



August 11, 2016

Mr. Dan Kowalski
Project Manager
Guardian Environmental Services, Inc.
70 Albe Drive
Newark, DE 19702

RE: Results of Borehole Geophysical Logging: ERT-48-S
Site: Crown Cleaners Superfund Site, Village of Herrings, NY

Dear Mr. Kowalski,

In response to your request, Earth Data Northeast, Inc. ("EDN") is pleased to provide Guardian Environmental Services, Inc. ("GES") with the following summary of borehole geophysical logging services performed July 26, 2016 at the Crown Cleaners Superfund Site, located in Village of Herrings, New York.

Borehole Geophysical Logging

The following suite of geophysical logs was performed (as indicated by the "X") in well ERT-48-S.

- ☐ Color Borehole Video Survey
- ☒ Fluid Temperature / Fluid Conductivity
- ☒ 3-Arm Caliper
- ☐ Electrical Resistivity Suite
 - ☐ Spontaneous Potential ("SP")
 - ☐ Single Point Resistance ("SPR")
 - ☐ Short (16") & Long (64") Normal Resistivity
- ☒ Natural Gamma
- ☒ Acoustic Televierer ("ATV")
- ☒ Optical Televierer ("OTV")
- ☐ Heat Pulse Flowmeter
 - ☐ Ambient conditions
 - ☐ Pumping conditions; Depth of pump: _____; Rate: _____
- ☐ Additional Tooling: _____

Results of Borehole Geophysical Logging

The results of the borehole geophysical logging conducted in ERT-45-S are summarized below. A geophysical composite graph containing the logs performed in ERT-45-S is included as an attachment.

Features identified with the ATV & OTV are presented in both tabular and graphical format, referenced to True North, and are also attached. A qualitative classification of each feature, with respect to its potential aperture, was assigned according to the following criteria:

Fracture/Feature – obvious, dark sinusoidal line across the entire acoustic image; usually supported by the response of the 3-arm caliper.

Hairline Fracture/Feature – as above, though not as evident; generally minimal aperture noted

Discontinuous Fracture (Hairline or otherwise)/Feature – shape of sinusoidal line is intact; does not span across entire acoustic image.

Bedding/Change in Lithology – shape of sinusoidal line is intact, usually supported by natural gamma log and/or response of acoustic return; generally minimal aperture noted

More features may exist than could be identified. Characterization of features was aided by software provided by the geophysical tool manufacturer.

All geophysical logs presented in this report are referenced from below top of casing (“toc”).

ERT-48-S

Well diameter: nominal 6"

Total depth: 29'

Casing depth: 10.0'

Casing stick-up (above grade): 1.7'

Static water level: 7.8'

Field observations / Remarks:

Fluid characteristics:

- Gradual decrease in fluid temperature from 10' to depth. Slight changes in log slope at 13', 15', 20', & 26'.
- Fluid temp at the bottom of the borehole: 10.9°C
- Changes in the slope of the fluid conductivity log at 10', 13', 15.5', & 23'

Rock characteristics:

- Larger feature observed between 12'-14'
- Smaller features observed at 15', 18'-19', 22', 23.5', & 26.5'
- Relatively uniform lithology throughout open borehole. Slight increase in natural gamma at 20'.

ATV & OTV features: 17 (see attached summary table and graphical presentation)

Apparent strike: East – West

Apparent dip: North

The findings and conclusions presented in this report are the result of fieldwork, data analysis, and interpretations completed by EDN personnel as of this date. This report was prepared in response to a request from GES, using generally accepted geophysical practices, for the exclusive use of GES. No other warranty, express or implied, is made.

Additional copies of the geophysical logs are available upon request.

If you should have any further questions or comments, please feel free to contact me at (610) 524-9466 or via email at conuskanych@earthdatane.com.

Sincerely,

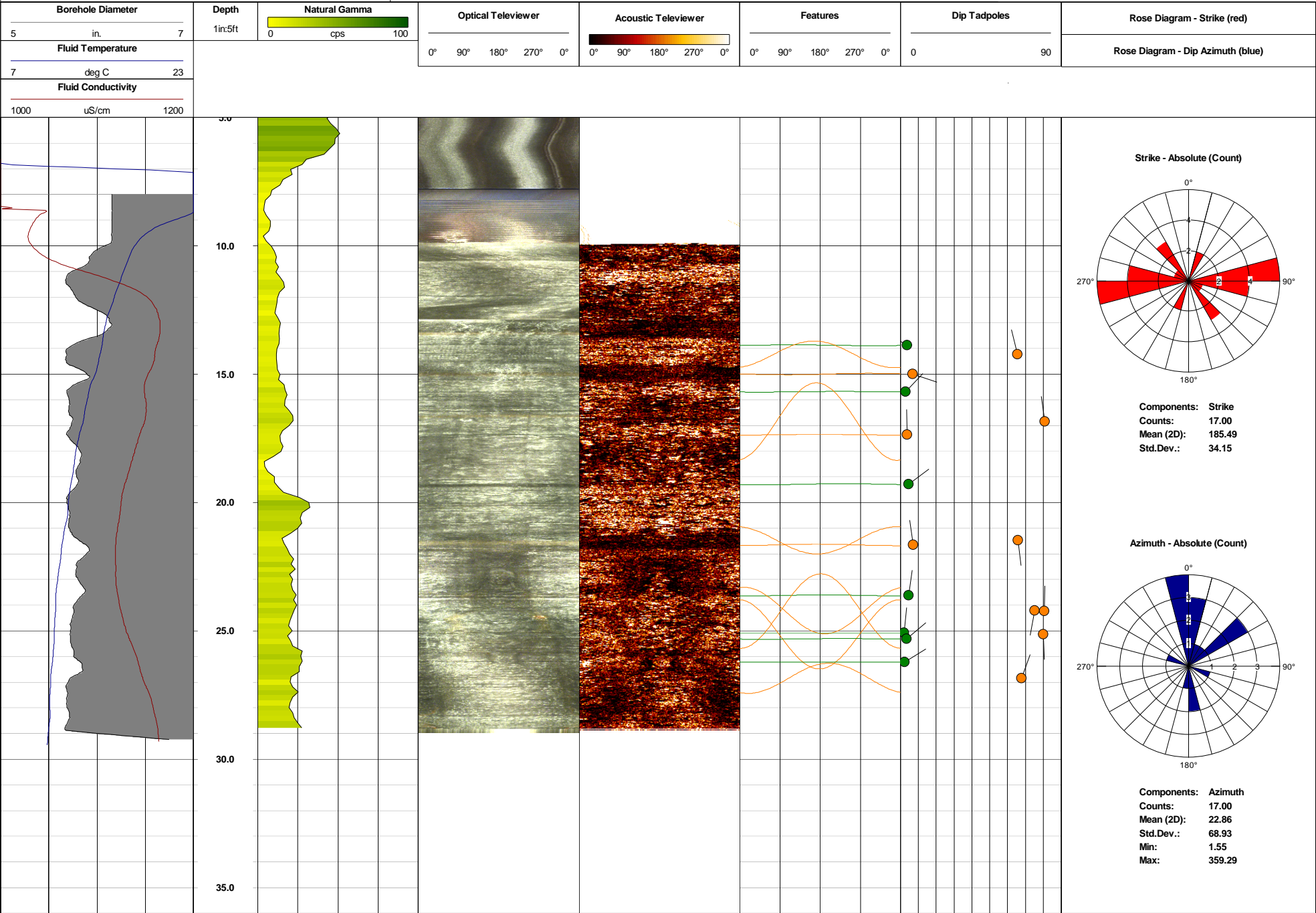


Evan Onuskanych
Staff Geoscientist
Earth Data Northeast, Inc.

Client: **Guardian Environmental**
Location: **Crown Cleaners Site**
Well Name: **ERT-48-S**
Date: **07/26/16**
Depth Reference: **Top of Casing**
Magnetic Declination: **-12.97 deg**
North reference: **True North**

Borehole Diameter: **6" nominal**
Static Water Level: **7.8'**
Casing Depth: **10.0'**
Total Depth: **29'**

- Discontinuous Hairline Fracture/Feature
- Bedding/Change in Lithology



ERT-48-S ATV & OTV Feature Summary Table
Crown Cleaners Superfund Site; Village of Herrings, NY

Avg. Depth of Feature (ft)	Dip Azimuth (deg from North)	Dip Angle (deg)	Strike (deg from North)	Feature Description
13.9	300	4	210	Bedding/Change in Lithology
14.2	346	66	256	Discontinuous Hairline Fracture/Feature
15.0	108	7	18	Discontinuous Hairline Fracture/Feature
15.7	43	3	313	Bedding/Change in Lithology
16.9	352	81	262	Discontinuous Hairline Fracture/Feature
17.4	359	4	269	Discontinuous Hairline Fracture/Feature
19.3	53	5	323	Bedding/Change in Lithology
21.5	173	66	83	Discontinuous Hairline Fracture/Feature
21.6	352	7	262	Discontinuous Hairline Fracture/Feature
23.6	8	5	278	Bedding/Change in Lithology
24.2	191	75	101	Discontinuous Hairline Fracture/Feature
24.2	2	81	272	Discontinuous Hairline Fracture/Feature
25.1	6	2	276	Bedding/Change in Lithology
25.1	178	80	88	Discontinuous Hairline Fracture/Feature
25.3	50	3	320	Bedding/Change in Lithology
26.2	58	2	328	Bedding/Change in Lithology
26.9	19	68	289	Discontinuous Hairline Fracture/Feature