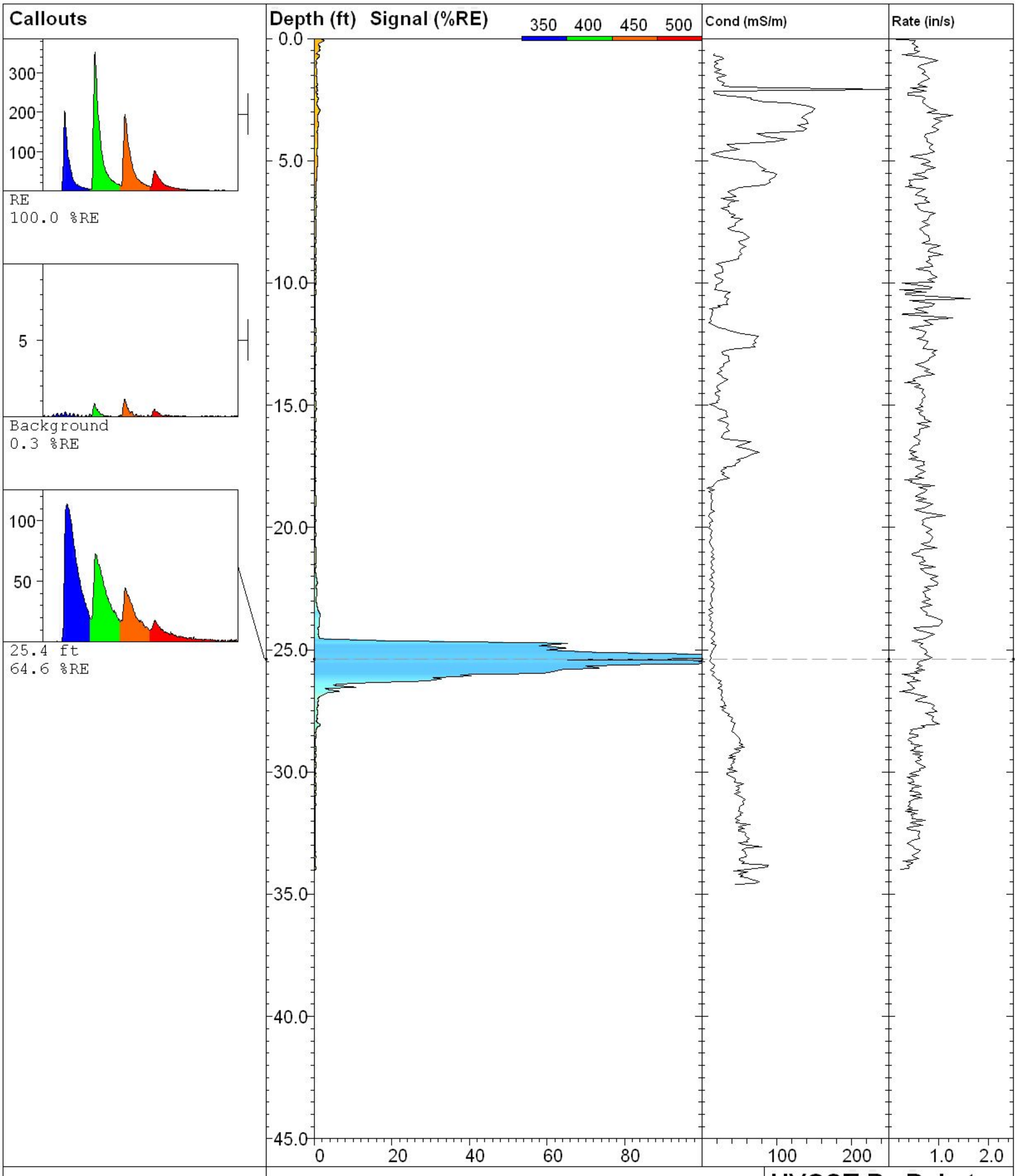
www.matrixenv.com

LIF-08

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.09 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **17.7 % @ 26.37 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 15:26 CDT**



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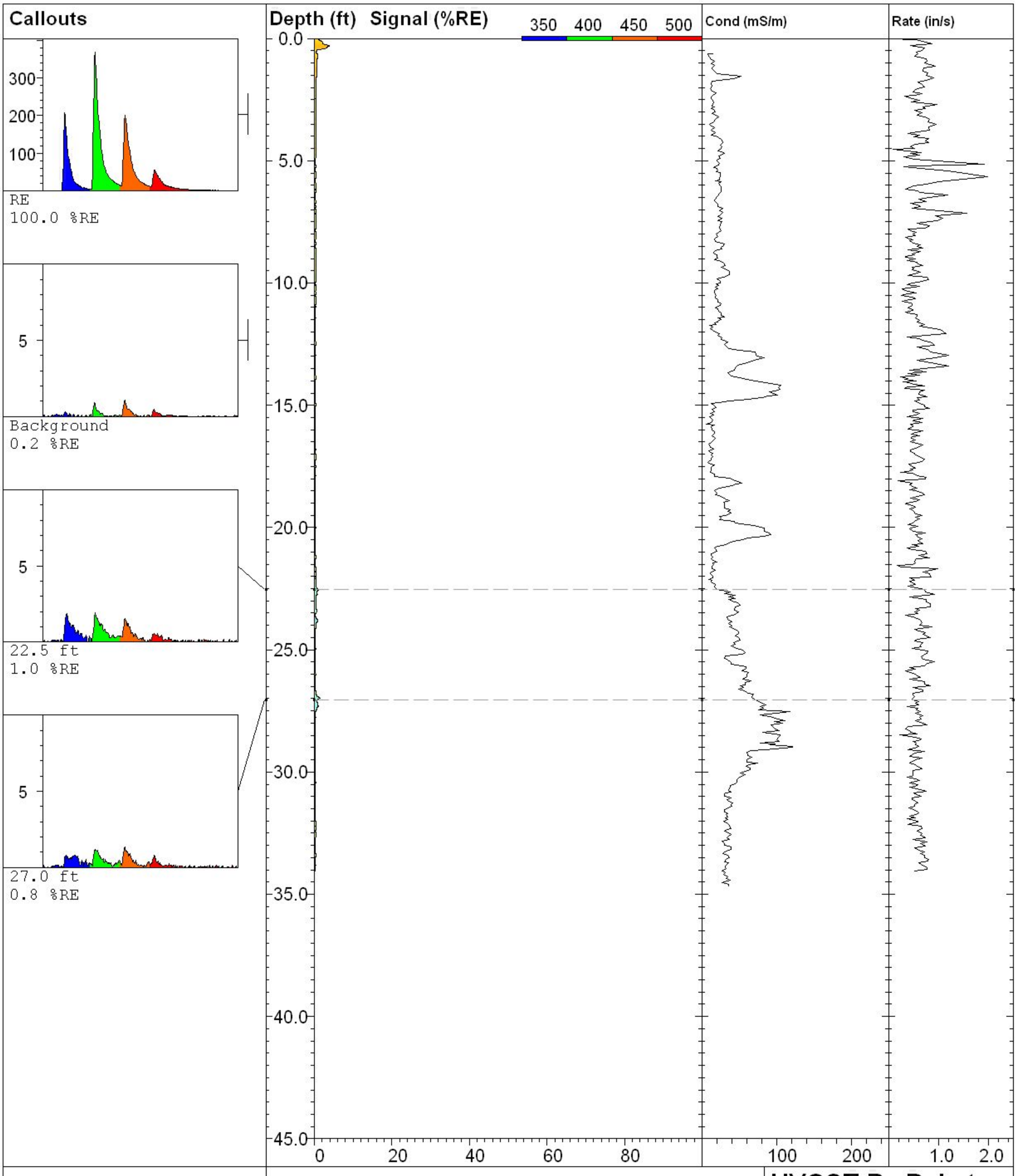
www.matrixenv.com

LIF-09

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.01 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **150.2 % @ 25.48 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 16:35 CDT**



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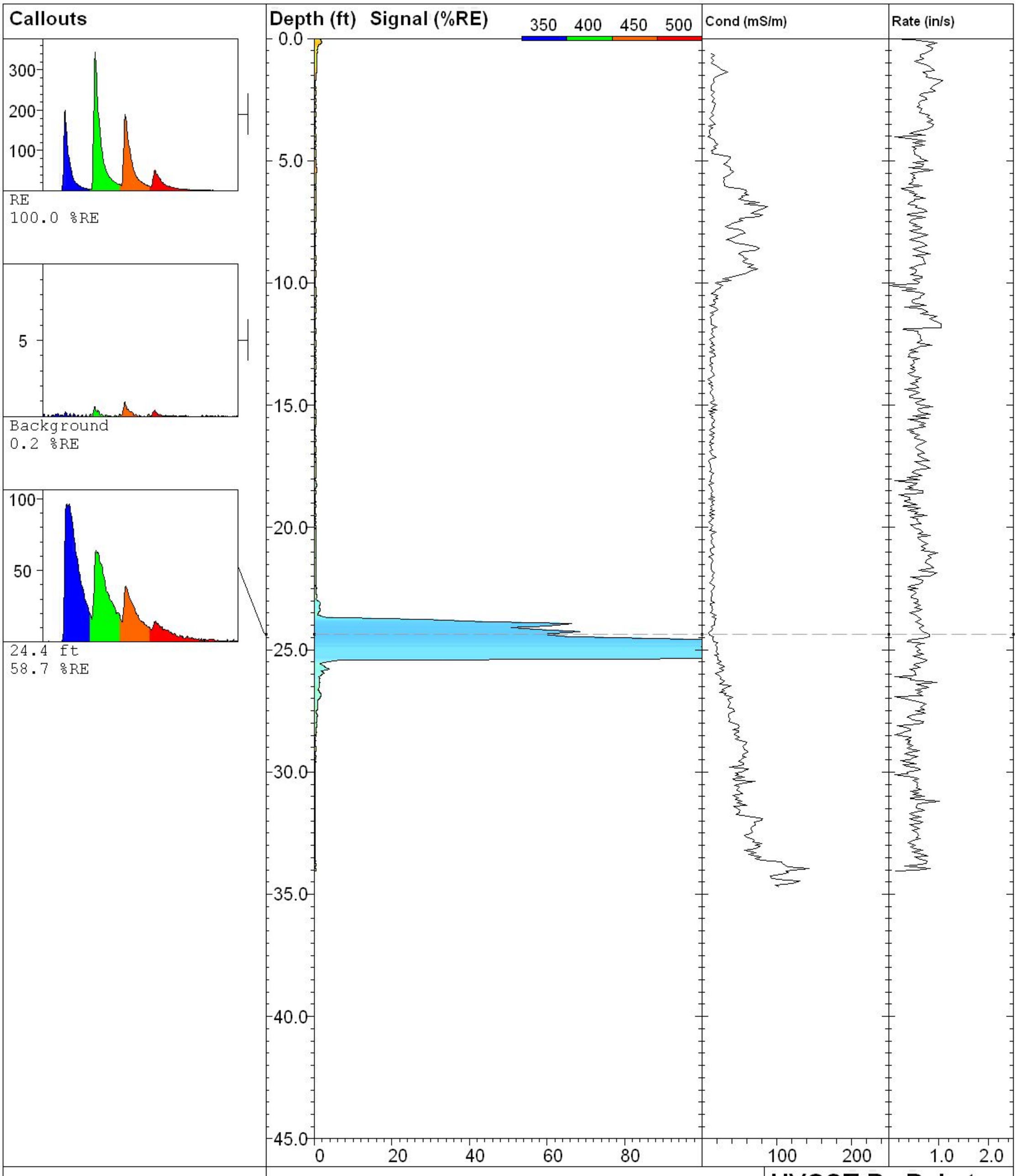
www.matrixenv.com

LIF-10

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **3.9 % @ 0.29 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 17:08 CDT**

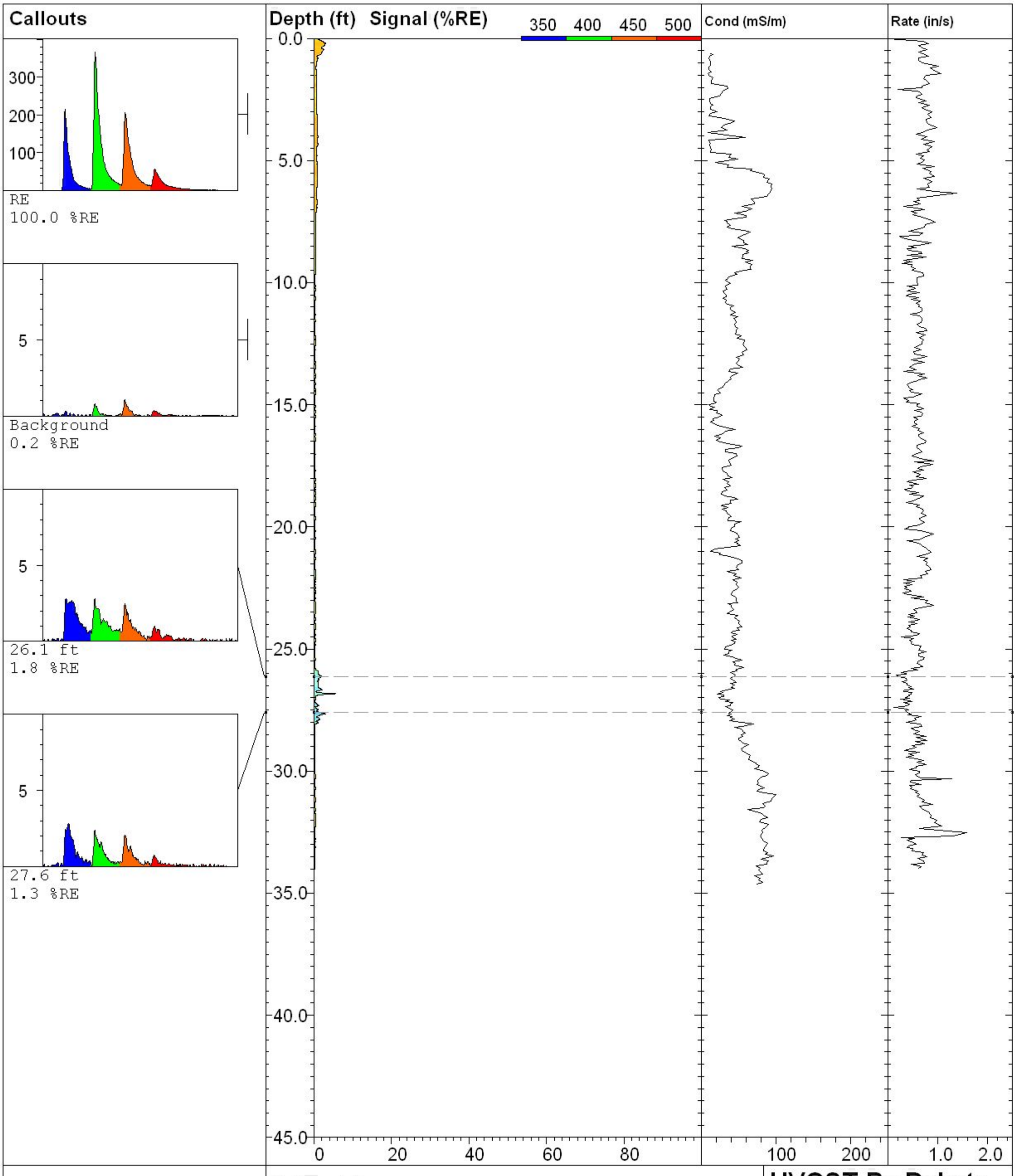


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-11

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.06 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **147.0 % @ 25.00 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 17:37 CDT**

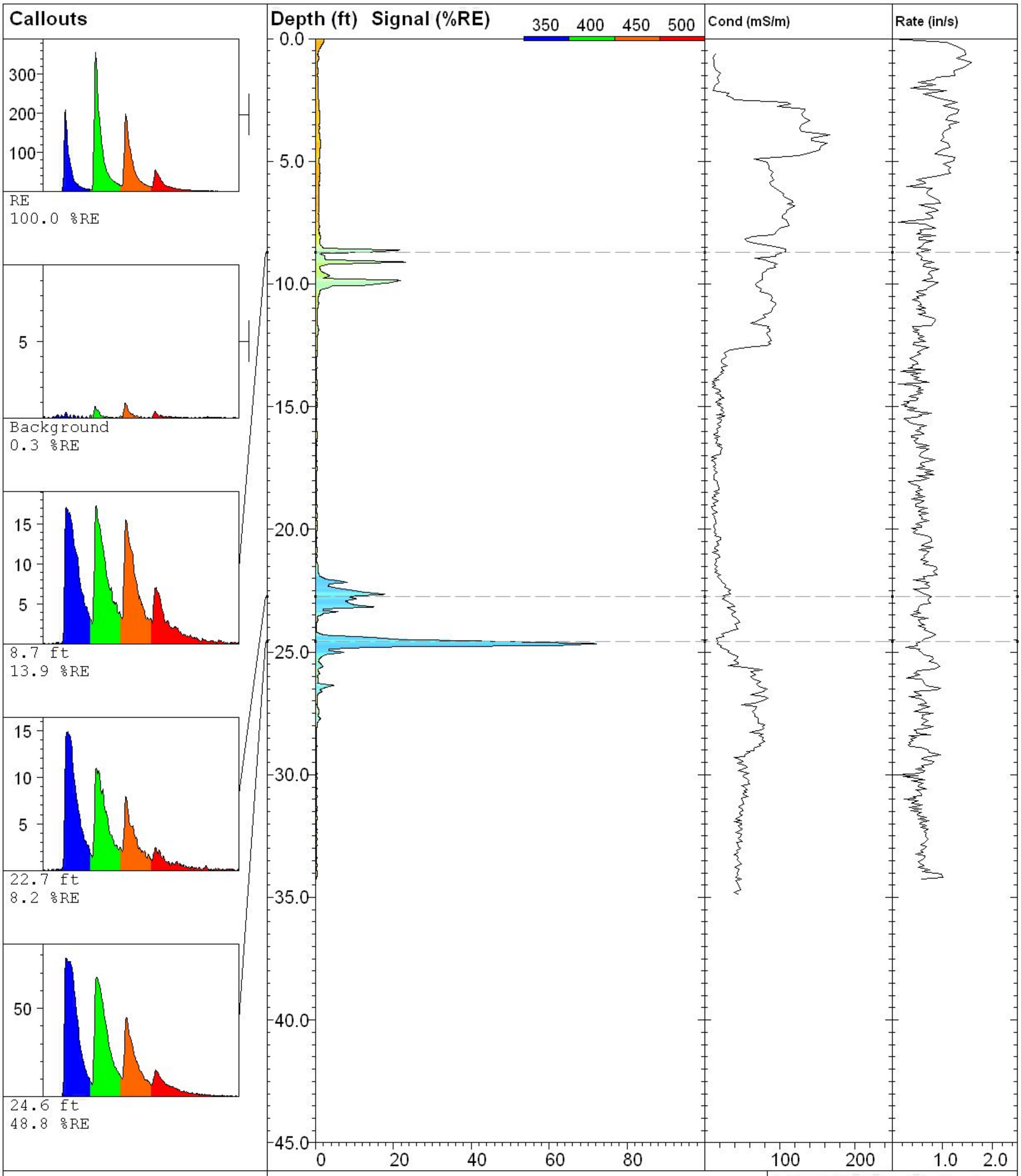


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-12

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.02 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.8 % @ 26.83 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 18:07 CDT**

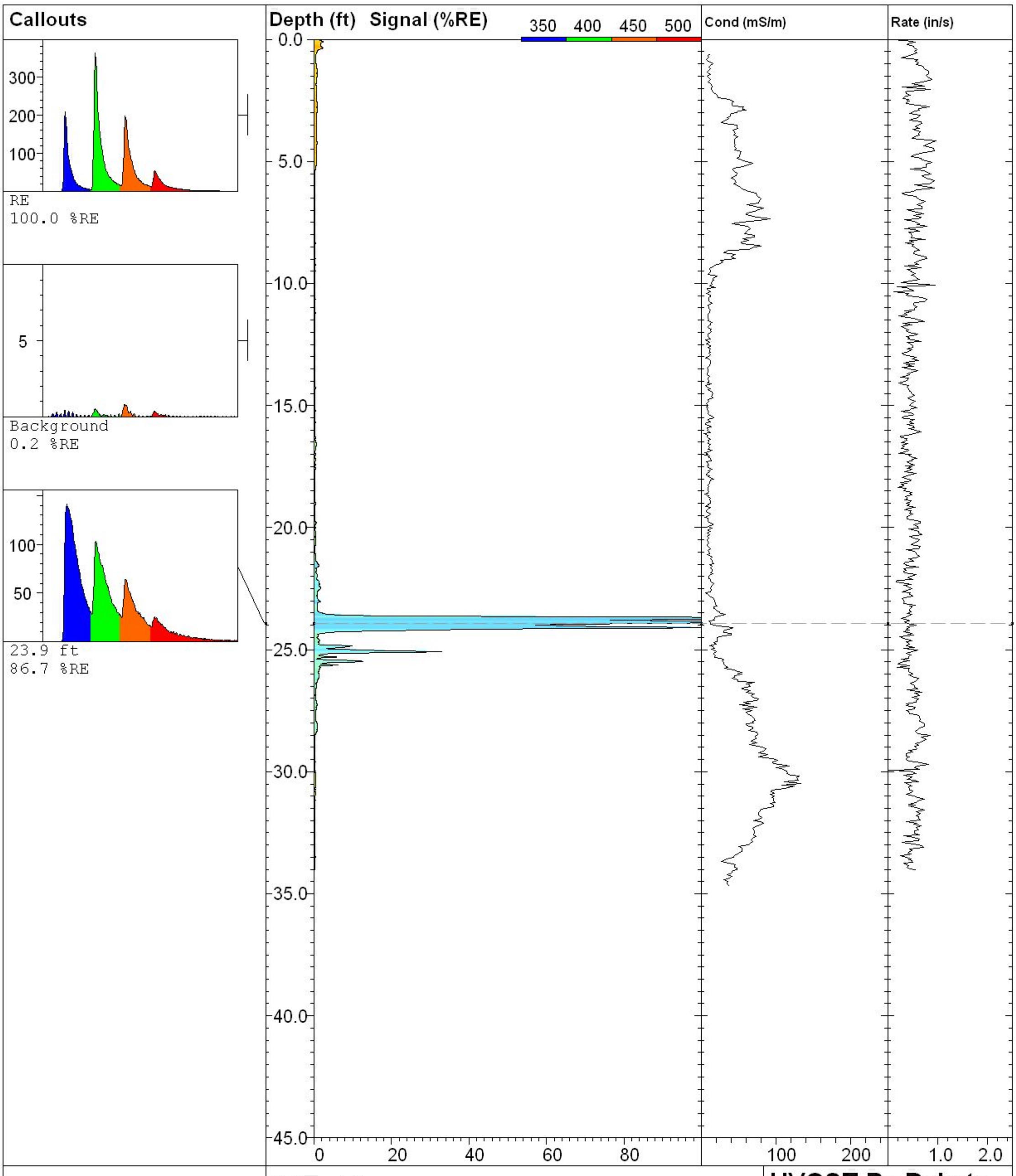


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-13

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.26 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **72.3 % @ 24.66 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 18:56 CDT**

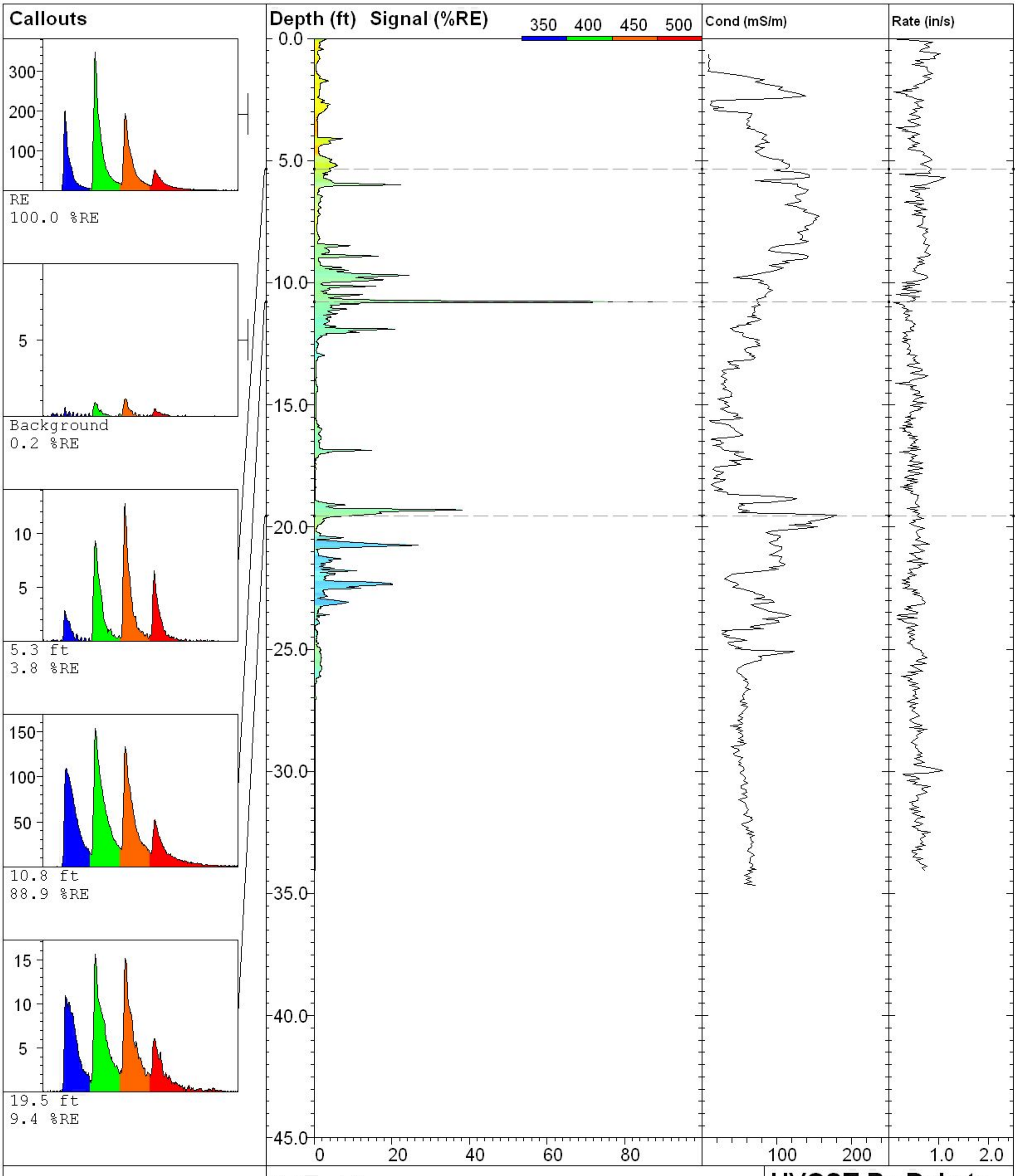


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-14

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **129.0 % @ 23.87 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 09:01 CDT**

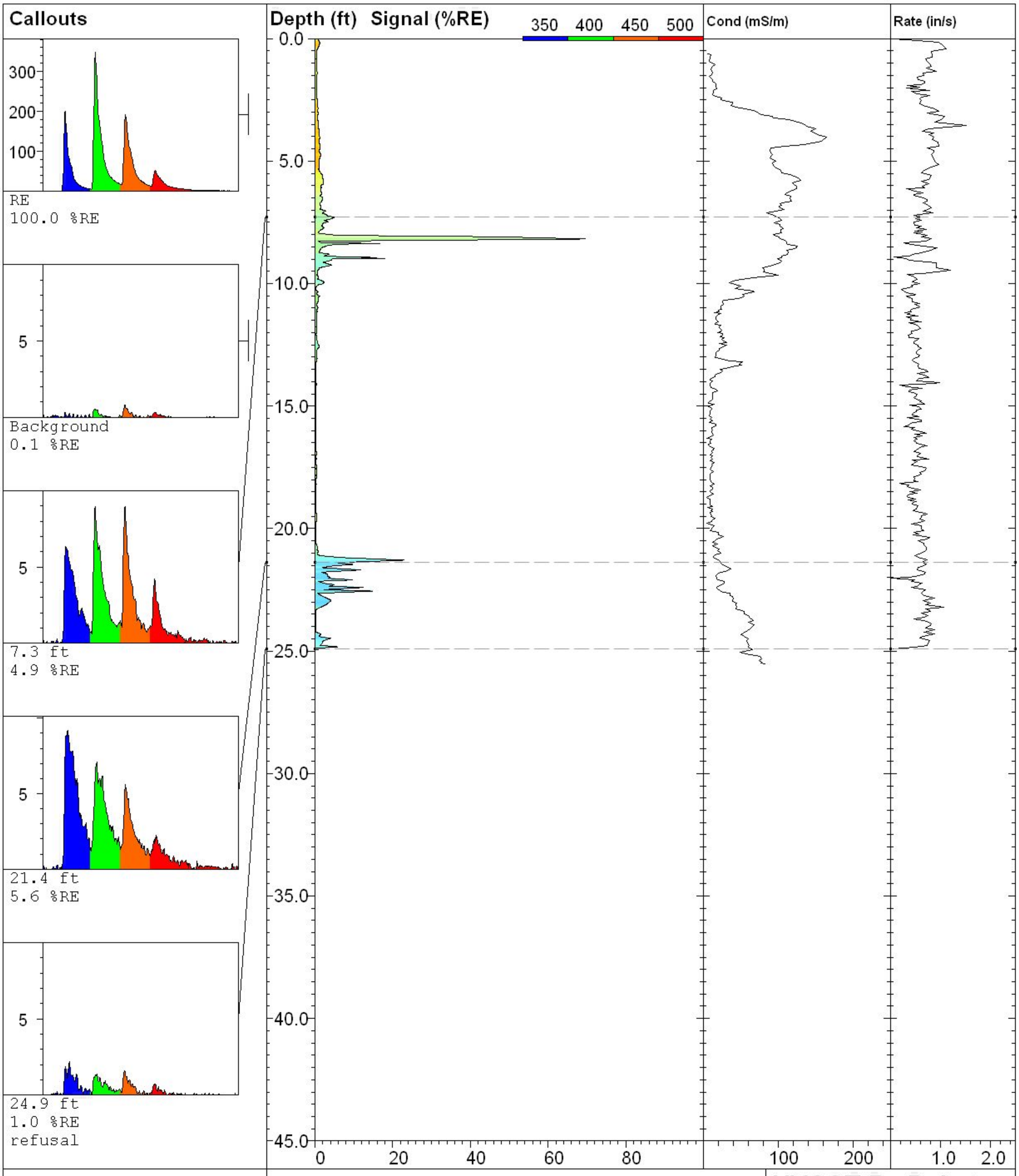


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-15

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **88.9 % @ 10.79 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 09:42 CDT**



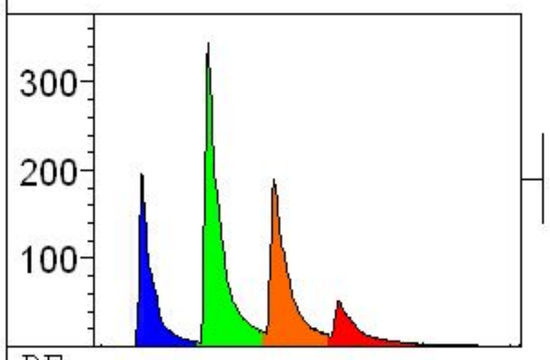
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-16

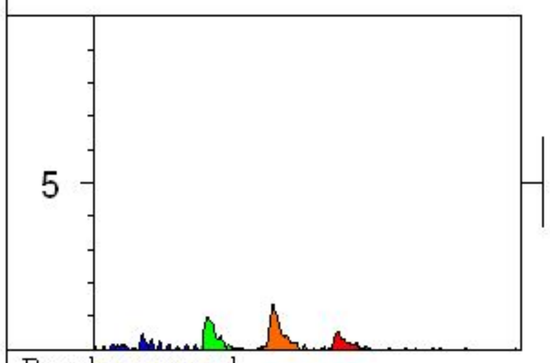
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **24.93 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **70.1 % @ 8.18 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 10:16 CDT**

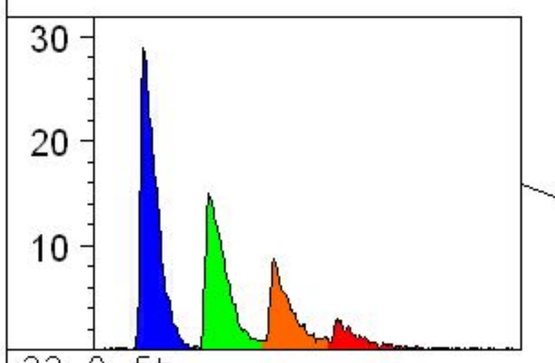
Callouts



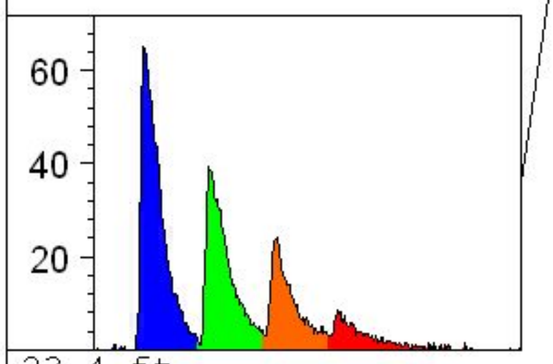
RE
100.0 %RE



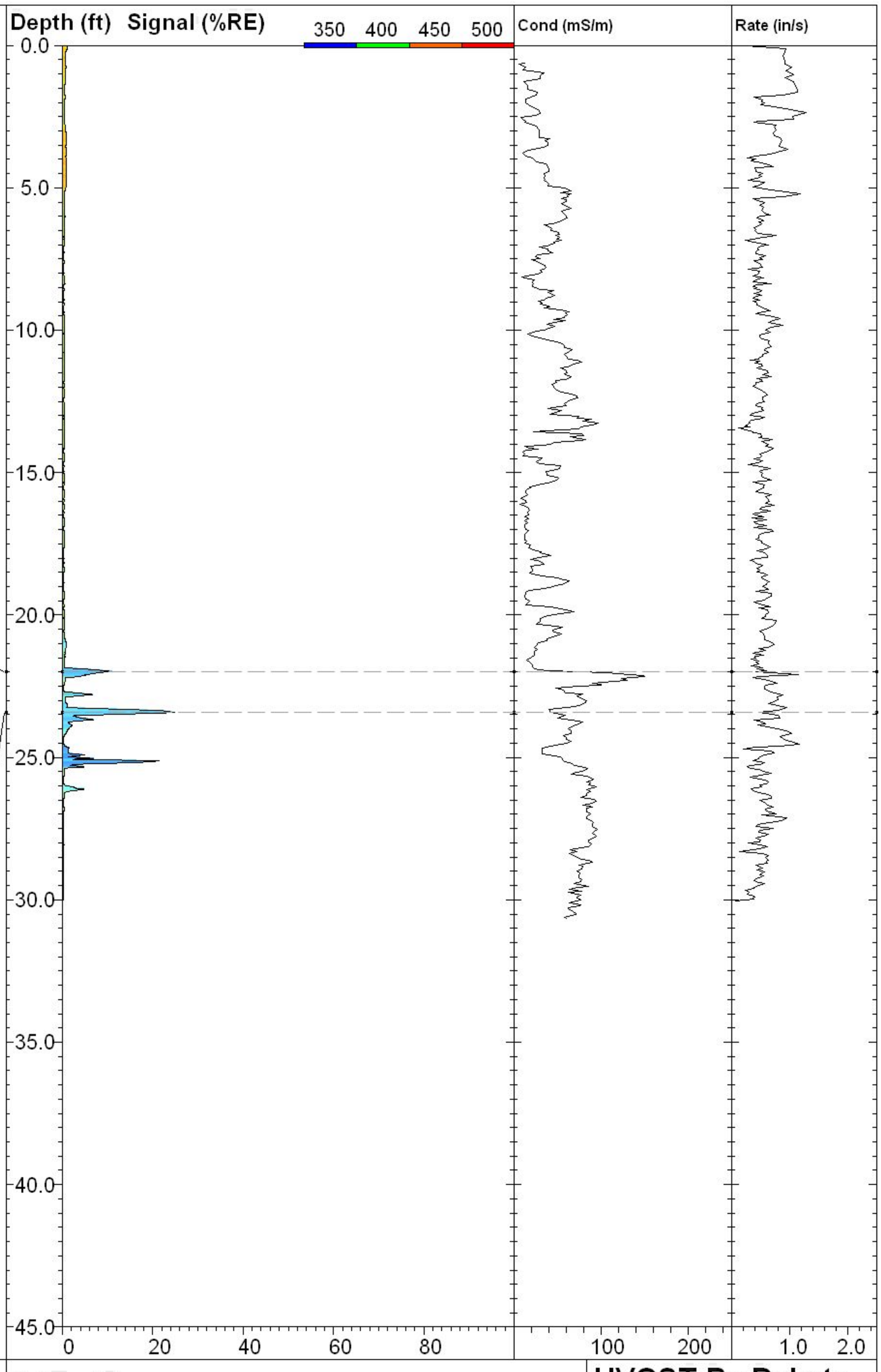
Background
0.3 %RE



22.0 ft
8.6 %RE



23.4 ft
24.8 %RE

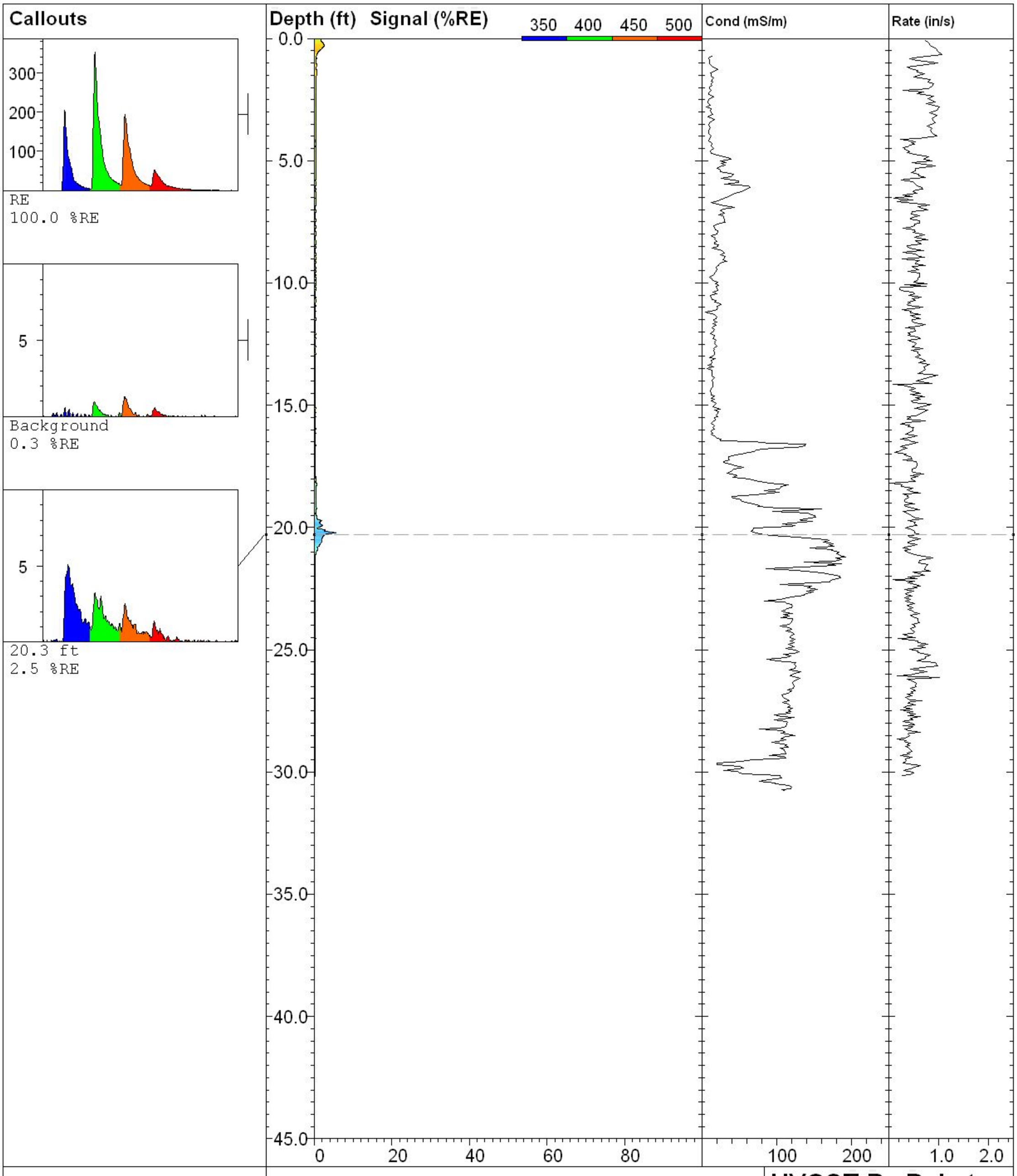


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

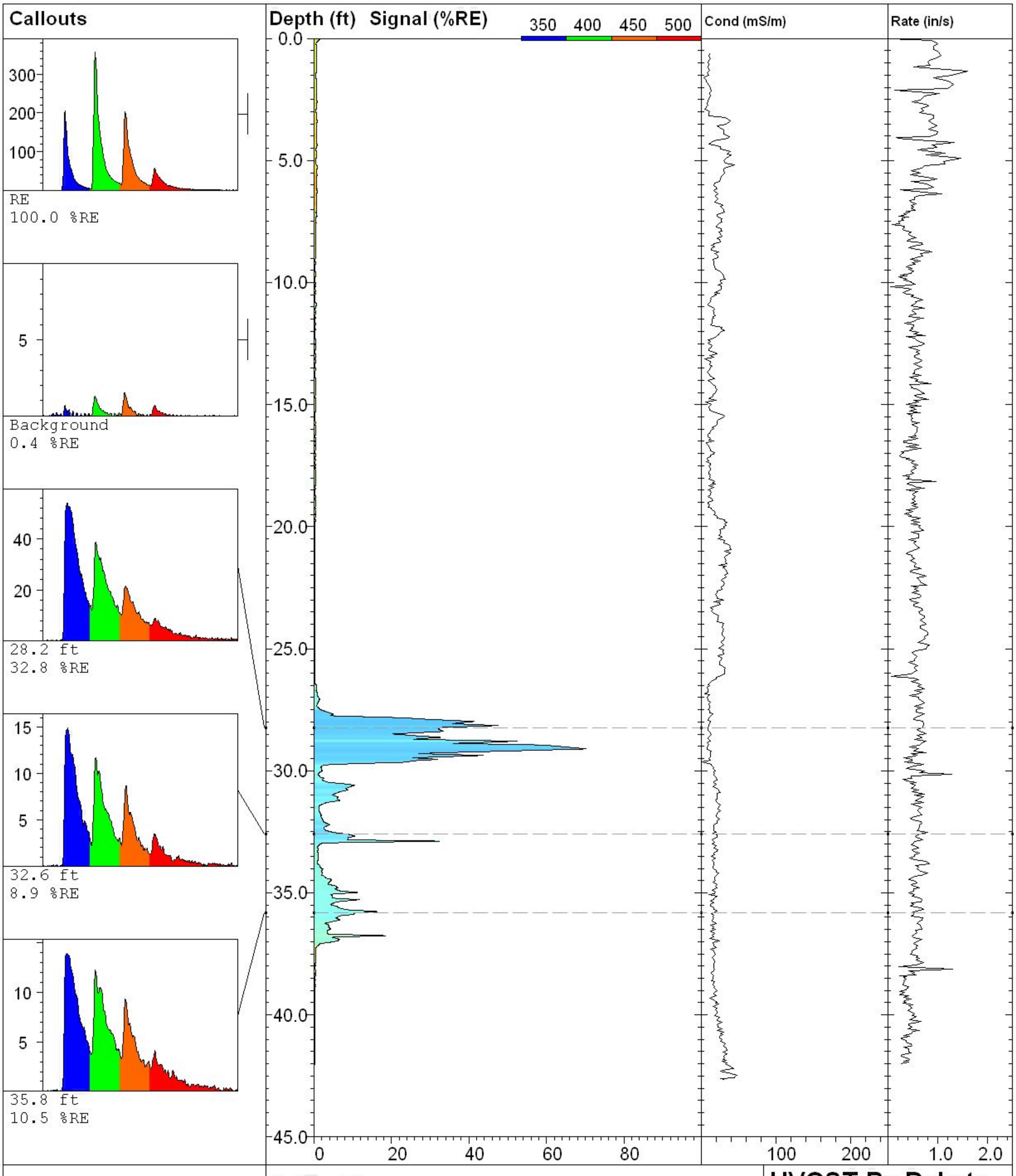
LIF-17

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **30.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **24.8 % @ 23.42 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 11:12 CDT**



MATRIX ENVIRONMENTAL LLC www.matrixenv.com	**LIF-18**		**UVOST By Dakota** www.DakotaTechnologies.com
	Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **30.17 ft**
	Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.6 % @ 20.22 ft**
	Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 11:42 CDT**

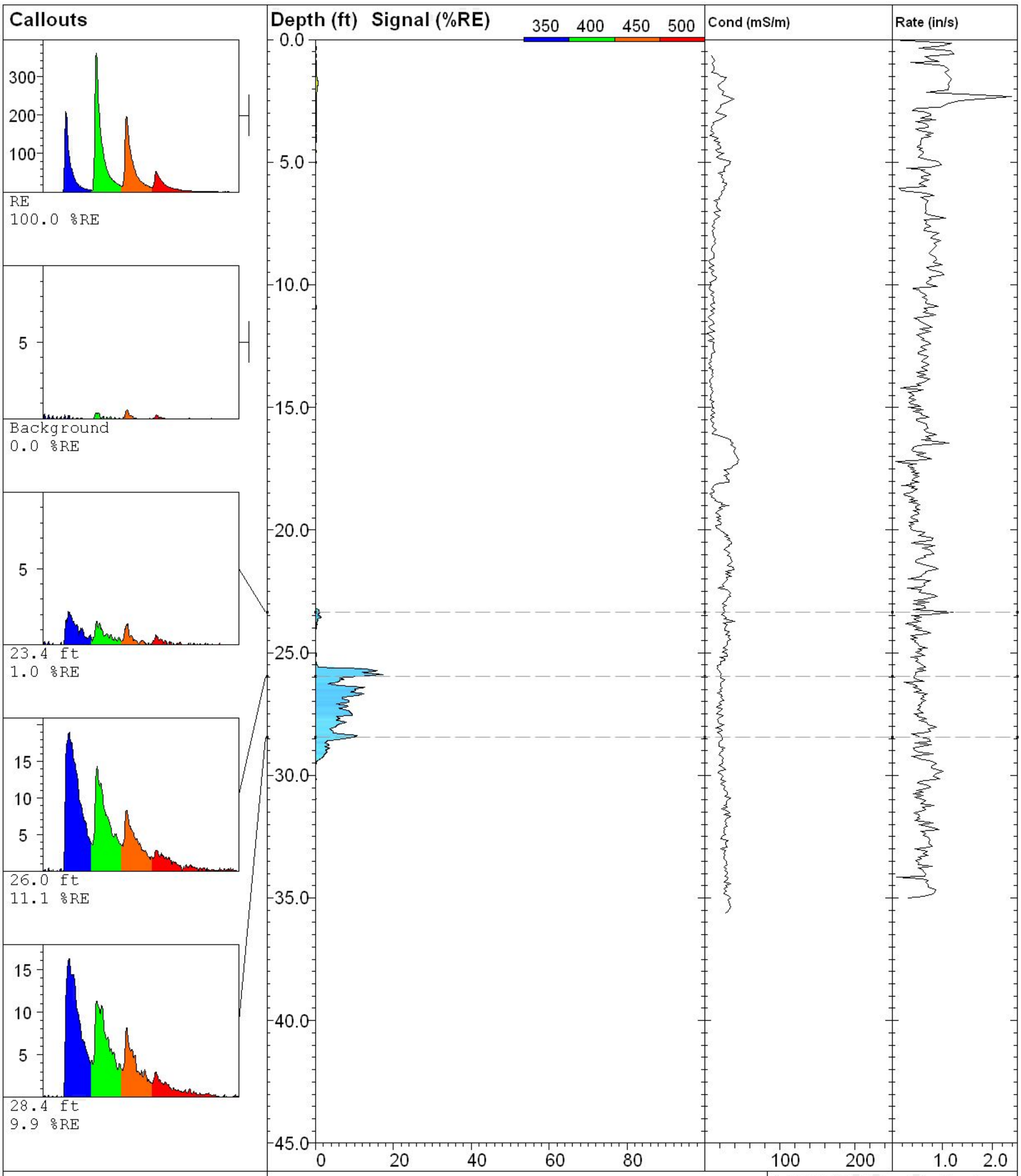


LIF-19

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **42.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **70.3 % @ 29.10 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 12:57 CDT**

MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

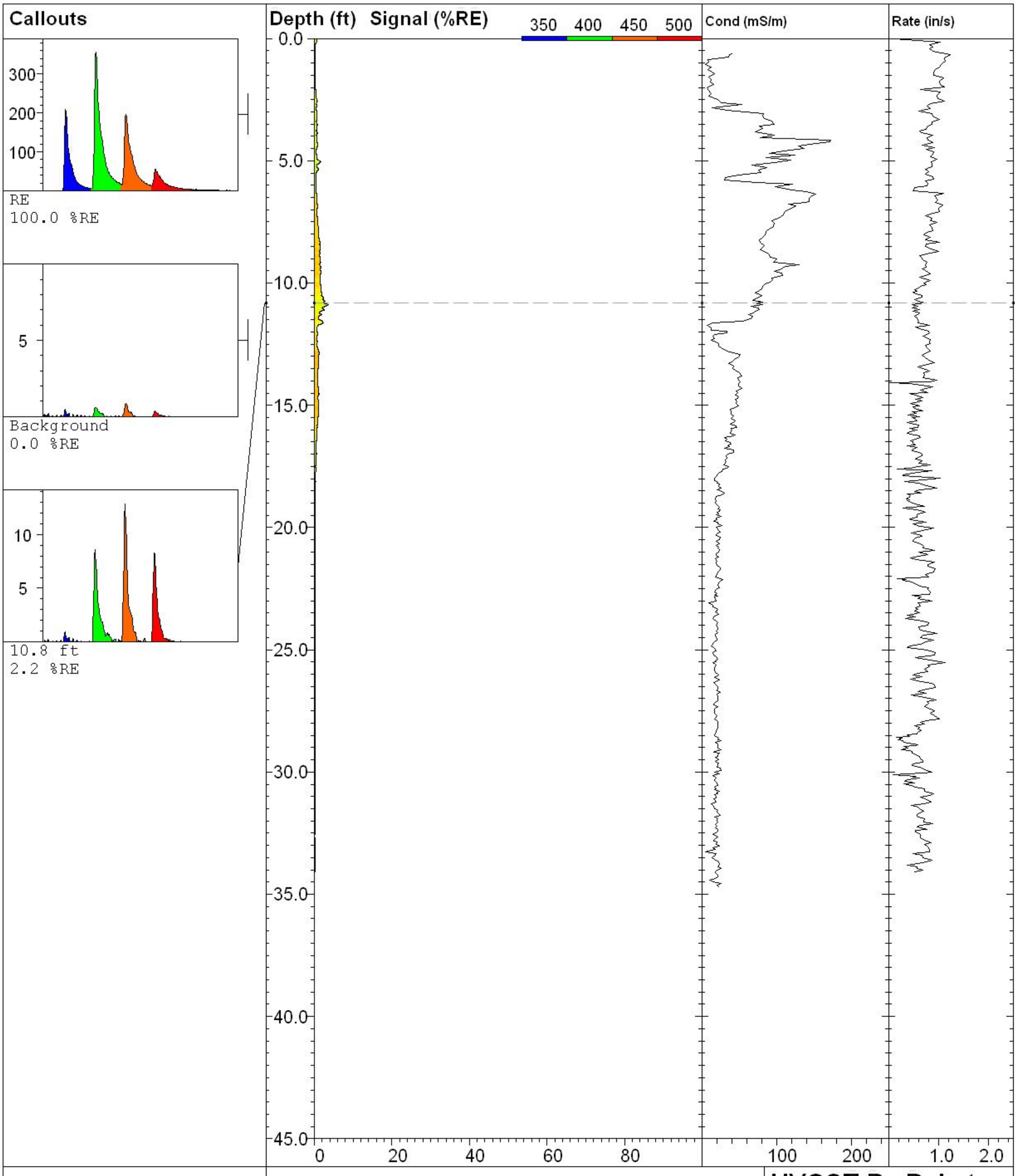


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-20

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **35.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **17.3 % @ 25.89 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 14:14 CDT**

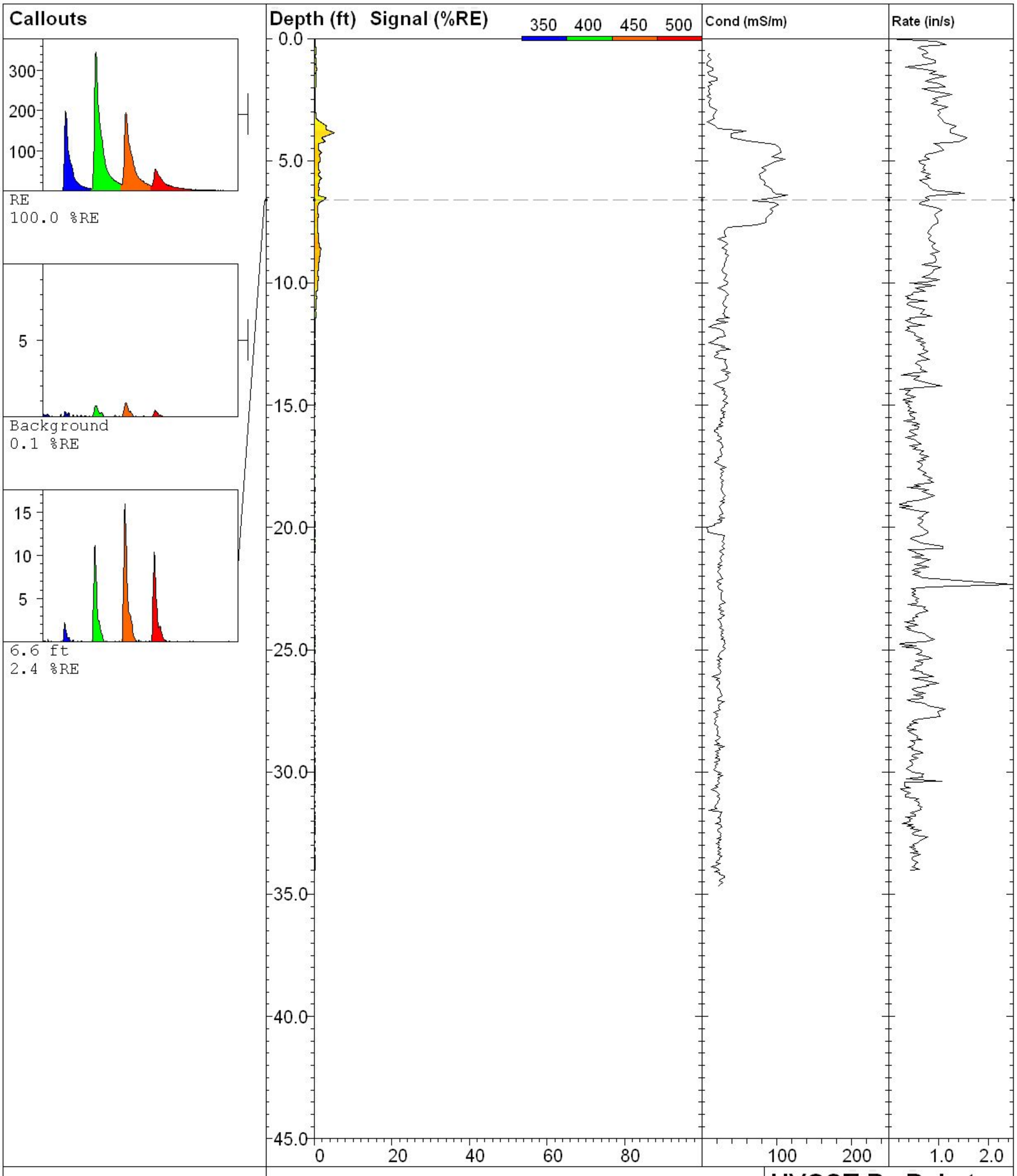


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-21

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.07 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **3.7 % @ 10.88 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 14:43 CDT**

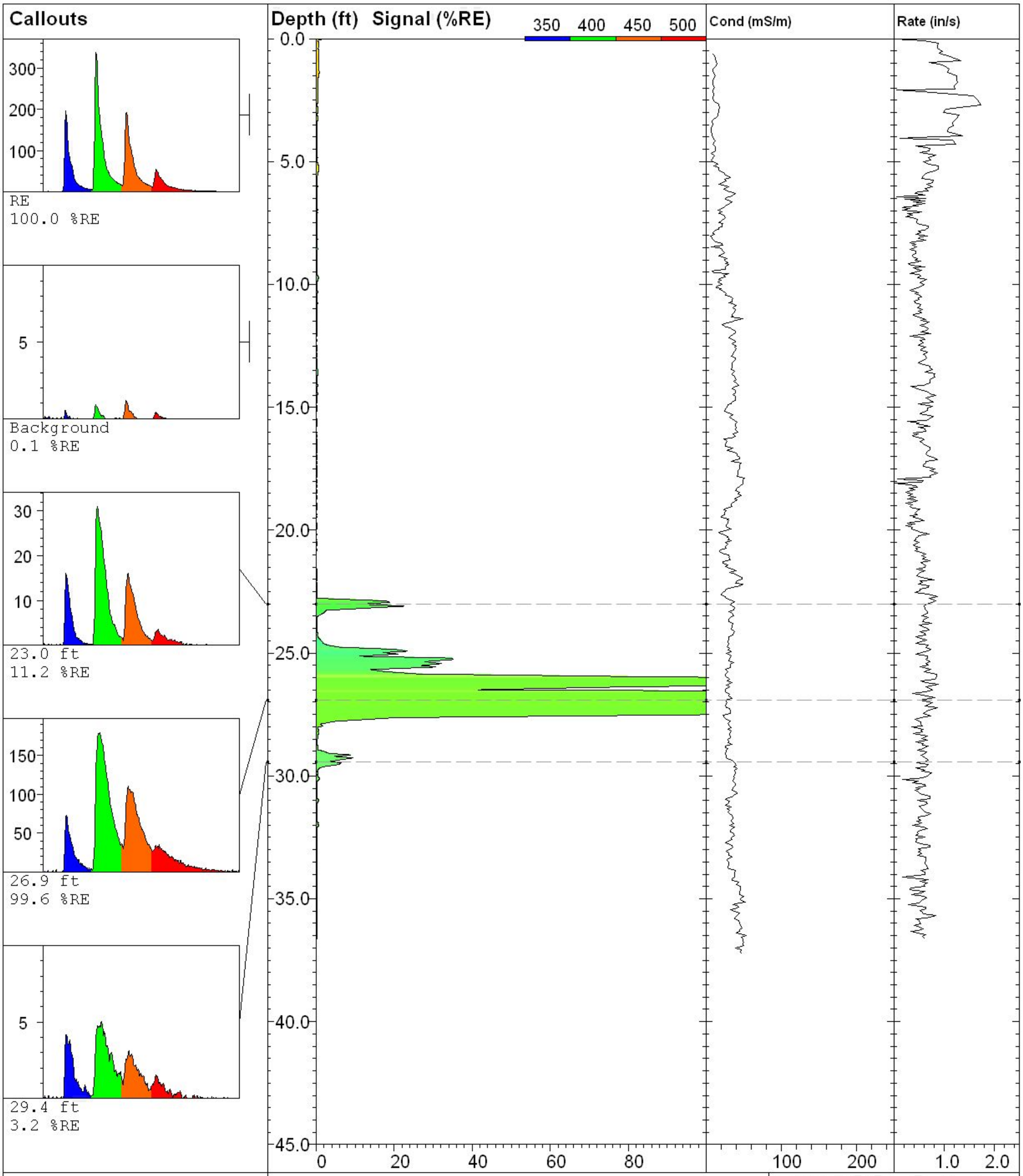


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-22

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.1 % @ 3.86 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 15:13 CDT**



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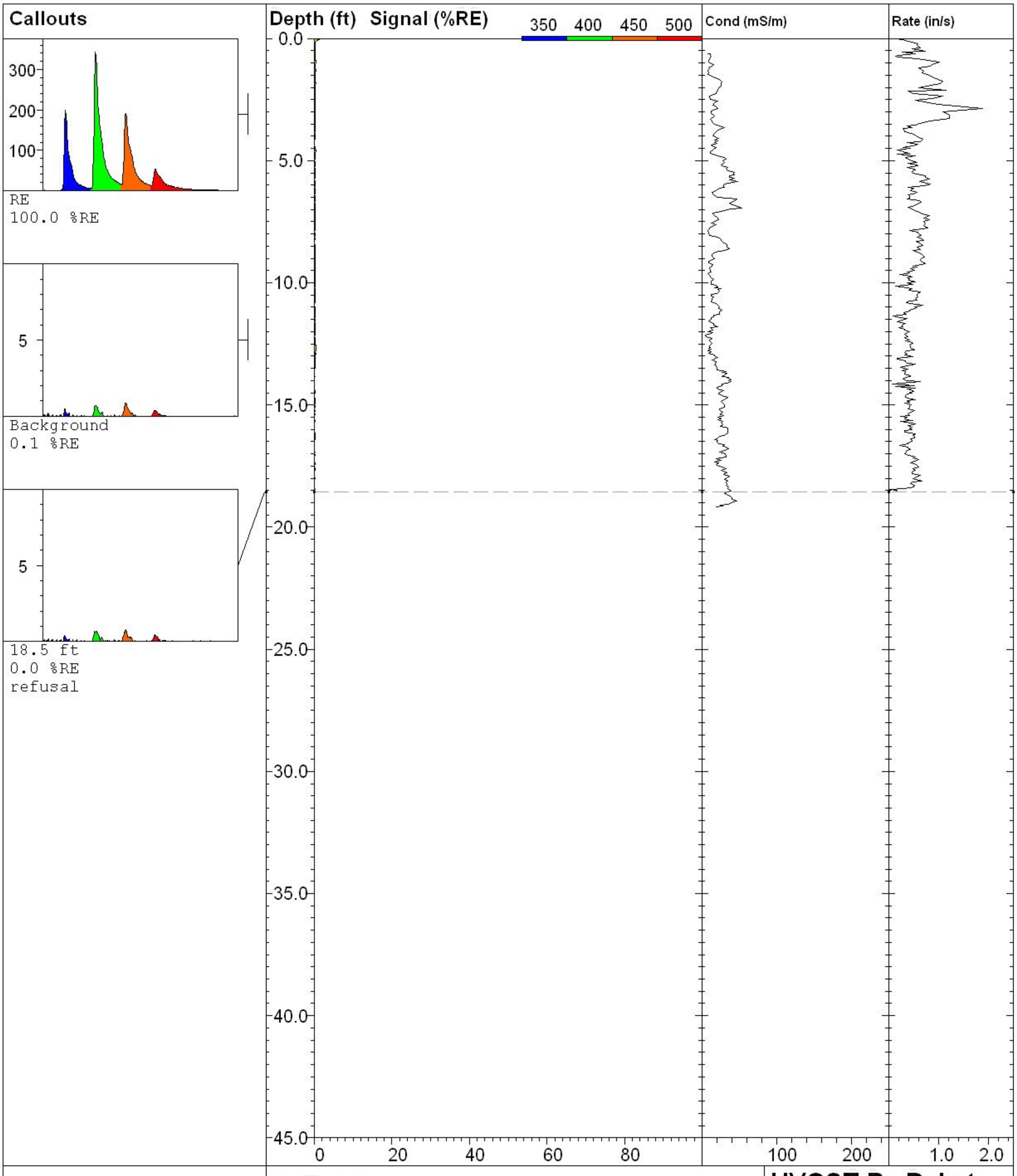
LIF-23

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.62 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **265.5 % @ 27.15 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 15:43 CDT**



MATRIX ENVIRONMENTAL LLC
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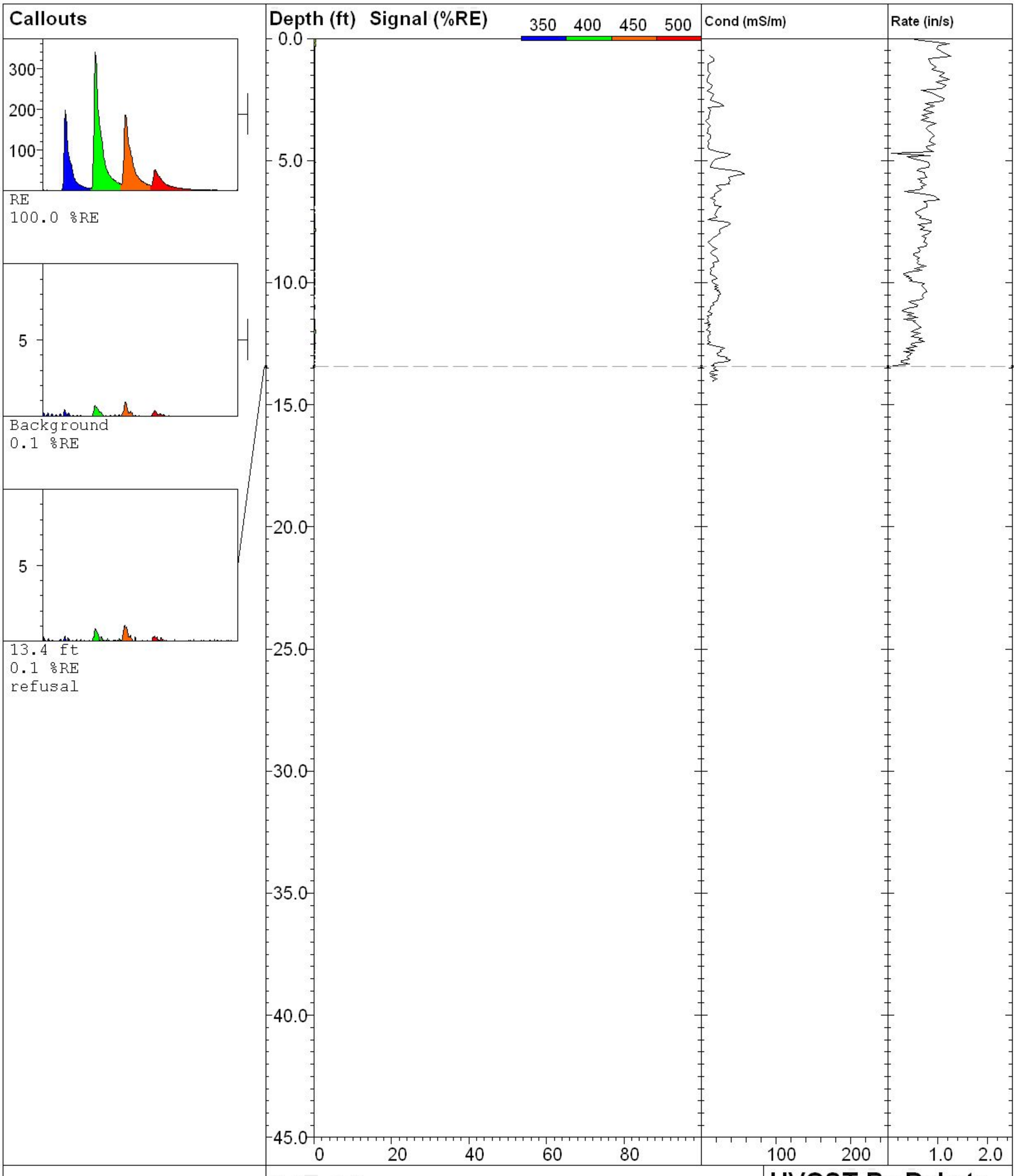
LIF-24

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **18.54 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.0 % @ 0.00 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 16:21 CDT**

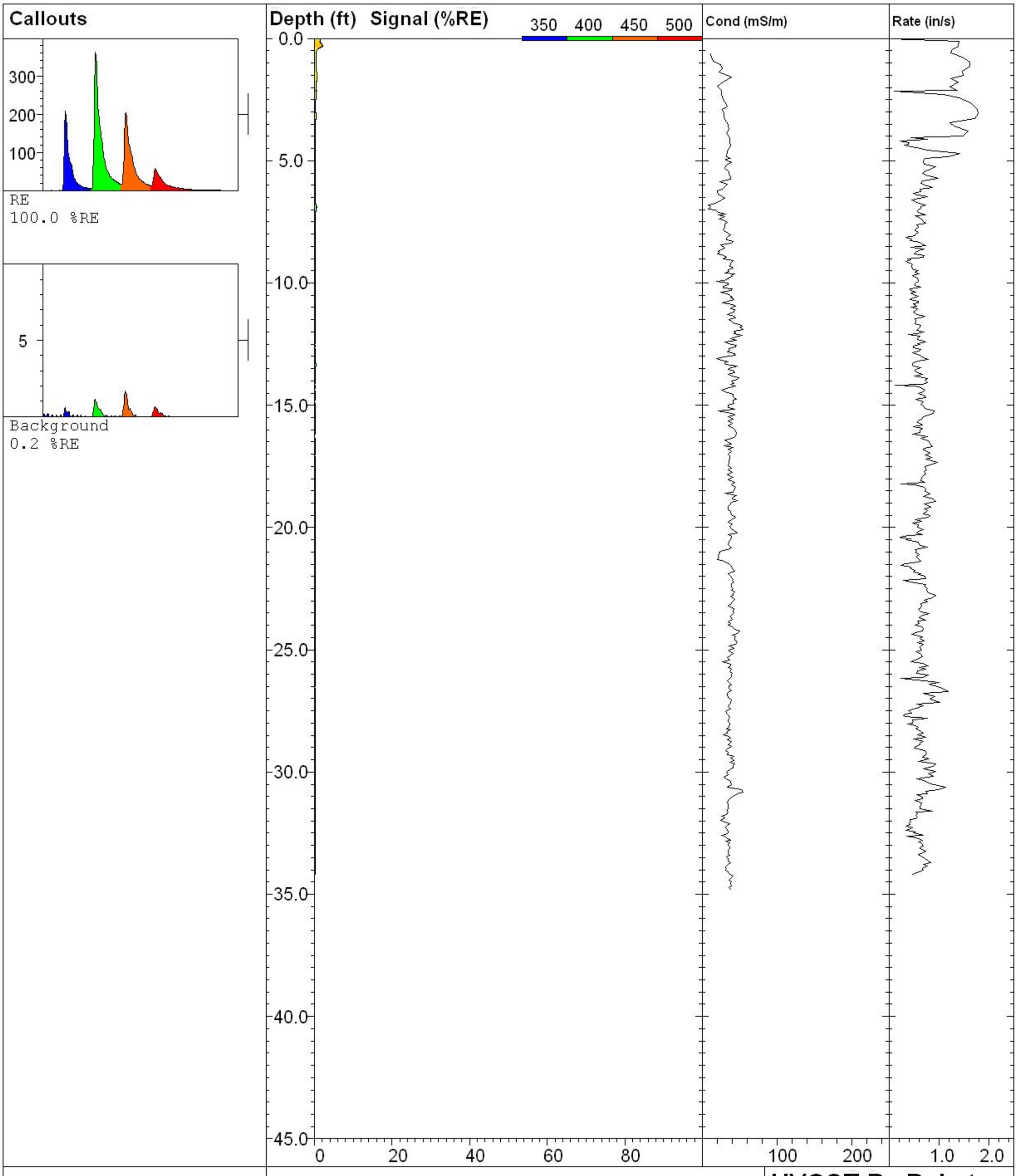


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-25

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **13.43 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **0.5 % @ 0.06 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 16:45 CDT**



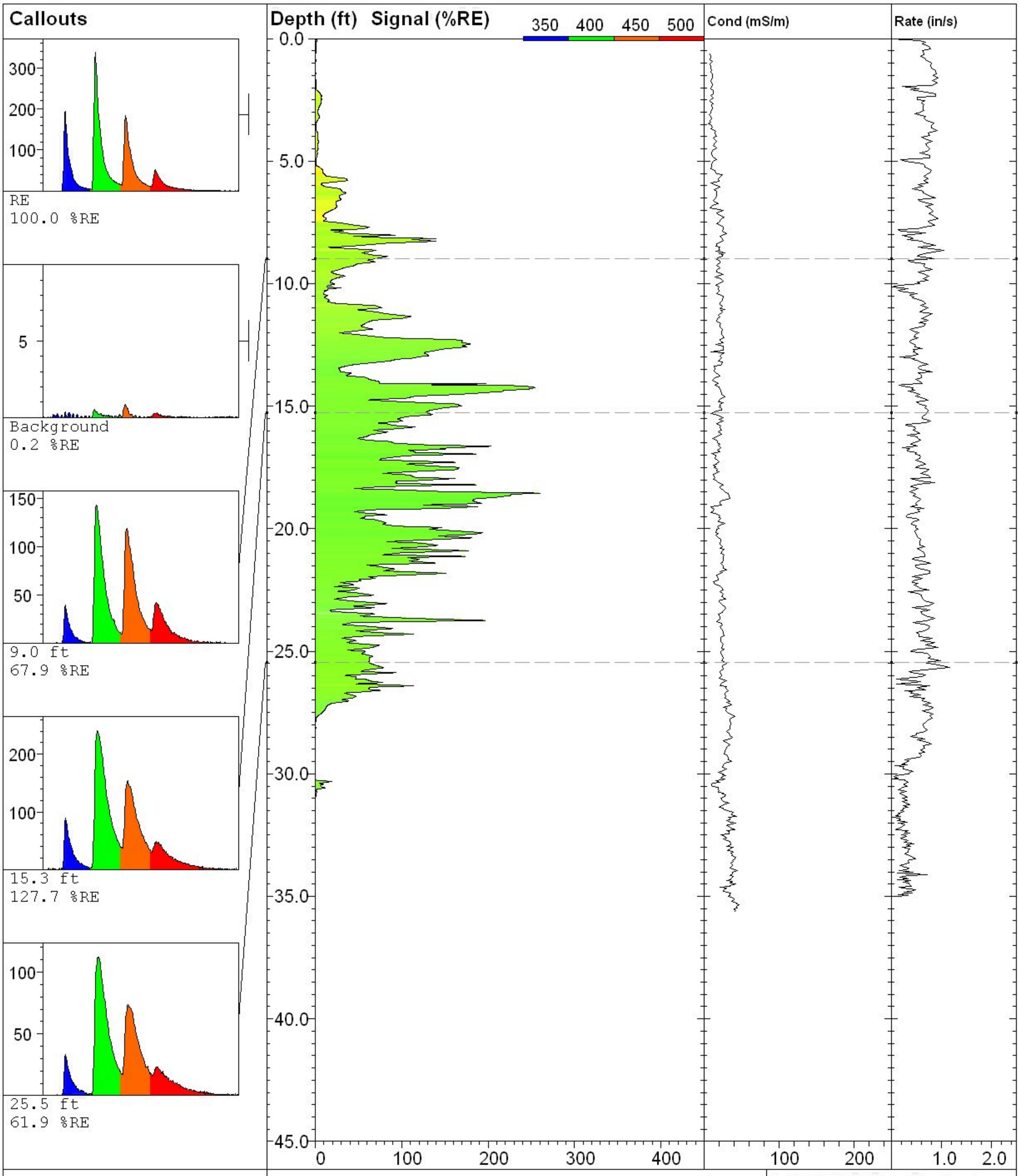
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-26

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.18 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.2 % @ 0.31 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 17:12 CDT**

UVOST LOGS
@ 450% RE



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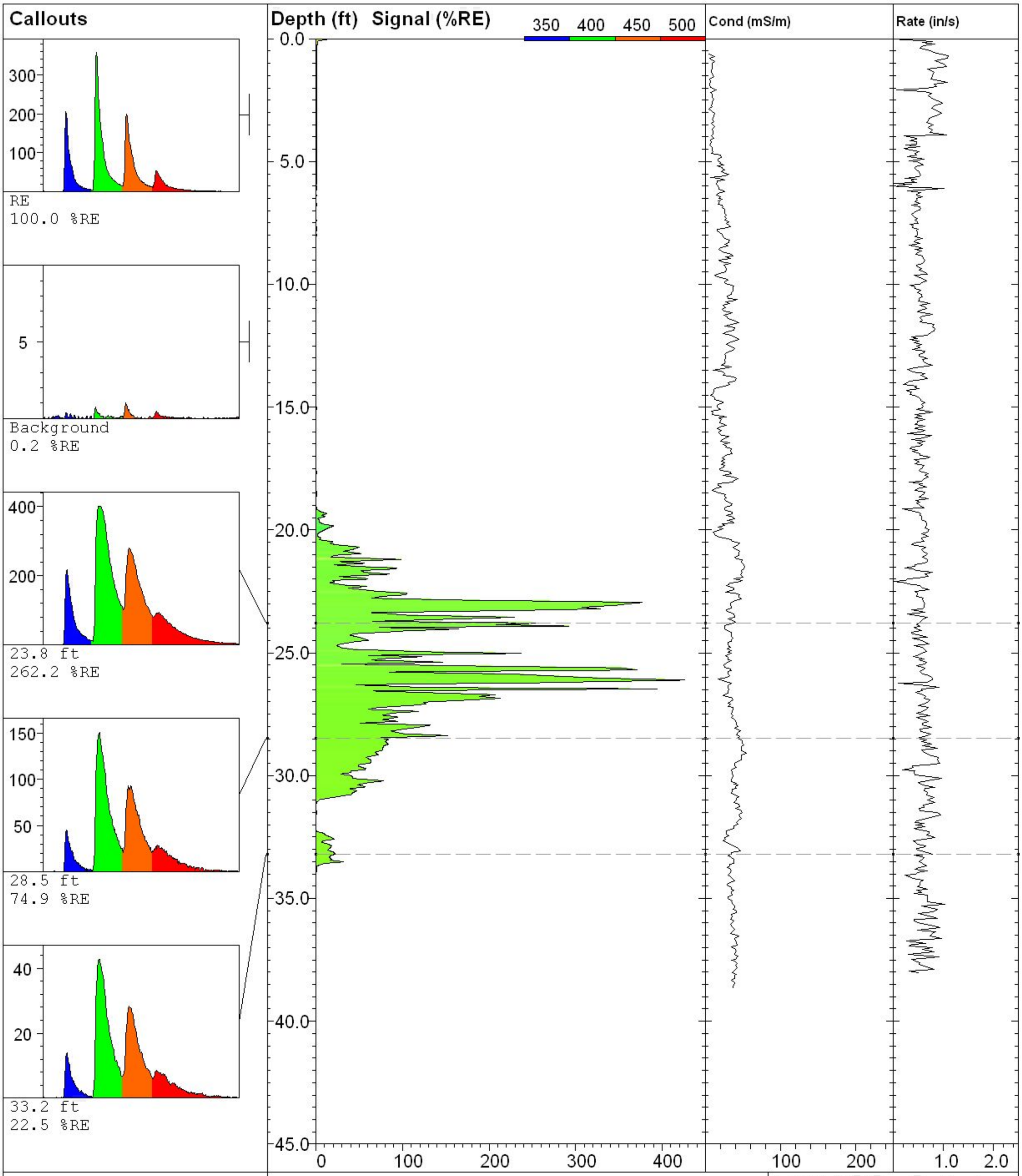
www.matrixenv.com

LIF-01

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **35.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **262.6 % @ 18.55 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:01 CDT**



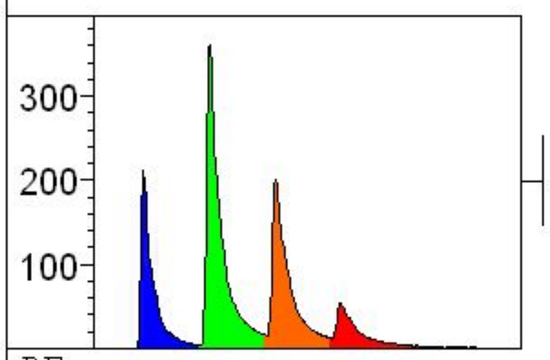
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-02

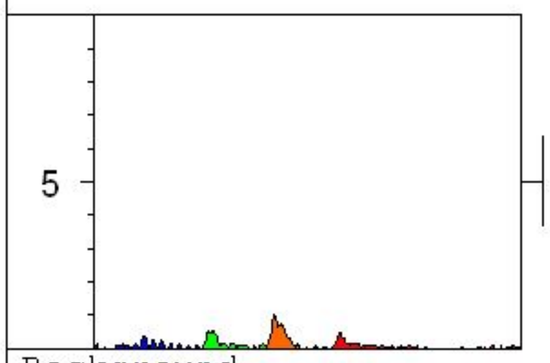
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **38.01 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **428.4 % @ 26.11 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:48 CDT**

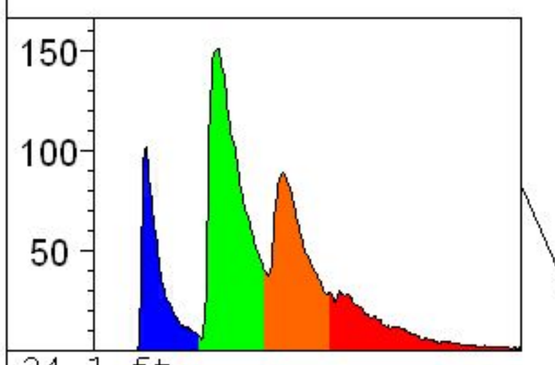
Callouts



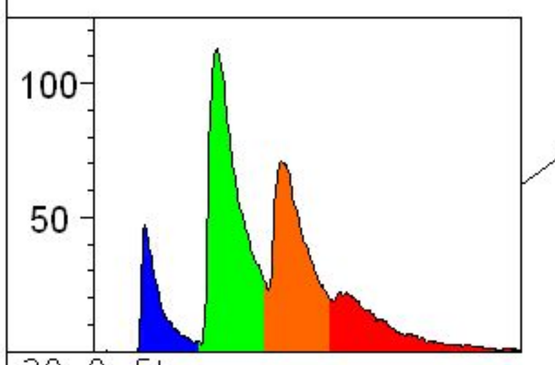
RE
100.0 %RE



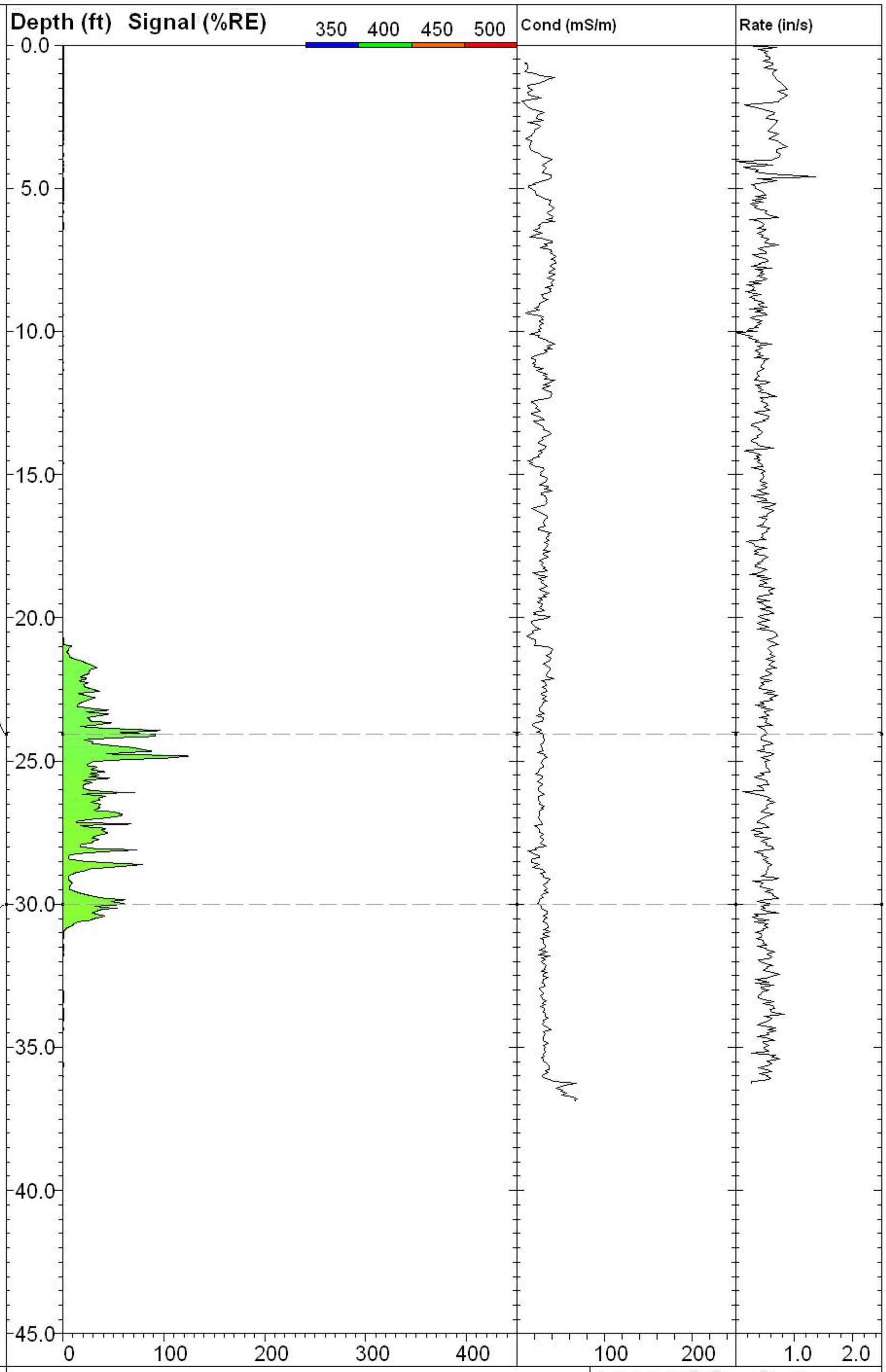
Background
0.3 %RE



24.1 ft
91.9 %RE



30.0 ft
63.4 %RE



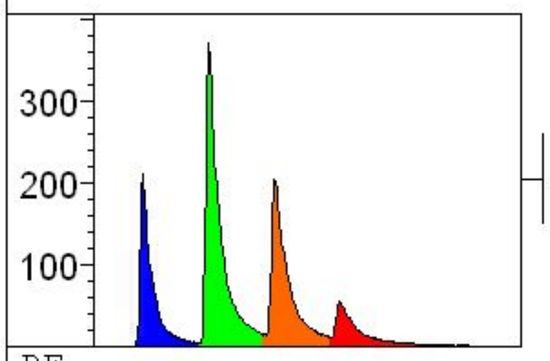
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-03

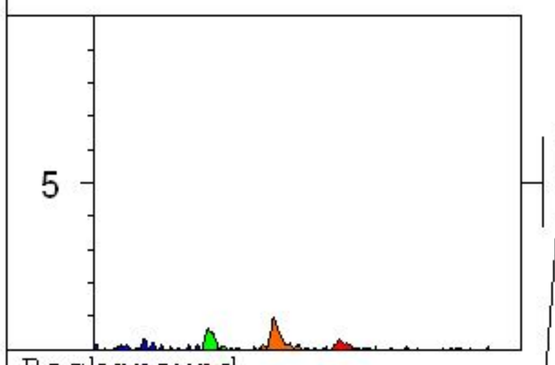
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.25 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **125.1 % @ 24.82 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 11:32 CDT**

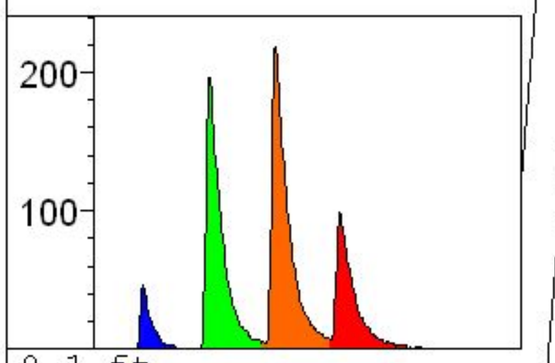
Callouts



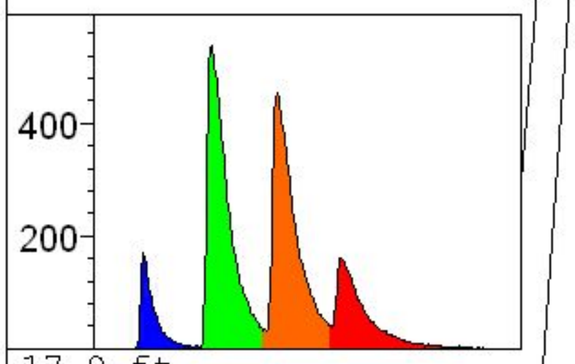
RE
100.0 %RE



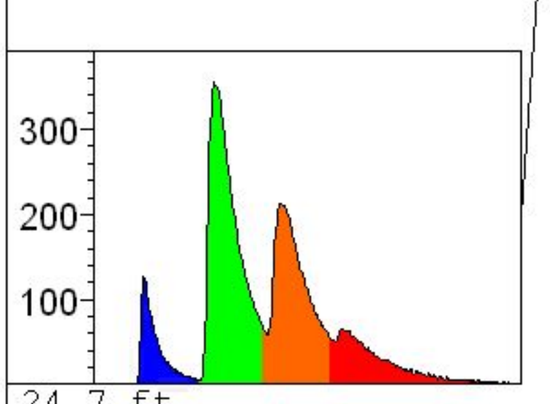
Background
0.1 %RE



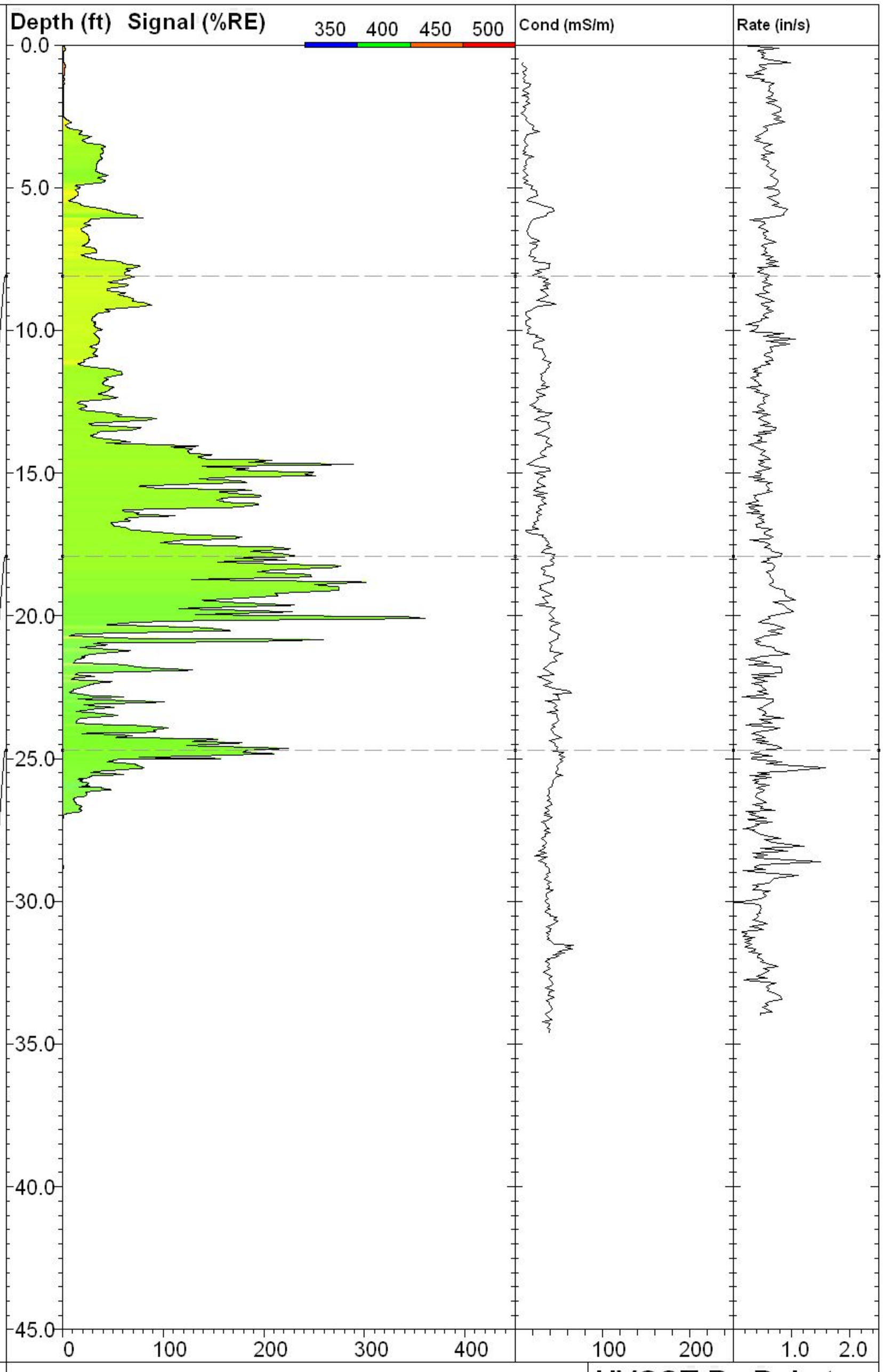
8.1 ft
71.4 %RE



17.9 ft
234.9 %RE



24.7 ft
183.4 %RE



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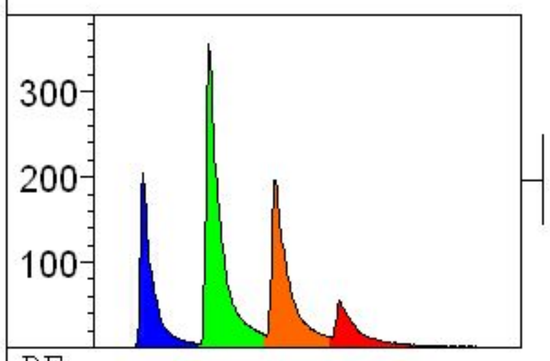
LIF-05

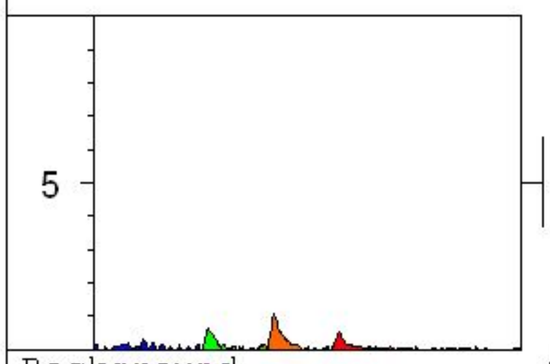
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **360.4 % @ 20.09 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 13:28 CDT**

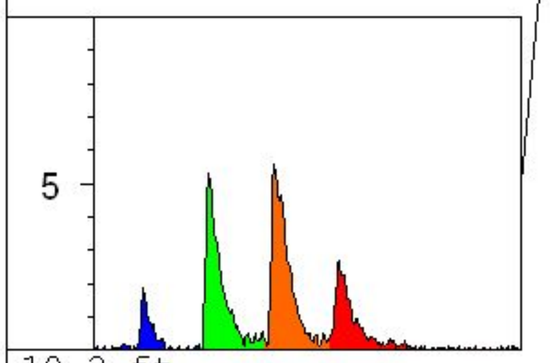
Callouts



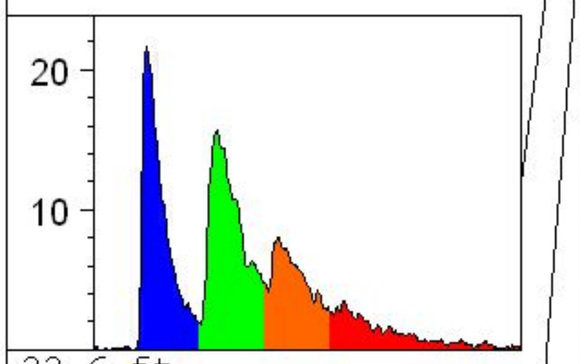
RE
100.0 %RE



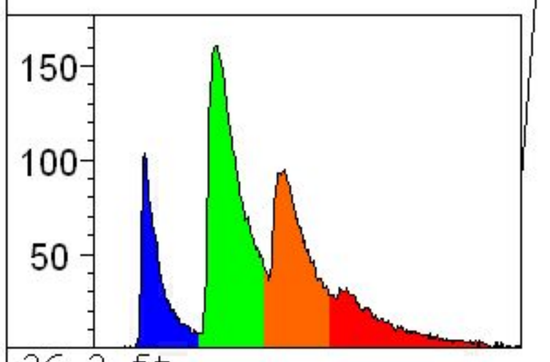
Background
0.2 %RE



10.2 ft
2.0 %RE

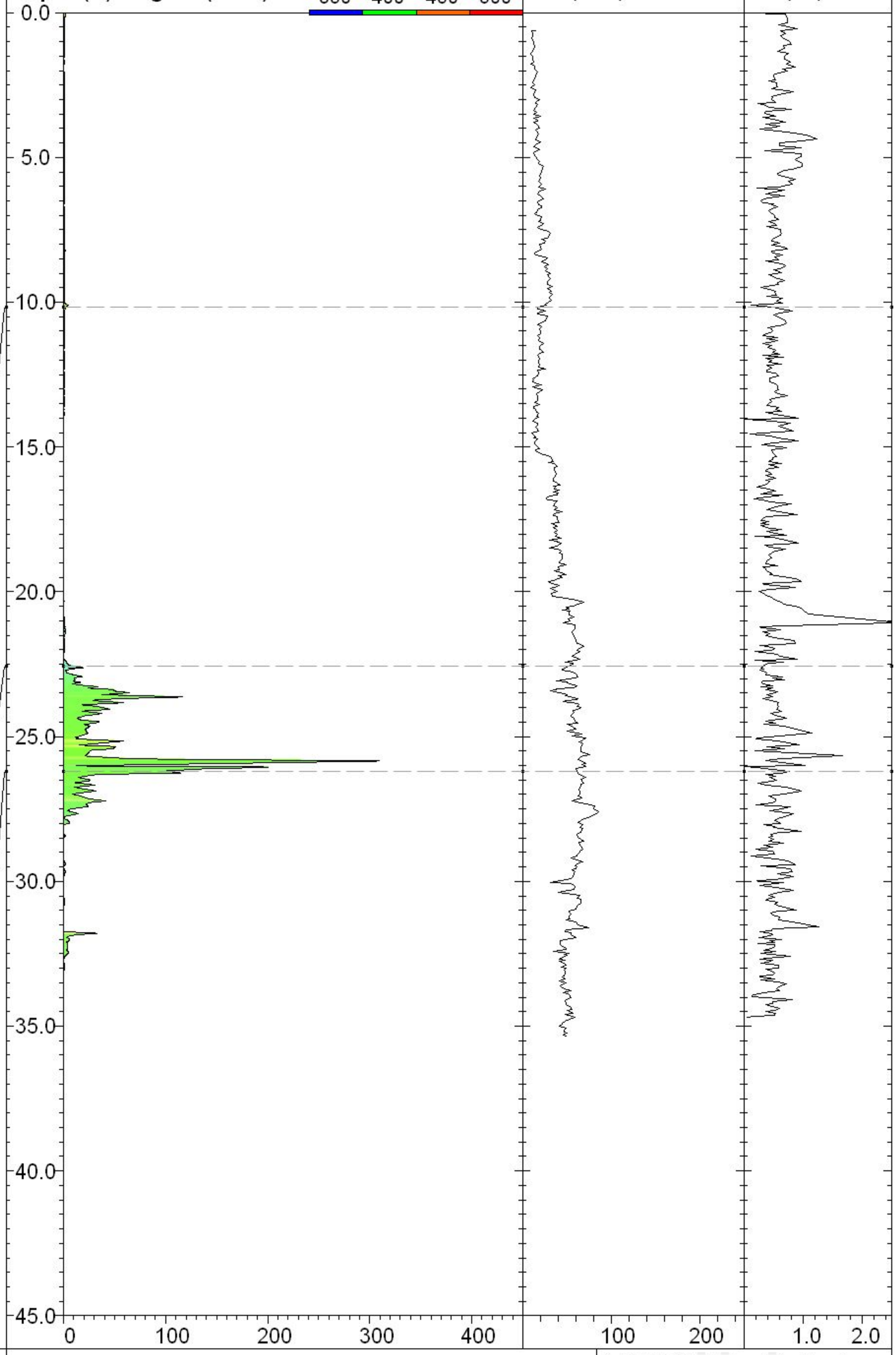


22.6 ft
12.0 %RE



26.2 ft
98.8 %RE

Depth (ft) Signal (%RE)



Cond (mS/m)

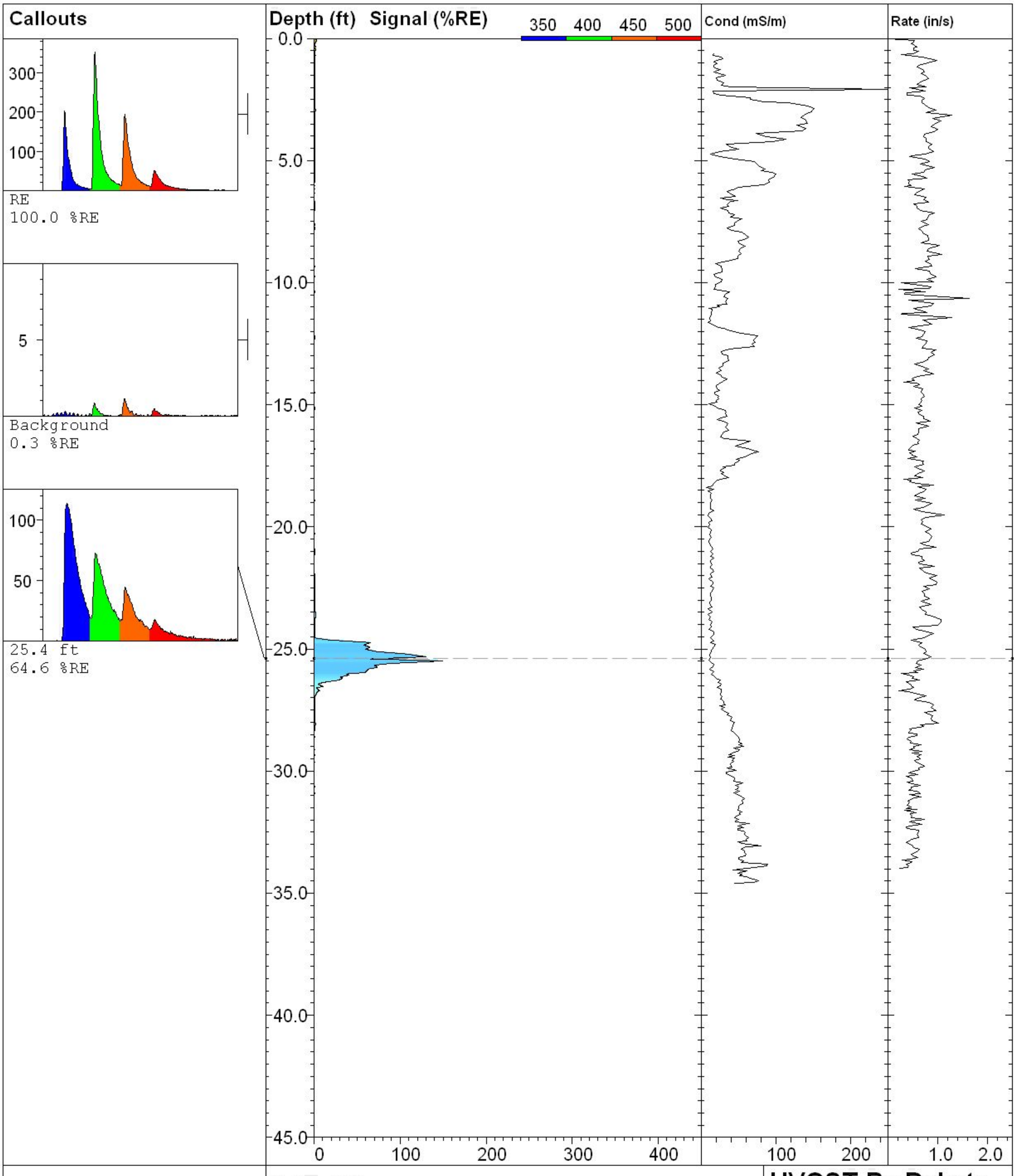
Rate (in/s)

MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

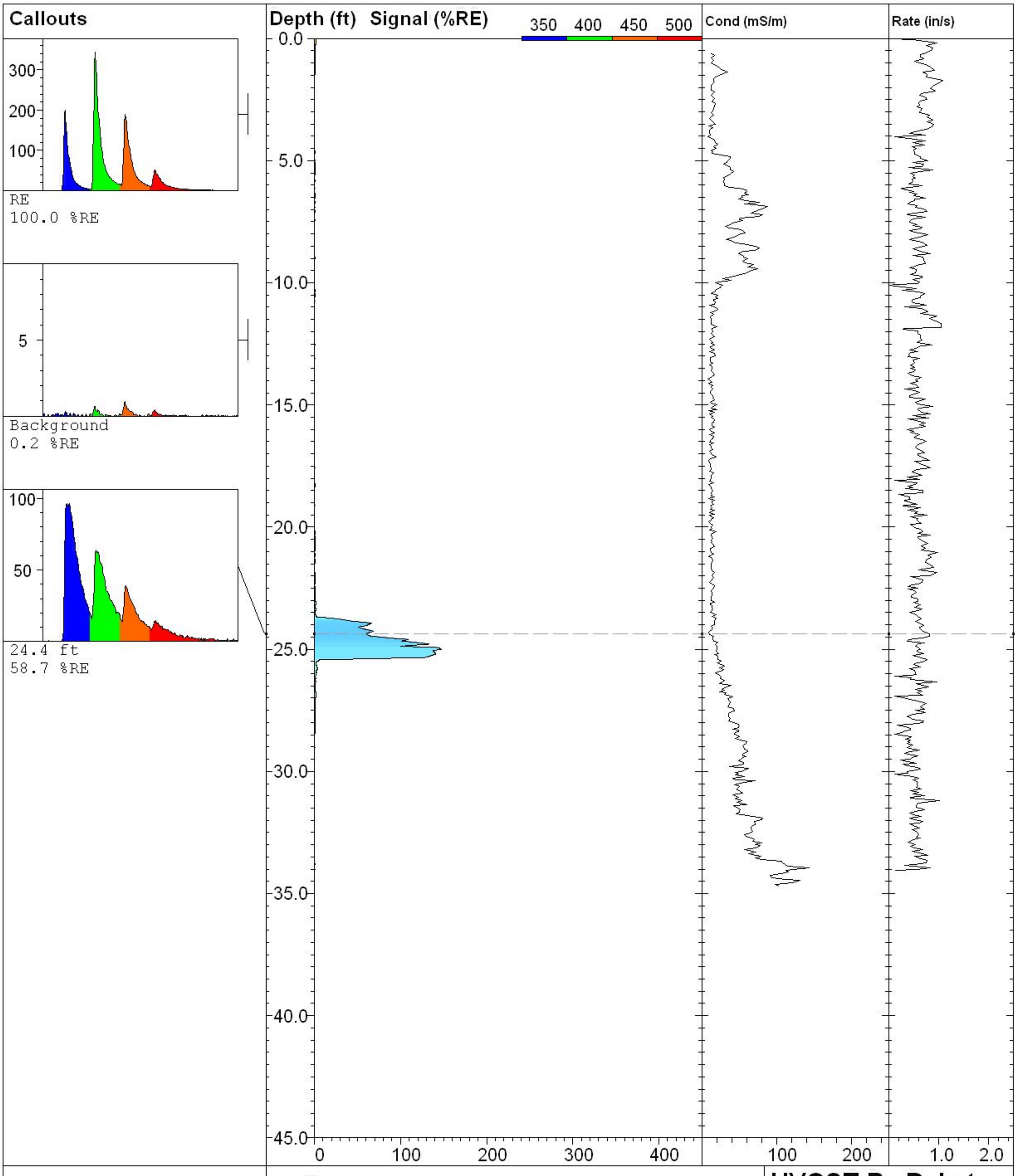
LIF-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.72 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **313.8 % @ 25.84 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 14:10 CDT**



MATRIX ENVIRONMENTAL LLC www.matrixenv.com	**LIF-09**		**UVOST By Dakota** www.DakotaTechnologies.com
	Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.01 ft**
	Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **150.2 % @ 25.48 ft**
	Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 16:35 CDT**

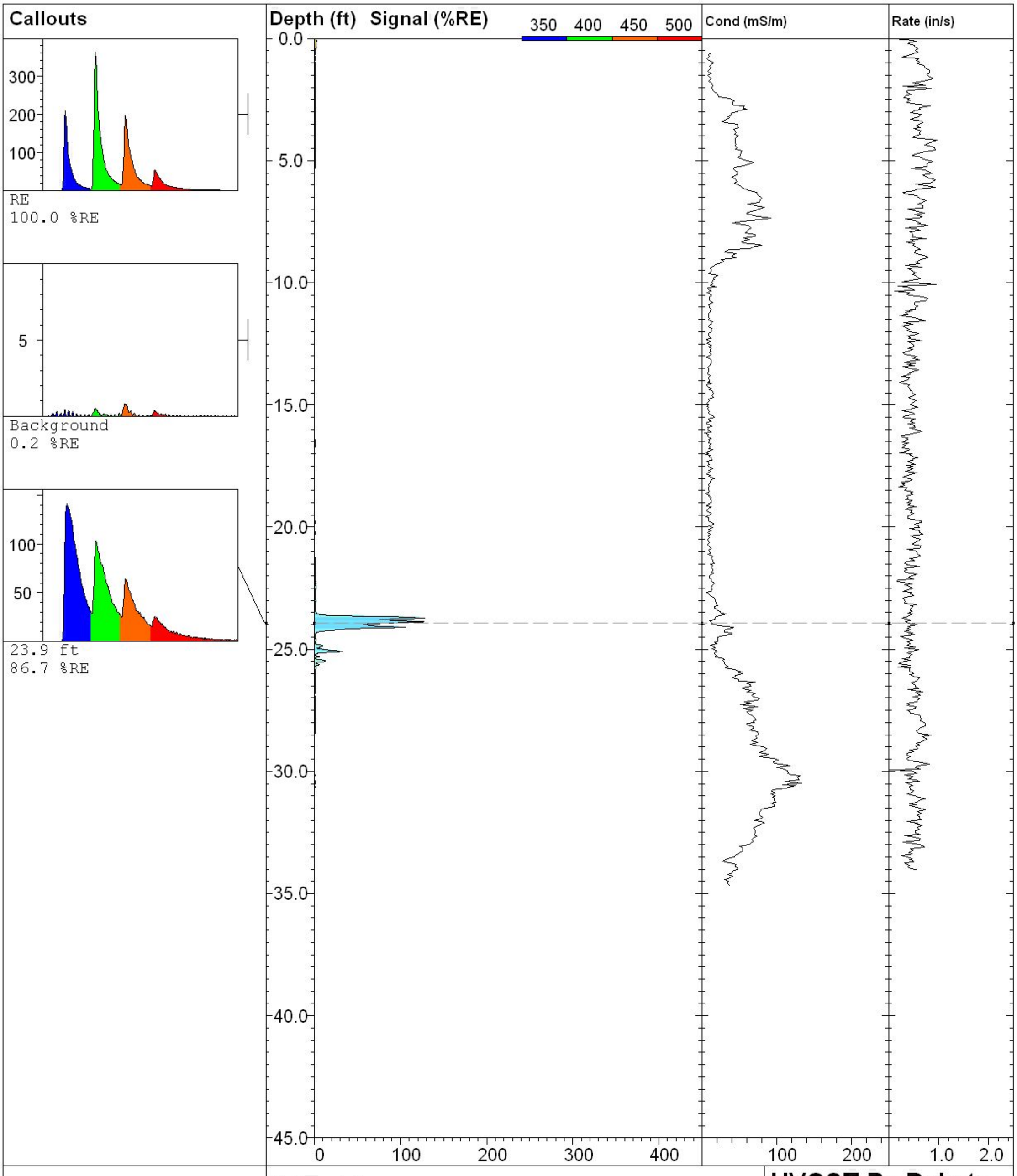


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-11

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.06 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **147.0 % @ 25.00 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 17:37 CDT**

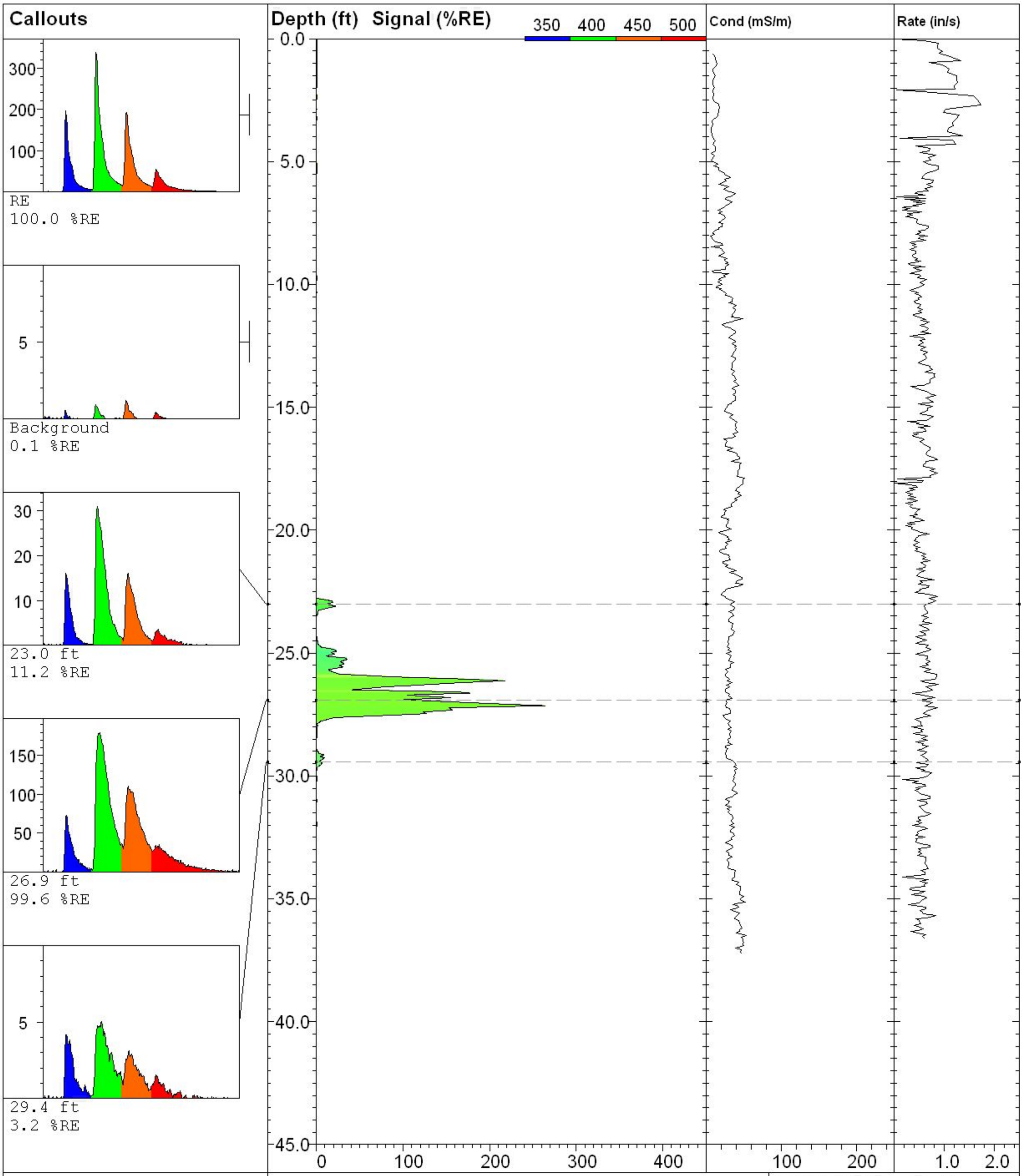


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-14

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **129.0 % @ 23.87 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 09:01 CDT**



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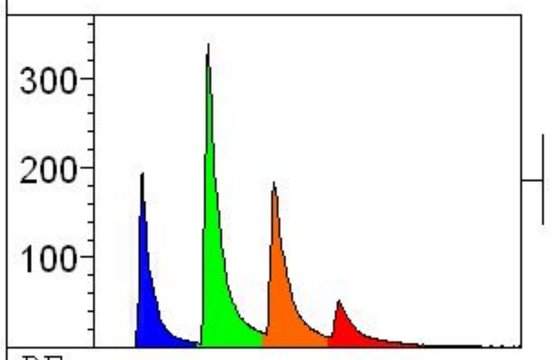
LIF-23

UVOST By Dakota
www.DakotaTechnologies.com

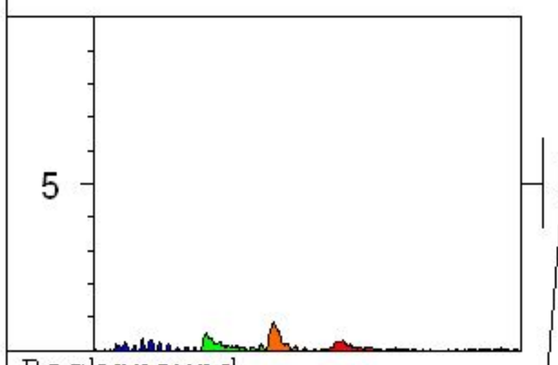
Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.62 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **265.5 % @ 27.15 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 15:43 CDT**

UVOST LOGS
@ Best Fit Scale

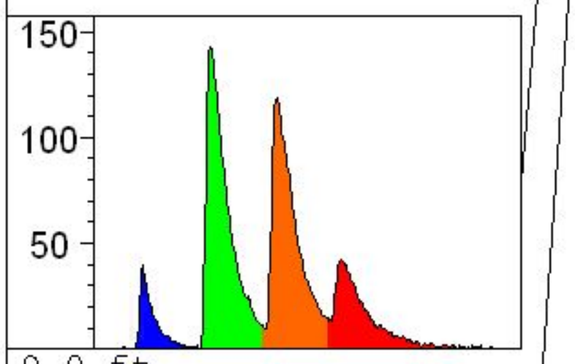
Callouts



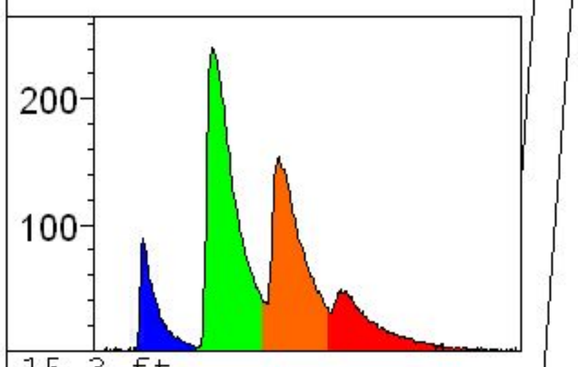
RE
100.0 %RE



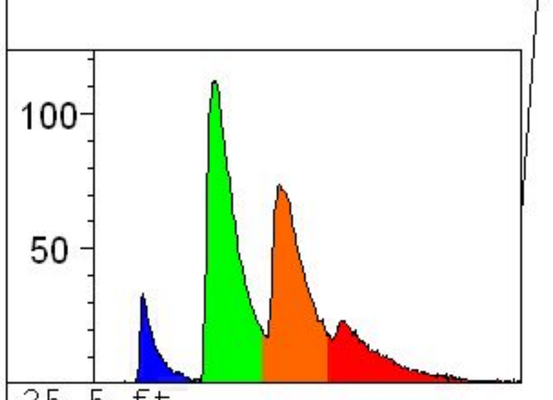
Background
0.2 %RE



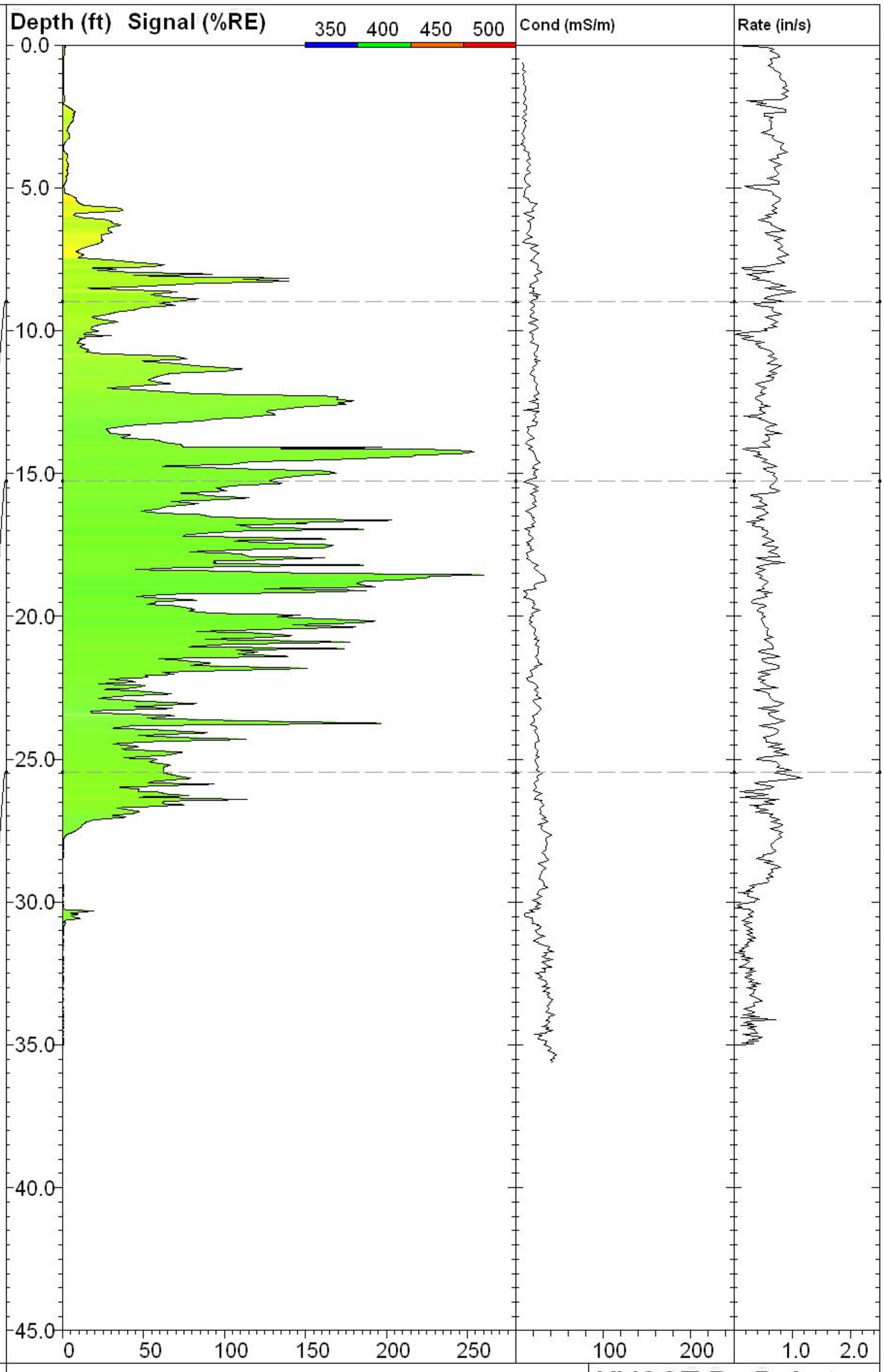
9.0 ft
67.9 %RE



15.3 ft
127.7 %RE



25.5 ft
61.9 %RE

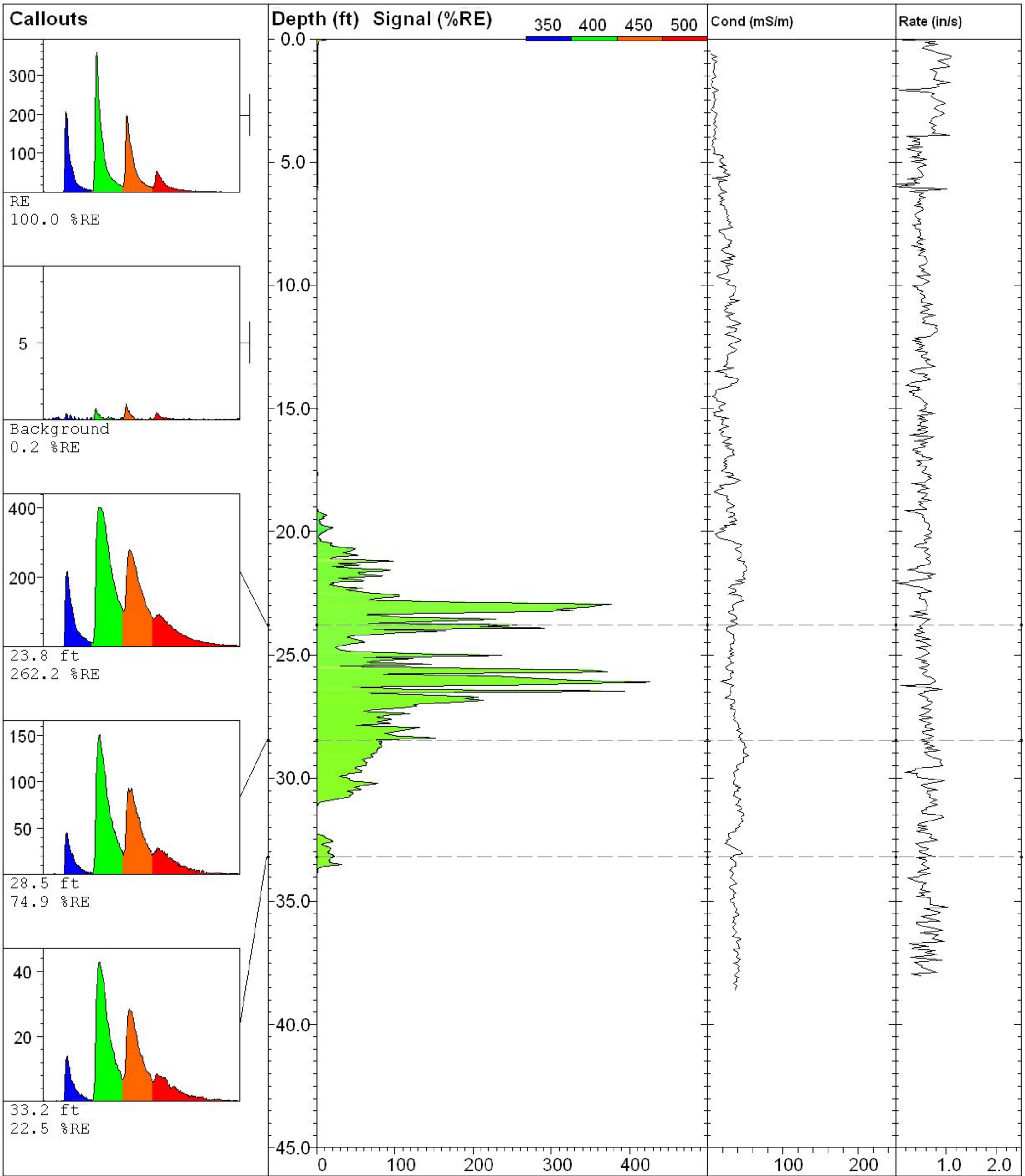


LIF-01

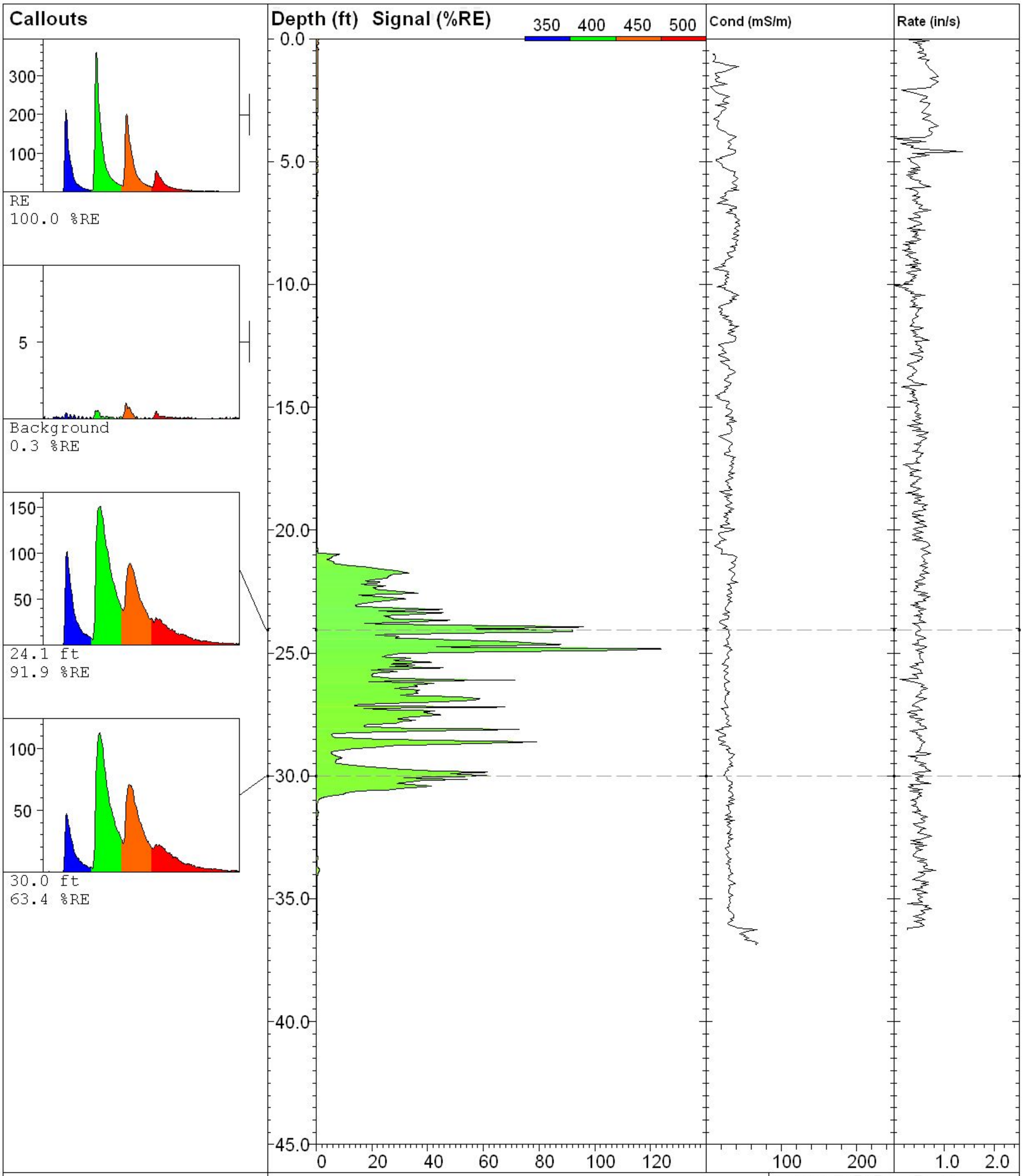
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **35.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **262.6 % @ 18.55 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:01 CDT**

MATRIX ENVIRONMENTAL LLC
www.matrixenv.com



MATRIX ENVIRONMENTAL LLC www.matrixenv.com	**LIF-02**		**UVOST By Dakota** www.DakotaTechnologies.com
	Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **38.01 ft**
	Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **428.4 % @ 26.11 ft**
	Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 10:48 CDT**

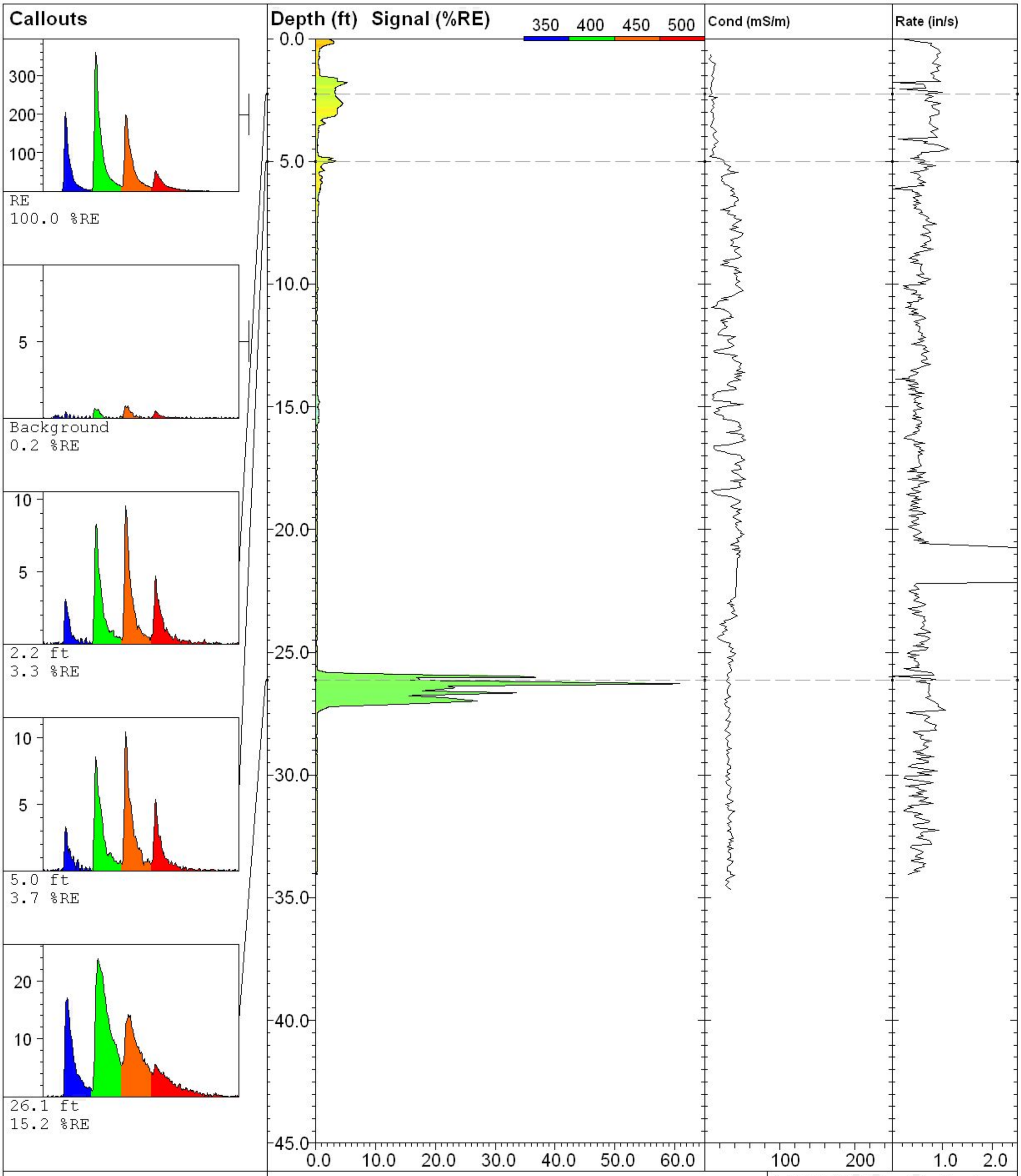


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-03

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.25 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **125.1 % @ 24.82 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 11:32 CDT**

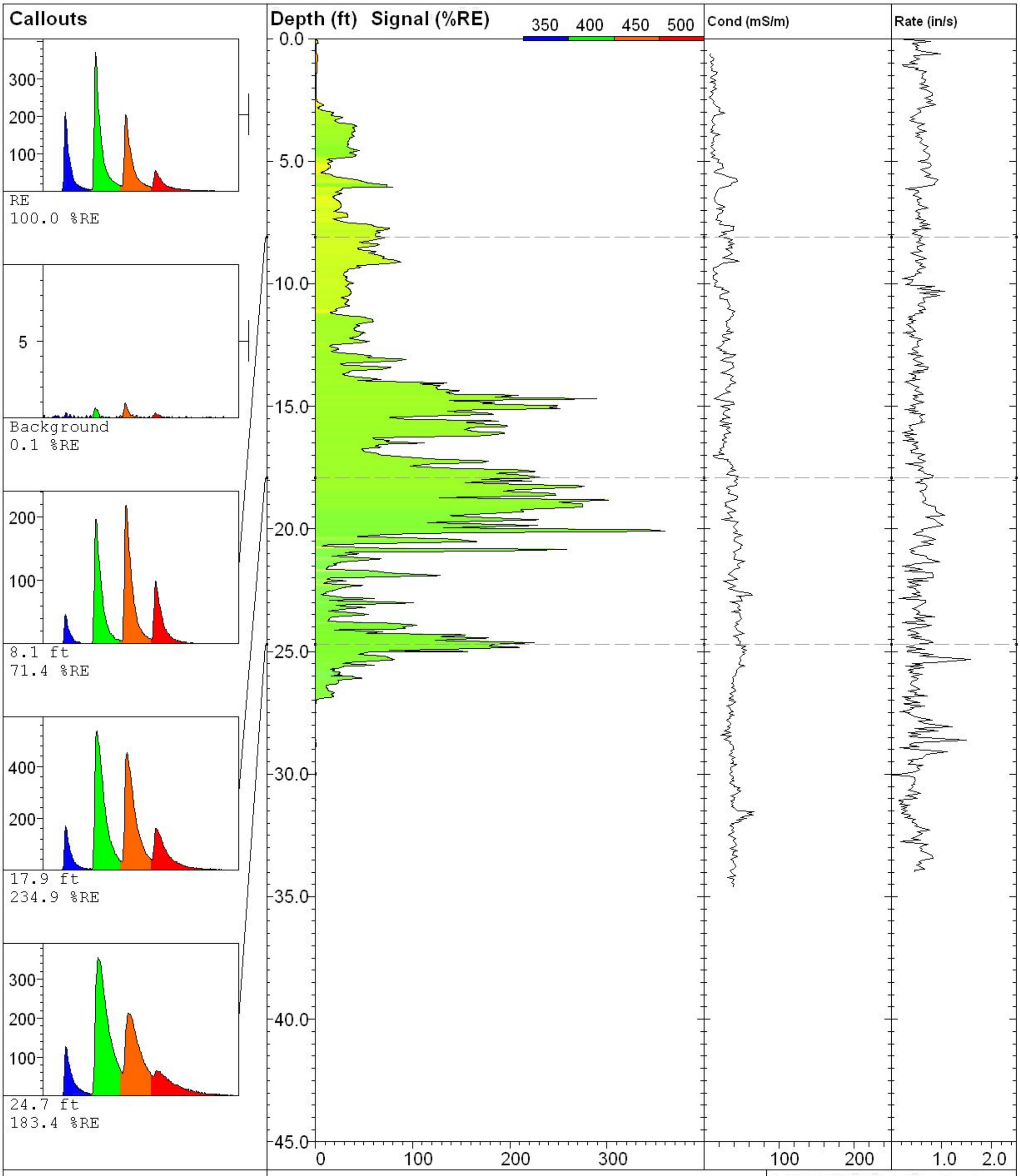


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-04

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.04 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **61.6 % @ 26.28 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 12:55 CDT**



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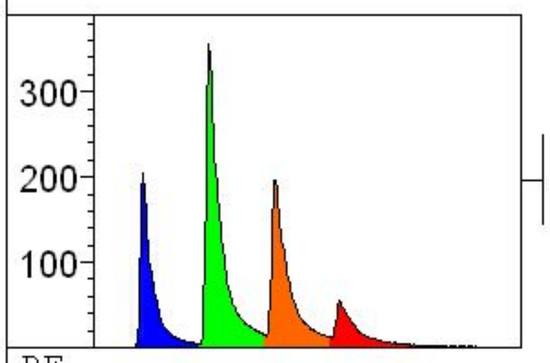
LIF-05

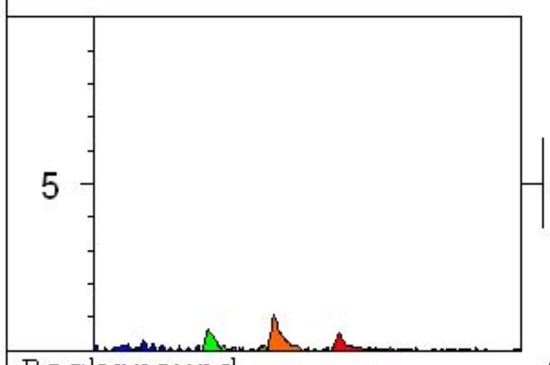
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **360.4 % @ 20.09 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 13:28 CDT**

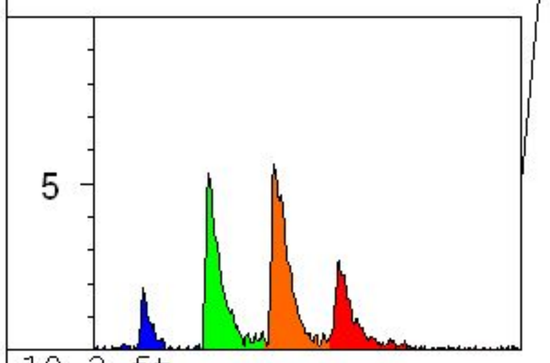
Callouts



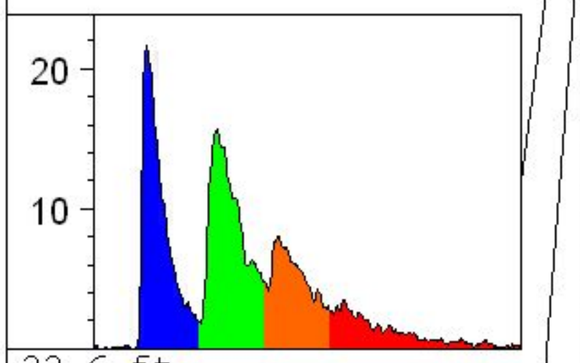
RE
100.0 %RE



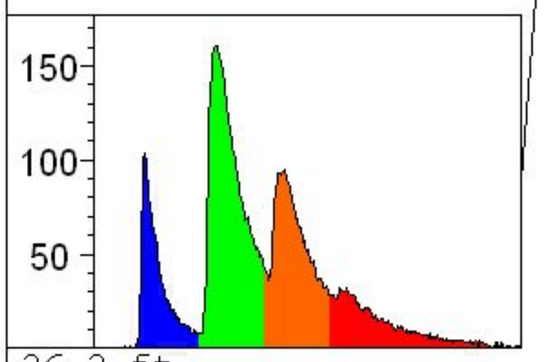
Background
0.2 %RE



10.2 ft
2.0 %RE

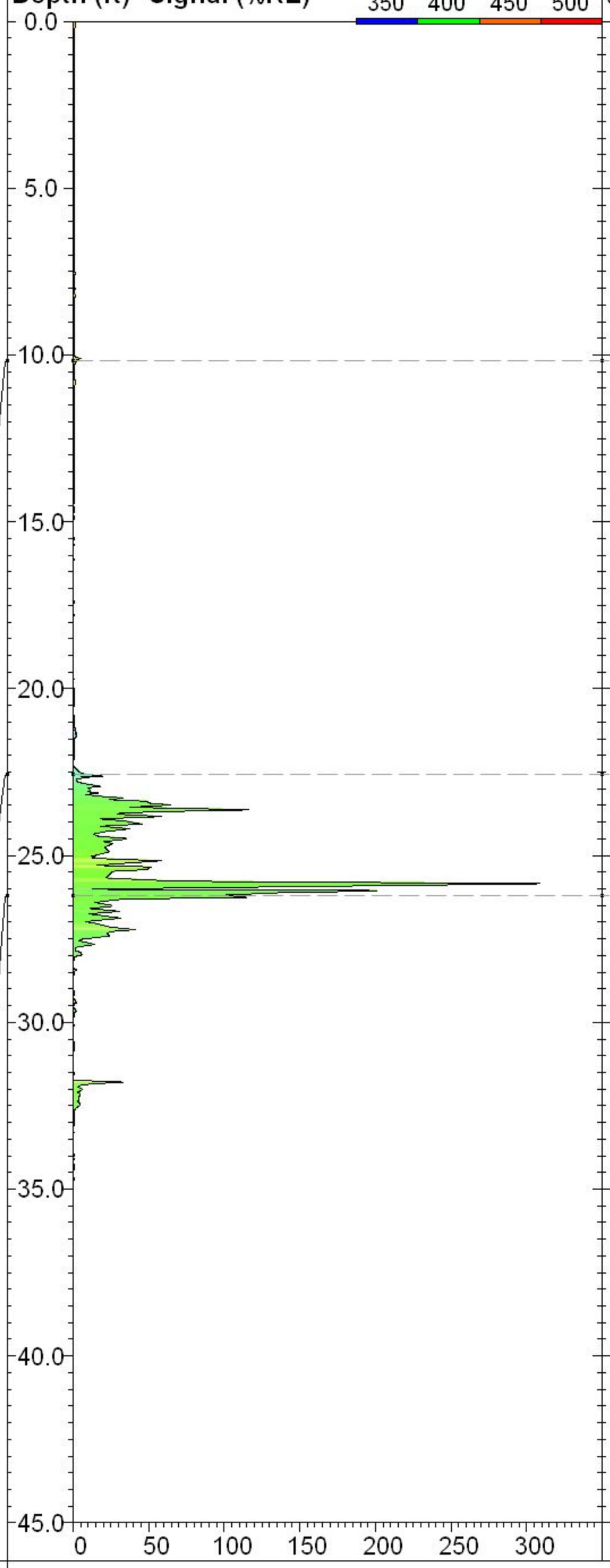


22.6 ft
12.0 %RE

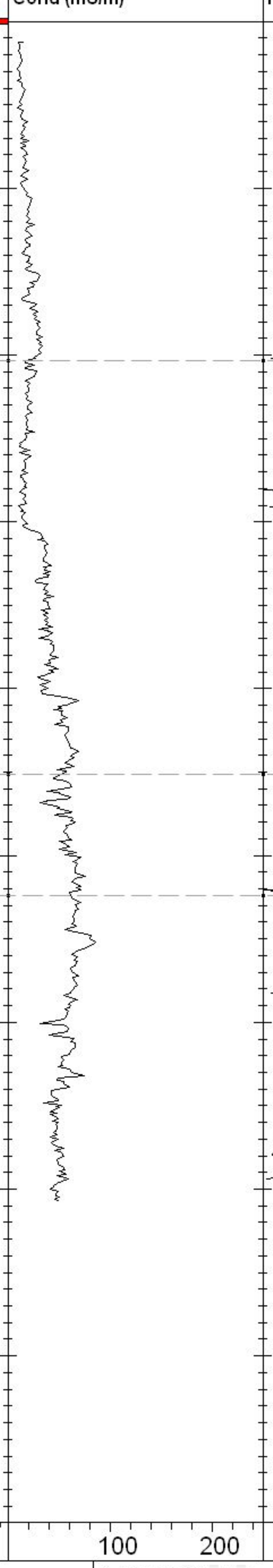


26.2 ft
98.8 %RE

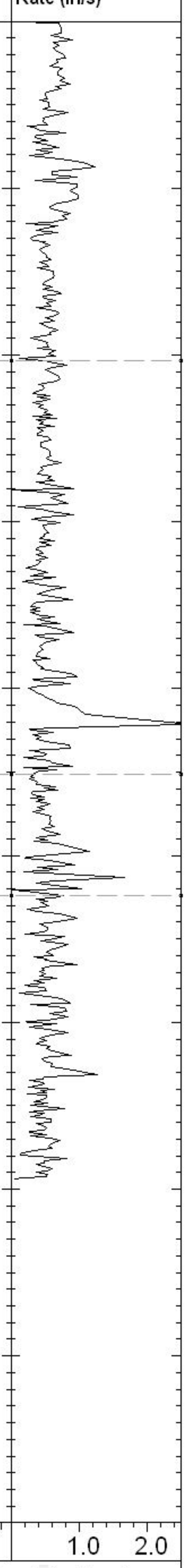
Depth (ft) Signal (%RE)



Cond (mS/m)



Rate (in/s)



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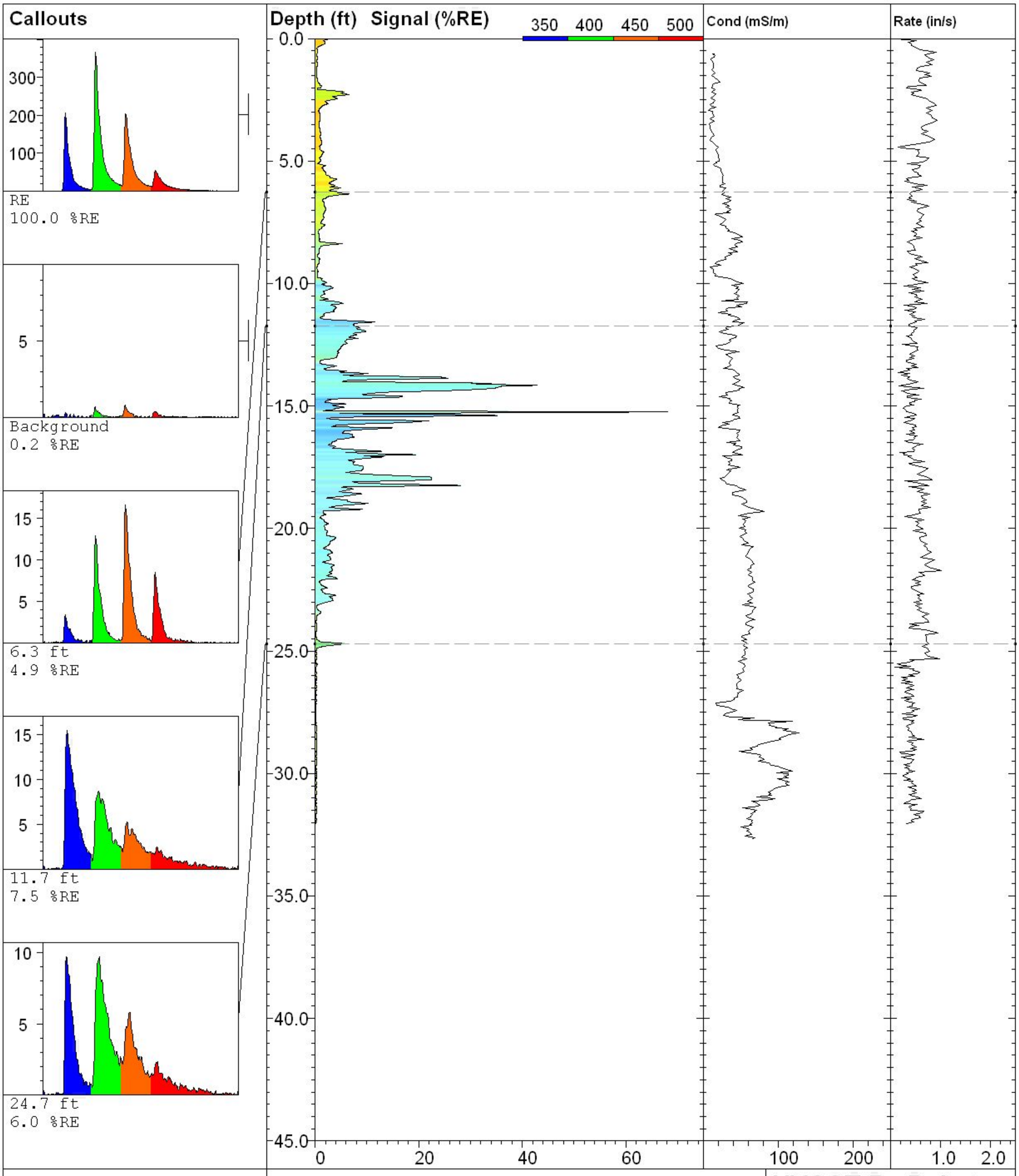
LIF-06

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.72 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **313.8 % @ 25.84 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 14:10 CDT**



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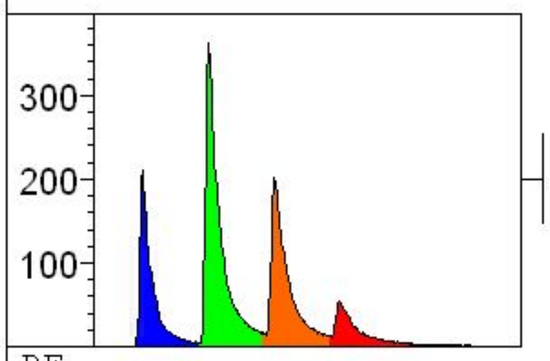
www.matrixenv.com

LIF-07

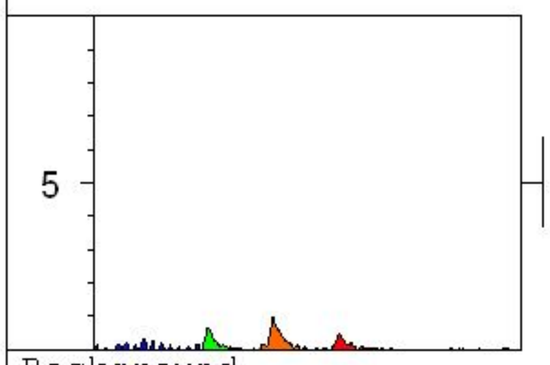
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **32.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **68.5 % @ 15.24 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 14:49 CDT**

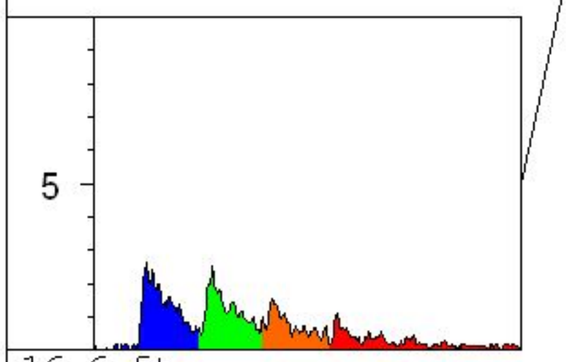
Callouts



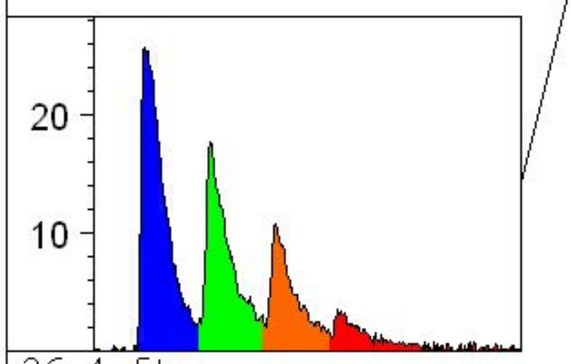
RE
100.0 %RE



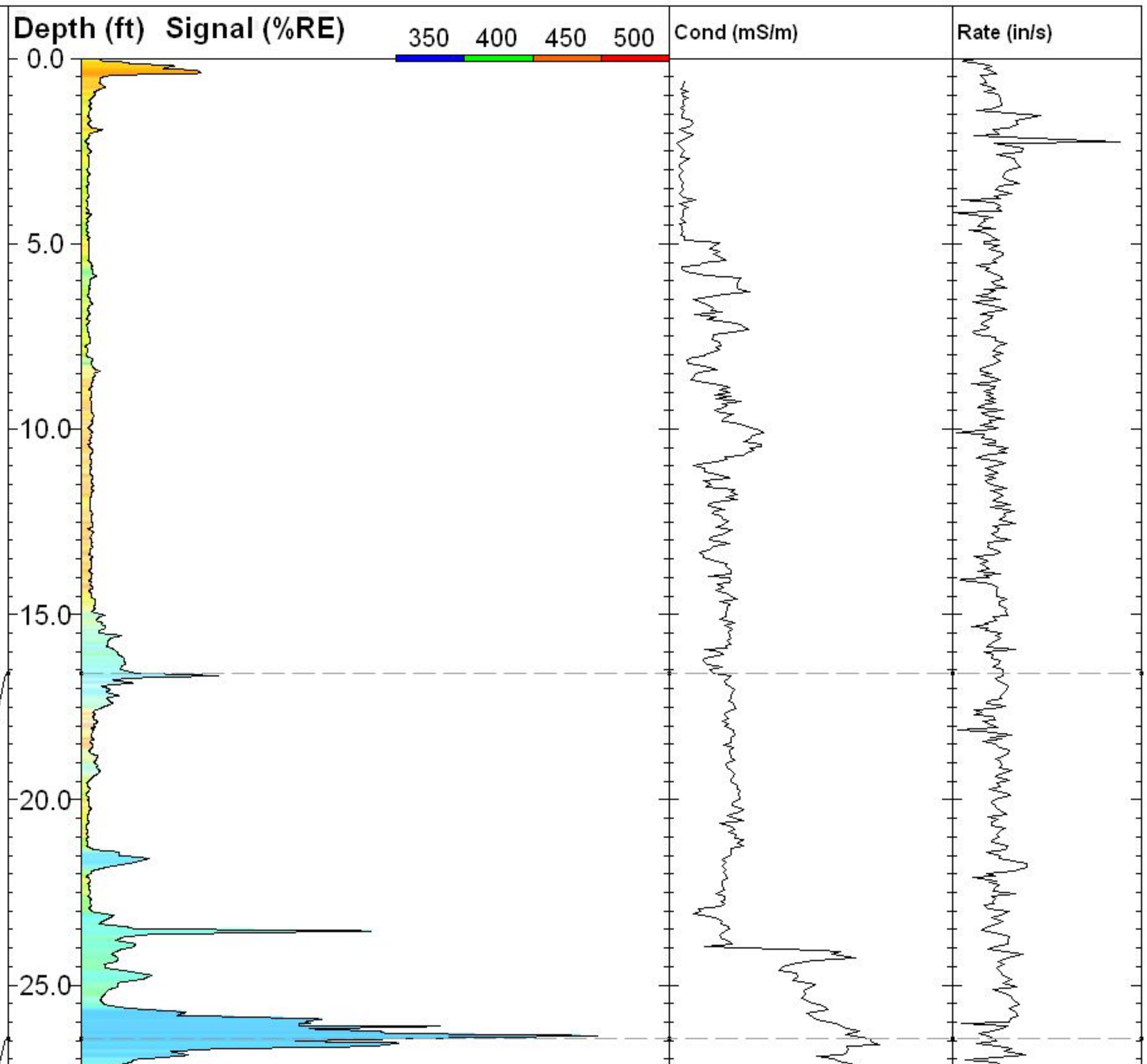
Background
0.2 %RE



16.6 ft
1.8 %RE



26.4 ft
11.6 %RE

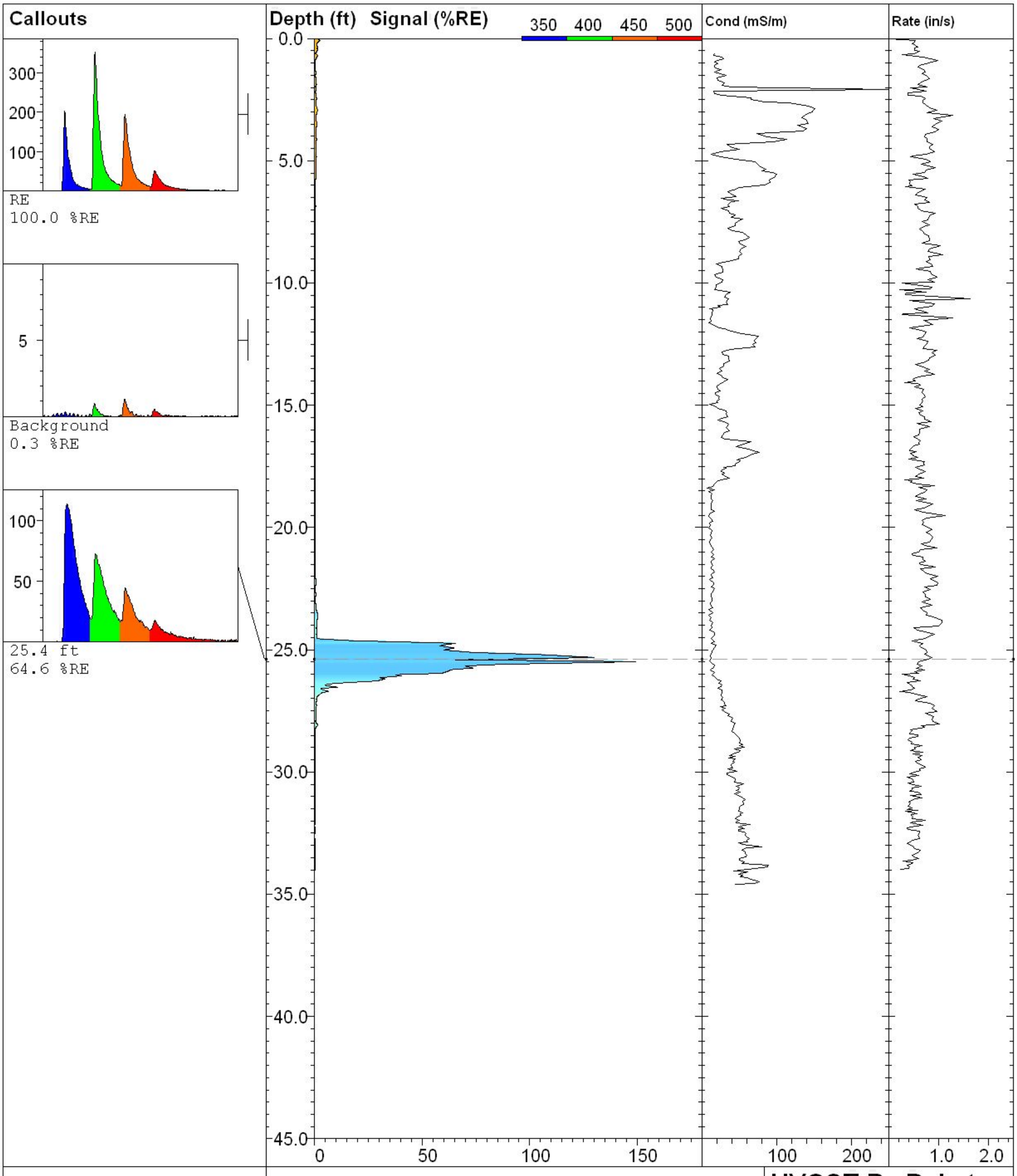


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-08

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.09 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **17.7 % @ 26.37 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 15:26 CDT**



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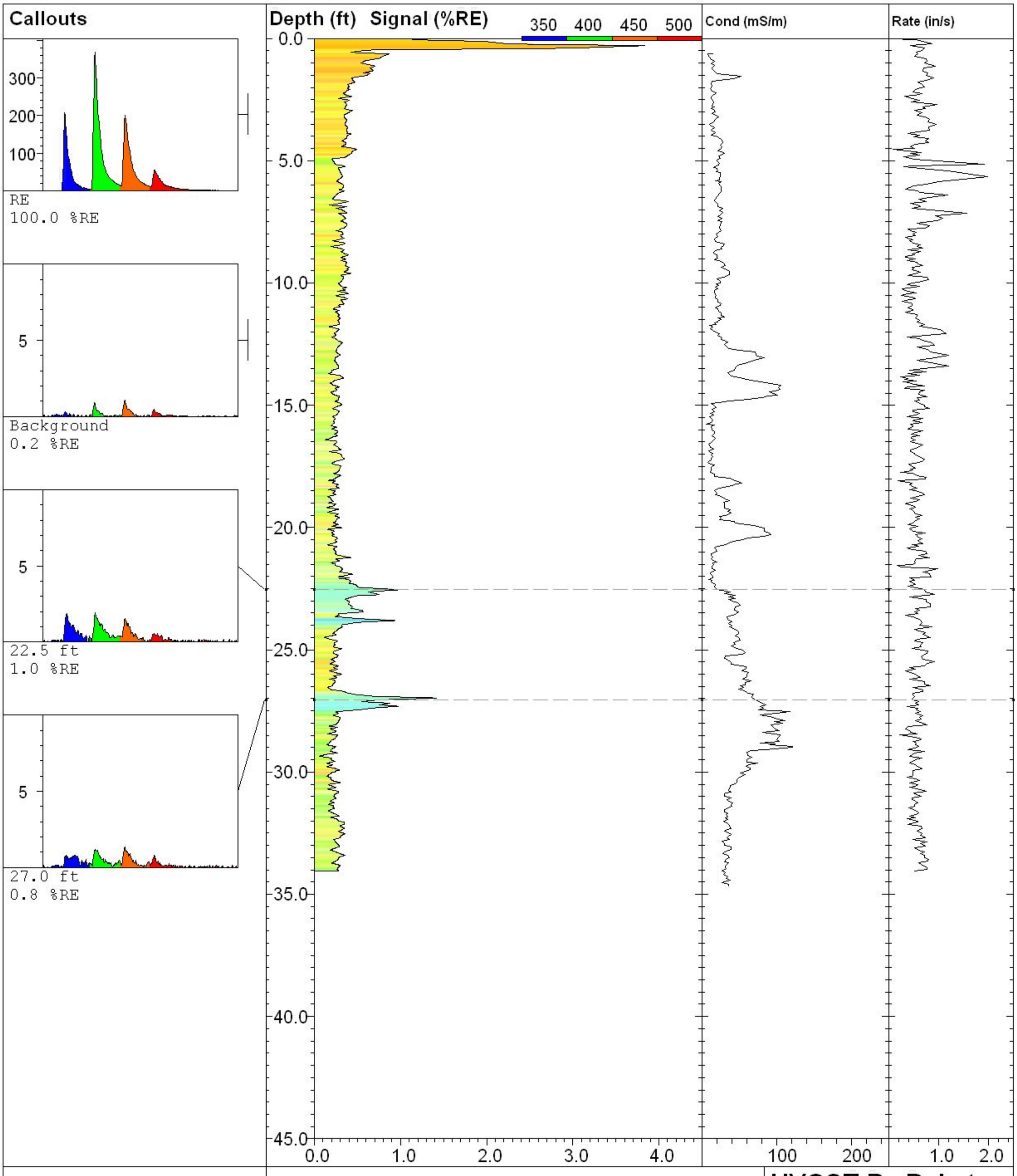
LIF-09

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.01 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **150.2 % @ 25.48 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 16:35 CDT**



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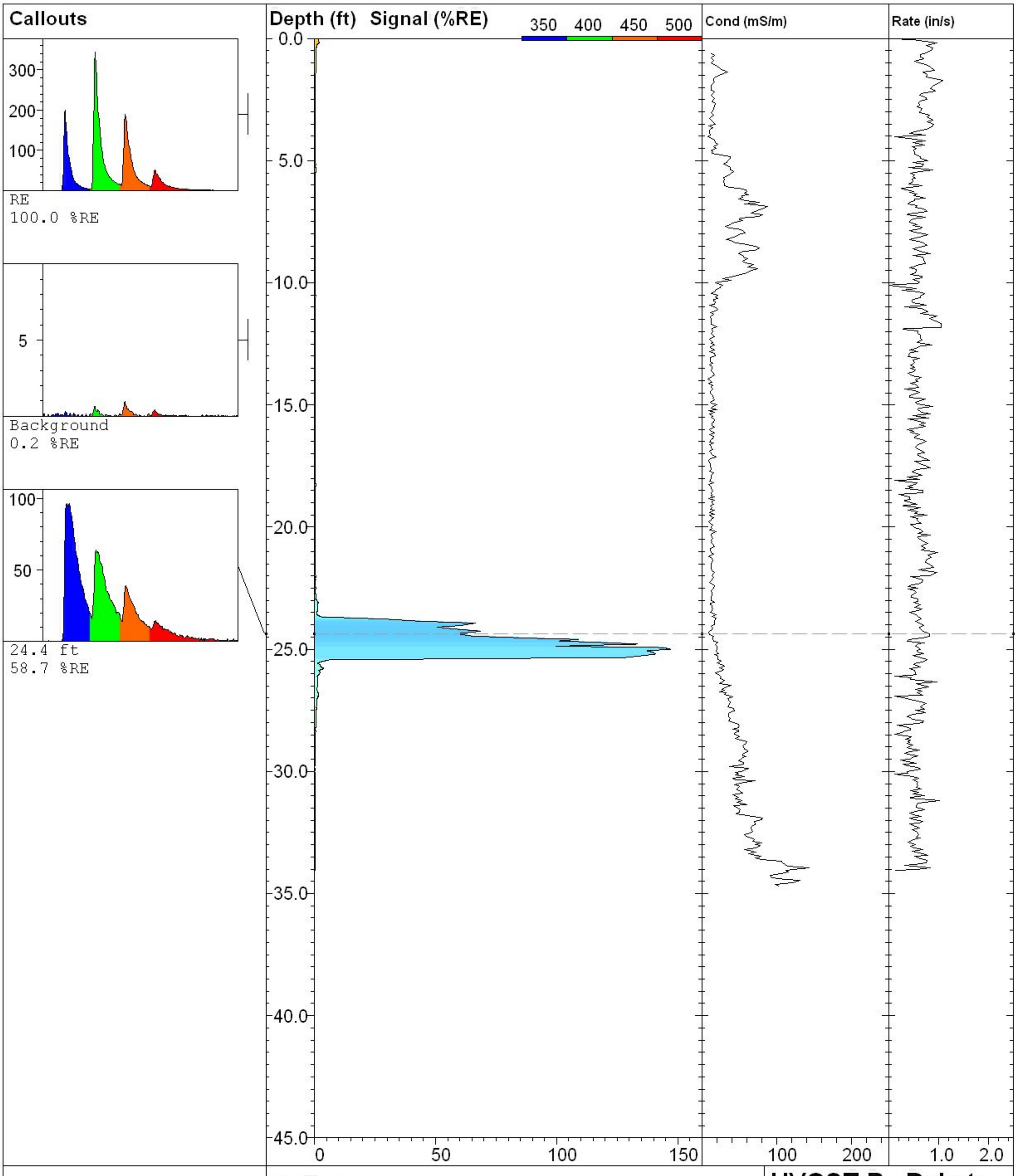
www.matrixenv.com

LIF-10

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **3.9 % @ 0.29 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 17:08 CDT**

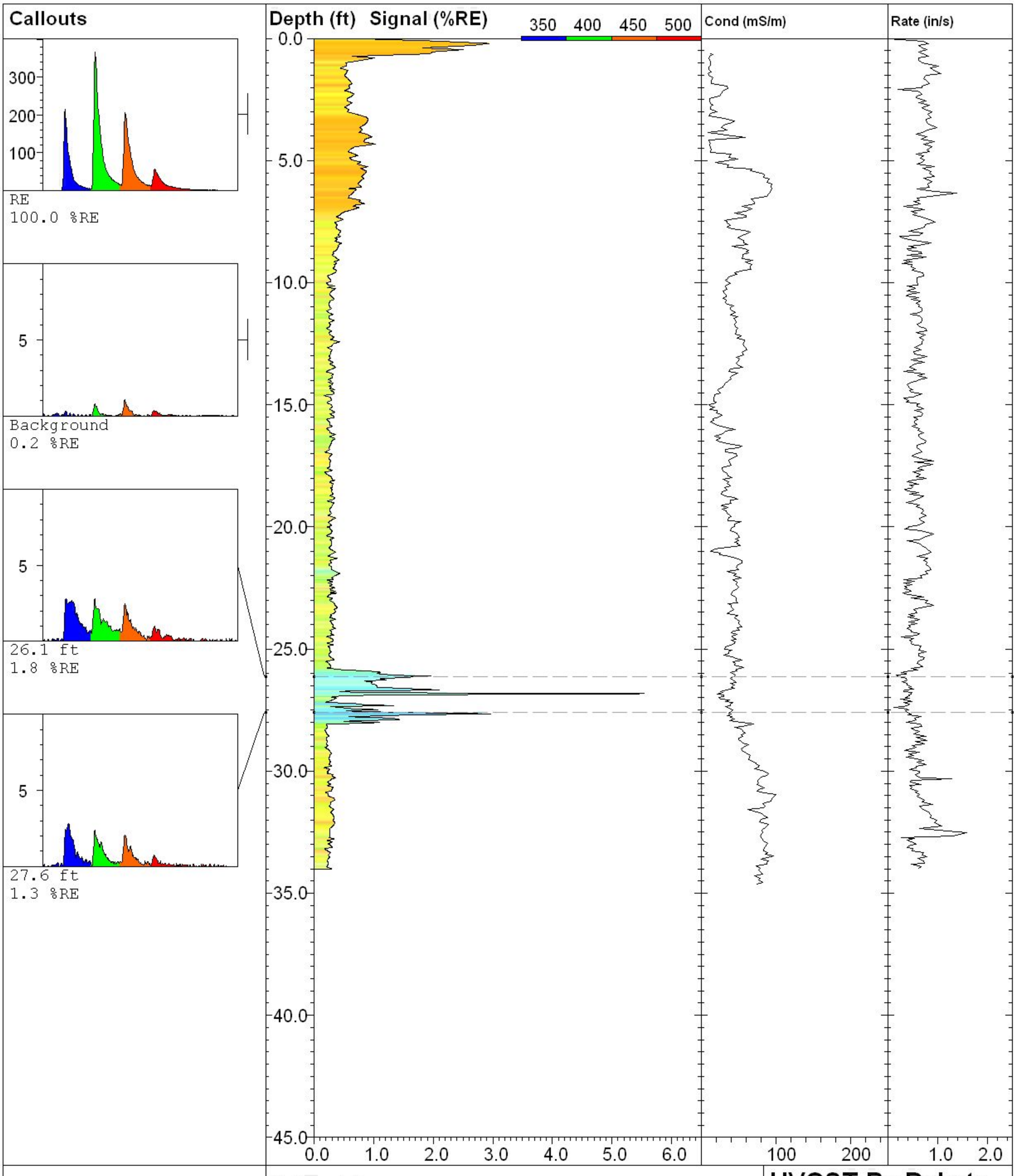


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-11

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.06 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **147.0 % @ 25.00 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 17:37 CDT**

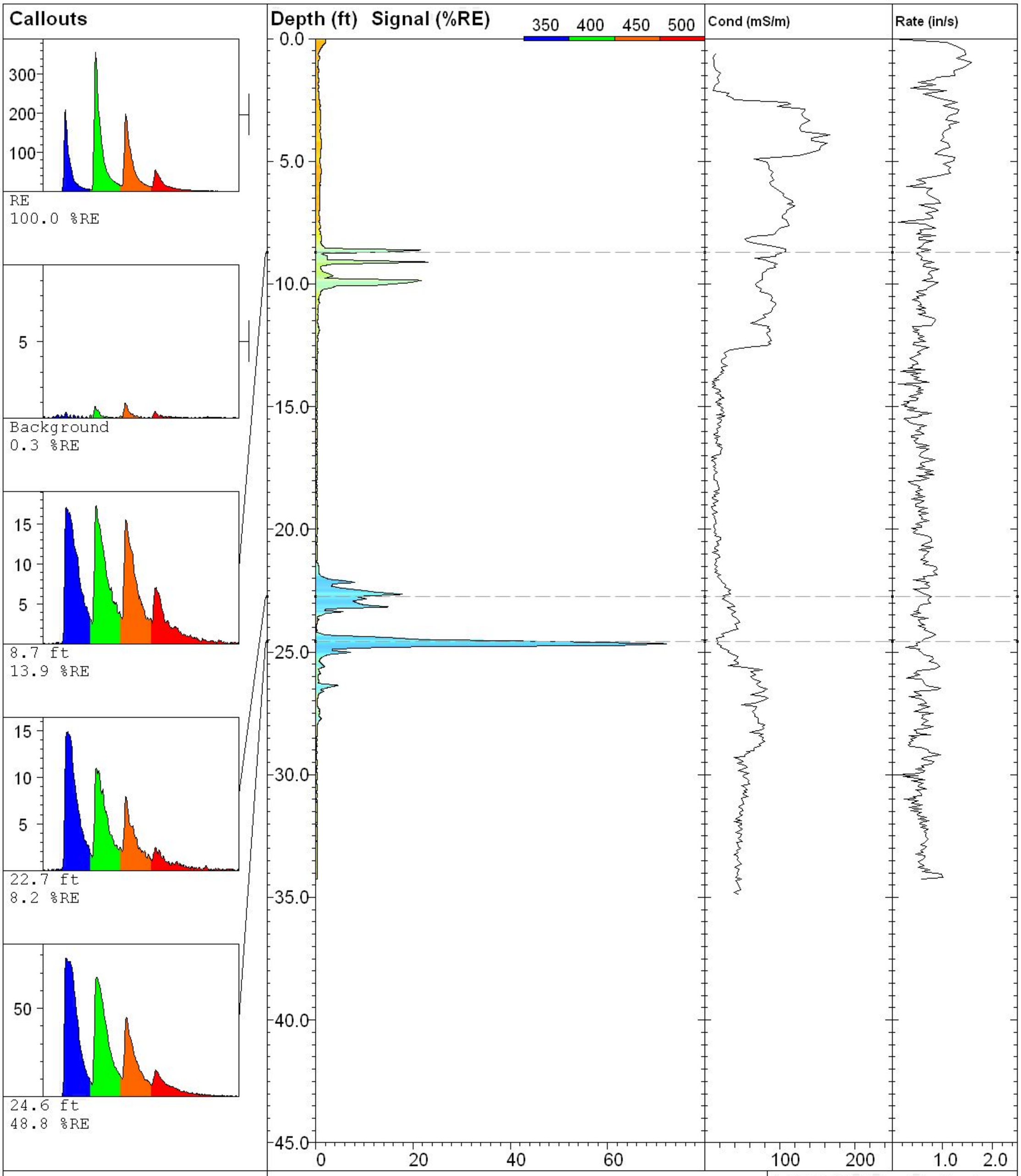


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

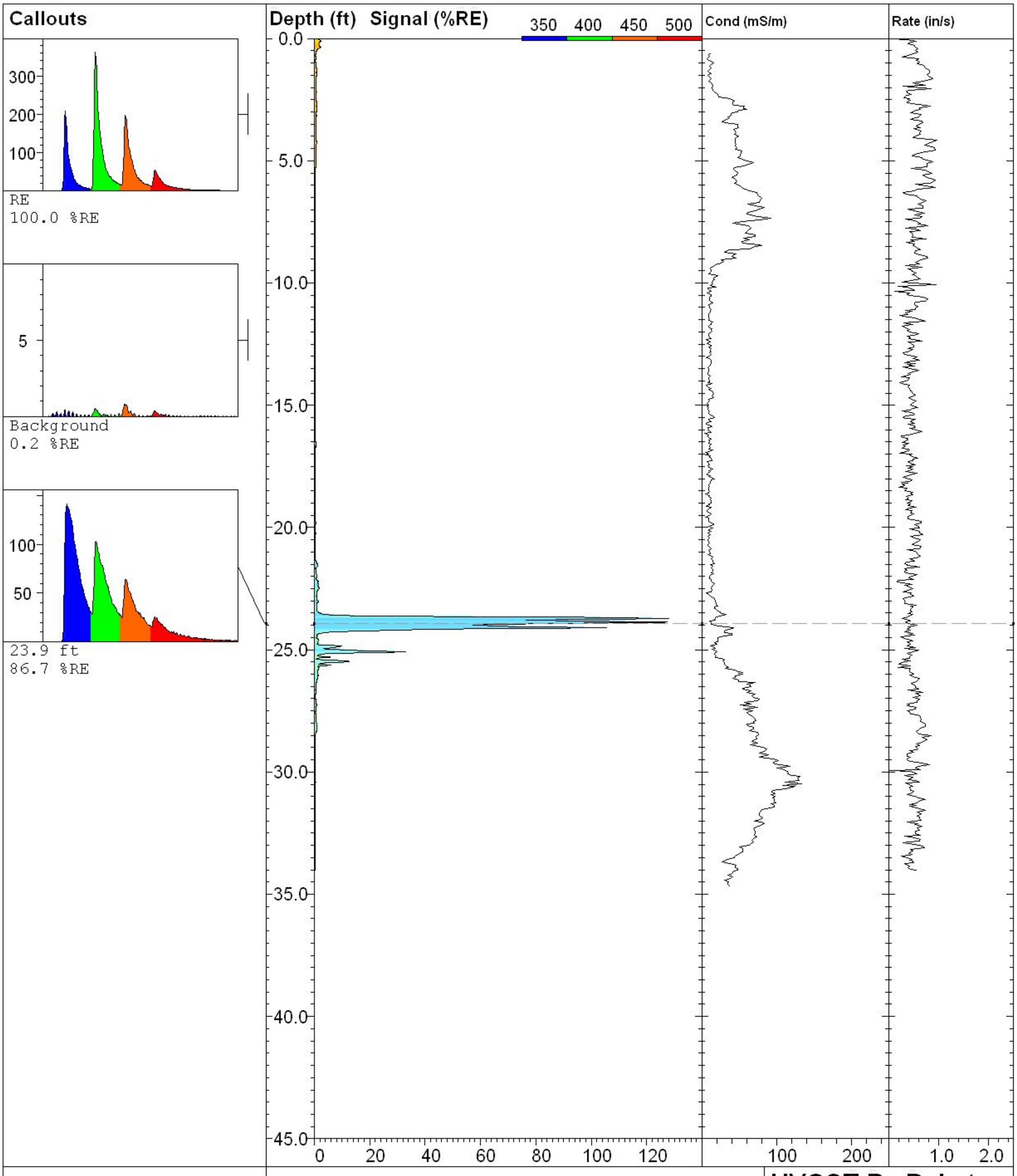
LIF-12

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.02 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.8 % @ 26.83 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 18:07 CDT**



MATRIX ENVIRONMENTAL LLC www.matrixenv.com	**LIF-13**		**UVOST By Dakota** www.DakotaTechnologies.com
	Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.26 ft**
	Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **72.3 % @ 24.66 ft**
	Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-11 18:56 CDT**

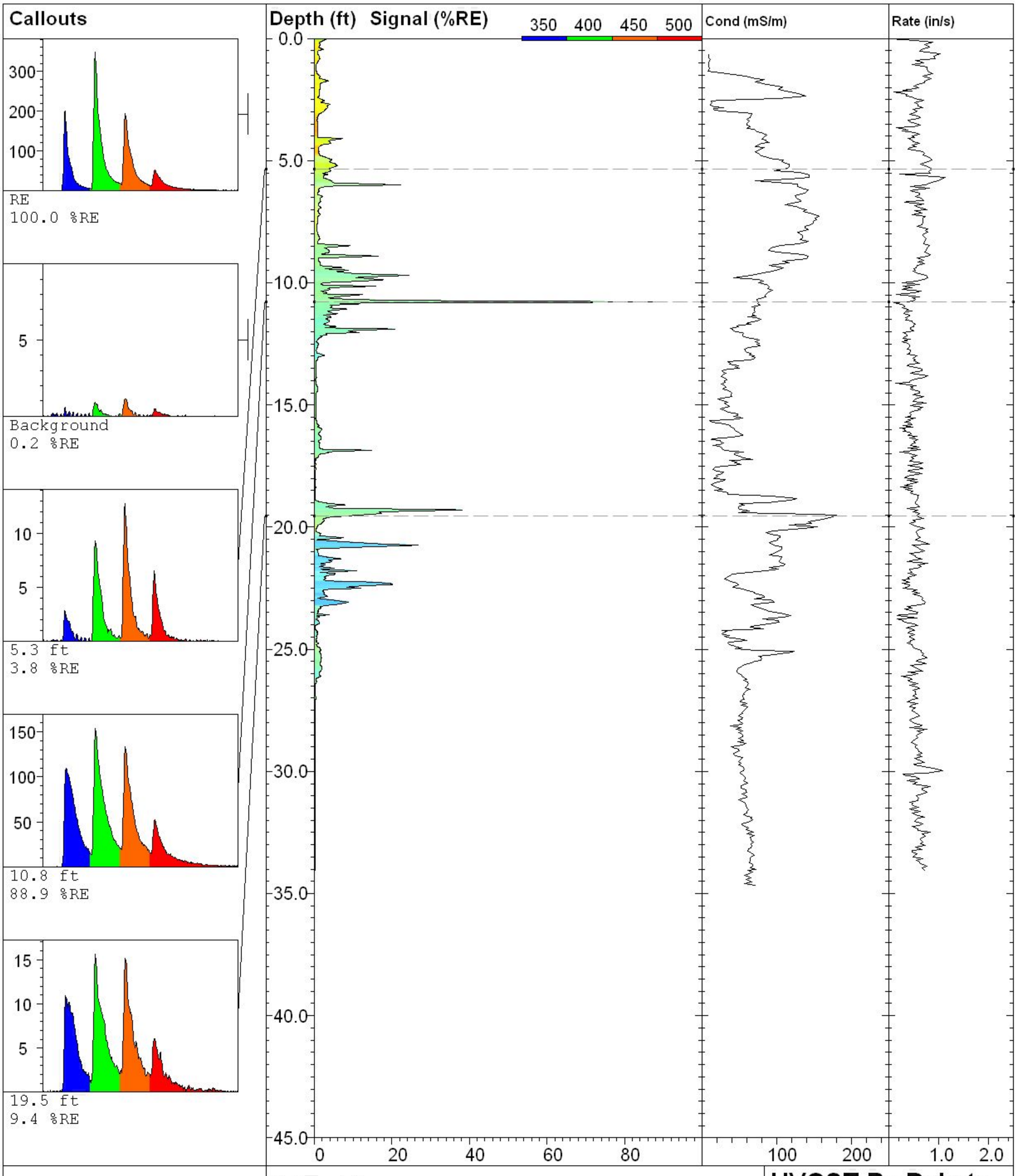


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-14

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **129.0 % @ 23.87 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 09:01 CDT**

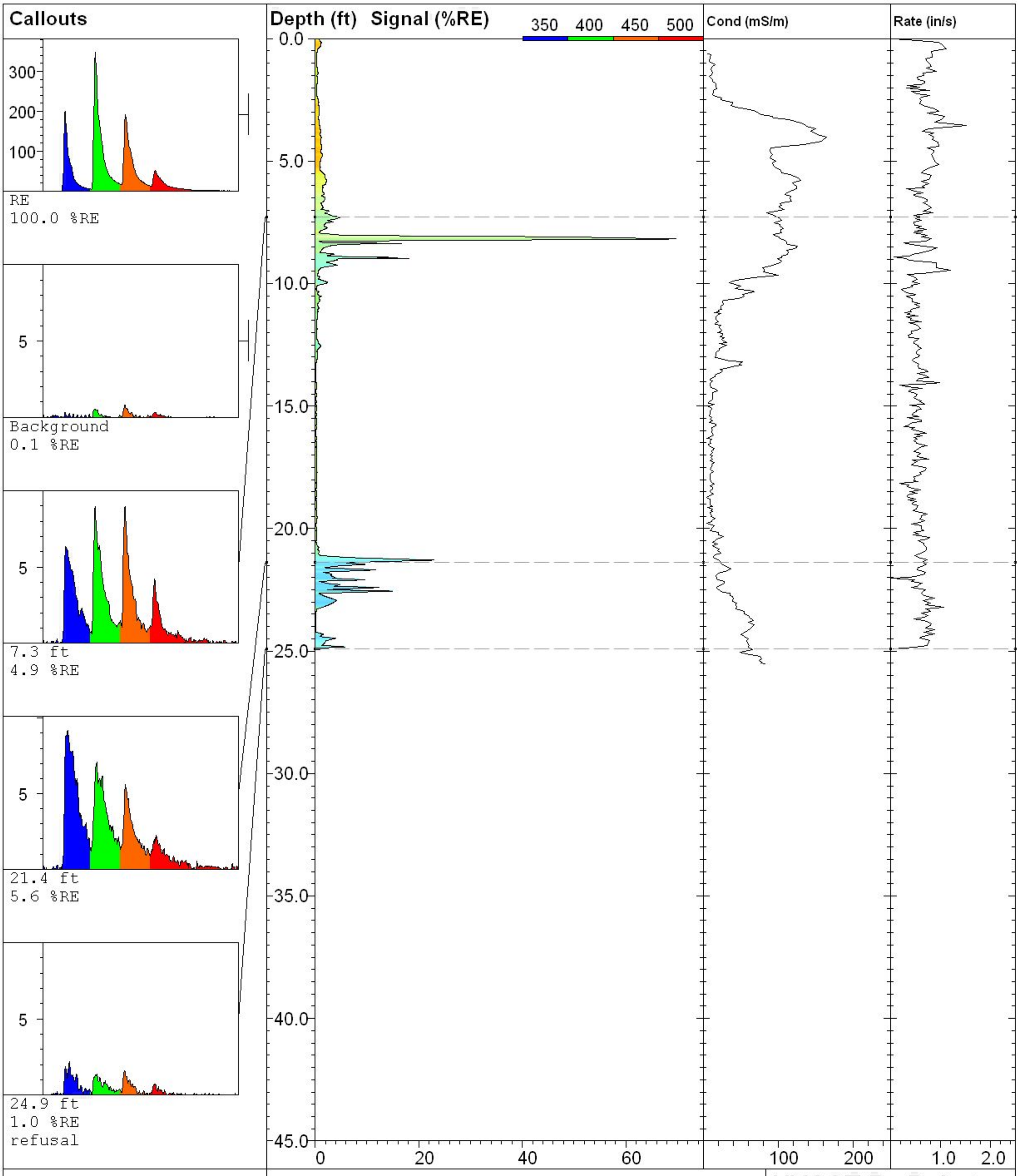


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-15

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.05 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **88.9 % @ 10.79 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 09:42 CDT**

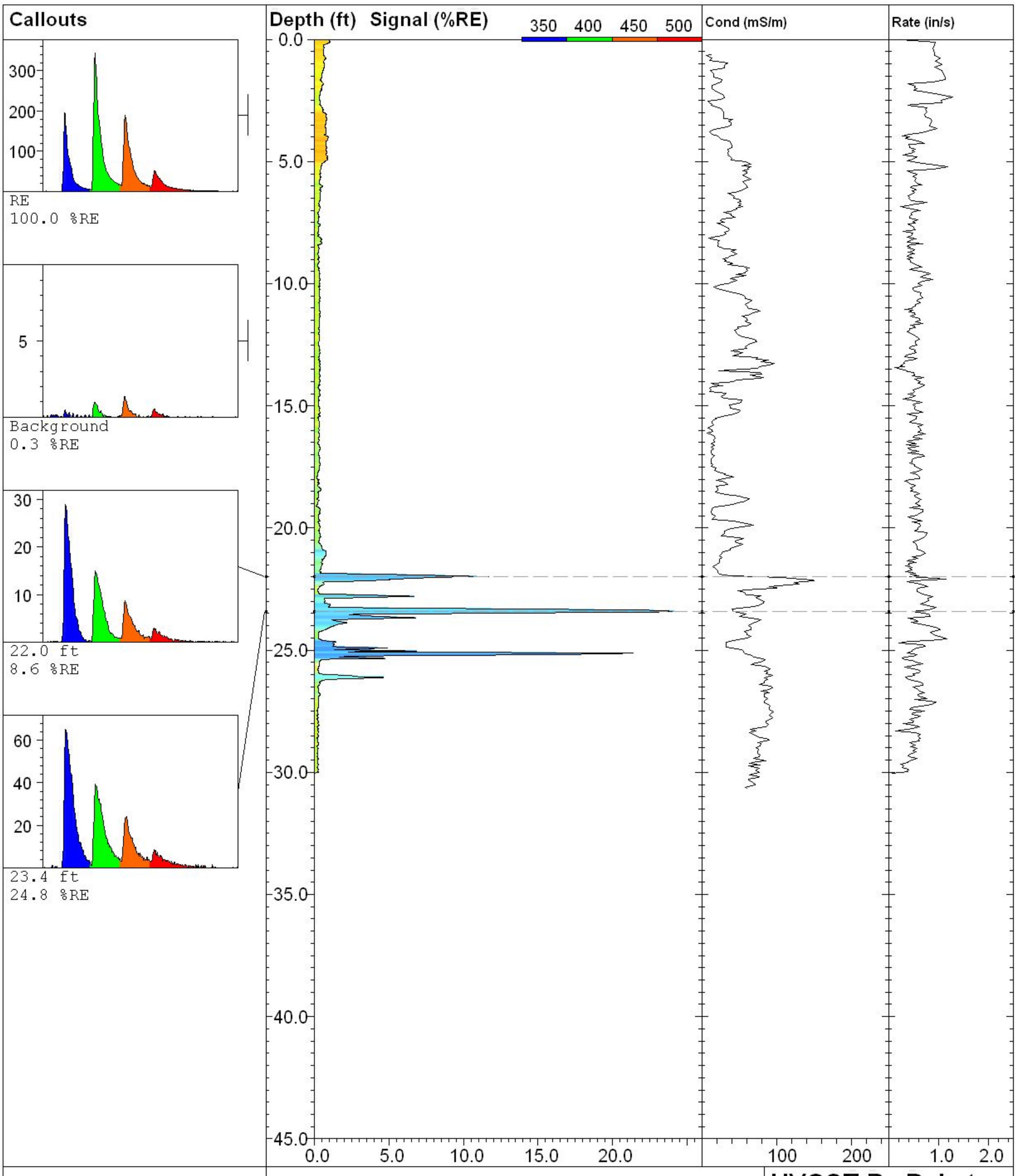


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-16

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **24.93 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **70.1 % @ 8.18 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 10:16 CDT**

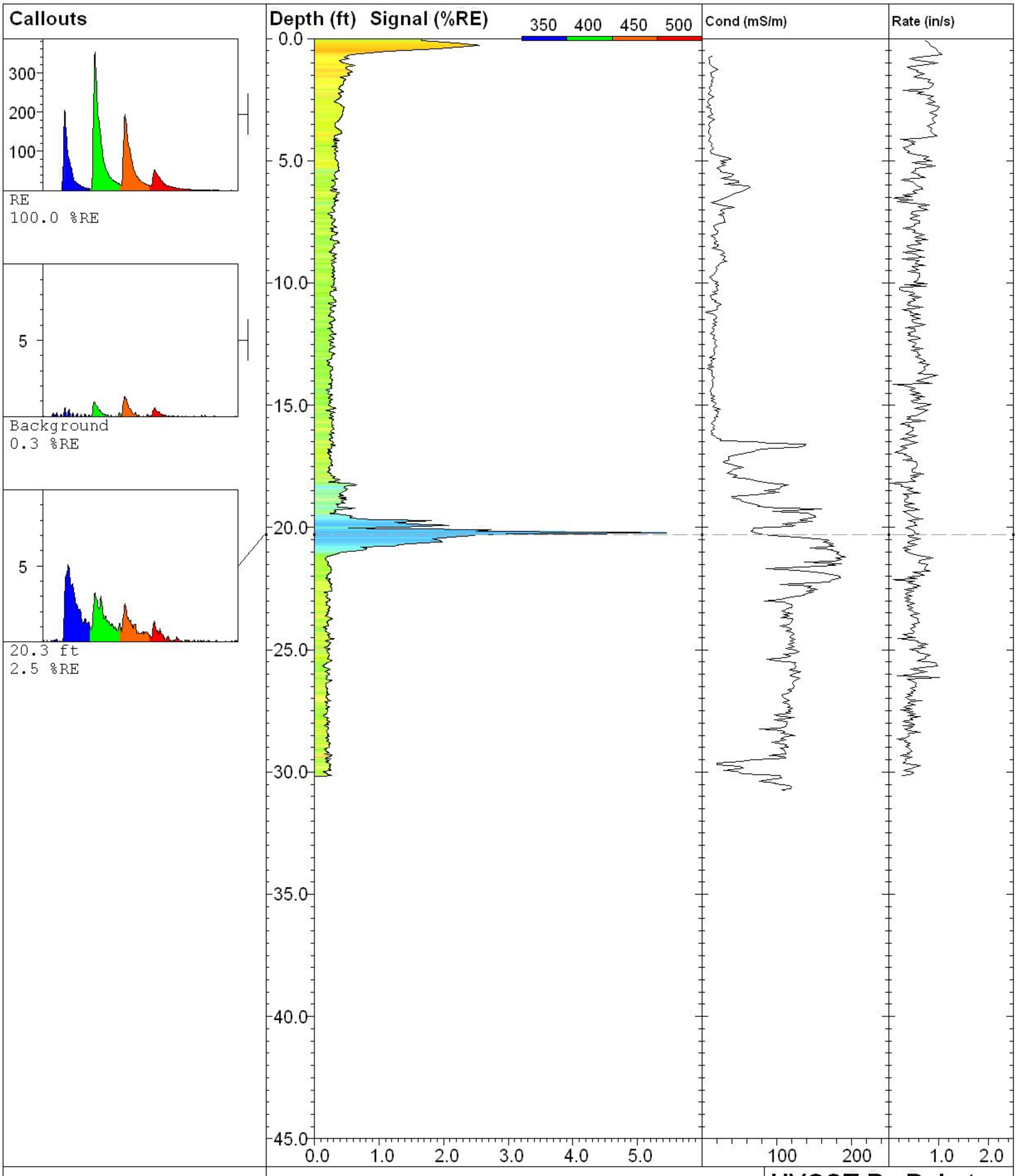


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-17

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **30.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **24.8 % @ 23.42 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 11:12 CDT**

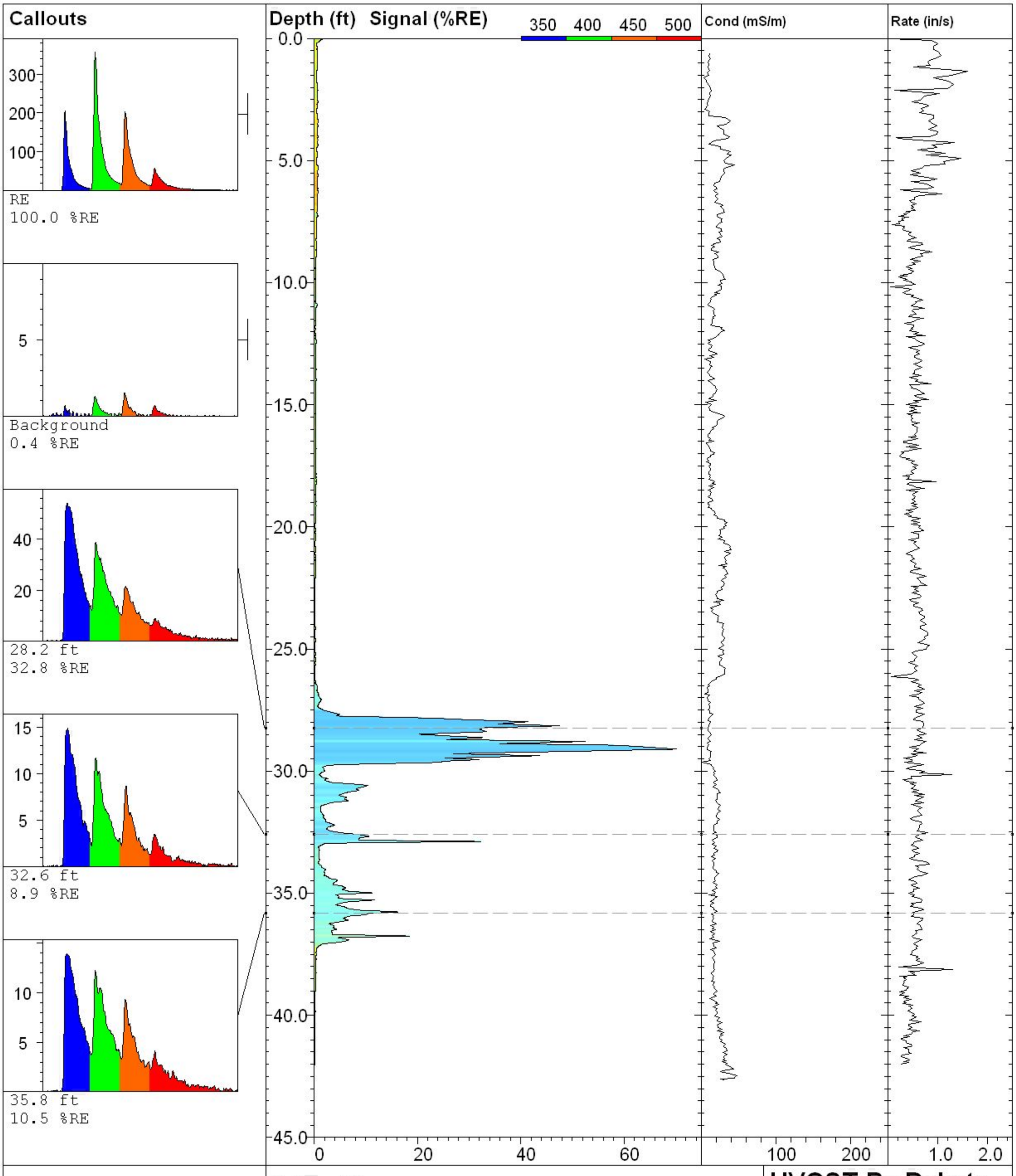


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-18

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **30.17 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.6 % @ 20.22 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 11:42 CDT**

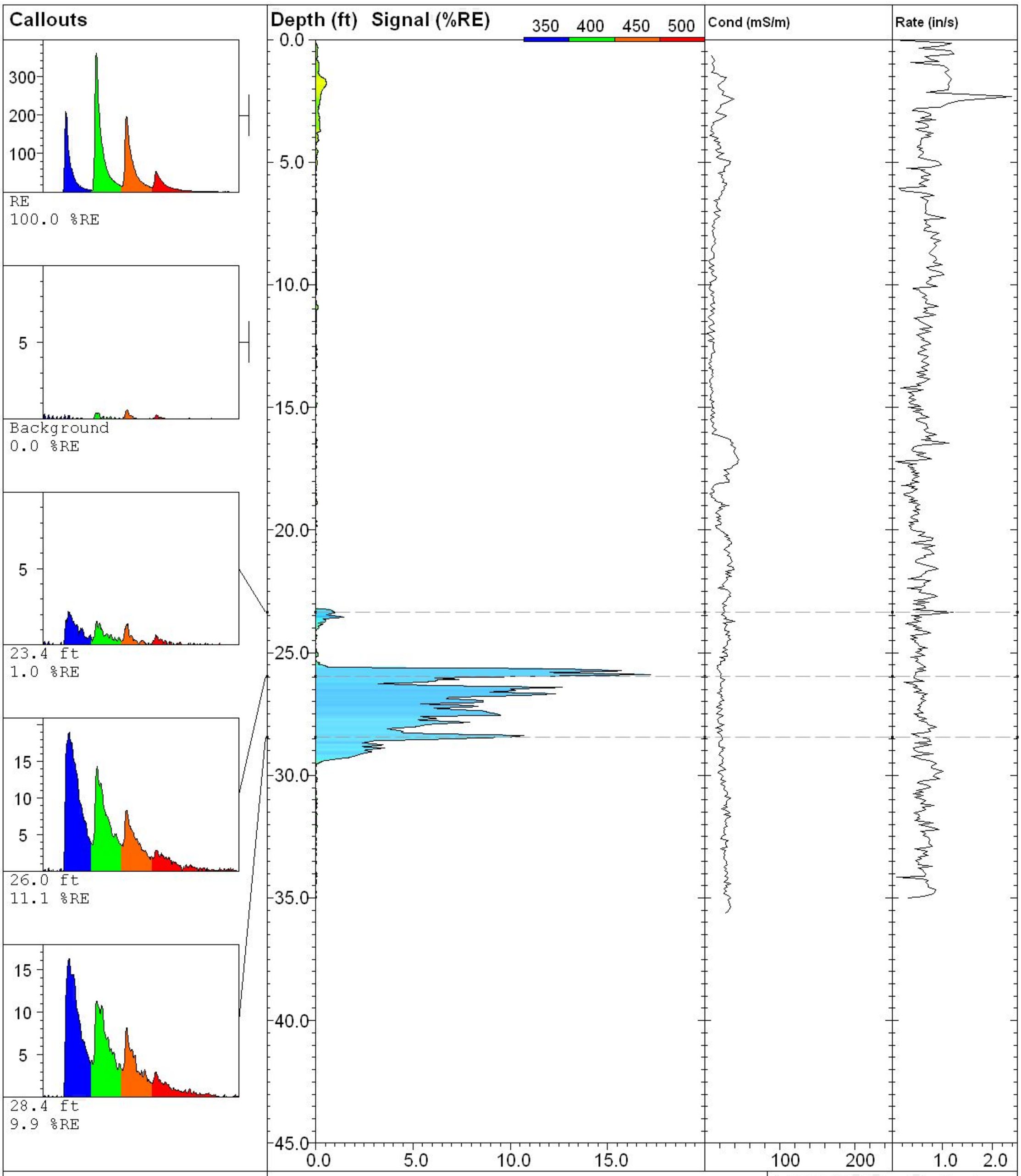


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-19

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **42.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **70.3 % @ 29.10 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 12:57 CDT**

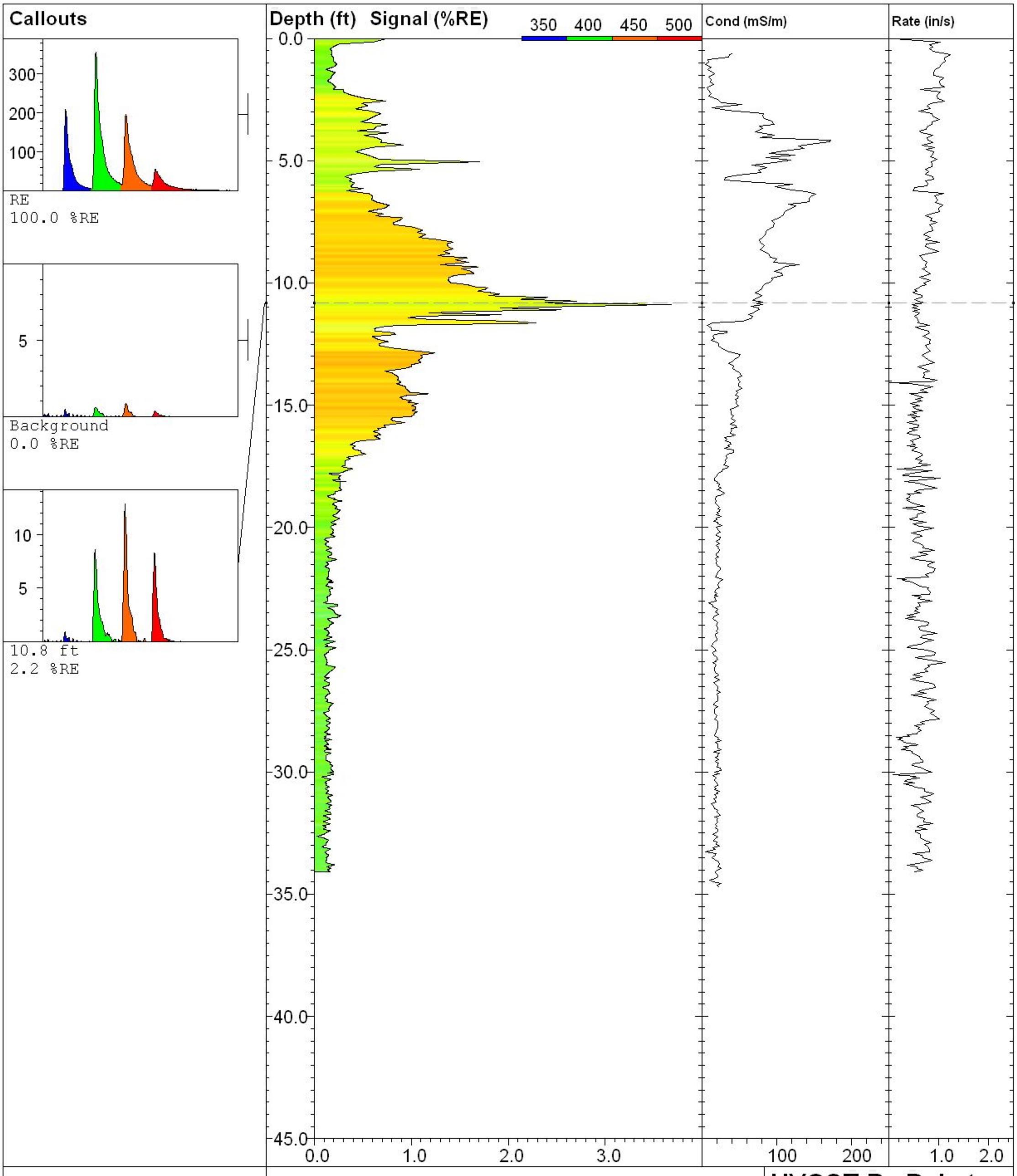


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-20

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **35.00 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **17.3 % @ 25.89 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 14:14 CDT**

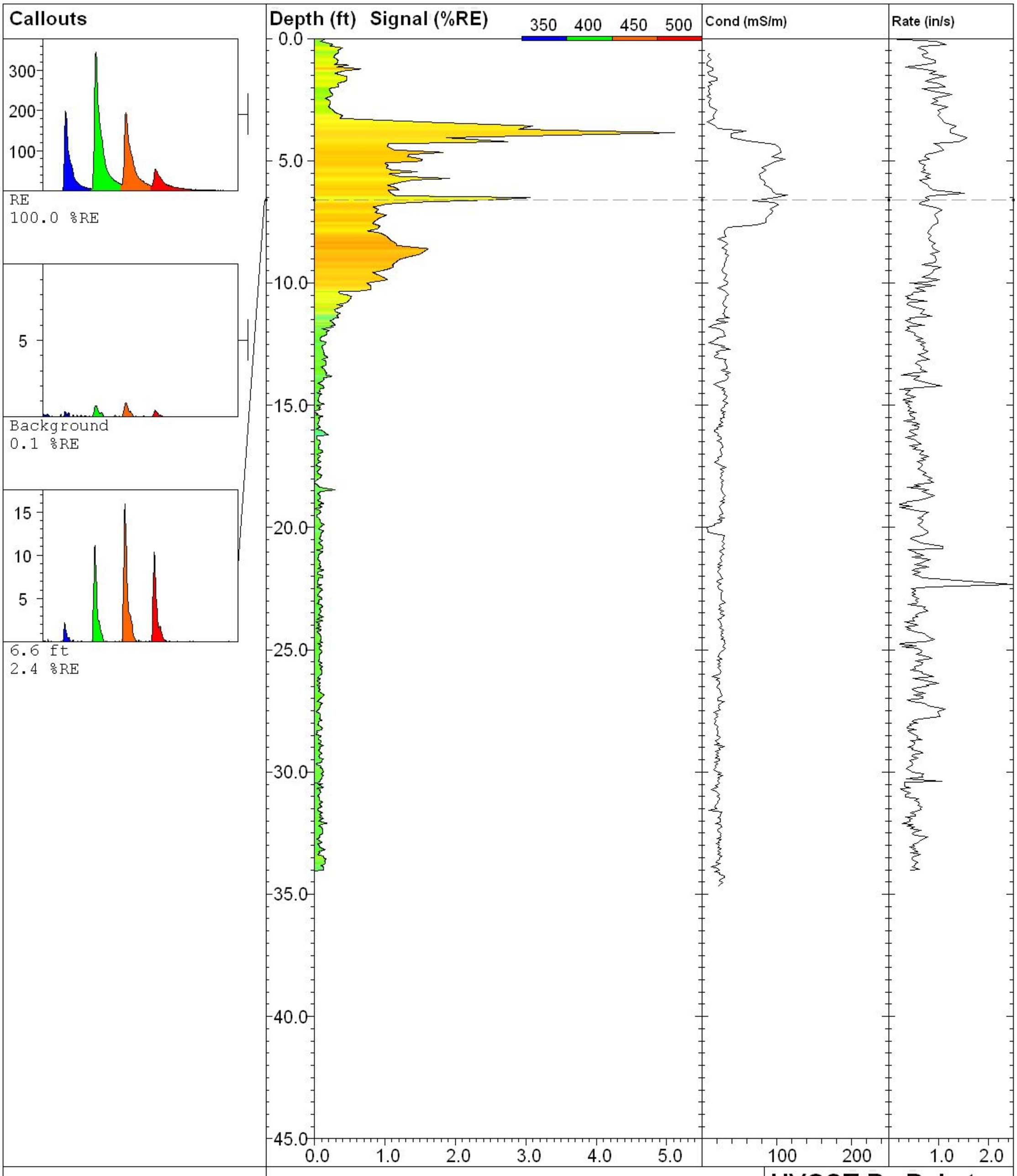


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-21

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.07 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **3.7 % @ 10.88 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 14:43 CDT**



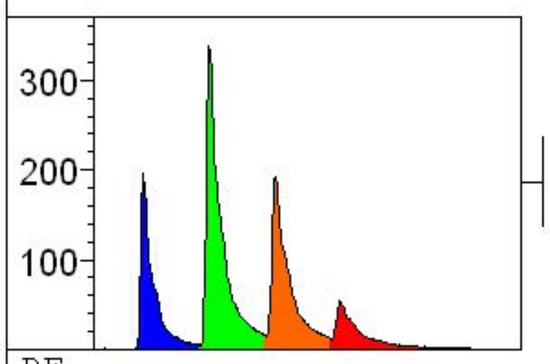
MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-22

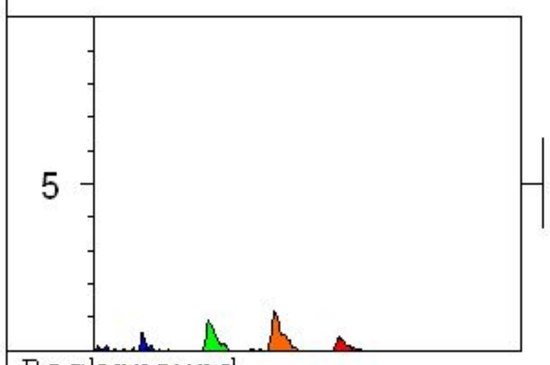
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.03 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **5.1 % @ 3.86 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 15:13 CDT**

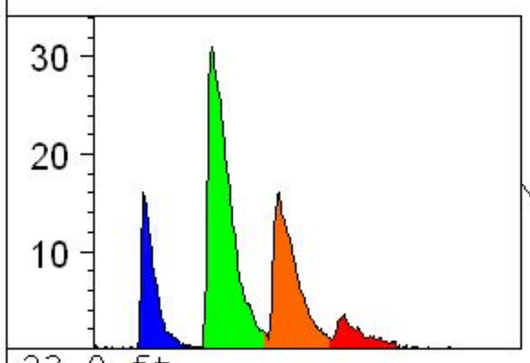
Callouts



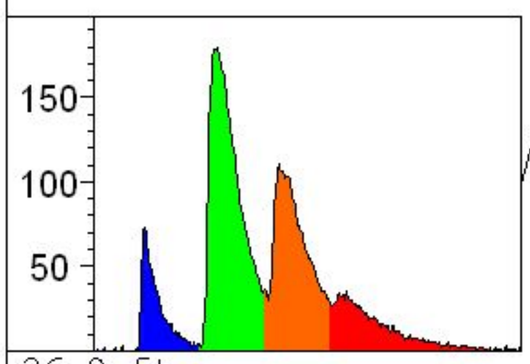
RE
100.0 %RE



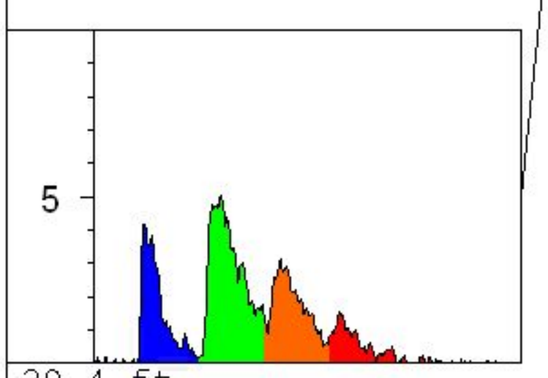
Background
0.1 %RE



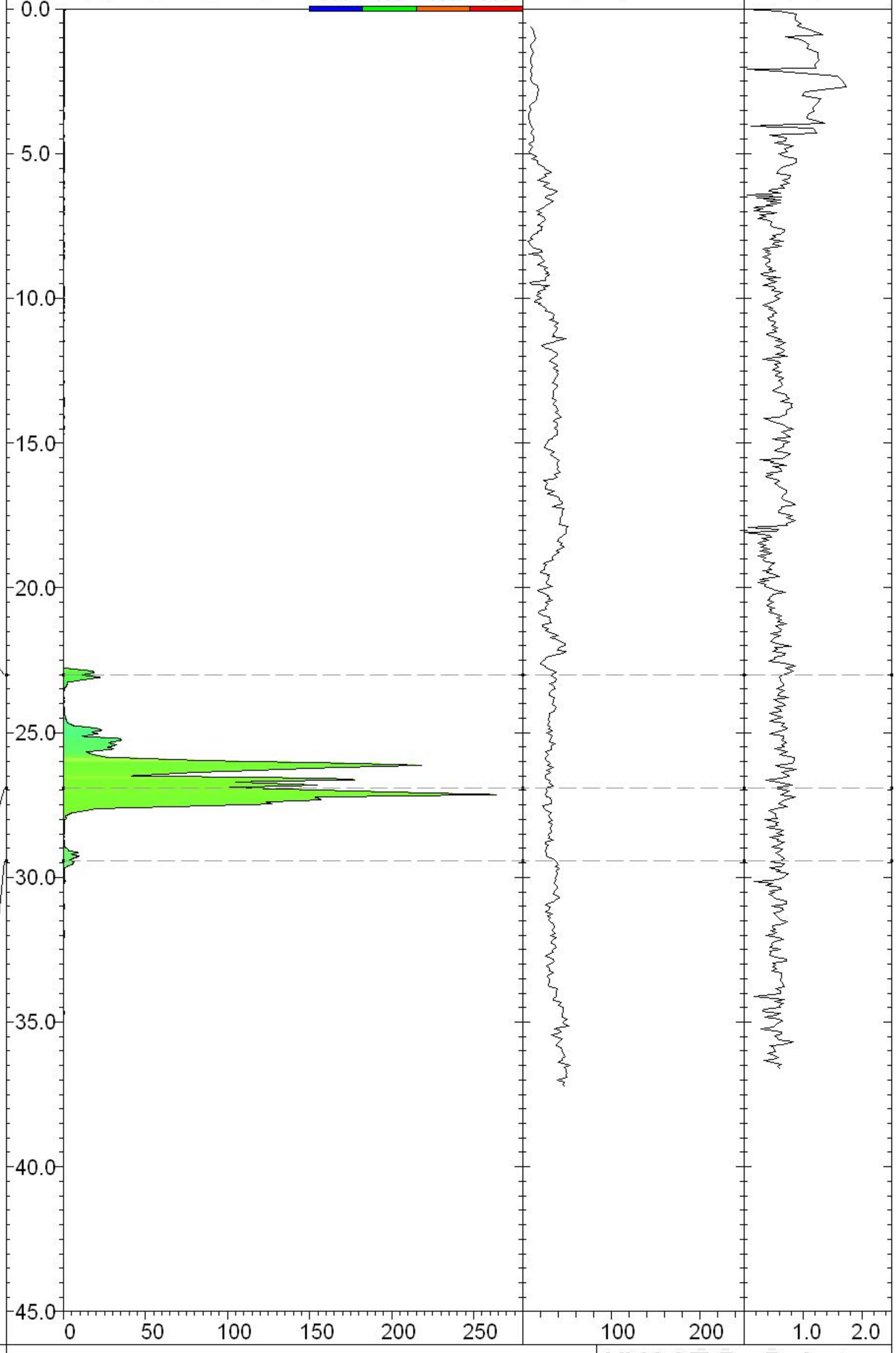
23.0 ft
11.2 %RE



26.9 ft
99.6 %RE



29.4 ft
3.2 %RE



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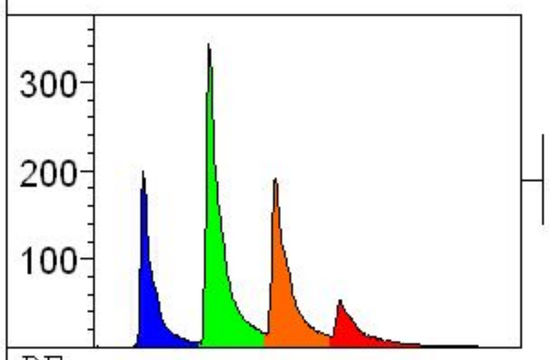
LIF-23

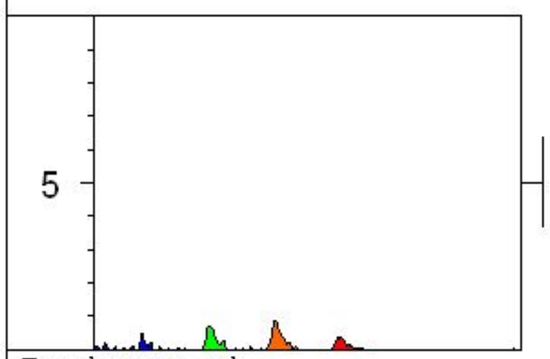
UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **36.62 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **265.5 % @ 27.15 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 15:43 CDT**

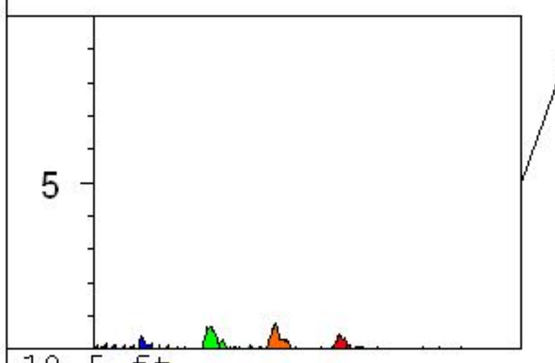
Callouts



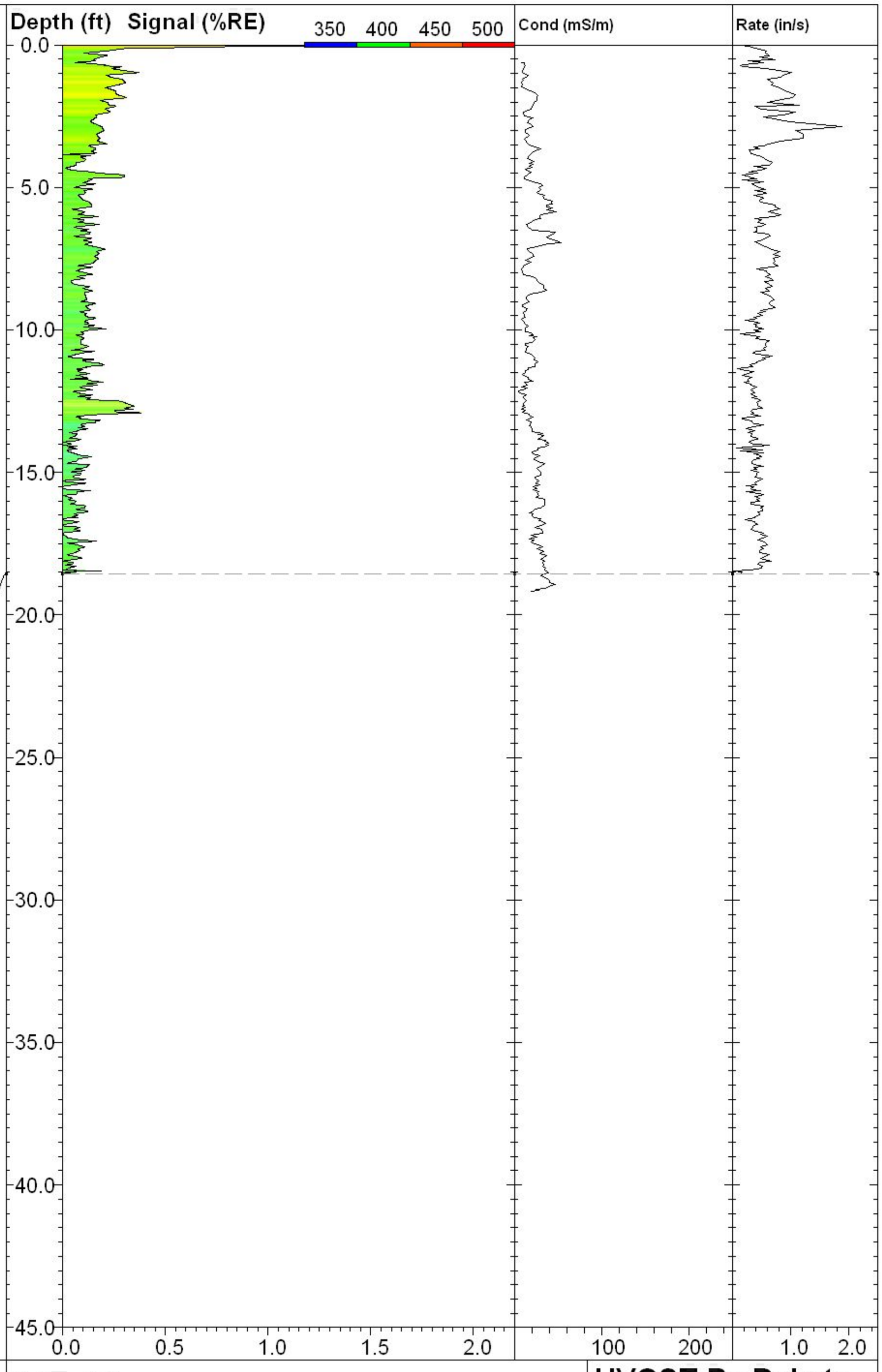
RE
100.0 %RE



Background
0.1 %RE



18.5 ft
0.0 %RE
refusal

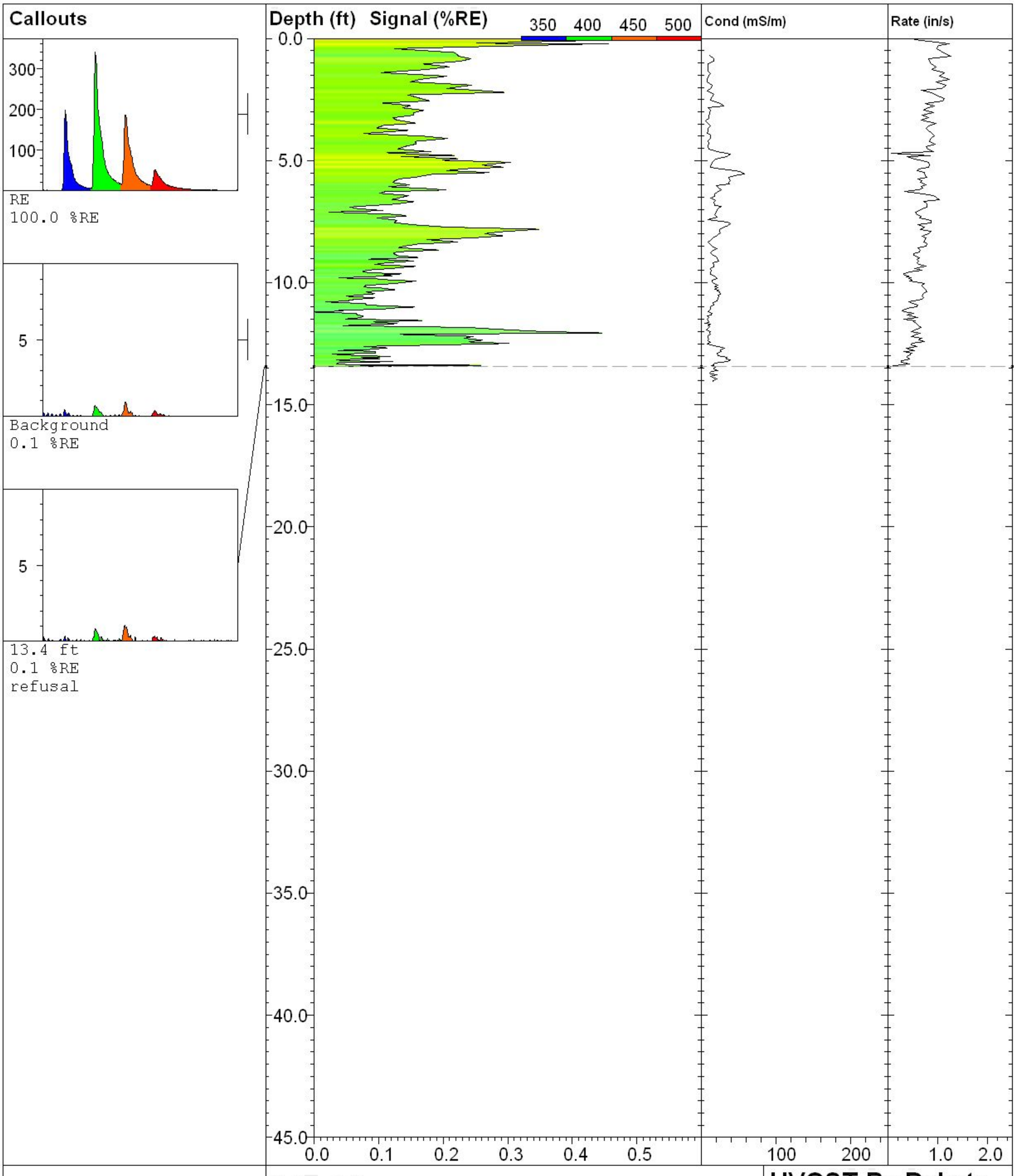


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-24

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **18.54 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.0 % @ 0.00 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 16:21 CDT**

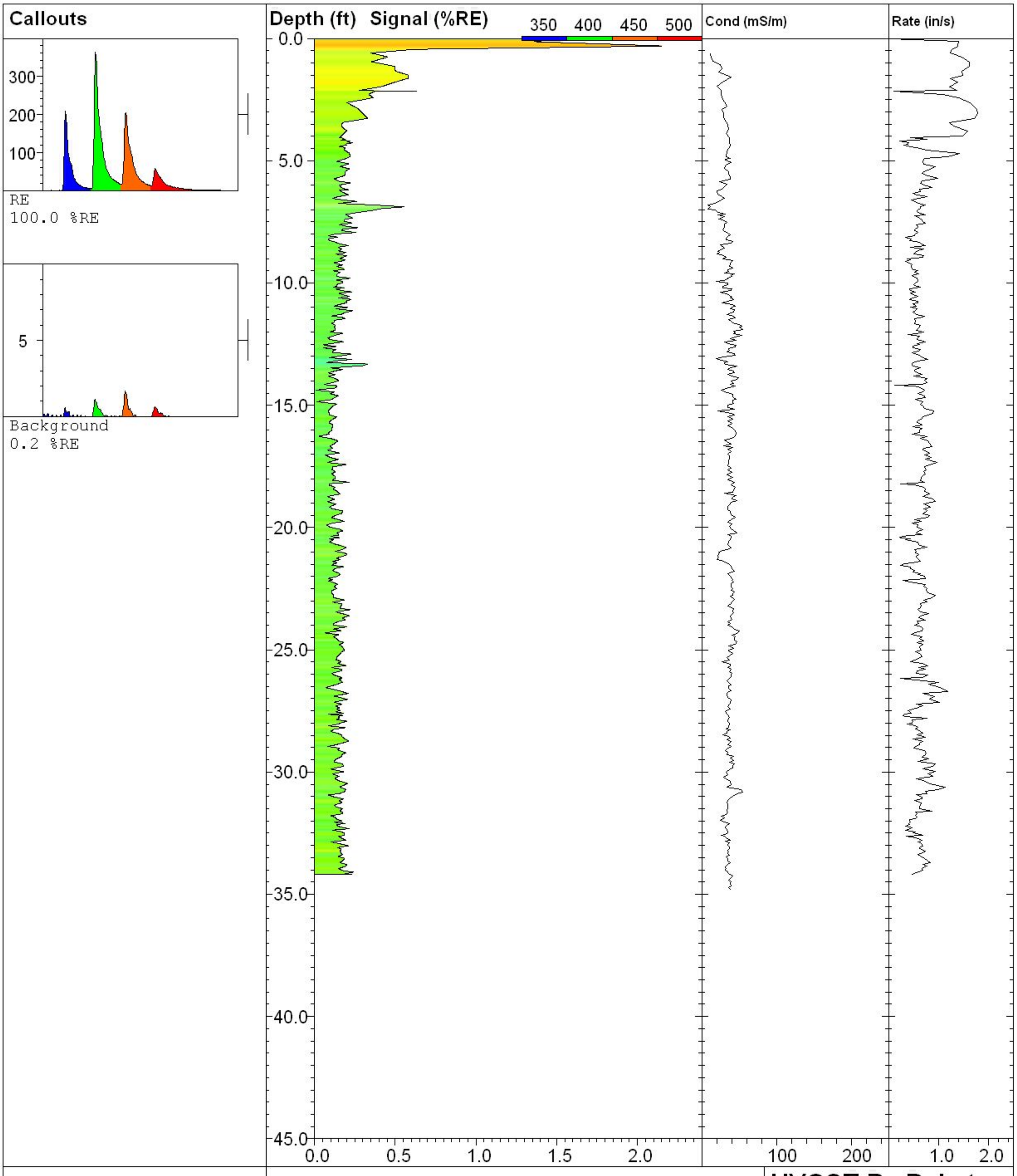


MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

LIF-25

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **13.43 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **0.5 % @ 0.06 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 16:45 CDT**



MATRIX ENVIRONMENTAL LLC
www.matrixenv.com

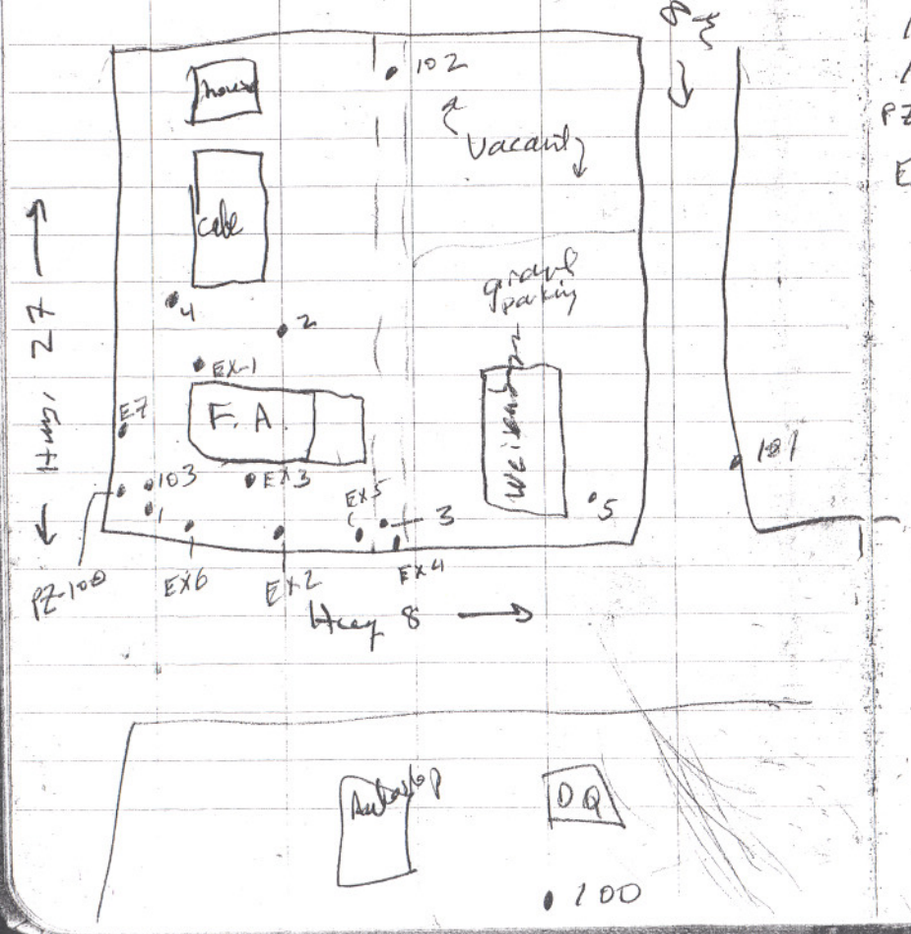
LIF-26

UVOST By Dakota
www.DakotaTechnologies.com

Site: **Doug's Tire**	*Latitude / Datum:* **Unavailable / NA**	*Final depth:* **34.18 ft**
Client: **Meridian**	*Longitude / Fix:* **Unavailable / NA**	*Max signal:* **2.2 % @ 0.31 ft**
Job: **101-MNDS-12UV**	*Operator/Unit:* **DT/SA/UVOST1023**	*Date & Time:* **2012-09-12 17:12 CDT**

9/10/12 Doug's

- met Ron Young - attempted to locate sanitary
- measure w.l. & P.T.



Well	DTP	DTW	TD (bg)	
MW-1	23.31	23.25	50	
-2	—	23.80	30	odor? cut PVC
-3	24.50	26.20	~28½	
-4	—	24.70	32	odor?
-5	—	22.93	30	~~odor~~ cut to PVC
100	—	22.18	28	
101	—	25.55	~34	cut PVC *
102	damaged			
103	21.90	24.70	~29	cut PVC
PZ-100	24.76	24.90	~67	cut PVC
EX-1	20.95	23.80	~29	pump
-2	23.3	24.4	~31	pump
-3	23.5	25.8	~34½	pump
-4	24.41	24.90	~32	pump
-5	23.96	25.90	~33	pump
-6	obstruction/silted in ?		23'	
-7	21.85	24.0	~34½	pump

removed pumps from EX-1, -2, -3, -4, -5, -6, -7

EX-6 - obstruction ~23' bg.
TD = 23' ?

9/11/12 · Doug's

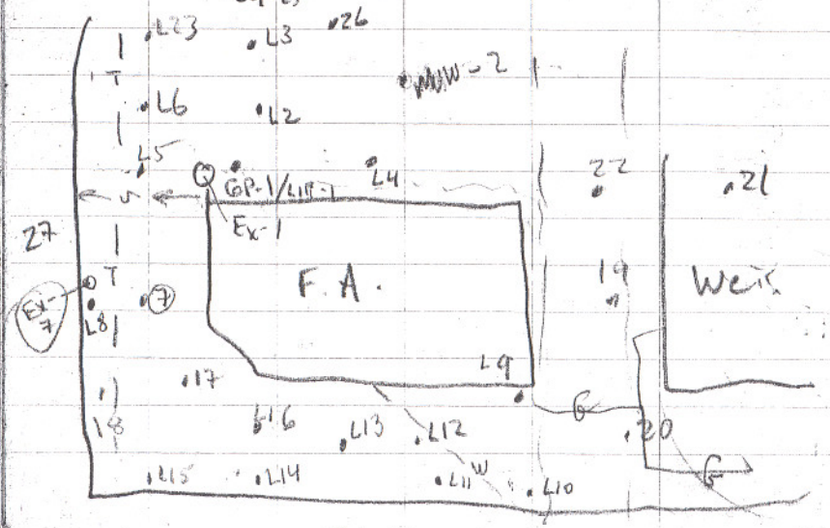
Prod. Table (meas. 9/11/12)

MW-3	~1.7
103	2.8
Ex-1	2.85
Ex-2	.9
Ex-3	2.3
Ex-4	.49
Ex-5	1.94
Ex-6	
Ex-7	2.15

Cabo

Matrix - Dan + Sam

Vicki & Scott S. stopped by



8

GP-1 — Head Space

push tube to pavement. 16 ft.

0-16		
16-20	40	significant odor red-brown silty sand. moist. discolored due to product
20-24	50	same. moist to wet
24-26	80	same. poor recovery

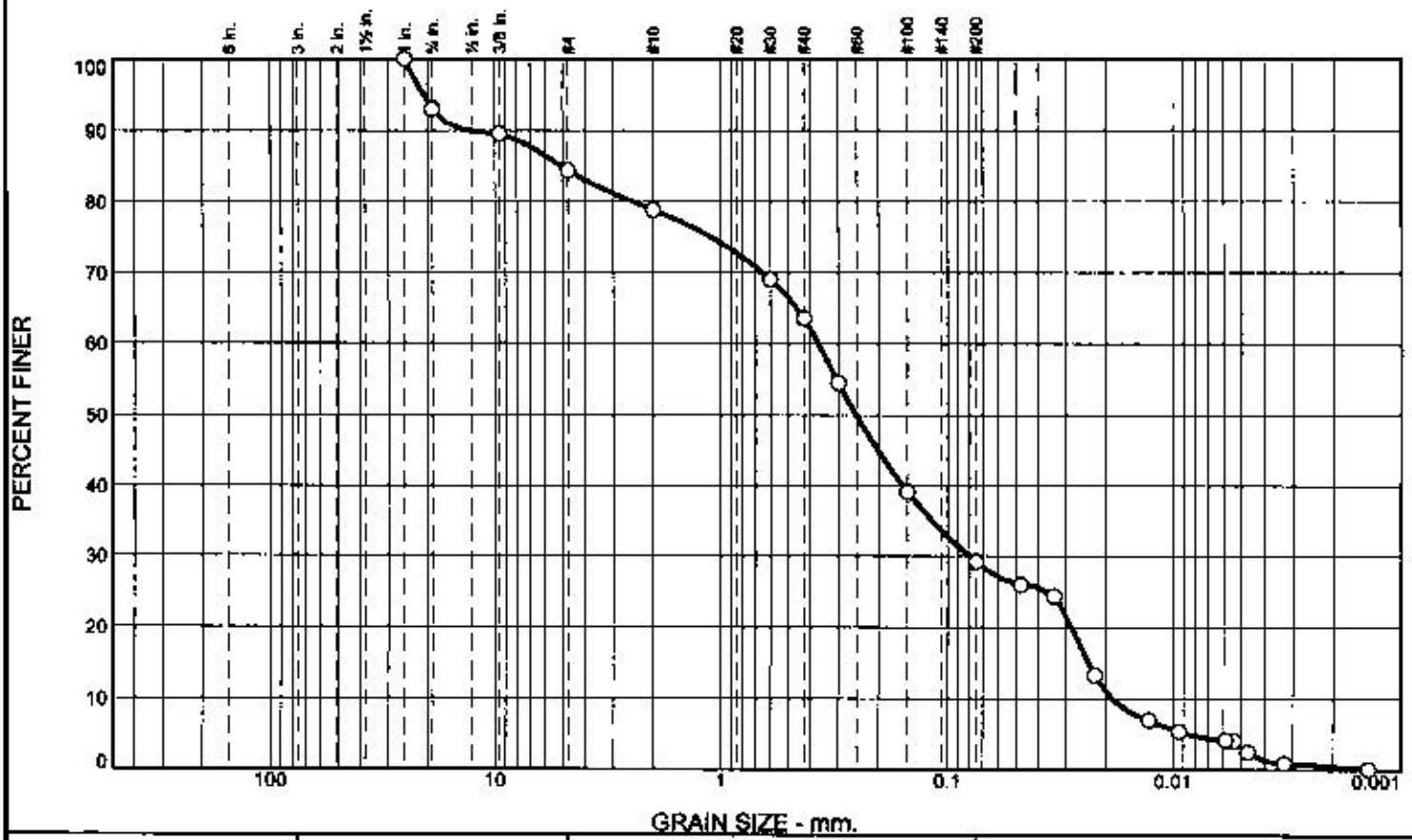
EOB = 28 ft. but recovery from 26 ft.

LIF-1 - same location contaminated to ± 30 ft.

LIF-2 adjacent to B-23. LNAPL at W.T.

L-3	- north of L2	LNAPL at W.T.
L-4	- east of L1	LNAPL at wt.
L-5	- west of L1	LNAPL top to bottom
L-6	- north of L5	LNAPL at W.T.
L-7	- south of L5	former pump island cont. to depth - NO LNAPL
L-8	- west of L7 - 50.	of Ex-7

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	6.9	8.7	5.6	15.3	34.3	25.9	3.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	93.1		
3/8"	89.6		
#4	84.4		
#10	78.8		
#30	69.0		
#40	63.5		
#50	54.5		
#100	39.2		
#200	29.2		
0.0476 mm.	25.9		
0.0339 mm.	24.4		
0.0224 mm.	13.3		
0.0128 mm.	7.0		
0.0094 mm.	5.4		
0.0059 mm.	4.3		
0.0054 mm.	4.1		
0.0047 mm.	2.5		
0.0033 mm.	1.0		
0.0014 mm.	0.1		

* (no specification provided)

Soil Description

Reddish Brown Sand, with Silt, trace Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 5.0651 D_{60}= 0.3673 D_{50}= 0.2509
D_{30}= 0.0802 D_{15}= 0.0238 D_{10}= 0.0187
C_u= 19.63 C_c= 0.94

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: GP-1 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 20-24'

Midwest Engineering Services

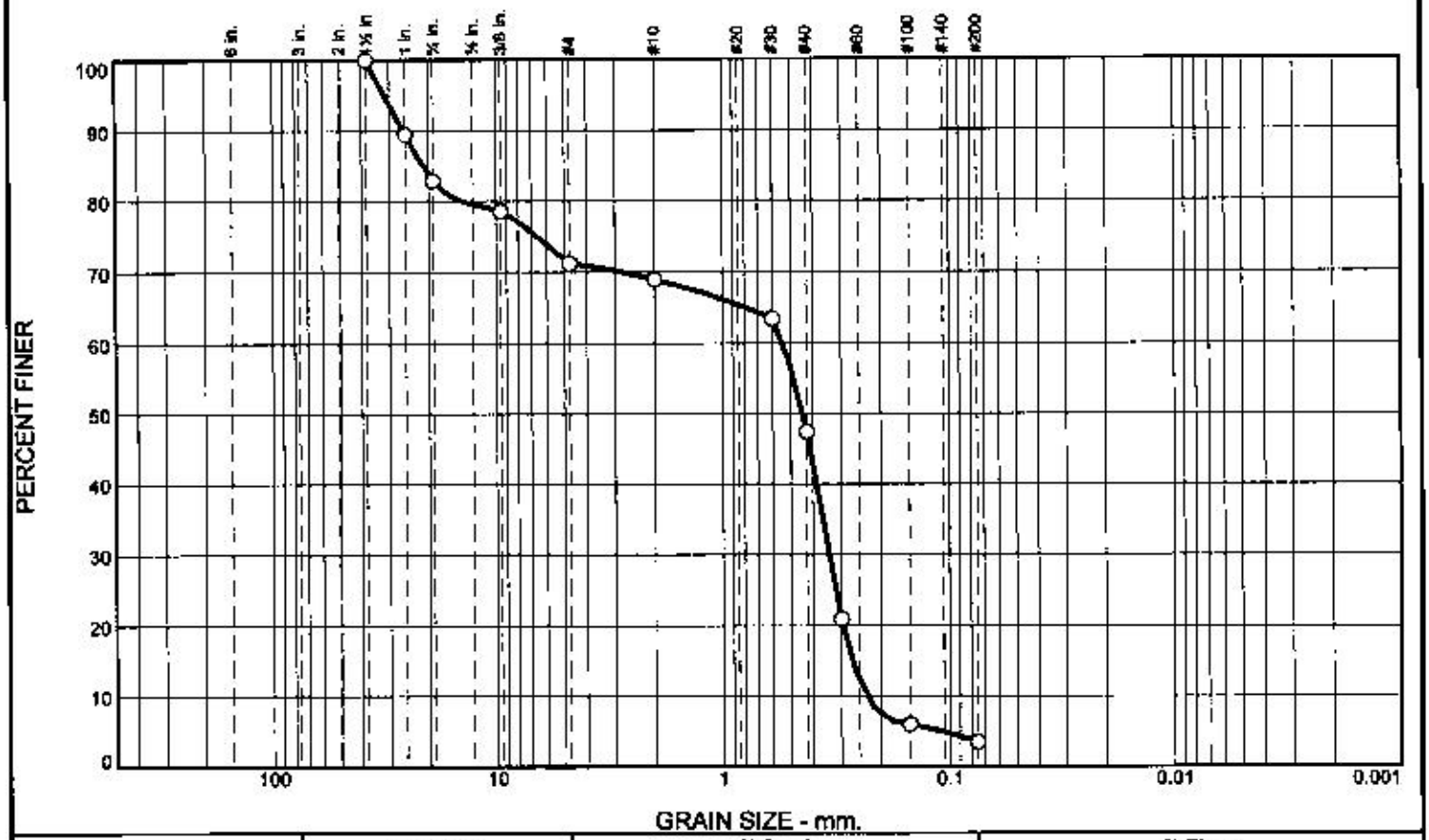
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 1

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	17.1	11.7	2.2	21.6	44.0	3.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2"	100.0		
1"	89.5		
3/4"	82.9		
3/8"	78.5		
#4	71.2		
#10	69.0		
#30	63.5		
#40	47.4		
#50	21.0		
#100	6.0		
#200	3.4		

* (no specification provided)

Soil Description

Reddish Brown Sand, with Gravel, trace Fines

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 21.1889 D_{60}= 0.5410 D_{50}= 0.4422
D_{30}= 0.3398 D_{15}= 0.2685 D_{10}= 0.2324
C_U= 2.33 C_c= 0.92

Classification

USCS= SP AASHTO= A-1-b

Remarks

Sample No.: GP-2 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

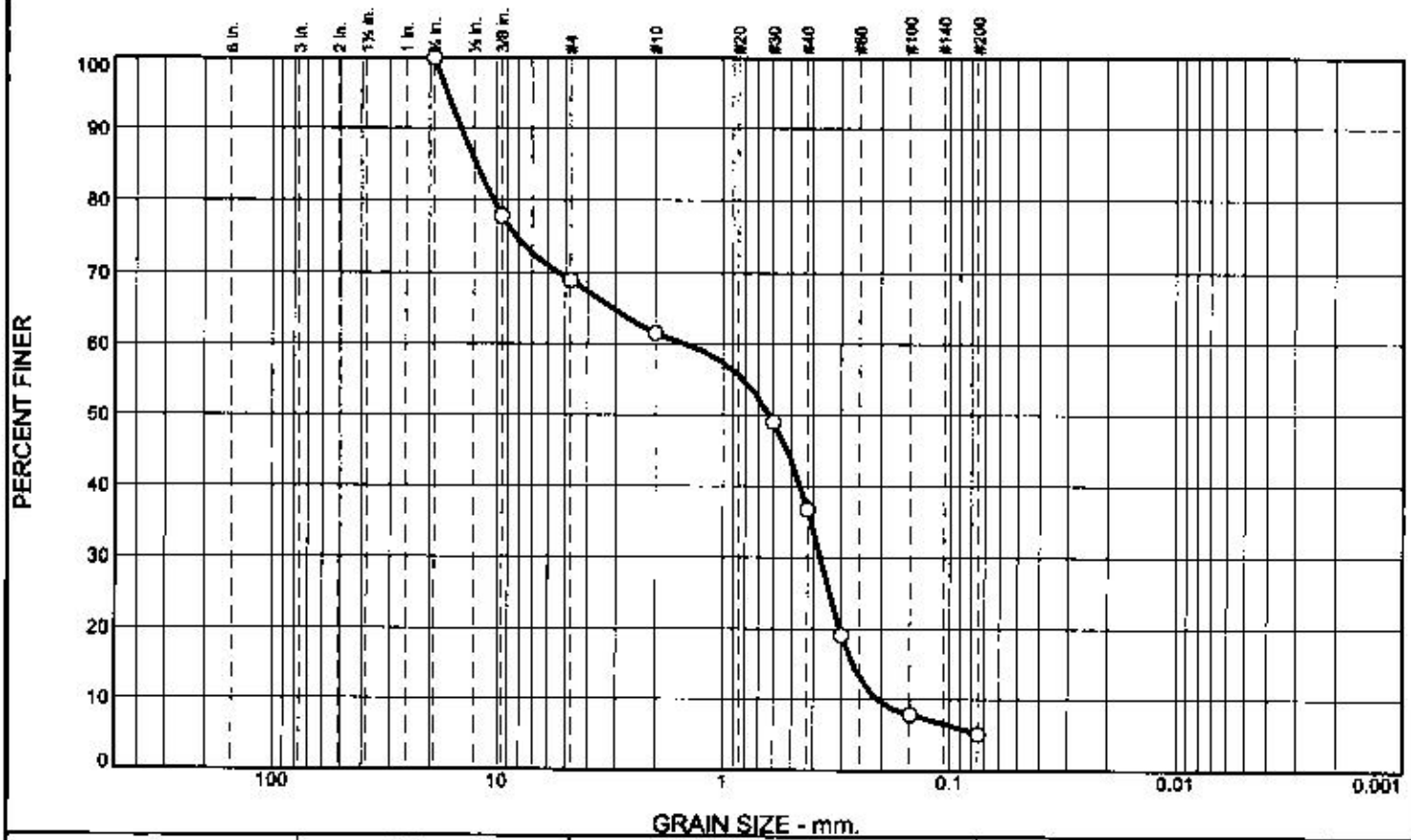
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 2

Tested By: Clarence Stoit

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	31.0	7.4	24.9	31.5	5.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	77.8		
#4	69.0		
#10	61.6		
#30	49.0		
#40	36.7		
#50	19.1		
#100	7.9		
#200	5.2		

* (no specification provided)

Soil Description

Reddish Brown Sand, with Gravel, trace Fines

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 12.4285 D_{60}= 1.4737 D_{50}= 0.6247
D_{30}= 0.3728 D_{15}= 0.2682 D_{10}= 0.2102
C_u= 7.01 C_c= 0.45

Classification

USCS= SP-SM AASHTO= A-1-b

Remarks

Sample No.: GP-3 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

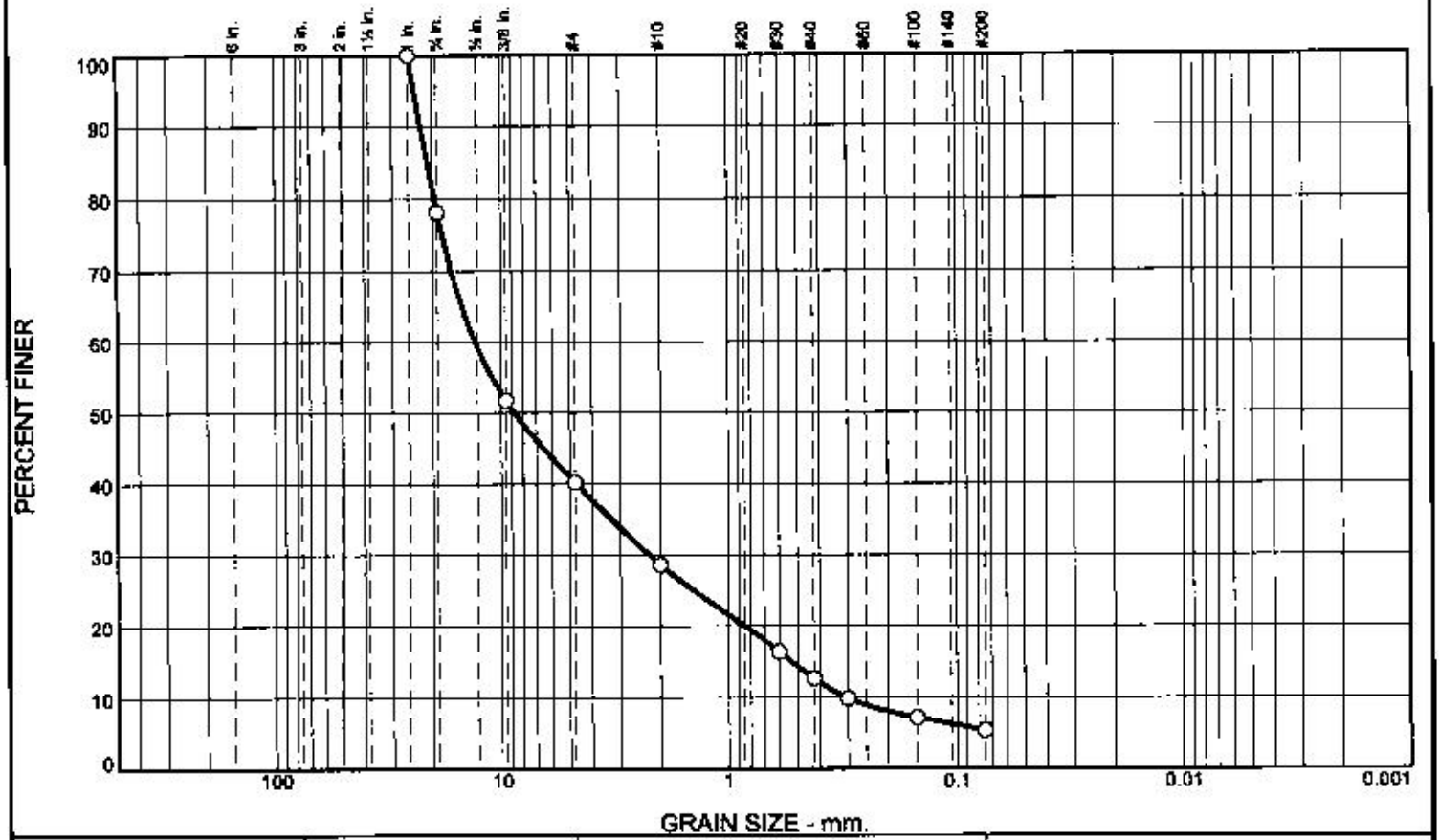
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 3

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	21.8	37.9	11.7	16.0	7.2	5.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	78.2		
3/8"	51.7		
#4	40.3		
#10	28.6		
#30	16.4		
#40	12.6		
#50	9.8		
#100	7.2		
#200	5.4		

* (no specification provided)

Soil Description

Brown Sand and Gravel, trace Fines

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 20.9932 D_{60}= 13.0502 D_{50}= 8.7544
D_{30}= 2.2451 D_{15}= 0.5294 D_{10}= 0.3074
C_u= 42.45 C_c= 1.26

Classification

USCS= GW-GM AASHTO= A-1-a

Remarks

Sample No.: GP-4 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

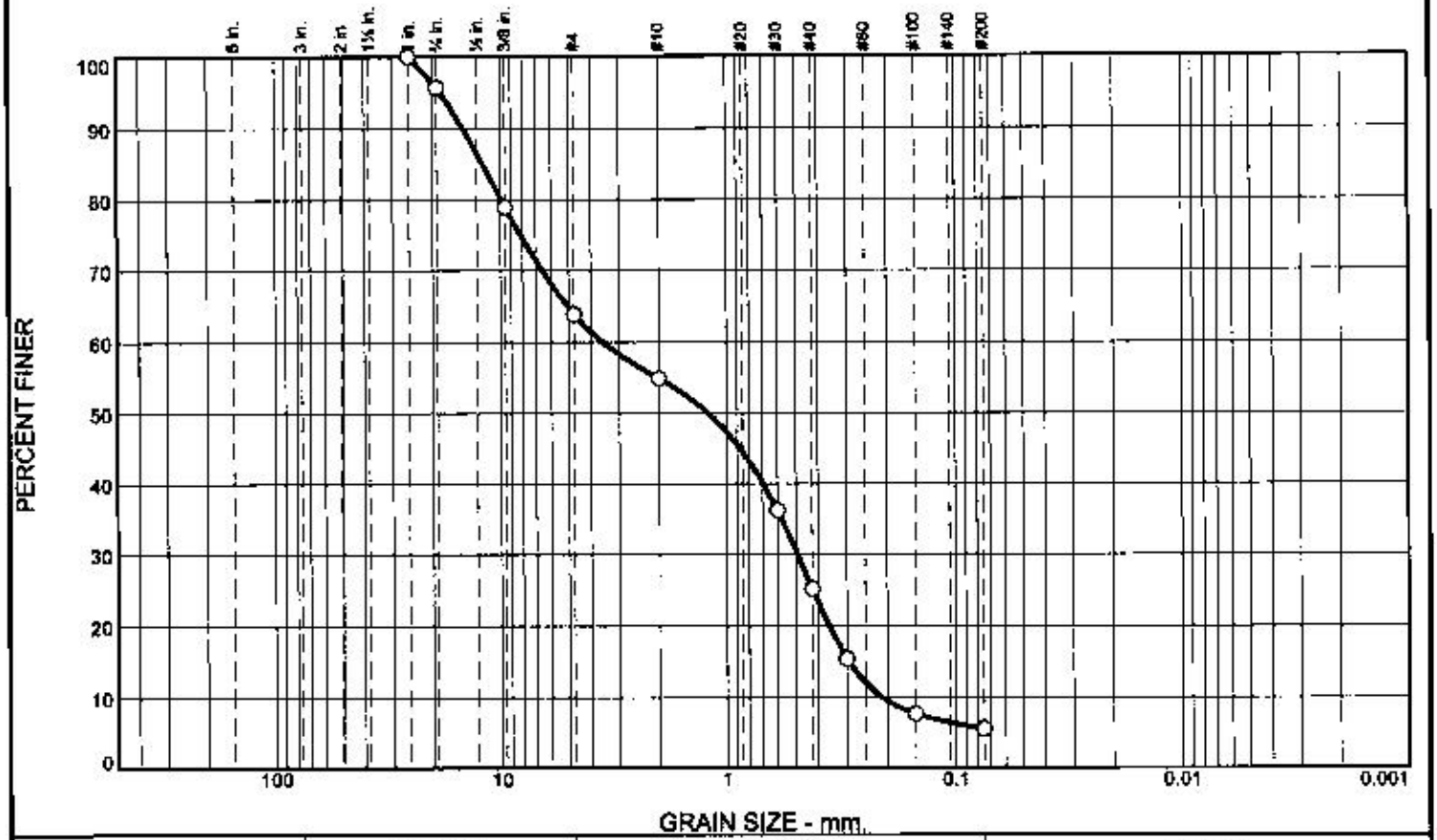
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 4

Tested By: Clarence Stoit

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	4.2	31.9	9.0	29.7	19.6	5.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	95.8		
3/8"	79.0		
#4	63.9		
#10	54.9		
#30	36.2		
#40	25.2		
#50	15.4		
#100	7.7		
#200	5.6		

* (no specification provided)

Soil Description

Brown Sand and Gravel, trace Fines

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 11.9695 D_{60}= 3.5481 D_{50}= 1.2071
D_{30}= 0.4919 D_{15}= 0.2945 D_{10}= 0.2119
C_U= 16.74 C_C= 0.32

Classification

USCS= SP-SM AASHTO= A-1-b

Remarks

Sample No.: GP-5 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

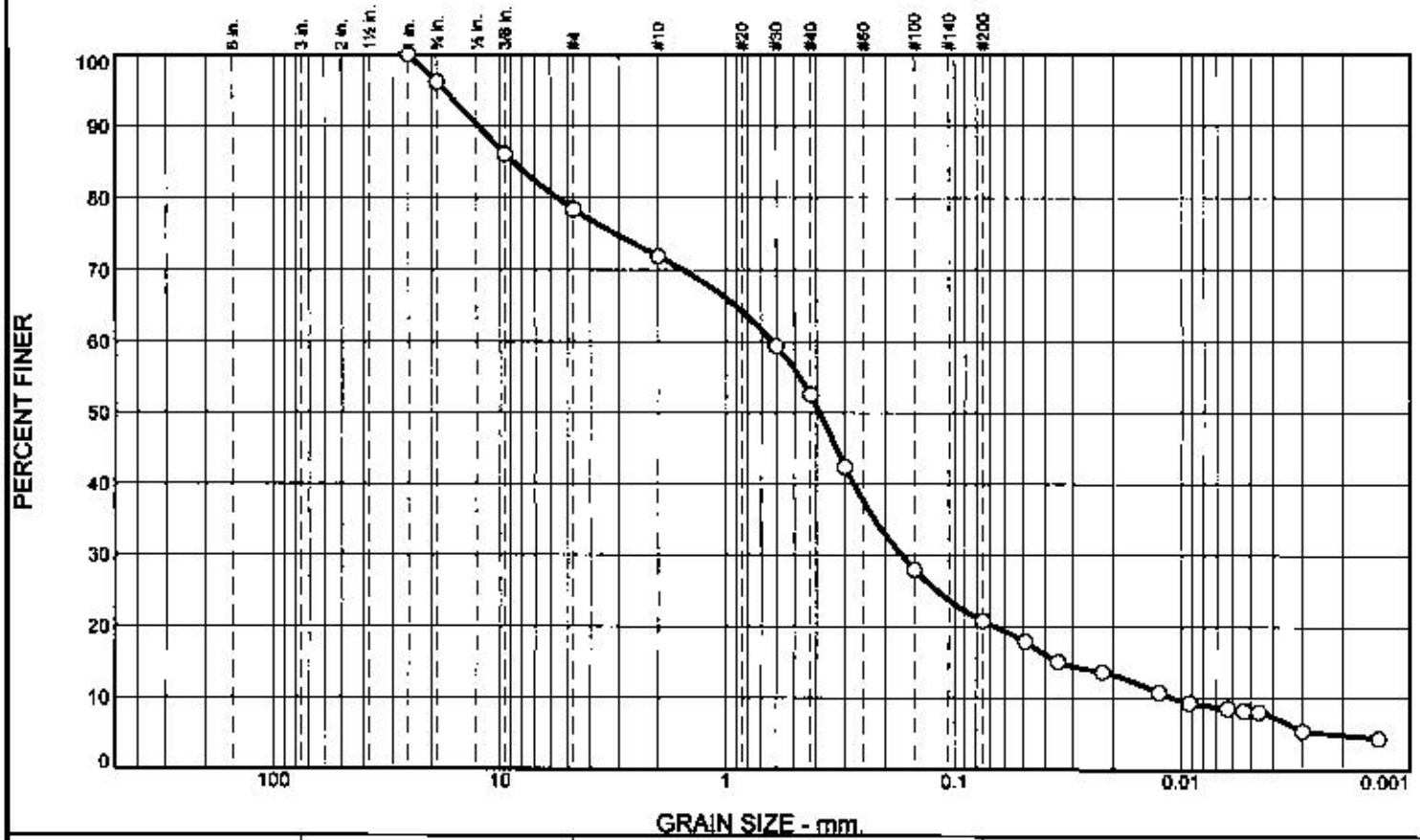
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 5

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	3.8	17.8	6.5	19.3	31.8	12.6	8.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	96.2		
3/8"	86.1		
#4	78.4		
#10	71.9		
#30	59.4		
#40	52.6		
#50	42.4		
#100	28.1		
#200	20.8		
0.0488 mm.	17.9		
0.0349 mm.	15.0		
0.0222 mm.	13.6		
0.0126 mm.	10.7		
0.0092 mm.	9.3		
0.0063 mm.	8.6		
0.0054 mm.	8.2		
0.0046 mm	8.1		
0.0030 mm.	5.4		
0.0014 mm.	4.4		

* (no specification provided)

Soil Description

Brown Sand, with Gravel, little Silt, trace Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 8.7682 D_{60}= 0.6219 D_{50}= 0.3871
D_{30}= 0.1702 D_{15}= 0.0347 D_{10}= 0.0110
C_U= 56.67 C_C= 4.24

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: GP-6 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 20-24'

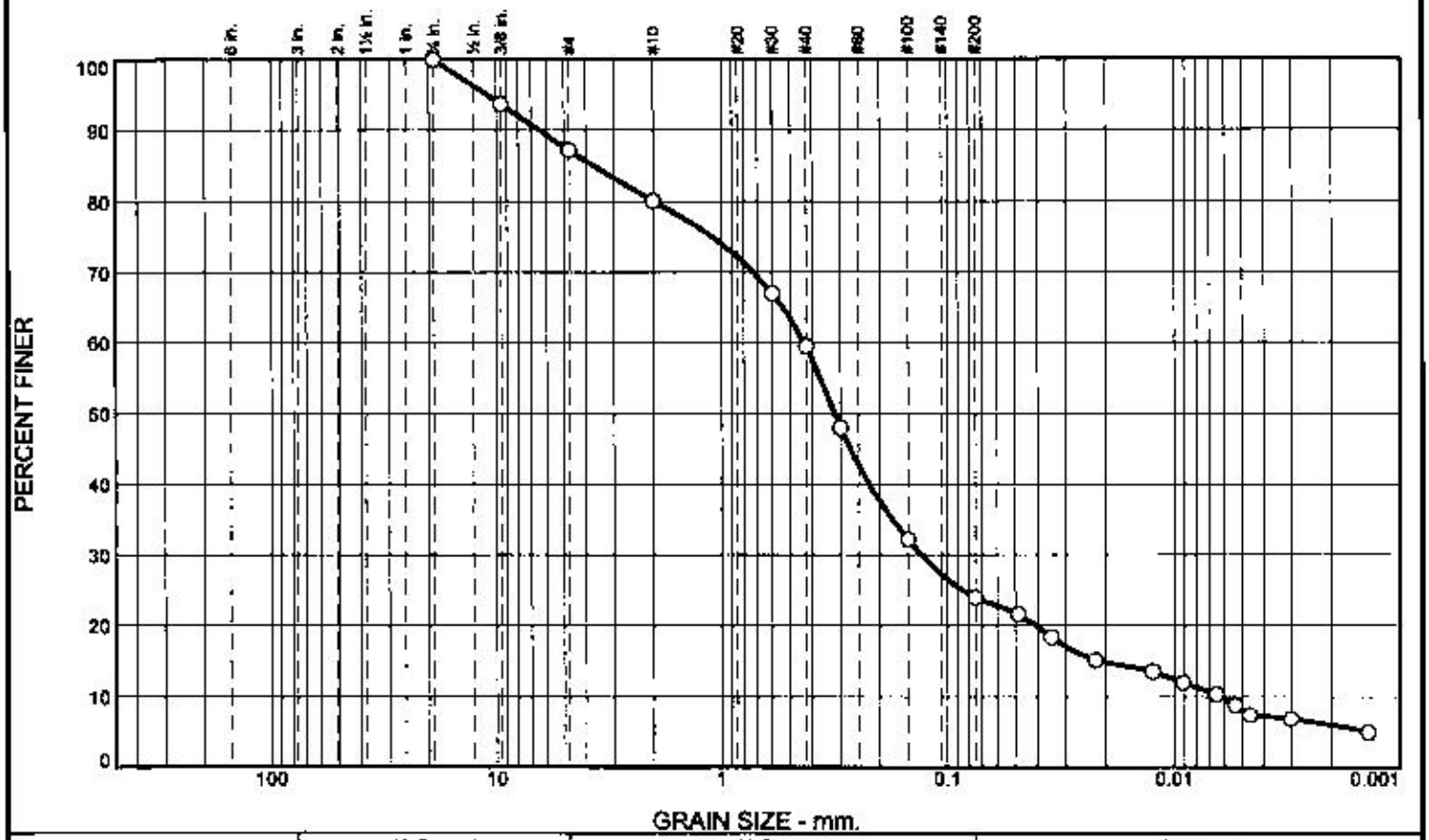
Midwest Engineering Services

Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith
Project No: 4-25188 **Figure** 6

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	12.8	7.1	20.6	35.6	15.8	8.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	93.6		
#4	87.2		
#10	80.1		
#30	67.0		
#40	59.5		
#50	48.0		
#100	32.2		
#200	23.9		
0.0485 mm	21.6		
0.0347 mm	18.4		
0.0222 mm	15.2		
0.0125 mm	13.6		
0.0092 mm	12.0		
0.0065 mm	10.3		
0.0054 mm	8.7		
0.0046 mm	7.4		
0.0030 mm	6.8		
0.0014 mm	4.9		

* (no specification provided)

Soil Description

Brown Sand, little Silt and Gravel, trace Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 3.6577 D_{60}= 0.4333 D_{50}= 0.3189
D_{30}= 0.1301 D_{15}= 0.0214 D_{10}= 0.0062
C_u= 69.86 C_c= 6.30

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: GP-7 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

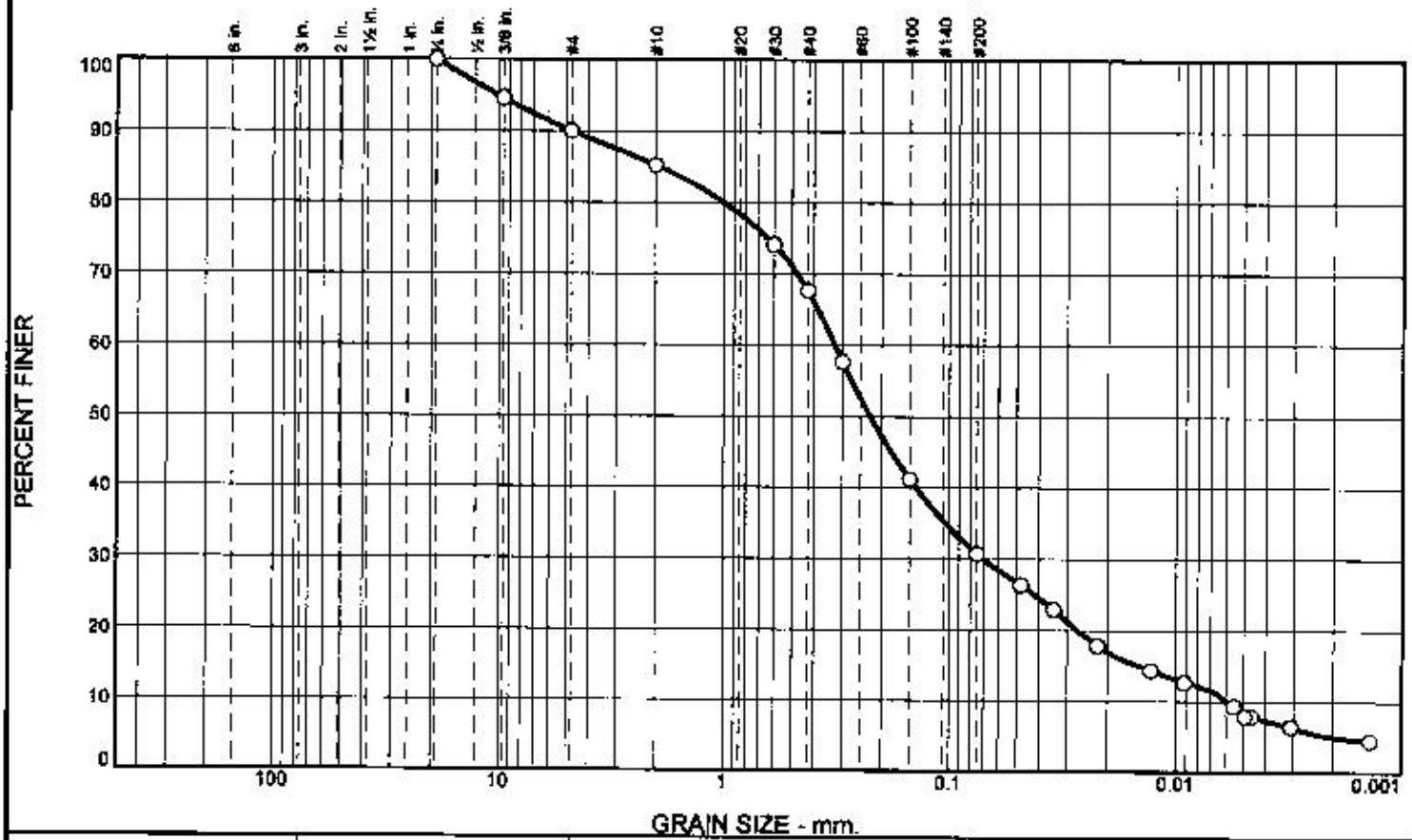
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 7

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	10.0	4.8	17.5	37.0	22.8	7.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	94.5		
#4	90.0		
#10	85.2		
#30	74.0		
#40	67.7		
#50	57.7		
#100	41.2		
#200	30.7		
0.0479 mm.	26.3		
0.0343 mm.	22.9		
0.0221 mm.	17.8		
0.0129 mm.	14.4		
0.0092 mm.	12.7		
0.0055 mm.	9.3		
0.0050 mm.	7.9		
0.0046 mm.	7.9		
0.0031 mm.	6.4		
0.0014 mm.	4.4		

* (no specification provided)

Soil Description

Brown Sand, with Silt, trace Gravel and Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 1.9251 D_{60}= 0.3239 D_{50}= 0.2255
D_{30}= 0.0700 D_{15}= 0.0145 D_{10}= 0.0058
C_u= 55.51 C_c= 2.60

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: GP-8 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 20-24'

Midwest Engineering Services

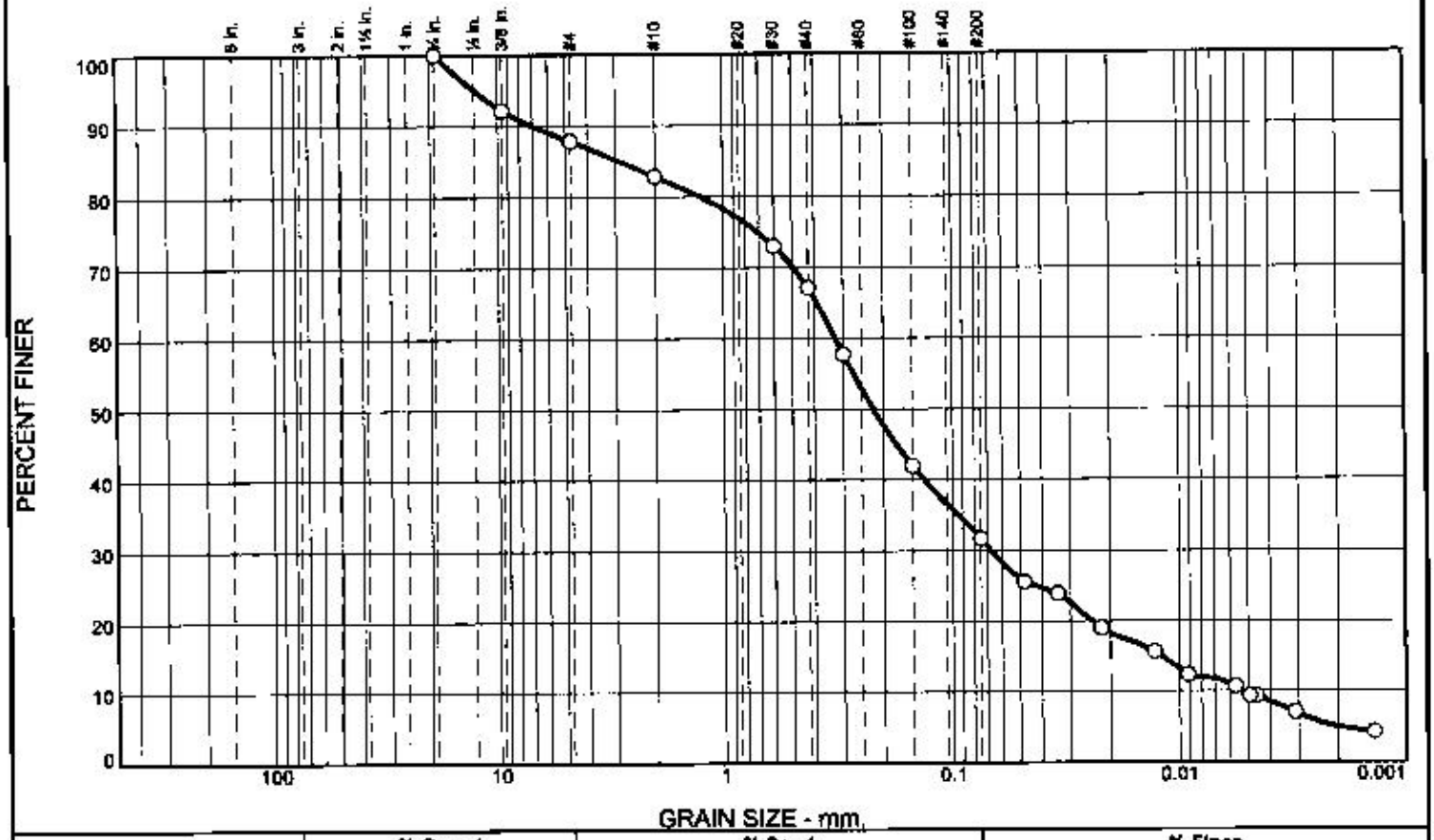
Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith

Project No: 4-25188 **Figure** 8

Tested By: Clarence Stolt

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	12.2	5.0	15.6	35.5	22.3	9.4

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
3/8"	92.1		
#4	87.8		
#10	82.8		
#30	73.0		
#40	67.2		
#50	57.8		
#100	41.9		
#200	31.7		
0.0479 mm.	25.6		
0.0341 mm	24.0		
0.0220 mm.	19.0		
0.0128 mm.	15.7		
0.0092 mm.	12.4		
0.0057 mm	10.7		
0.0049 mm.	9.3		
0.0046 mm	9.3		
0.0031 mm.	7.0		
0.0014 mm.	4.3		

(no specification provided)

Soil Description

Brown Sand, with Silt, little Gravel, trace Clay

Atterberg Limits

PL= LL= PI=

Coefficients

D_{85}= 2.8781 D_{60}= 0.3242 D_{50}= 0.2222
D_{30}= 0.0672 D_{15}= 0.0120 D_{10}= 0.0054
C_u= 60.53 C_c= 2.60

Classification

USCS= SM AASHTO= A-2-4(0)

Remarks

Sample No.: GP-9 **Source of Sample:** **Date:** 9/26/2012
Location: **Elev./Depth:** 24-28'

Midwest Engineering Services

Waukesha, Wisconsin

Client: Meridian Environmental Consulting, LLC
Project: Doug's Tire - Ladysmith
Project No: 4-25188 **Figure** 9

Tested By: Clarence Stolt

Torkelson Geochemistry, Inc.

2528 S. Columbia Place
Tulsa, OK 74114-3233
Phone: 918-749-8441
Fax: 918-749-6005
e-mail: BTorkelson@torkelsongeochemistry.com

CHAIN-OF-CUSTODY RECORD

Project: Doug's Tire
Location: Ladysmith, Wisconsin

Proj. No.: 05F786
P.O.:
Sampled By: Ken Shimko

Report/Bill To: Meridian Environmental Consulting
Address: 2711 North Elco Road
Fall Creek, Wisconsin 54742

Phone: 715-579-0723 (cell)
Fax: 715-832-6797
e-mail: kshimko.meridianenv@gmail.com

Additional Instructions

Requested Turn-Around Time: normal

ITEM NO.	SAMPLE DESCRIPTION	DATE	MATRIX	LAB NO.	Total # OF Vials	PRESERVATIVES: None	ANALYSES REQUESTED: GC Characterization	Density	Viscosity	Water Surface Tension	NAPL Surface Tension	NAPL/Water Interfac. Tens.	Lead	Sulfur	REMARKS
1	EX-1	9/19/2012			6			x	x	x	x	x			
2	EX-5	9/19/2012			6			x	x	x	x	x			
3															
4															
5															
6															
7															
8															
9															
10															

RELINQUISHED BY	DATE	TIME	ACCEPTED BY	DATE	TIME
[signature]	9/24/12		[signature]	9-25-12	0945

Torkelson Geochemistry, Inc.							
Physical Properties Measurements							
Sample	TGI Job Number	Density of NAPL (gm/ml)	Viscosity of NAPL (centipoise)	Surface Tension Air/Water (dynes/cm)	Interfacial Tension NAPL/Water (dynes/cm)	Surface Tension Air/NAPL (dynes/cm)	Temperature of Measurements
EX-1	12174	0.7976	1.1	59.3	15.0	24.3	13.8C
EX-5	12174	0.7536	0.6	57.8	15.1	21.3	13.0C