



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-45-I
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-45-I.

- ☐ 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 Televier ("ATV")
- ☒ Optical Televier ("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-I are summarized below. A geophysical composite graph containing the logs performed in ERT-45-I 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-45-I

Well diameter: nominal 6"

Total depth: 49'

Casing depth: 7.5'

Casing stick-up (above grade): 1.8'

Static water level: 30.2'

Field observations / Remarks:

Fluid characteristics:

- Slight changes in the slope of the fluid temperature log at 35', 36', 38', 44.5', & 47.5'.
Gradual decrease in fluid temperature with depth.
- Fluid temp at the bottom of the borehole: 10.5°C
- Slight changes in the slope of the fluid conductivity log at 35', 37', 42', & 45.5'.
Increase in fluid conductivity between 42'-49'.

Rock characteristics:

- Hairline features observed at 39.5', 40.5', 42.5', & 48'
- Relative changes in lithology between 29'-32' & 45'-48' (higher natural gamma)

ATV & OTV features: 30 (see attached summary table and graphical presentation)

Apparent strike: East-Northeast – West-Southwest & North-northeast – South-southwest

Apparent dip: North-Northwest & West-Northwest

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 eonuskanych@earthdatane.com.

Sincerely,



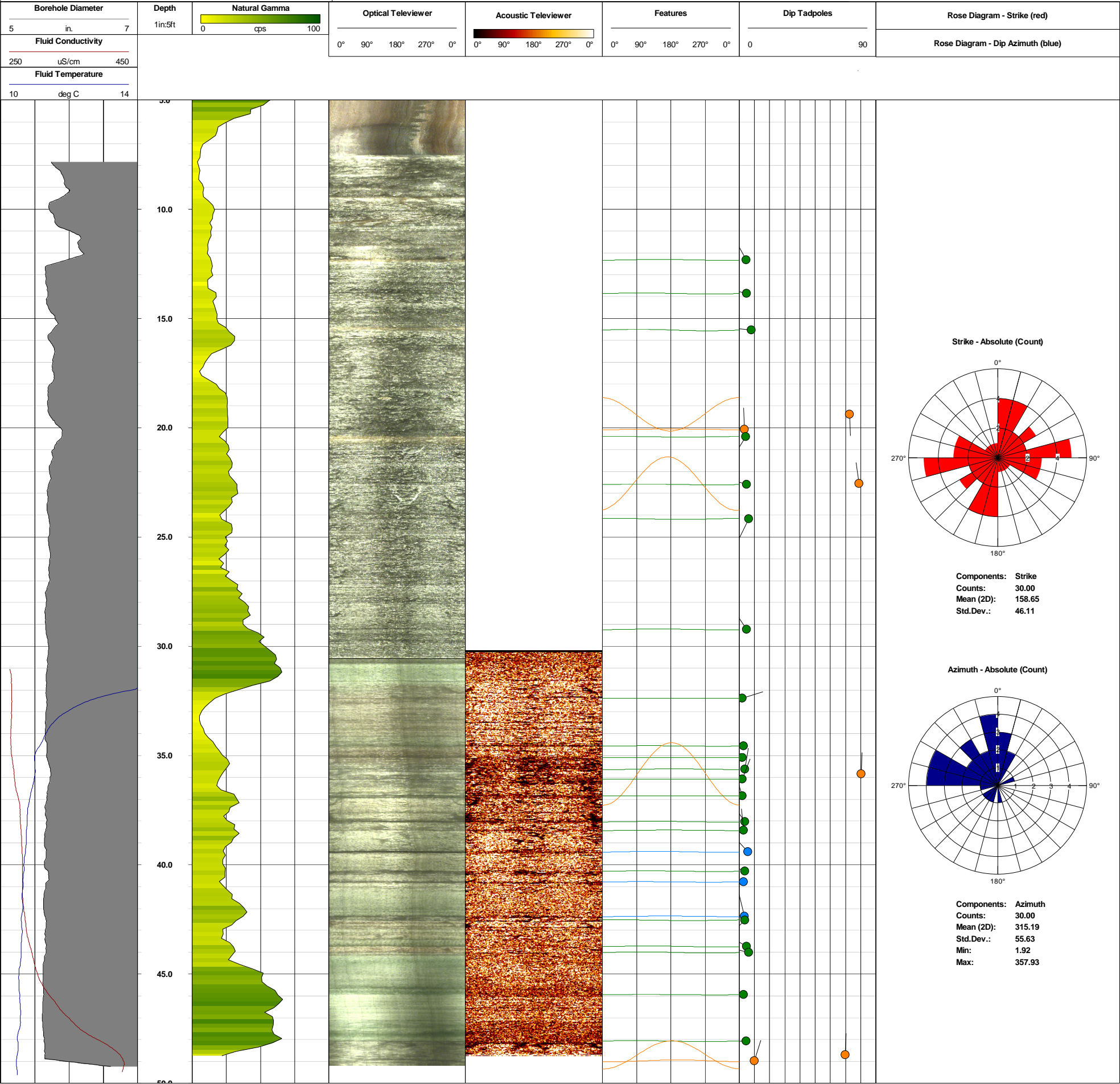
Evan Onuskanych
Staff Geoscientist
Earth Data Northeast, Inc.

Client: **Guardian Environmental**
Location: **Crown Cleaners Site**
Well Name: **ERT-45-I**
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: **30.2'**
Casing Depth: **7.5'**
Total Depth: **49'**

-  Hairline Fracture/Feature

 Discontinuous Hairline Fracture/Feature
-  Bedding/Change in Lithology



ERT-45-I 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
12.3	331	5	241	Bedding/Change in Lithology
13.9	284	5	194	Bedding/Change in Lithology
15.5	275	8	185	Bedding/Change in Lithology
19.4	178	73	88	Discontinuous Hairline Fracture/Feature
20.1	358	3	268	Discontinuous Hairline Fracture/Feature
20.4	212	4	122	Bedding/Change in Lithology
22.6	352	79	262	Discontinuous Hairline Fracture/Feature
22.6	288	5	198	Bedding/Change in Lithology
24.2	206	6	116	Bedding/Change in Lithology
29.2	326	5	236	Bedding/Change in Lithology
32.4	72	2	342	Bedding/Change in Lithology
34.6	305	3	215	Bedding/Change in Lithology
35.1	299	2	209	Bedding/Change in Lithology
35.6	9	4	279	Bedding/Change in Lithology
35.9	2	80	272	Discontinuous Hairline Fracture/Feature
36.1	21	2	291	Bedding/Change in Lithology
36.9	343	2	253	Bedding/Change in Lithology
38.0	324	4	234	Bedding/Change in Lithology
38.4	354	3	264	Bedding/Change in Lithology
39.4	318	6	228	Hairline Fracture/Feature
40.3	293	4	203	Bedding/Change in Lithology
40.8	279	3	189	Hairline Fracture/Feature
42.4	346	3	256	Hairline Fracture/Feature
42.5	226	4	136	Bedding/Change in Lithology
43.7	300	5	210	Bedding/Change in Lithology
44.0	283	6	193	Bedding/Change in Lithology
45.9	296	3	206	Bedding/Change in Lithology
48.1	269	5	179	Bedding/Change in Lithology
48.7	2	70	272	Discontinuous Hairline Fracture/Feature
49.0	17	10	287	Discontinuous Hairline Fracture/Feature