Appendix E

Adjustment of the Dredging Surface to Account for Cores with Depths of Contamination Different than the Dredging Surface

Prepared for:

General Electric Company

Albany, NY

Prepared by:

Quantitative Environmental Analysis, LLC

Austin, TX

March 21, 2006

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E.1 BACKGROUND

An interpolation of total polychlorinated biphenyl (PCB) concentrations at depth was performed to establish the vertical extent of dredging for the Phase 1 dredge areas of the Upper Hudson River. The interpolation was performed in accordance with the procedures briefly described below and specified in Attachment A (*Critical Phase 1 Design Elements*) of Appendix B (*Statement of Work for Remedial Action and Operation, Maintenance and Monitoring*) of the Consent Decree executed by the U.S. Environmental Protection Agency (USEPA) and the General Electric Company (GE) and lodged in federal district court on October 6, 2005.

The thickness of sediment below which the total PCB concentration is less than 1 milligram per kilogram (mg/kg) was developed by interpolating total PCB concentrations for the following layers: 0 to 2 inches, 2 to 12 inches, 12 to 24 inches, 24 to 30 inches, and every 6 inches thereafter until the maximum Depth of Contamination (DoC) in a given area was reached. The DoC for each 10-foot by 10-foot grid cell was set at the bottom depth of the deepest layer with a total PCB concentration equal to or greater than 1 mg/kg, thereby forming a contoured DoC surface. The 10-foot by 10-foot grid was converted to a 1-foot by 1-foot grid by interpolation using Delauney Triangles. The DoC surface was converted to an elevation surface using multi-beam bathymetry data. This DoC elevation surface was then combined with the elevation of Glacial Lake Albany Clay in areas where it was determined that the depth to Glacial Lake Albany Clay provided a logical vertical boundary for dredging. The final surface was a 1-foot by 1-foot grid of elevations to which dredging would have to reach to capture the PCB mass.

Although the interpolation method applied to establish the DoC surface was an exact interpolator (i.e., it honored the data at each location where data were available) and used all of the available and applicable data, there are cases where the DOC surface differs from the DoC established by data (or extrapolation) in a particular core. The differences are due to one or more of the following reasons:

- In general, most core locations do not coincide with a node of the 10-foot by 10-foot grid. Consequently, the interpolated DoCs at the grid nodes differ from the DoCs of the cores

off the grid. The interpolation from the 10-foot by 10-foot grid to the 1-foot by 1-foot grid using Delauney Triangles can result in a value at a 1-foot by 1-foot grid node that differs from the DoC of a core located at that node or proximate to it.

- The interpolation of DoCs on the 10-foot by 10-foot grid used data within an established neighborhood, which could include from one core to many cores. It was possible to have one core within that neighborhood with a total PCB concentration very close to 1 mg/kg, but other cores within that neighborhood with higher total PCB concentrations. This situation would result in the core with the lower concentrations being "overwhelmed" by the neighboring cores, and the resulting interpolated value at the node near this core would be influenced by the cores with the higher concentrations.
- In some cases, the value at a given grid node was influenced by a pair of co-located cores with differing PCB profiles. As a result, the node would have a DoC that is different from one of the cores, depending on the structure of the profiles.

E.2 METHODOLOGY TO IDENTIFY CORES TO BE USED TO ADJUST THE DOC SURFACE

The DoC of each core in the Phase 1 data set was compared to the DoC of the closest 1-foot by 1-foot grid node. The DoC surface was not adjusted in every case where a difference exists. Given uncertainties in the measured DoC (e.g., extrapolation techniques, doubling of cores, core sectioning, etc.) and the impracticality of a dredging surface with localized holes or mounds developed to accommodate single DoC measurements, criteria were established to define when an adjustment in the surface was warranted, as discussed below.

E.2.1 Cores that Penetrate Below the DoC Surface

For those cores in which the measured or extrapolated DoC penetrated below the interpolated DoC surface, downward adjustments to the DoC surface were made if the core met either of the following criteria (except where one of the "exclusion conditions" listed separately below was present):

- The core was incomplete with the bottom of its last measured section shallower than the DoC surface by less than or equal to 6 inches and a total PCB concentration greater than or equal to 25 mg/kg was measured in that section.
- The core was incomplete or complete with a total PCB concentration greater than 10 mg/kg below the DoC surface.

Both of these criteria are meant to identify locations where it is likely that the DoC surface is above sediments containing PCBs significantly above 1 mg/kg.

Downward adjustments to the DoC surface were not made for "penetrating" cores that did not meet the above criteria. In addition, even for cores that did meet those criteria, downward adjustments to the DoC surface were not made if the cores satisfied one of the following "exclusion conditions," based on the PCB profile or location of the core:

- The core is located outside dredge area.
- The core is located in a "dredge to Glacial Lake Albany Clay" area. In these cases, it was assumed that the estimation of the clay layer elevation was sufficient to establish the dredge depth.
- The core is complete and has a measured DoC that differs from the nearest node on the DoC surface by no more than 2 inches.
- The core's DoC was affected by reporting limit issues (i.e., a core classified as Confidence Level 2E) and the DoC surface captures all the measured core concentrations above 1 mg/kg. (The confidence level categories for the cores in Phase 1 areas were defined in the *Phase 1 Dredge Area Delineation Report*, submitted by GE in February 2005, and approved by USEPA on March 30, 2005).

For all Confidence Level 1 cores (i.e., complete cores with no reporting limit issues) meeting the criteria for DoC surface adjustment, the DoC surface was adjusted using the core's measured DoC. For Confidence Level 2 cores (i.e., extrapolated, doubled, and other), the core DoC was compared to the DoCs of surrounding cores up to 100 feet away that were also within the dredge area. The DoC surface was adjusted using the minimum of the following:

- the DoC of the subject core; or
- the deepest DoC of the surrounding cores that are not Confidence Level 2D (cores in which DoC was set by doubling of the core depth).

If the DoC under the second criterion was shallower than the DoC surface at the nearest node, the DoC surface was not adjusted downward. If the DoC under this criterion was less than the depth of the last measured section in the subject core, then the adjusted DoC was set to the depth of the last measured section.

E.2.2 Cores that Do Not Reach the DoC Surface

In addition to the cores in which the measured or extrapolated DoC penetrated below the DoC surface, some cores had DoC that was more shallow than the DoC surface. However, not all such cores warranted upward adjustments to the interpolated surface. It was felt that such adjustment would be justified only when there was confidence in the core's DoC and there was a substantial difference between the interpolated surface and the core's DoC. Thus, the DoC surface was adjusted to be shallower only for complete Confidence Level 1 cores with measured DoCs that differed from the DoC surface by 6 inches or more.

E.3 DATA SET OF CORES MEETING THE CRITERIA FOR ADJUSTMENT

For the Phase 1 areas, 324 cores had a measured or extrapolated DoC deeper than the DoC surface determined from interpolation. Of these cores, 68 met one of the criteria for a downward adjustment of the DoC surface at that location and did not meet any of the "exclusion conditions" listed above (Table E-1). These cores thus warranted downward adjustment of the DoC surface. The remaining 256 cores either did not meet the initial criteria for downward adjustment or else met one of the "exclusion conditions" indicating that adjustment of the DoC surface was not necessary. These 256 cores are listed in Table E-2, along with a flag indicating the reason each core was excluded in the DoC surface adjustment.

In addition, 102 cores in Phase 1 areas had a measured or extrapolated DoC that was more shallow than the DoC surface by 6 inches or more. These cores are listed in Table E-3. These cores warranted an upward adjustment of the DoC surface.

For the 68 cores that met the criteria for downward adjustment of the DoC surface, Figure E-1 shows the analysis of the neighboring cores within a 100-foot buffer. These plots indicate a distribution of DoCs for all cores within the 100-foot buffer, the measured DoC of the core, the value of the DoC surface, and the final value selected using the analysis described above to set the adjusted DoC surface value.

E.4 ADJUSTMENT OF THE DOC SURFACE

The set of DoC values to be used to adjust the DoC surface was merged with the DoC values on the 10-foot by 10-foot grid that had been established by interpolation using the complete Phase 1 data set. However, if any interpolated grid points were located less than 0.7 feet from the adjusted DoC value, they were removed from the grid. The 0.7-foot overlap was chosen based on professional judgment because the 10-foot grid cells would be further interpolated to 1-foot grid cells using Delauney Triangles. The irregular grid was used to interpolate DoC values onto a 1-foot by 1-foot grid following the procedures used to establish the original 1-foot by 1-foot grid. This surface was then converted to elevations and recombined with the elevation to Lake Albany Clay layer to result in a final surface that was used to establish the dredge prisms.

The impact on the Phase 1 dredge prisms of the cores in which DoC either penetrated or did not reach the interpolated surface was minimal. In total, there were 170 points at which adjustments to the DoC surface were made. These adjustments made minor increases in the projected volumes (about a 0.12% increase) and slight changes in the overall prism geometry.

TABLES

Quantitative Environmental Analysis, LLC

Table E-1. Cores with DoC Penetrating the DoC Surface and Meeting the Criteria for Downward Adjustment of the Surface.

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9594-AR019	LEVEL2	A	46	29	26	49	1
RS1-9594-IN049	LEVEL2	A	78	43	41	1150	1
RS1-9594-WT088	LEVEL2	D	23	12	10	33	1
RS1-9594-IN046	LEVEL2	A	60	30	30	360	1
RS1-9493-WS710	LEVEL1	A	24	12	36	0	2
RS1-9493-WS090	LEVEL1	A	42	27	45	0	2
RS1-9594-WT701	LEVEL1	A	42	24	46	0	2
RS1-9594-WT107	LEVEL1	A	36	31	53	0	2
RS1-9493-EP010	LEVEL1	A	36	30	67	0	2
RS1-9594-TT215	LEVEL1	A	36	24	40	0.06	2
RS1-9594-AR051	LEVEL1	A	30	24	36	0.36	2
RS1-9594-WT112	LEVEL1	A	42	30	46	0.88	2
RS1-9493-AR038	LEVEL2	D	74	28	37	41	2
RS1-9594-PR004	LEVEL2	A	50	25	28	76	2
RS1-9594-WT098	LEVEL2	A	57	26	32	131	2
RS1-9594-IN032	LEVEL2	R	30	12	18	330	2
RS1-9493-AR036	LEVEL1	A	36	24	69	0.05	2
RS1-9493-EP012	LEVEL2	A	32	24	32	1.21	2
RS1-9594-IN047	LEVEL2	R	24	12	18	11.6	2
RS1-9493-AR318	LEVEL2	D	146	48	42	18100	1
RS1-9493-WS089	LEVEL2	A	58	39	34	133	1
RS1-9493-WS709	LEVEL2	D	64	32	32	1031	1
RS1-9493-WT011	LEVEL2	D	110	54	53	76	1
RS1-9493-WT077	LEVEL2	D	73	40	34	461	1
RS1-9493-WT080	LEVEL2	A	48	31	28	60.5	1
RS1-9493-AR317	LEVEL2	D	156	34	66	2.35	2
RS1-9493-WT014	LEVEL2	A	106	64	71	1106	2
RS1-9493-WT017	LEVEL2	A	106	64	72	890	2
RS1-9493-WT076	LEVEL2	A	106	70	71	1010	2
RS1-9594-IN074	LEVEL2	R	36	24	30	116	2
RS1-9594-TT211	LEVEL2	A	62	32	36	213	2
RS1-9493-WS626	LEVEL1	A	24	17	36	0.27	2
RS1-9493-WT046	LEVEL1	A	48	44	74	0	2
RS1-9493-CS634	LEVEL2	D	64	36	32	190	1
RS1-9493-AB090	LEVEL2	A	71	54	50	61	1
RS1-9392-WT025	LEVEL2	A	32	17	14	110	1
RS1-9493-AR055	LEVEL2	D	40	22	20	67	1
RS1-9392-CT178	LEVEL2	A	43	24	22	67	1
RS1-9493-CS116	LEVEL2	R	36	24	24	49	1
RS1-9493-IN075	LEVEL2	F	71	54	54	30	1
RS1-9392-WT197	LEVEL2	A	60	30	31	410	2

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9493-CS644	LEVEL2	R	24	12	16	11.67	2
RS1-9493-IN053	LEVEL2	D	80	36	40	150	2
RS1-9493-WT725	LEVEL2	A	91	52	58	660	2
RS1-9493-AB088	LEVEL2	A	66	54	66	1.3	2
RS1-9493-WS715	LEVEL2	D	142	54	71	2500	2
RS1-9392-CL001	LEVEL1	A	24	18	35	0.075	2
RS1-9493-CS661	LEVEL1	A	24	17	36	0	2
RS1-9392-WT067	LEVEL2	R	60	14	37	17.58	2
RS1-9392-ET122	LEVEL1	A	24	20	46	0	2
RS1-9190-EP006	LEVEL2	D	20	12	10	104	1
RS1-9190-ET284	LEVEL2	A	19	12	19	1.37	2
RS1-9190-ET291	LEVEL1	A	18	12	24	0.73	2
RS1-9190-WT227	LEVEL1	A	24	12	26	0.19	2
RS1-9190-ET390	LEVEL1	A	24	17	36	0	2
RS1-9190-CL031	LEVEL1	A	24	16	36	0	2
RS1-9190-ET323	LEVEL1	A	24	16	36	0	2
RS1-9190-WT273	LEVEL1	A	24	13	36	0	2
RS1-9190-ET373	LEVEL1	A	24	12	36	0	2
RS1-9089-ET003	LEVEL1	A	24	12	36	0	2
RS1-9190-ET275	LEVEL1	A	24	12	36	0	2
RS1-9190-ET310	LEVEL1	A	24	12	36	0	2
RS1-9190-ET324	LEVEL1	A	36	30	59	0	2
RS1-9089-CL001	LEVEL1	A	36	30	66	0	2
RS1-9190-ET302	LEVEL1	A	24	12	52	0	2
RS1-9190-ET425	LEVEL1	A	24	12	57	0.03	2
RS1-9190-CS318	LEVEL1	A	24	12	62	0	2
RS1-9190-ET358	LEVEL1	A	24	12	62	0	2

Reasons for Adjusting DoC Surface Cores:

1. *The core was incomplete with the bottom of its last measured section shallower than the DoC surface by less than or equal to 6 inches and a total PCB concentration greater than or equal to 25 mg/kg was measured in that section; AND none of the "exclusion conditions" listed in the text was present.*
2. *The core was incomplete or complete with a total PCB concentration greater than 10 mg/kg below the DoC surface; AND none of the "exclusion conditions" listed in the text was present.*

Acronyms:

DoC = depth of contamination
in. = inches
PCB = polychlorinated biphenyl
mg/kg = milligram per kilogram

Table E-2. Cores with DoC Penetrating the DoC Surface and Meeting the Criteria for No Downward Adjustment of the Surface.

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9493-WS058	LEVEL1	A	6	2	15	0.01	1
RS1-9594-AR076	LEVEL1	A	12	4	30	0	1
RS1-9594-WS605	LEVEL1	A	19	18	30	0	1
RS1-9594-WS131	LEVEL1	A	13	12	30	0	1
RS1-9594-WS608	LEVEL1	A	5	3	30	0	1
RS1-9594-TT218	LEVEL2	A	39	24	24	28	1
RS1-9594-PR001	LEVEL1	A	24	12	35	0	1
RS1-9594-WT148	LEVEL1	A	24	12	37	0.24	1
RS1-9594-WS072	LEVEL2	R	14	12	7	6.4	1
RS1-9493-TT217	LEVEL2	A	34	24	24	10.2	1
RS1-9493-WS603	LEVEL2	C	30	20	30	3.39	2
RS1-9594-WT139	LEVEL1	A	30	25	35	0	2
RS1-9493-WS091	LEVEL1	A	30	24	36	0.31	2
RS1-9594-ID057	LEVEL1	A	12	8	24	0	2
RS1-9594-WS603	LEVEL2	C	30	5	30	1.14	2
RS1-9594-WS177	LEVEL1	A	21	20	30	0	2
RS1-9493-WS082	LEVEL1	A	2	1	12	0	2
RS1-9493-WS099	LEVEL1	A	2	0	12	0	2
RS1-9594-WS606	LEVEL1	A	18	16	30	0.02	2
RS1-9493-WS622	LEVEL1	A	8	6	30	0	2
RS1-9594-IN070	LEVEL1	A	24	21	30	0	2
RS1-9493-IN044	LEVEL1	A	24	16	28	0.49	2
RS1-9594-WS601	LEVEL1	A	24	21	36	0	2
RS1-9493-AR032	LEVEL1	A	24	19	36	0.05	2
RS1-9493-WS602	LEVEL1	A	24	14	36	0	2
RS1-9493-WS088	LEVEL1	A	24	18	40	0	2
RS1-9594-IN065	LEVEL1	A	24	2	36	0	2
RS1-9594-WS616	LEVEL1	A	24	23	36	0.04	2
RS1-9594-WS702	LEVEL1	A	24	23	36	0	2
RS1-9594-WS119	LEVEL2	R	30	24	20	8.6	2
RS1-9493-WS030	LEVEL1	A	18	16	24	0.23	3
RS1-9594-WS175	LEVEL1	A	30	28	40	0.1	3
RS1-9493-AB021	LEVEL2	D	26	24	13	64	4
RS1-9493-AR016	LEVEL2	D	30	24	15	111.5	4
RS1-9594-WS040	LEVEL2	A	13	12	4	13	4
RS1-9594-WS049	LEVEL2	D	16	12	6	8.3	5
RS1-9594-WS056	LEVEL2	A	13	12	6	5.4	5
RS1-9594-WS074	LEVEL2	R	14	12	7	8.2	5
RS1-9594-WS077	LEVEL2	R	18	12	8	22	5
RS1-9594-IN040	LEVEL2	A	40	27	25	18.4	5
RS1-9594-IN016	LEVEL2	D	20	12	10	8.7	5

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9594-WS091	LEVEL2	D	26	12	11	9.4	5
RS1-9493-WS087	LEVEL2	A	30	24	23	5.6	5
RS1-9594-WT155	LEVEL2	A	30	24	25	5.2	6
RS1-9594-AR059	LEVEL1	A	30	24	33	0.59	6
RS1-9594-ID053	LEVEL2	R	60	30	35	7.1	6
RS1-9594-WT713	LEVEL2	R	33	24	28	8.9	6
RS1-9594-PR007	LEVEL2	E	24	12	48	0	7
RS1-9493-WT024	LEVEL1	A	54	44	89	0	2
RS1-9493-WT032	LEVEL2	A	48	32	48	1.9	2
RS1-9493-WT036	LEVEL2	A	54	38	54	1.09	2
RS1-9493-WT042	LEVEL2	D	64	43	30	28	2
RS1-9493-WT045	LEVEL2	D	80	29	38	359	2
RS1-9493-WT053	LEVEL2	C	54	44	54	24.9	2
RS1-9493-WT059	LEVEL1	A	42	39	48	0.29	2
RS1-9493-WT060	LEVEL1	A	24	21	30	0.18	2
RS1-9493-WT061	LEVEL1	A	36	28	42	0	2
RS1-9493-WT068	LEVEL2	D	75	70	36	140	2
RS1-9493-WT069	LEVEL1	A	30	27	36	0.1	2
RS1-9493-AR314	LEVEL1	A	36	34	48	0.3	3
RS1-9493-AR322	LEVEL1	A	48	46	72	0.07	3
RS1-9493-WS616	LEVEL1	A	42	40	57	0	3
RS1-9594-EP015	LEVEL1	A	24	23	36	0	3
RS1-9493-AR037	LEVEL2	A	94	81	64	290	4
RS1-9493-AR039	LEVEL2	D	34	24	17	80	4
RS1-9493-IN024	LEVEL2	A	94	90	55	1850	4
RS1-9493-WS614	LEVEL2	A	37	32	19	37	4
RS1-9493-WT002	LEVEL2	D	43	36	20	29	4
RS1-9493-WT005	LEVEL2	D	43	41	20	42.17	4
RS1-9493-WT008	LEVEL2	D	56	51	26	130	4
RS1-9493-WT018	LEVEL2	D	70	47	33	218	4
RS1-9493-WT022	LEVEL2	A	32	30	18	25	4
RS1-9493-WT041	LEVEL2	A	68	54	36	723	4
RS1-9493-WT072	LEVEL2	D	45	30	20	310	4
RS1-9493-WT085	LEVEL2	D	54	37	25	197	4
RS1-9493-WT702	LEVEL2	D	86	54	43	125.71	4
RS1-9493-WT703	LEVEL2	D	65	54	32	77.4	4
RS1-9493-WT704	LEVEL2	A	56	54	30	154.4	4
RS1-9594-AR010	LEVEL2	A	38	36	26	12	4
RS1-9594-AR015	LEVEL2	D	28	24	14	47	4
RS1-9594-IN002	LEVEL2	A	31	30	22	6.9	4
RS1-9594-IN005	LEVEL2	F	40	36	27	13.5	4
RS1-9594-WT142	LEVEL2	A	45	37	25	77	4
RS1-9594-WT157	LEVEL2	A	40	34	23	41	4

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9594-WT611	LEVEL2	A	40	36	28	10.29	4
RS1-9594-WT706	LEVEL2	A	44	35	22	79	4
RS1-9493-AR040	LEVEL2	A	50	43	37	13	5
RS1-9493-AR312	LEVEL2	A	57	53	52	3.06	5
RS1-9493-WS101	LEVEL2	R	18	12	11	24	5
RS1-9594-AR004	LEVEL2	R	36	24	20	15	5
RS1-9594-AR007	LEVEL2	D	40	24	20	5.4	5
RS1-9594-WS081	LEVEL2	R	4	2	2	22.8	5
RS1-9594-WT116	LEVEL2	A	15	12	9	3.8	5
RS1-9493-TT222	LEVEL1	A	30	27	54	0	6
RS1-9493-WS097	LEVEL1	A	36	31	48	0	6
RS1-9493-WT015	LEVEL2	A	69	54	61	8.7	6
RS1-9493-WT055	LEVEL1	A	36	31	85	0	6
RS1-9594-WT171	LEVEL2	F	34	24	34	1.46	6
RS1-9493-CL003	LEVEL1	A	24	12	36	0	6
RS1-9493-WT034	LEVEL1	A	24	12	65	0	6
RS1-9493-WT079	LEVEL1	A	24	20	76	0	6
RS1-9594-WT143	LEVEL1	A	24	16	36	0	6
RS1-9594-WT704	LEVEL1	A	24	16	36	0	6
RS1-9493-AR103	LEVEL2	A	8	4	6	2.01	1
RS1-9493-AR092	LEVEL1	A	6	4	20	0	1
RS1-9493-CL006	LEVEL1	A	2	0	24	0	1
RS1-9493-AR107	LEVEL1	A	12	11	36	0	1
RS1-9493-WT102	LEVEL1	A	2	1	40	0	1
RS1-9493-AR078	LEVEL2	R	18	15	14	2.9	1
RS1-9493-ET232	LEVEL1	A	12	4	16	0	1
RS1-9493-ET253	LEVEL1	A	12	4	18	0.039	1
RS1-9493-CL004	LEVEL1	A	12	8	30	0.09	1
RS1-9493-PR006	LEVEL1	A	12	6	30	0	1
RS1-9493-AB058	LEVEL2	D	24	12	12	1.4	1
RS1-9493-WT207	LEVEL1	A	24	20	36	0	1
RS1-9392-ET069	LEVEL1	A	24	20	49	0	1
RS1-9392-WT126	LEVEL1	A	24	12	51	0	1
RS1-9493-CS139	LEVEL1	A	6	4	13	0.6	2
RS1-9493-CS175	LEVEL1	A	9	8	18	0	2
RS1-9493-CS127	LEVEL1	A	12	11	24	0	2
RS1-9493-WS628	LEVEL1	A	18	17	30	0	2
RS1-9493-CT677	LEVEL1	A	17	16	30	0	2
RS1-9493-CT665	LEVEL1	A	18	16	30	0	2
RS1-9493-WS712	LEVEL1	A	24	22	36	0	2
RS1-9493-CT676	LEVEL1	A	14	12	30	0	2
RS1-9493-GR113	LEVEL1	A	12	11	30	0	2
RS1-9493-CT202	LEVEL1	A	12	10	30	0	2

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9493-ID114	LEVEL1	A	2	0	24	0	2
RS1-9493-IN049	LEVEL2	A	70	52	48	99	2
RS1-9493-ET238	LEVEL2	B	17	9	6	249	2
RS1-9493-WS135	LEVEL2	A	50	25	24	230	2
RS1-9493-CS133	LEVEL2	A	32	20	20	12	2
RS1-9493-CT258	LEVEL2	A	27	9	12	28.2	2
RS1-9493-WT187	LEVEL2	A	29	19	22	5.6	2
RS1-9493-WS627	LEVEL2	R	36	16	20	109	2
RS1-9493-CS649	LEVEL2	A	43	23	29	15	2
RS1-9493-WS110	LEVEL2	F	30	15	22	6.1	2
RS1-9493-WT119	LEVEL1	A	12	9	17	0	2
RS1-9493-CS130	LEVEL1	A	6	3	12	0.091	2
RS1-9493-WT191	LEVEL1	A	16	12	24	0	2
RS1-9493-AB080	LEVEL1	A	21	18	30	0.069	2
RS1-9493-AR046	LEVEL1	A	24	16	30	0	2
RS1-9493-WS632	LEVEL1	A	30	22	36	0.078	2
RS1-9493-CT730	LEVEL1	A	18	14	30	0	2
RS1-9493-CS142	LEVEL1	A	18	14	30	0	2
RS1-9493-CT675	LEVEL1	A	18	13	30	0.28	2
RS1-9493-CT674	LEVEL1	A	24	11	30	0.25	2
RS1-9493-CL012	LEVEL1	A	24	16	36	0	2
RS1-9493-CS124	LEVEL1	A	24	16	36	0	2
RS1-9493-IN118	LEVEL1	A	12	9	30	0	2
RS1-9493-WS652	LEVEL1	A	24	9	30	0	2
RS1-9493-CL014	LEVEL1	A	24	15	36	0.52	2
RS1-9493-CL011	LEVEL1	A	24	15	36	0.215	2
RS1-9493-AB087	LEVEL1	A	24	14	36	0	2
RS1-9493-AR108	LEVEL1	A	12	7	30	0	2
RS1-9493-WS106	LEVEL1	A	24	18	41	0	2
RS1-9493-CS653	LEVEL1	A	12	6	30	0	2
RS1-9493-CT731	LEVEL1	A	16	12	36	0.08	2
RS1-9493-CT672	LEVEL1	A	12	5	30	0.033	2
RS1-9493-CT182	LEVEL1	A	24	16	42	0	2
RS1-9493-CT732	LEVEL1	A	8	1	36	0	2
RS1-9493-PR003	LEVEL1	A	12	9	52	0	2
RS1-9392-WT112	LEVEL1	A	24	23	39	0	3
RS1-9392-WT072	LEVEL1	A	24	22	47	0.22	3
RS1-9392-CL010	LEVEL1	A	36	35	62	0	3
RS1-9493-WT189	LEVEL2	A	49	48	23	194	4
RS1-9493-WT729	LEVEL2	D	51	48	24	193	4
RS1-9493-WT169	LEVEL2	D	52	48	24	399	4
RS1-9493-WT249	LEVEL2	A	44	42	20	231.6	4
RS1-9493-WT196	LEVEL2	A	44	42	20	170	4

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9392-CT634	LEVEL2	A	56	54	32	108	4
RS1-9493-WT164	LEVEL2	A	62	54	32	340	4
RS1-9493-WT178	LEVEL2	A	50	48	28	83.5	4
RS1-9392-CT630	LEVEL2	A	58	54	34	100	4
RS1-9392-WT017	LEVEL2	A	38	36	17	151	4
RS1-9493-WT154	LEVEL2	D	38	36	17	505	4
RS1-9392-AB039	LEVEL2	D	38	36	18	1020	4
RS1-9392-CT060	LEVEL2	A	42	41	23	51	4
RS1-9493-AB097	LEVEL2	A	51	48	30	58	4
RS1-9493-WT162	LEVEL2	A	43	42	25	59	4
RS1-9392-WT189	LEVEL2	A	42	40	26	22	4
RS1-9392-IN045	LEVEL2	D	54	36	23	119	4
RS1-9392-CT631	LEVEL2	A	45	37	24	61	4
RS1-9392-CL007	LEVEL2	A	44	36	24	78	4
RS1-9392-ET062	LEVEL2	A	39	36	24	26.9	4
RS1-9493-WS658	LEVEL2	A	37	36	25	11.3	4
RS1-9493-WS141	LEVEL2	D	39	28	18	237	4
RS1-9392-WT152	LEVEL2	A	38	36	26	12.042	4
RS1-9493-WT720	LEVEL2	F	49	48	38	9.5	4
RS1-9493-WT159	LEVEL2	D	82	49	39	31.5	4
RS1-9493-WT727	LEVEL2	D	96	33	24	45	4
RS1-9493-WT152	LEVEL2	A	38	36	27	10.6	4
RS1-9392-AB153	LEVEL2	A	18	17	9	31	4
RS1-9392-WT004	LEVEL2	A	32	30	22	9.8	4
RS1-9493-WT150	LEVEL2	A	49	48	40	7.8	4
RS1-9392-WT174	LEVEL2	A	65	54	46	46.9	4
RS1-9493-AR122	LEVEL2	F	26	24	18	5.5	5
RS1-9392-CT134	LEVEL2	A	33	30	26	4.8	5
RS1-9493-WT146	LEVEL2	A	38	36	32	3.5	5
RS1-9493-WT243	LEVEL2	A	17	12	10	5.6	5
RS1-9392-WT003	LEVEL2	A	27	24	22	2.8	5
RS1-9493-WS714	LEVEL2	A	32	30	28	2.7	5
RS1-9493-CS637	LEVEL2	A	33	30	28	3.2	5
RS1-9493-AR071	LEVEL2	A	49	48	46	1.98	5
RS1-9493-IN109	LEVEL2	F	63	54	53	7.2	5
RS1-9493-WS111	LEVEL2	F	29	24	24	4.6	5
RS1-9493-WT723	LEVEL2	F	38	36	36	2.42	5
RS1-9392-WT049	LEVEL2	A	13	12	13	1.59	6
RS1-9392-WT050	LEVEL2	A	18	12	14	2.46	6
RS1-9493-WT188	LEVEL2	A	22	12	14	5.8	6
RS1-9392-WT071	LEVEL2	F	38	24	35	2.92	6
RS1-9493-WS651	LEVEL2	A	56	48	54	1.6	6
RS1-9392-CL005	LEVEL1	A	30	26	36	0.436	6

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason
RS1-9493-IN072	LEVEL1	A	45	42	47	0.14	6
RS1-9392-WT198	LEVEL1	A	18	13	24	0	6
RS1-9392-CL004	LEVEL1	A	30	24	36	0	6
RS1-9493-WT211	LEVEL1	A	66	54	68	0	6
RS1-9392-WT192	LEVEL1	A	42	30	48	0	6
RS1-9493-WT219	LEVEL1	A	60	54	73	0	6
RS1-9392-ET054	LEVEL1	A	18	12	32	0	6
RS1-9392-CT619	LEVEL1	A	18	12	33	0	6
RS1-9493-AR065	LEVEL1	A	18	12	34	0	6
RS1-9493-WT184	LEVEL2	R	24	12	15	5.45	6
RS1-9190-WT274	LEVEL1	A	18	16	24	0.024	2
RS1-9190-ET407	LEVEL1	A	13	12	30	0.237	2
RS1-9089-ET029	LEVEL2	F	40	21	26	14.9	2
RS1-9089-ET013	LEVEL1	A	33	29	36	0.38	2
RS1-9190-CS716	LEVEL1	A	30	27	36	0.415	2
RS1-9089-ET047	LEVEL1	A	24	21	36	0.22	2
RS1-9190-CS401	LEVEL1	A	24	19	36	0	2
RS1-9190-CS282	LEVEL1	A	24	18	36	0	2
RS1-9190-PR012	LEVEL1	A	12	5	24	0	2
RS1-9190-ET427	LEVEL1	A	24	16	36	0.041	2
RS1-9190-AR065	LEVEL1	A	12	8	30	0	2
RS1-9089-ET009	LEVEL1	A	24	12	36	0	2
RS1-9190-ET350	LEVEL1	A	30	29	36	0	3
RS1-9190-TT268	LEVEL1	A	18	16	24	0.82	3
RS1-9190-ET426	LEVEL1	A	24	22	36	0	3
RS1-9190-ET405	LEVEL1	A	30	28	60	0	3
RS1-9089-ET035	LEVEL2	B	26	24	13	670	4
RS1-9190-ET286	LEVEL1	A	36	32	40	0.52	6
RS1-9190-CL047	LEVEL1	A	36	30	64	0.3	6
RS1-9190-WS706	LEVEL1	A	36	30	50	0.12	6
RS1-9190-TT258	LEVEL1	A	30	24	42	0.063	6
RS1-9190-ET331	LEVEL1	A	18	12	26	0	6
RS1-9190-WS335	LEVEL1	A	18	12	34	0	6
RS1-9089-ET011	LEVEL1	A	36	30	54	0	6
RS1-9190-ET340	LEVEL2	A	17	12	13	3.785	6
RS1-9190-ET270	LEVEL2	A	27	24	26	1.44	6
RS1-9089-ET002	LEVEL1	A	24	12	36	0	6
RS1-9190-CL032	LEVEL1	A	24	12	36	0	6
RS1-9190-CS444	LEVEL1	A	24	12	36	0.032	6
RS1-9190-ET402	LEVEL1	A	24	12	36	0	6
RS1-9190-ET413	LEVEL1	A	24	12	36	0.0285	6
RS1-9190-WS707	LEVEL1	A	24	12	36	0	6
RS1-9190-ET320	LEVEL1	A	24	12	52	0	6

Core ID	Confidence Flag	Sub-group	Measured DoC (in.)	DoC from Interpolation (in.)	Depth of Last Measured Segment (in.)	Total PCB Concentration in Last Measured Segment (mg/kg)	Reason

Reasons for Not Adjusting DoC Surface:

1. *The core is located outside dredge area.*
2. *The core is located in a "dredge to Glacial Lake Albany Clay" area.*
3. *The core is complete and has a measured DoC that is within 2 inches of the DoC surface.*
4. *The core is incomplete and the bottom of its last measured section is shallower than the DoC surface by greater than 6 inches.*
5. *The core is incomplete and the bottom of its last measured section is shallower than the DoC surface by less than or equal to 6 inches and it has a total PCB concentration of less than 25 ppm in that section.*
6. *All total PCB concentrations in the core that are below DoC surface are less than or equal to 10 mg/kg.*
7. *The core's DoC was affected by reporting limit issues (i.e., CL2E core) and the DoC surface captures all the measured core concentrations above 1 mg/kg.*

Acronyms:

DoC = depth of contamination
in. = inches
PCB = polychlorinated biphenyl
mg/kg = milligram per kilogram
ppm = parts per million

Table E-3. Confidence Level 1 Cores with DoC Shallower than the DoC Surface and Meeting the Criteria for Upward Adjustment of the Surface.

Core ID	Measured DoC (in.)	DoC from Interpolation (in.)
RS1-9493-AR327	0	6
RS1-9594-ID069	2	8
RS1-9594-WT135	2	9
RS1-9493-WT073	0	12
RS1-9594-IN064	6	12
RS1-9594-WT128	2	12
RS1-9594-WT141	5	12
RS1-9493-WT063	0	13
RS1-9594-TT212	6	14
RS1-9493-TT221	18	24
RS1-9493-WT086	18	24
RS1-9493-TT215	18	24
RS1-9493-WT043	2	30
RS1-9493-AR315	12	36
RS1-9493-AR323	36	44
RS1-9493-PT046	48	92
RS1-9493-WS615	2	9
RS1-9493-AB034	6	12
RS1-9594-WS159	2	12
RS1-9594-WS707	2	12
RS1-9594-WS709	2	12
RS1-9493-WS029	2	12
RS1-9493-WS040	2	12
RS1-9594-WT140	2	12
RS1-9594-WT153	2	12
RS1-9594-IN056	6	12
RS1-9594-WS061	6	12
RS1-9594-WS069	6	12
RS1-9493-WS083	18	24
RS1-9493-WS607	18	24
RS1-9594-ID094	15	24
RS1-9594-TT216	18	24
RS1-9594-IN042	18	24
RS1-9392-WT199	2	12
RS1-9392-WT139	2	12
RS1-9392-WT153	6	12
RS1-9392-WT155	2	12
RS1-9392-WT184	2	12
RS1-9392-AB026	6	12
RS1-9392-AB040	6	12
RS1-9392-ET172	2	12
RS1-9392-WT033	2	12
RS1-9392-WT081	6	12

Core ID	Measured DoC (in.)	DoC from Interpolation (in.)
RS1-9392-AB007	2	12
RS1-9392-IN015	2	12
RS1-9392-WT007	2	12
RS1-9392-WT013	6	12
RS1-9392-WT019	6	12
RS1-9392-WT602	2	12
RS1-9493-AR101	2	12
RS1-9493-EP015	2	12
RS1-9493-IN096	2	12
RS1-9493-WT195	2	12
RS1-9493-WT209	2	12
RS1-9493-WT223	2	12
RS1-9493-WT229	6	12
RS1-9493-WT230	2	12
RS1-9493-CT217	2	12
RS1-9493-CS659	2	12
RS1-9493-WS635	2	12
RS1-9493-CL007	12	18
RS1-9392-TT218	12	19
RS1-9392-TT226	12	20
RS1-9392-TT220	6	22
RS1-9392-WT176	18	24
RS1-9392-WT114	18	24
RS1-9392-AB001	18	24
RS1-9392-CT121	18	24
RS1-9392-CT601	18	24
RS1-9392-ET128	18	24
RS1-9392-IN017	12	24
RS1-9392-TT217	12	24
RS1-9392-TT219	18	24
RS1-9392-TT224	12	24
RS1-9392-TT230	18	24
RS1-9392-TT231	18	24
RS1-9392-TT233	12	24
RS1-9392-TT237	12	24
RS1-9392-WT023	18	24
RS1-9392-WT032	18	24
RS1-9392-WT034	18	24
RS1-9392-WT039	18	24
RS1-9392-WT048	18	24
RS1-9392-WT055	18	24
RS1-9392-WT095	18	24
RS1-9392-WT110	18	24
RS1-9392-WT138	18	24
RS1-9392-WT160	18	24

Core ID	Measured DoC (in.)	DoC from Interpolation (in.)
RS1-9493-WT242	18	24
RS1-9493-TT224	18	24
RS1-9493-CS631	18	24
RS1-9392-WT087	24	30
RS1-9190-ET449	2	12
RS1-9089-ET053	2	12
RS1-9190-AR073	2	12
RS1-9190-CS336	6	12
RS1-9190-ET257	2	12
RS1-9190-ET312	2	12
RS1-9190-ET330	2	12
RS1-9089-ET017	2	18
RS1-9190-ET342	12	20
RS1-9089-ET006	2	24

FIGURES

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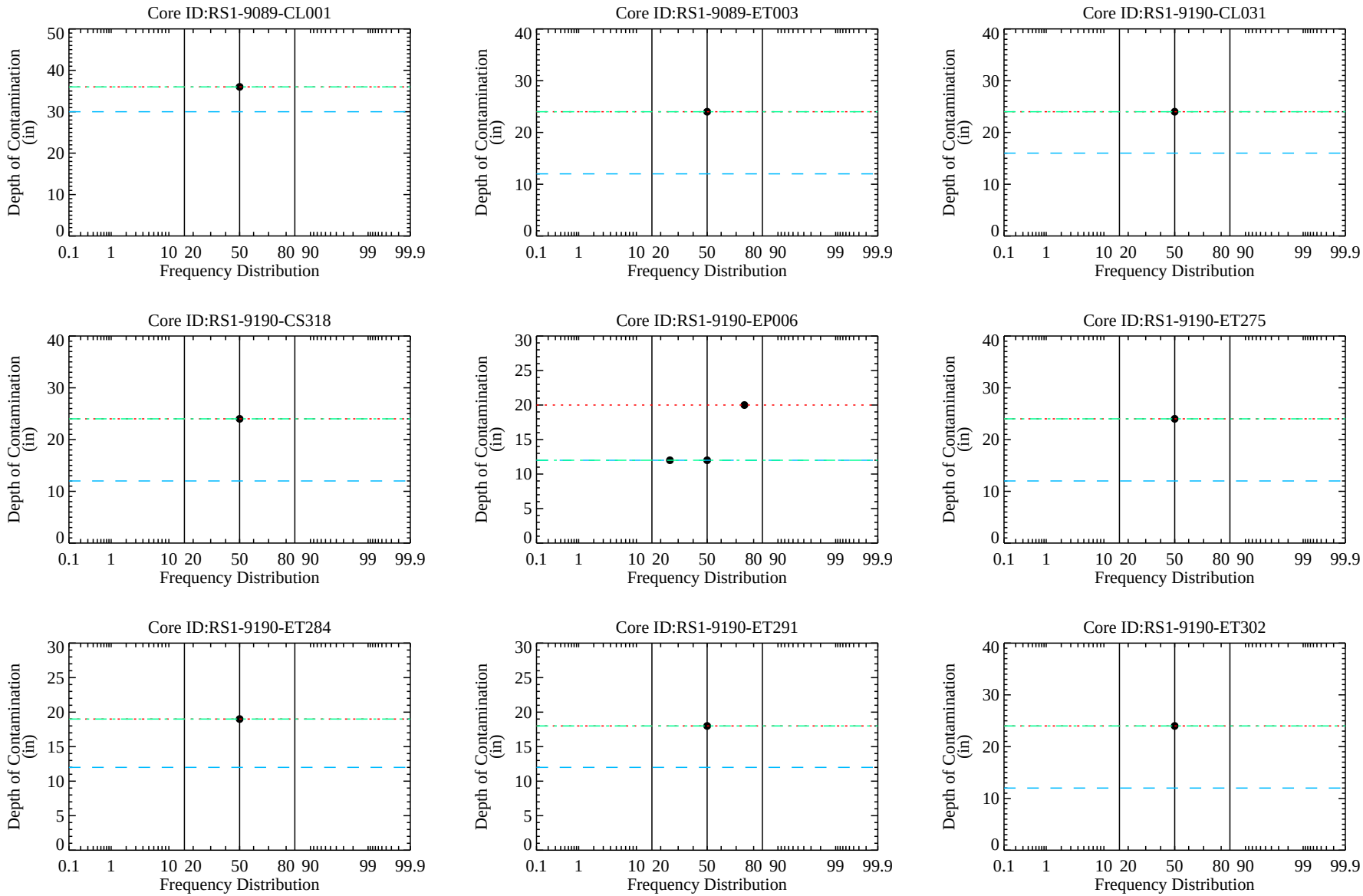

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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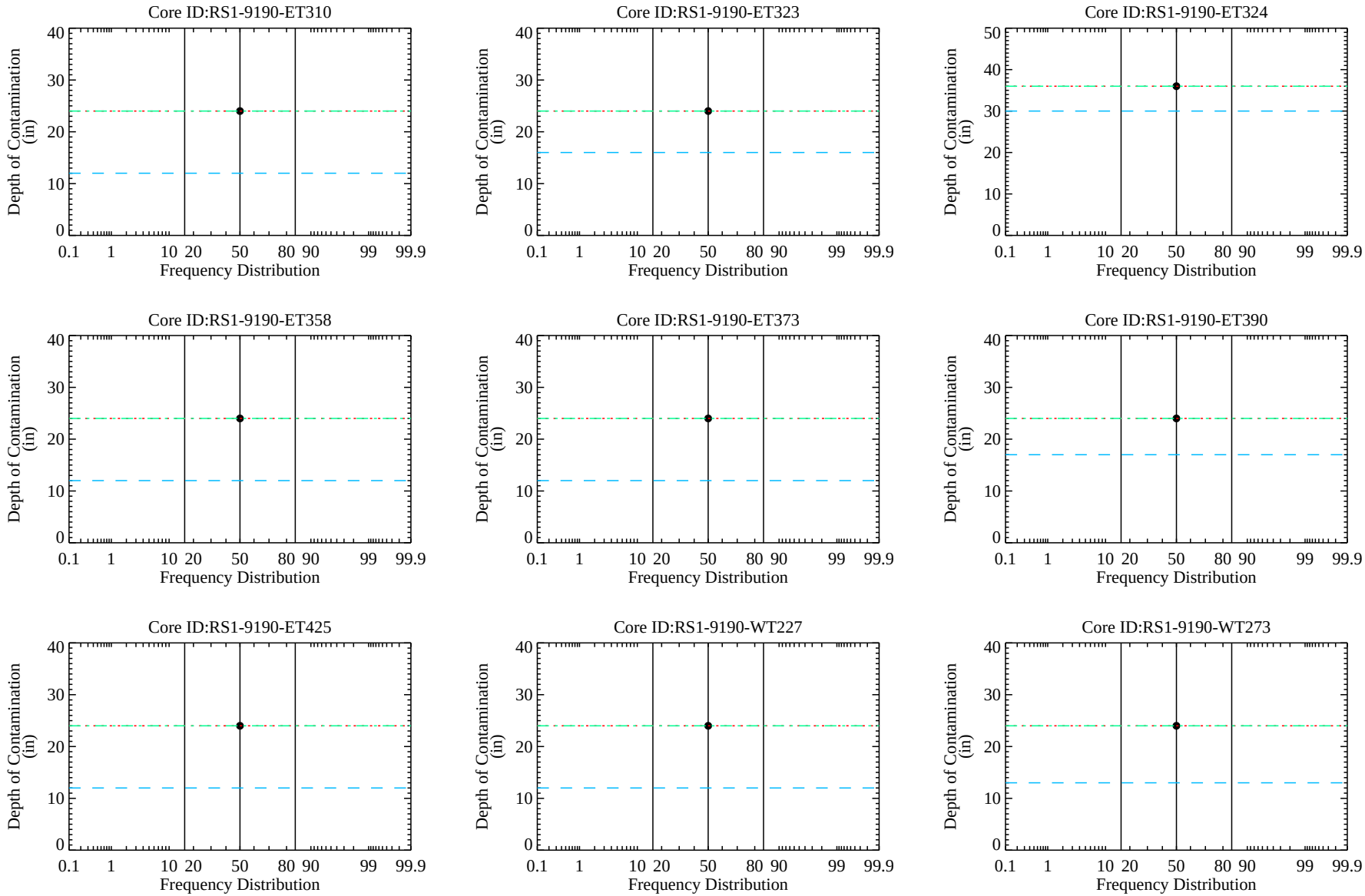

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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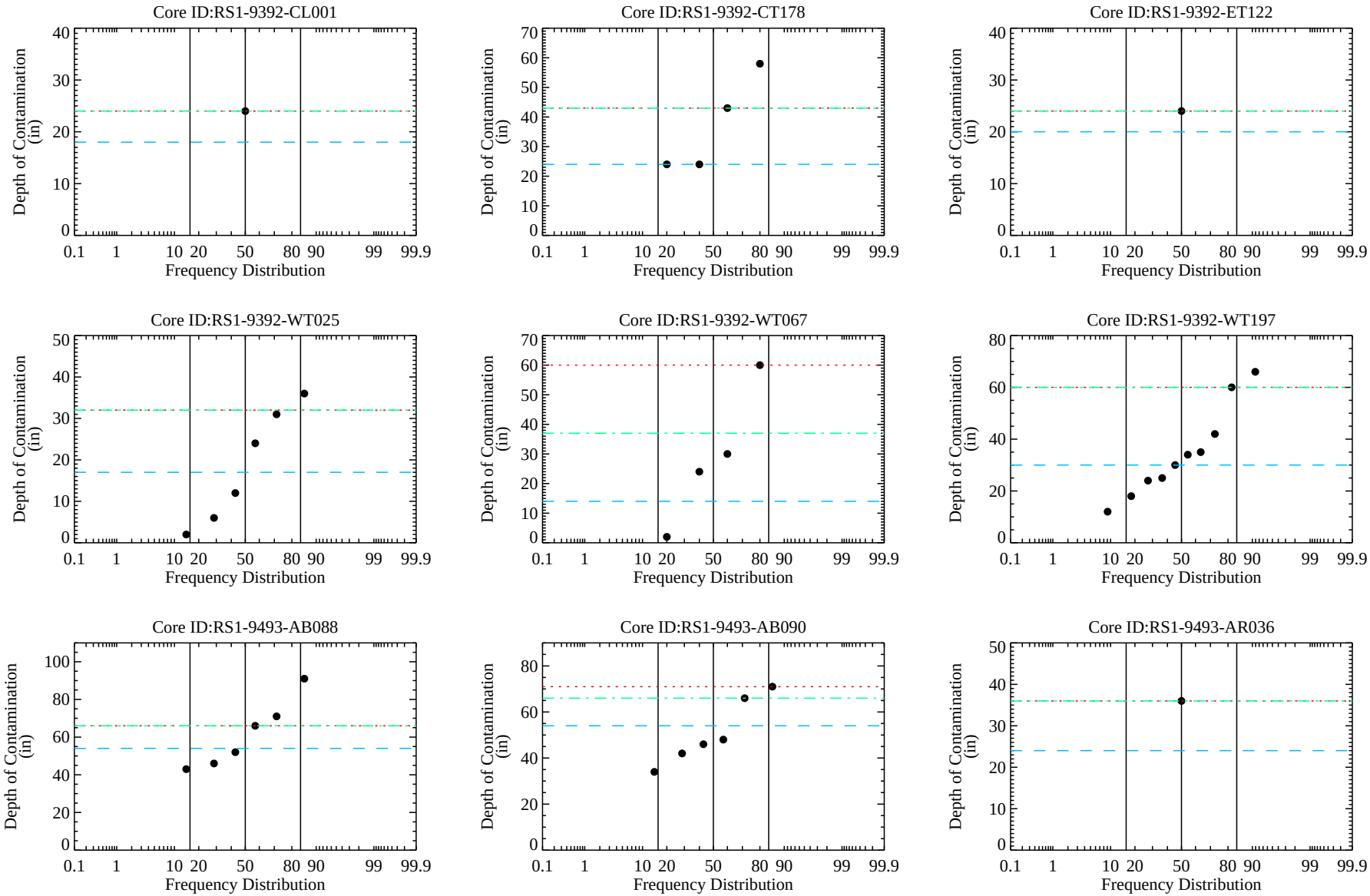

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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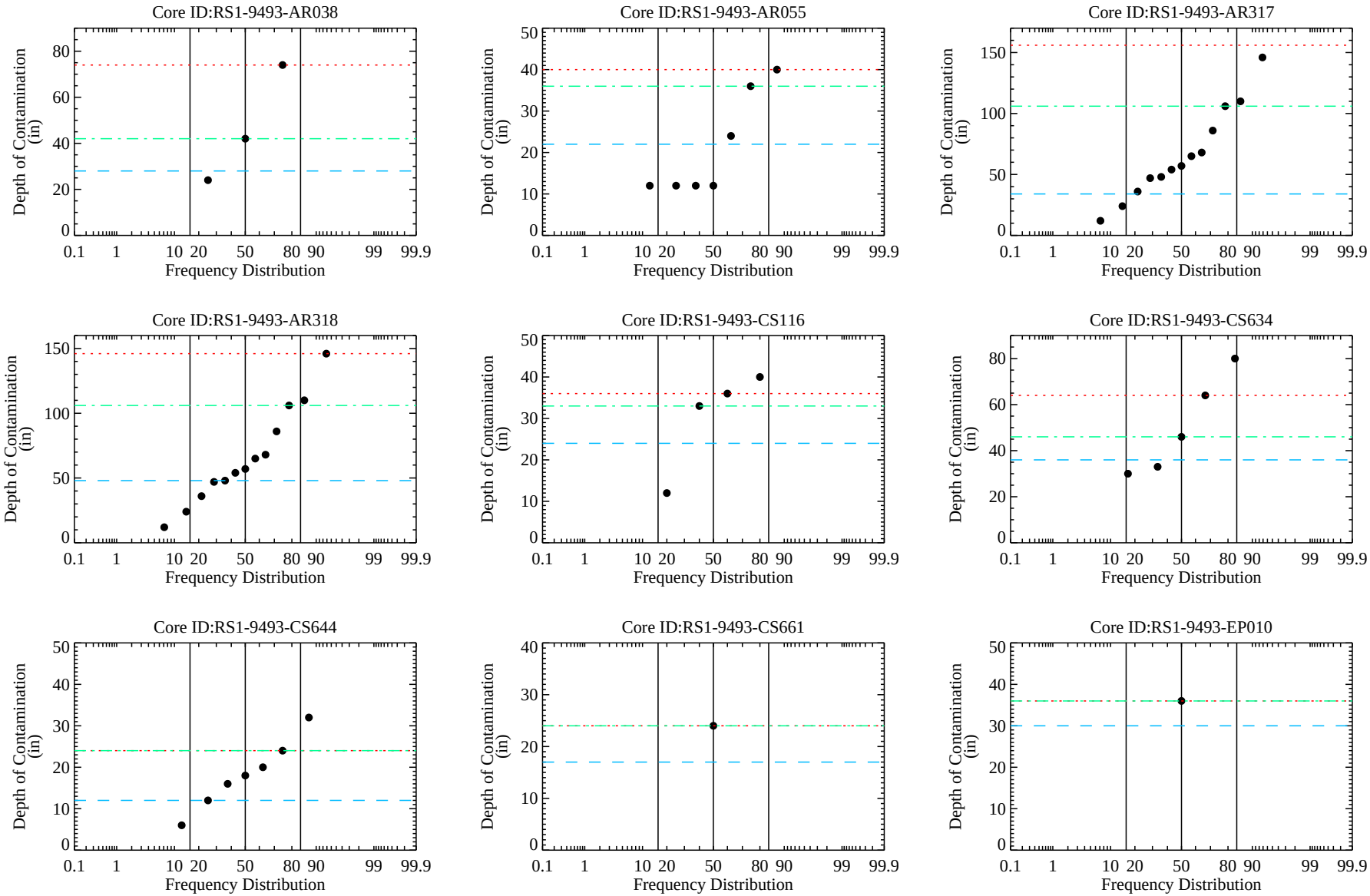

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

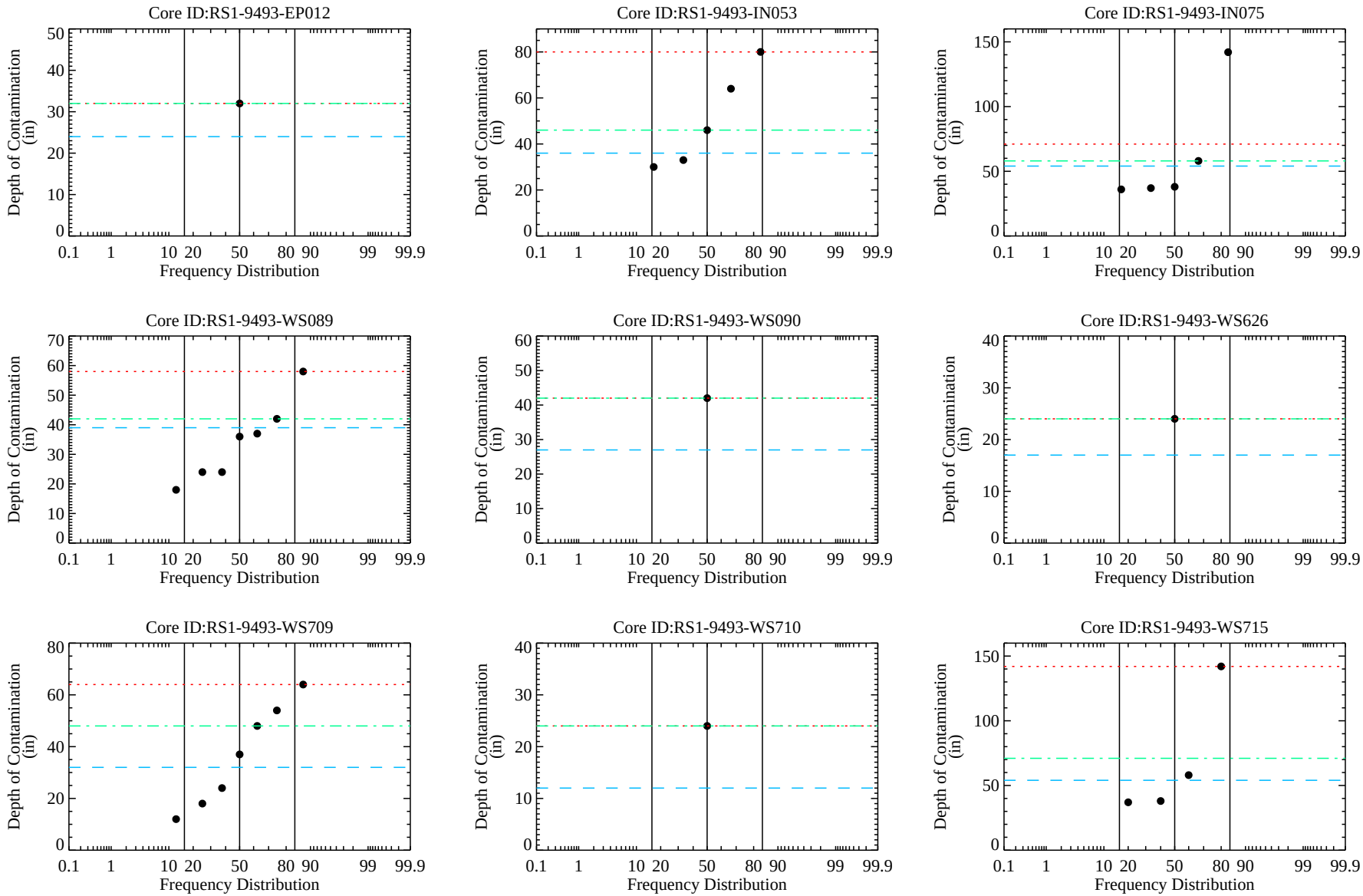

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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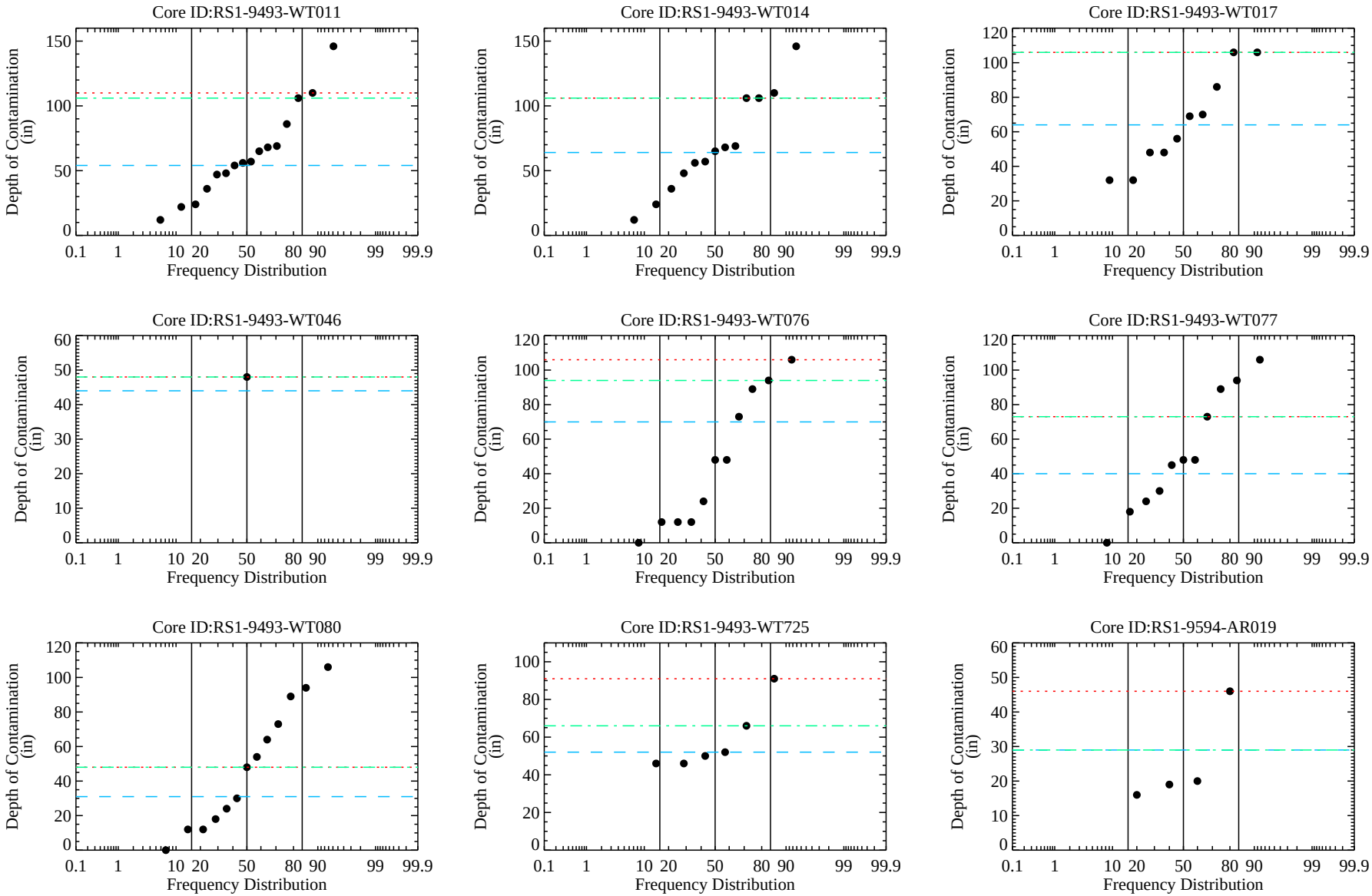

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

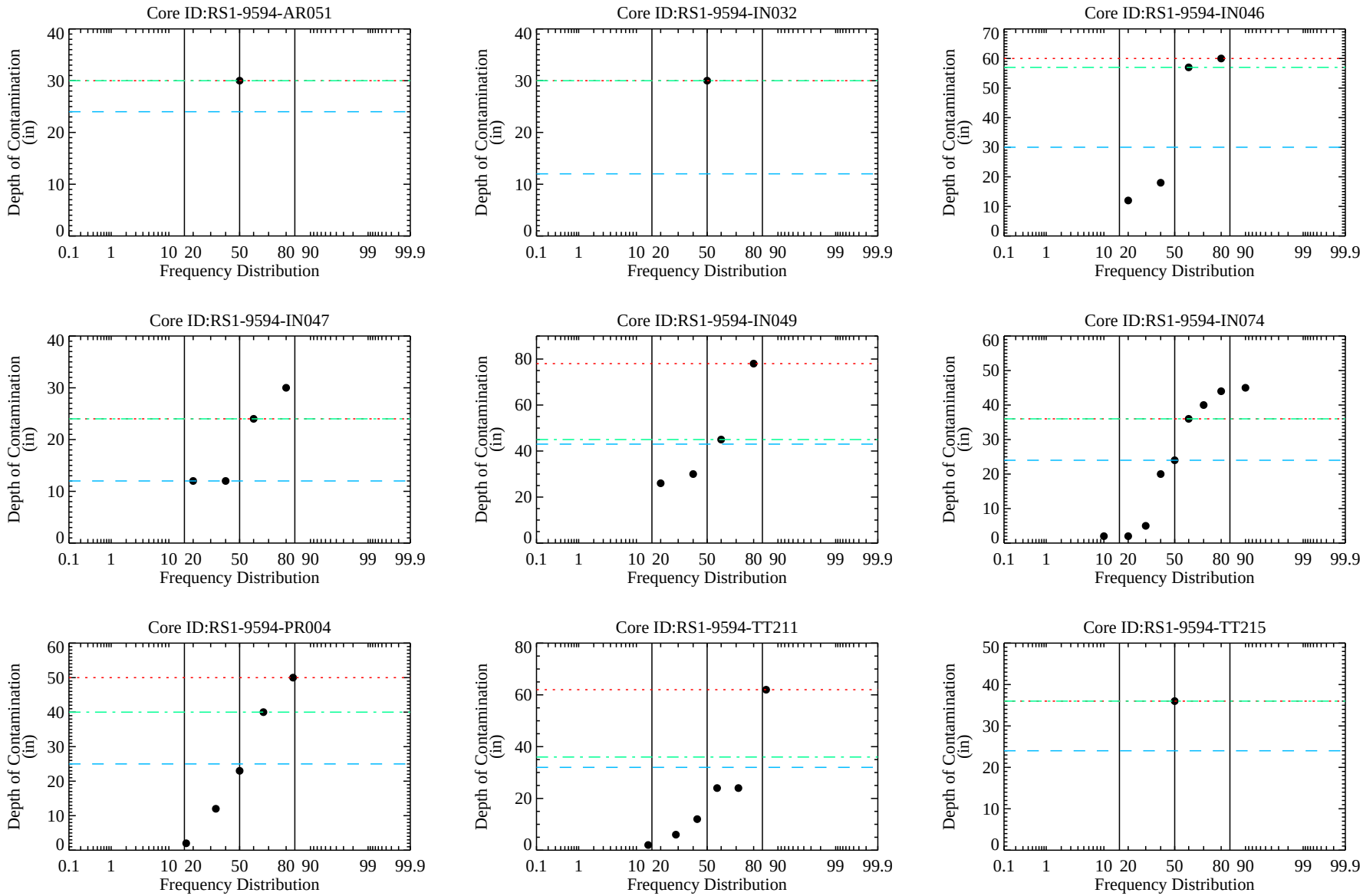

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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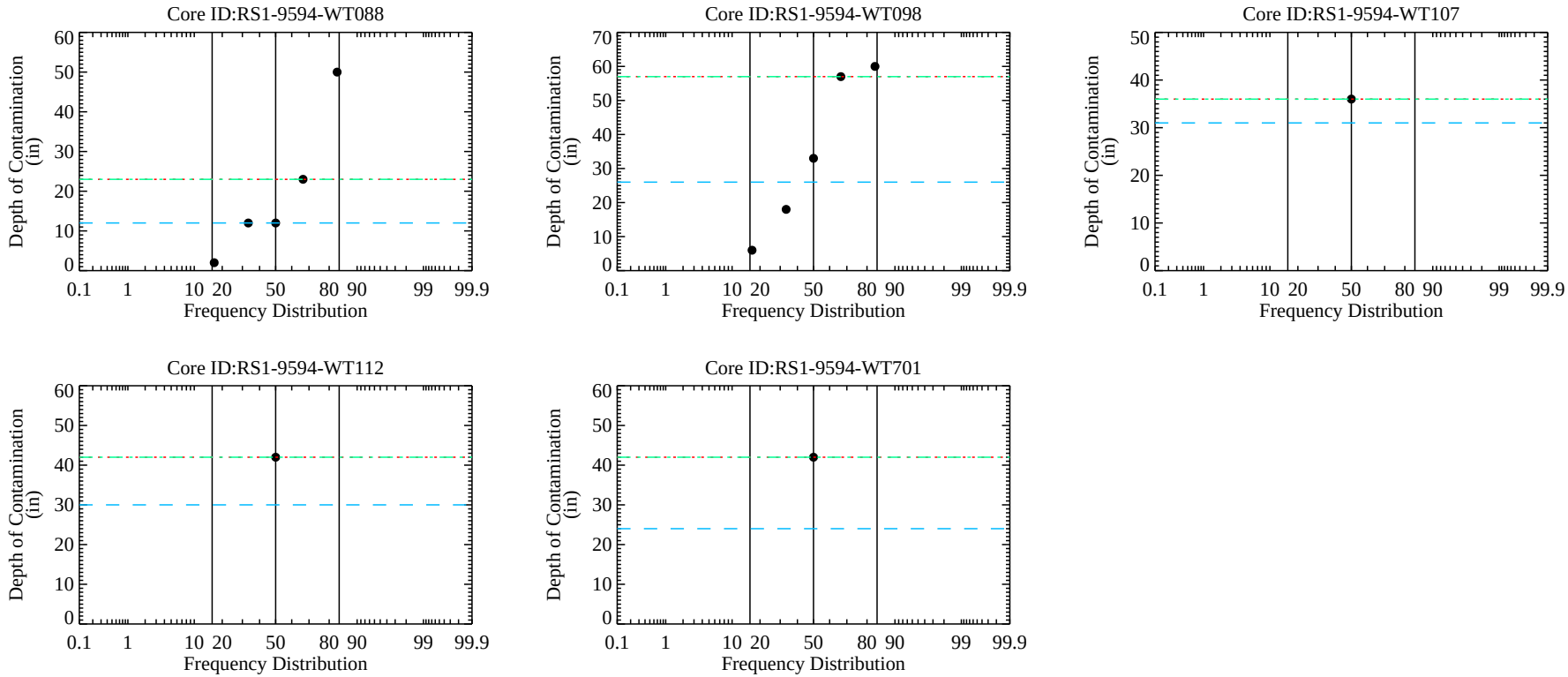

Figure E-1. Analysis of the Neighboring DoC for the 68 Cores that Penetrate the DoC Surface and Met the Criteria for the Adjustment of the Surface

Note: Buffer not used on Confidence Level 1 cores.

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