

NJDEP Technical Guidance Document Review Form

Document: "FSPM Chapter 5 - Sampling Equipment "

Comment Period September 29, 2021 to November 30, 2021

NJDEP Committee Chairpersons: Crystal Pirozek and Biff Lowry

Comment #	Page	Section	Subsection	COMMENTS	RESPONSE
1	1			GLOBAL COMMENT - Many words throughout Chapters 5 have incorrect spacing after hyphens (perhaps due to formatting changes) and the incorrect placement of hyphens in words that otherwise do not need them. In some cases, the necessary corrections only need to be made once. However, in some cases, the typos/incorrect word usage occurs many times, so, a global search of each word in the chapter should be conducted to identify all issues.	agreed to change
2	1			This is more of a general comment on stakeholder involvement. Are equipment rental companies like Pine or U.S. Environmental included as stakeholders? At my previous position with Langan, we had limited in-house sampling equipment and often had to rent equipment from rental companies. Langan is a relatively large consulting company as well so I'd imagine smaller companies would have to rent even more than we did. The rental companies may have useful insights on decontamination, equipment maintenance, types of equipment generally used, etc.	We have a manufacturer on the committee who reviewed everything, Eon Products.
3	1			I noticed that there is no procedure for compost sampling for vegetative waste. In our research recently, it was discovered that most labs use glass containers to storage compost samples. We also had labs say they store compost samples in ziplock bags. Does the department have an official way they sample compost materials? Could this be included in this section? Any comments	agreed to move comment to chapter 6 and agreed to add a sentence discussing compost material
4	1			Some advantages/disadvantages lists capitalize items while others do not. Some sentences end in periods while others do not.	Made all lists more consistent
5	2			En Core® should have "registered" marking.	agreed to change
6	4	5.1		The documents at the link for Quality Assurance Project Plan Technical Guidance: https://www.nj.gov/dep/srp/guidance/#analytic_methods are dated 2014. Are they the most up to date? This link is in both Chapters 5 & 6. I went back to Chapter 2 and this link is included there also.	This link takes the user to the most current information available.
7	4	5.1		Following the links of relevant guidance manuals there should be a period (before 5.1.1)	agreed to change
8	4	5.1		This should also list a reference to the Drinking Water and Waste water for non-site remediation sampling matters	This chapter is about sampling equipment. Could not find any link describing sampling equipment unique to collecting drinking or waste water samples
9	4	5.1		The section where the relevant guidance manuals are noted should also contain a reference to the DEPs Quality Management Plan at: https://www.nj.gov/dep/enforcement/oqa/docs/qmp.pdf	added link https://www.nj.gov/dep/enforcement/oqa/qap.html
10	4	5.1	1	"As such, it is not practical for this document to be all inclusive and stay up to date". Updated sentence to say, "As such, it is not practical for this document to be all-inclusive nor stay up-to-date"	added hyphen to "all-inclusive" and changed "and" to "nor". Not adding hyphens to "up to date".
11	5	5.1	1	acronyms should always be spelled out when first used.	agreed to change

12	5	5.1	1	Change "data is" to "data are". "Data" is a plural noun.	agreed to change
13	5	5.1	1	Change "too" to "to".	agreed to change
14	5	5.1	1	Change "too" to "to" at top of page	agreed to change
15	5	5.1	1	Move last 2 bullets to places 4 and 5.	agreed to change
16	5	5.1	1	"Sample results generated by procedures or equipment that are "not recommended", or not "recommended"". Why are both "not recommended" and "recommended" in quotes?	Considered, decided not to change. The quotes are required for clarity.
17	5	5.1	1	top of page says it is the responsibility of LSRP, should it be just sample collector, if this a departmental document.	agreed to change
18	5	5.1	1	What exactly is meant by the term "negative bias" within the first sentence? It might be good to define it, such as "bias that underestimates analyte concentrations" if that is the definition you were aiming for.	agreed to change
19	5	5.1	1	There is a typo within the sentence "Actions that should be taken too minimize negative bias include, but are not limited to:" within the first paragraph. "Too" should be "to".	agreed to change
20	6	5.1	1	The second to last sentence makes reference to "ASTM International" and "ITRC". Should these acronyms be spelled out?	agreed to change
21	6	5.1	1	In the yellow box, change "data is" to "data are". "Data" is a plural noun.	agreed to change
22	6	5.1	1	The sentences in the box lack clarity. Need to be reviewed.	agreed to remove the box and add as a separate paragraph so that it is more clear.
23	7	5.1	1	"including linear " on Table 5.1 is confusing. Perhaps define it as LLDPE (Linear Low Density Polyethylene)	agreed to change
24	7	5.1	1	Table 5.1 Metals, Row 1, Column 3 - add ")" after Mo.	agreed to change
25	7	5.1	1	Table 5.1 - HDPE & Organics - Text is vague and does not provide much guidance. Would be improved if a more detailed description of advantages and potential applications was provided.	agreed to not add additional information to the table and to reference 6.9
26	7	5.1	1	On the chart, the first description needs to end with a period. Also, the last description is missing a period as well.	agreed to change
27	8	5.1	1	The description of the table needs to end with a period.	agreed to change
28	8	5.1	2	The Bureau of Environmental Measurements and Site Assessment lists their number. Should BFBM list their number as well?	agreed to change
29	8	5.1	2	Last paragraph needs to close out with a period.	agreed to change
30	8	5.1	2	A sentence within the second-to-last paragraph states that "Sample collection inquiries of a more ecological nature may contact the Bureau of Freshwater and Biological Monitoring". Should BEERA also be added to this sentence for sample collection inquiries more related to ecological evaluations and risk assessments? Also, more detailed contact information should be provided here like an email address or phone number for BFBM (and BEERA if you decide to include them).	added BEERAs contact to the paragraph
31	8	5.1	2	add considerations of pfas sampling, I'll send in email (Byran Barrett)	agreed to change
32	9	5.2		The fourth, the decontamination procedure used by USGS, applies specifically to the cleaning of ground and surface water sampling equipment when analyzing for trace levels of inorganic, organic, biological or toxicity constituents and interference....." Toxicity should be changed to toxicological	agreed to change

33	9	5.2		Does the Department propose all 8 steps or since it is dedicated only a 3-step /power wash?	agreed to change to make more clear
34	9	5.2		TOC and Section Heading 5.2.2 for "Three-Step Equipment Decontamination Procedure" specify non-aqueous matrix only. Fourth paragraph (page 9) specifies "Three-Step Equipment Decontamination Procedure" applies to aqueous and non-aqueous matrices.	changed to make more clear
35	9/12	5.2/3		Section 5.2, fourth paragraph, specifies "Decontamination Procedures Using Heat" applies to aqueous and non-aqueous matrices. Section 5.2.3 (page 12) specifies "For Use Primarily on Water Sampling (or Ground-Water Sampling) Equipment" but then goes on to say that a common use of these procedures would be for direct-push drilling equipment decontamination. Confusing as to what matrix sampling equipment this is appropriate for.	agreed to change to make more clear
36	11	5.2	1	At the end of the roman numeral list there needs to be a period.	considered, no change
37	12	5.2	2	At the end of the roman numeral list there needs to be a period.	considered, no change
38	12	5.2	3	I believe the word "removed" should be "remove"	agreed to change
39	12	5.2	3	I believe the word "speeded" should be "speeds"	agreed to change
40	13	5.2	3	From the 3rd paragraph that starts with "Sampling equipment constructed of..." through the end of the page is not written concisely. A few statements regarding decontamination using heat are contradicting.	agreed to change to make more clear
41	13	5.2	3	Hot air oven drying procedure in the second paragraph states "Hot air oven drying is a departure from currently accepted procedures and is offered here as an alternative, if the following steps are performed without exception. " .. "temperature should be maintained at 110 C" Then 5.2.3i decon procedure prescribes expose to hot air at 117 C. Is 5.2.3.i referencing the procedure which must be performed by the steps without exception? If so there is a discrepancy in temperatures.	Sections are referring to different materials, metals and plastics. Agreed to leave as is.
42	14	5.2	4	It would be clearer to state upfront in this section that this decontamination procedure applies specifically to the cleaning of ground and surface water sampling equipment.	changed to make more clear
43	14	5.2	4	Change "long term" to "long-term".	agreed to change
44	14	5.2	4	Specify Aqueous and/or Non-Aqueous Sampling Equipment for consistency - 5.2.4	changed to make more clear
45	15	5.2	5.2	Last sentence on page 15, "...and not have been removed" should be "that may not have been removed".	agreed to change
46	15	5.2	5.1.3	In section 5.2.5.1.3 Bladder Pumps, it is unclear to me if bladders should be disposed of or can be re-used after decontamination. During my time with Langan, I was instructed to re-use bladders after decontamination and saw others doing the same.	Disposable bladders cannot be reused. Changed text to make more clear.
47	16	5.2	5.3	Section 5.2.5.3 Decontamination of Direct Push Equipment recommends using a pressure washer or steam generator to clean direct-push equipment. I had not once seen that carried out by drilling subcontractors during my time with Langan likely due to financial constraints involved with a separate vehicle with cleaning equipment. In a similar vein to Comment 1, were drilling companies included in the stakeholder process? Their input may be worthwhile as well.	Using a pressure washer or steam generator is the proper way to decontaminate the equipment. Stakeholders that employee drilling companies were included for review. Agreed to not change text.
48	16	5.2	5.3	First paragraph, third sentence: "cannot be taken lightly" should be changed to "is imperative"	agreed to change
49	16	5.2	5.3	A note would be beneficial here to tell the reader to consult the specific methodology they are using for sampling to ensure they are using for sampling to ensure they are using the appropriate number of QA/QC blanks for the method.	changed to make more clear

50	17	5.2	5.4	Similar to Comment 7, I have never seen drilling subcontractors conduct a field cleaning of well casing as laid out in section 5.2.5.4 Decontamination of Monitor Well Casing and Screen. However, the casing was always in pre-packaged plastic so it may not be necessary in that case. If so, that may be worth mentioning in this section.	changed to make more clear
51	17	5.2	5.4	End of first sentence, "re-moved" should be "removed"	agreed to change
52	18	5.2	5.6	Following the second bullet point at the top of the page there is no punctuation and then goes into the next paragraph.	agreed to change
53	18	5.2	5.7	3rd paragraph in this section is confusing, should be reviewed.	it was reviewed and it was decided that it was clear and the bullets further clarify
54	19	5.2	5.7	The paragraph starting with "If the collected water is deteremined to be non-contaminated...", last sentence "...may be considered" should be "must be considered".	changed to should be, must can not only be used when it is refereing to a rule
55	19	5.3		Should porewater be included as its own subsection within Section 5.3? Right now, porewater sampling equipment is included in the groundwater section. This may not be appropriate as porewater is distinct from groundwater and not subject to the same regulatory requirements. It may be worth conferring with some of the more experienced ecological risk assessors in BEERA like Allan Motter, Nancy Hamill, or Iman Olguin-Lira since porewater sampling is used in ecological risk assessments.	agreed and will add section
56	20	5.3	1.1	I believe this section applies to low-flow purging/sampling. If so, it may be good to reiterate the fact that SRP requires the water quality indicator parameters to be analyzed by a certified lab. This question often comes up and will be good to clarify. should either clarify routinely throughout unless specifically stated in aother chapter.	add additional sentence to clarrify and gave chapter for additional information
57	20	5.3	1.2.1.1	Comma after first paranthesis in "Suction-lift Pumps" refer to 5.3	considered, no change
58	21	5.3	1.2.1.1	Fourth line down, between "should" and "continue" there is an extra space.	agreed to change
59	21	5.3	1.2.1.2	Figure 5.1 breaks up the second paragraph in this section.	agreed to change
60	22	5.3	1.2.1.2	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
61	23	5.3	1.2.2.1	See comment 6, the last sentence on this page should be more clear on if bailers should be disposed of or not. In addition, "included" is a typo. It should be "including".	changed typo (including) and made it clear that bladders are disposable and not to be reused
62	23	5.3	1.2.2.1	I believe the word "included" should be "including"	agreed to change
63	24	5.3	1.2.2.1	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
64	24	5.3	1.2.2.1	Extra space between second to last and last bullet point on the page.	agreed to change
65	24	5.3	1.2.2.1	Inconsistent capitalizaiton of items within the same list.	agreed to change
66	25	5.3	1.2.2.2	What kind of grundfos pump is in Figure 5.3?	changed picture to a grundfos pump and added description
67	25	5.3	1.2.2.2	Second to last paragraph, second sentence, there needs to be a space between "to" and "100".	agreed to change
68	25	5.3	1.2.2.2	Second to last paragraph, last sentence, "overflow" should be two words.	agreed to change
69	26	5.3	1.2.2.2	Regarding the "traditional requirement...." Since this is the case, this should be added to the field log for traceability purposes. A note should be added for the reader noting this.	changed text to make more clear
70	27	5.3	1.2.2.2	"Tips for use" should be "Tips for Use"	agreed to change
71	27	5.3	1.2.2.2	The second advantage, extra space between "flow" and "rate".	agreed to change

72	27	5.3	1.2.2.2	2nd bullet: If this remains, I believe listing the specific types of plastic pumps should be noted for the reader. This will ensure there is no room for error.	agreed to not add a pump list but made sentence more clear
73	27	5.3	1.2.3	Change "low flow" to "low-flow".	agreed to change
74	28	5.3	1.2.2.2	First disadvantage, needs a comma after "purging and sampling"	agreed to change
75	28	5.3	1.2.2.2	First and second disadvantage need to end with a period.	agreed to change
76	28	5.3	1.2.2.2	Extra space between second to last and last disadvantage.	agreed to change
77	28	5.3	1.2.2.3	"Tips for Use" sentences should end with a period.	agreed to change
78	29	5.3	1.2.2.3	Second advantage, "Light weight" should be "Lightweight".	agreed to change
79	29	5.3	1.2.2.3	First disadvantage, "many designed" should be "many pumps are designed"?	agreed to change
80	29	5.3	1.2.2.4	"Procedures for Use", iv, should not end with a comma. Not consistent.	agreed to change
81	29	5.3	1.2.2.4	First advantage should not end with a period.	agreed to change
82	29	5.3	1.2.2.4	close the parenthesis.	agreed to change
83	31	5.3	1.2.2.5	the words, "on the" was repeated twice.	agreed to change
84	31	5.3	1.2.2.5	I believe the word "on" should be "over".	agreed to change
85	32	5	3.1.2.3	Second paragraph, regarding current DEP policy, that is the policy, but you can always ask permitting to allow a longer borehole when needed to properly characterize bedrock.	changed to make clear
86	32	5	3.1.2.3	Third paragraph, instead of "To facilitate vertical contamination delineation in bedrock aquifers, packer testing of a bedrock borehole is commonly performed" say "To facilitate bedrock characterization, packer testing of a bedrock borehole is commonly performed".	agreed to change sentence
87	32	5.3	1.2.3	Second paragraph, "down-ward" should be "downward"	agreed to change
88	33	5.3	1.2.3	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
89	33	5	3.1.2.3	Instead of "Conducting down-hole video work, ...may also be used..", say "Conducting down-hole geophysical investigagtion may also be used.."	made a change to make more clear
90	33	5	3.1.2.3	Not a fan of the "second method", if purpose is just vertical delination is one thing, but at what cost for good bedrock characterization.	agreed to not make a change to the second method
91	34	5.3	1.2.3	Just wondering if this is the correct wording, "packered"	yes it is the correct term but made more clear
92	34	5.3	1.2.3	regarding the deconination of packers: If this is the case, there should be a note here regarding what the deconination process should be. Even if it is an example of one.	agreded to not add additional decon information to this section
93	34	5.3	1.2.4	Second paragraph, why is "Non-weighted" capitalized?	agreed to change
94	34	5.3	1.2.4	Change "low level" to "low-level".	agreed to change

95	35	5.3	1.2.4	This was alluded to earlier in the text, but it may be worth adding to the advantages bullet list for bailers that they can be used as back-up sampling equipment if issues with the primary pump sampling equipment occur on-site.	agreed to not add as an advantage
96	35	5.3	1.2.4	Change "SS> PFAS > HDPE>LLDPE>LDPE" to "SS> PFTE > HDPE>LLDPE>LDPE".	changed PFAS to generic fluoropolymer
97	35	5.3	1.2.4	the sentence that begins with, "collecting a depth..." Please consider revising this sentence. Mentioning the bailer twice in the sentence appears to be redundant. Also need to define "Q&M".	changed to make more clear
98	36	5.3	1.2.4	Inconsistent capitalization of items within the same list.	agreed to change
99	36	5.3	1.2.4	3rd bullet point does not need to be capitalized. Need to be more consistent with punctuation.	agreed to change
100	36	5.3	1.2.5	Change "SS> PFAS > HDPE>LLDPE>LDPE" to "SS> PFTE > HDPE>LLDPE>LDPE".	changed PFAS to generic fluoropolymer
101	37	5.3	1.2.5	First paragraph at the top of the page consists of a run-on sentence and is incomplete. It ends with no punctuation or closing thought.	changed to make clear
102	37	5.3	1.2.5	Advantage and Disadvantages lack consistency with the punctuation.	agreed to change
103	37	5.3	1.2.5	Please be sure to check that the locational information in chapter 2 is correct, because there has been several changes to the chapter. This is the case in several instances throughout the chapter document.	changed
104	38	5.3	1.3	Shouldn't there be more identification of which samplers are good for pore water sample collection. The Department's GW SW guidance identifies more than peepers being good for pore water sampling.	agreed to add
105	38	5.3	1.3.1.1	May want to specifically mention that the reed valve does not always close even when following the proper procedure and would lead to collection of some water above the intended interval all the way to the surface.	a disadvantage lists this issue
106	38	5.3	1.3.1.1	Capitalize "S" in Hydra Sleeve in section header.	agreed to change
107	39	5.3	1.3.1.1	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
108	39	5.3	1.3.1.2	Paragraph seems to be an incomplete thought. Especially the fourth sentence.	agreed to not change
109	40	5.3	1.3.1.2	Second paragraph, second sentence, "samples" should be "sample(s)"	agreed to change
110	40	5.3	1.3.1.2	Third paragraph. "shipped" should be "shipped/delivered"?	agreed to change
111	40	5.3	1.3.1.2	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
112	40	5.3	1.3.1.2	In the third sentence, I believe the word, " placed" should be "replaced".	agreed to change
113	40	5.3	1.3.1.2	under disadvantages: this is not clear, please consider revising	clarified disadvantages
114	41	5.3	1.3.1.3	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
115	42	5.3	1.3.2.1	Reference to 6.9.6.4.5.1 is incorrect, should be 6.9.6.5.3.1	agreed to change
116	43	5.3	1.3.2.1	Typo on the first sentence of this page, "principle" is only ever used as a noun while "principal" is the adjective that should be used here.	agreed to change

117	43,44	5.3	1.3.2.1	Page 43 states that samples collected from PDBs represent concentrations in groundwater during the last approximately 4 to 5 days of residence time. Page 44 states that PDB samplers provide a time-weighted VOC concentrations, usually of 2 to 3 days. No. of days should be consistent.	changed to 1 to 4 days to be consistent
118	44	5.3	1.3.2.1	See comment 9, the Deployed in Lake, Stream, River, or Estuarine Sediment section may be better served as a porewater section distinct from groundwater.	added text to address
119	44	5.3	1.3.2.1	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
120	45	5.3	1.3.2.1	Second paragraph from bottom ("Using a length..."), first sentence "...drive18..." should be "...drive 18..."	agreed to change
121	46	5.3	1.3.2.1.1	A GPR locator will give you +/- 3 ft -. It is preferable to use measured triangulation and pin flagging.	agreed to not change
122	47	5.3	1.3.2.1.2	RCDM samplers are not commercially available - then there should be a line that states for information only.	agreed to leave that it is not commercially available.
123	47	5.3	1.3.2.1.3	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
124	48	5.3	1.3.2.2	Second sentence into section, "...polyethylene with pore size..." should be "polyethylene with a pore size"	agreed to change
125	48	5.3	1.3.2.2	Halfway through first full paragraph, should be " saturating the pores with water"	agreed to change
126	48	5.3	1.3.2.2	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
127	48	5.3	1.3.2.2	Change "6-15 microns" to "6 to 15 microns".	agreed to change
128	48	5.3	1.3.2.2	Looks like the first line of the header should appear in the bullet list of disadvantages for DMPDBS above	agreed to change
129	48	5	3.1.3.2.3	Not sure how accurate the first sentence is relative to peepers largely used to study of presence of trace metals in pore water. Only questioning since pore-water does not seem to be mentioned elsewhere and the only pore water work that I have been involved with is volatile organics.	changed text
130	49	5.3	1.3.2.3	Paragraph before advantages needs to end with a period.	agreed to change
131	49	5.3	1.3.2.3	In the last advantage bullet point, "as" should be "at".	agreed to change
132	49	5.3	1.3.2.3	What is the relative cost of the peeper?	agreed to not discuss costs of equipment and samplers
133	49	5.3	1.3.2.3	Last sentence. "AIG" should be revised to "AGI".	agreed to change
134	49	5.3	1.3.3.1	Change "AIG" to "AGI".	agreed to change
135	49	5.3	1.3.3.1	At the end of the 1st sentence, there are two periods.	agreed to change
136	49	5.3	1.3.3.1	Following the opening sentence of the first paragraph of 'AGI Universal Sampler', there is an extra space between the periods.	agreed to change
137	50	5.3	1.3.3.1	Last sentence before "Advantages" needs to end with a period.	agreed to change
138	50	5.3	1.3.3.1	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
139	50	5.3	1.3.3.2	Change "data is" to "data are". "Data" is a plural noun.	agreed to change
140	51	5.3	1.3.3.2	Following the two links listed, there is an extra space before the period.	agreed to change

141	51	5.3	2.1	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
142	55	5.3	2.2	i. references the "eight step decontamination procedure described in Chapter 2." The eight step procedure is described in 5.2.1, not Chapter 2.	agreed to change
143	55	5.3	2.2	"Procedures for Use, Part I" references Chapter 2, Quality Assurance for the 8-step decontamination procedure. This should be revised to Section 5.2.1. unless this procedure is referenced in Chapter 2 as well. (Did not have access to Chapter 2).	agreed to change
144	55,56	5.3	2.2	There is inconsistency with the punctuation/ period use in the Procedures of Use and Advantages and Disadvantages section.	agreed to change
145	57	5.3	3.1	At the end of the 1st paragraph, the period there is not needed and the space between the wording should be removed. Or, the sentence, "into a sampling event is missing wording."	agreed to change
146	57	5.3	3.1	section "i", the word "fitting" should be "fitted".	considered, decided not to change
147	57	5.3	3.1	Check Chapter 2 Location reference	reference checked and updated
148	57	5.3	3.1	Remove period after the word "variables"	agreed to change
149	57	5.3	3.1	Extra spaces between a few lines in the introduction paragraph on the topic of "Laboratory Cleaned Sample Bottle".	agreed to change
150	57	5.3	3.1	It appears that information is missing between the first and second paragraphs. Please correct.	agreed to change
151	57	5.3	3.1	There is a formatting issue within the paragraph for section 5.3.3.1 where a sentence is split in two.	agreed to change
152	58	5.3	3.2	Change "adjust-able" to "adjustable".	agreed to change
153	58	5.3	3.2	Remove the hyphen between "adjust" and "able" to make the word "adjustable".	agreed to change
154	59	5.3	3.2	section "vii" Check Chapter 2 Location reference	changed to a general reference to chapter
155	60	5.3	3.3	Spacing appears off in the "Advantages" and "Disadvantages" sections.	agreed to change
156	60	5.3	3.4	In "Procedures for Use" the punctuation does not match previous punctuation for the section (see pg. 61 for example).	agreed to change
157	61	5.3	3.5	section "vi" Check Chapter 2 Location reference	reference correct
158	63	5.3	3.8	Check Chapter 2 Location reference	reference correct
159	64	5.3	3.9	Spell out "CLU-IN". This is never defined in the manual.	agreed to change
160	64	5.3	3.9	First sentence references "log Kow "? Typo? Not sure what this is supposed to be referencing?	defined term
161	65	5.3	3.9	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
162	65	5.3	3.10.	BFBM has "Continuous Water-Quality Monitors" if a photo wants to be included in the manual.	Added an image
163	65	5.3	3.10	References "Subsection 6.9.6.4.2.3.5, <i>Flow Through Cell</i> ." This subsection does not exist in Chapter 6.	correction made
164	65	5.3	3.11	Put in parenthesis "CLAM" after the section reference "Continuous Low-level Aquatic Monitoring" or spell out "CLAM" in the first sentence of this section.	agreed to change
165	65	5.3	3.11	Edit the last sentence of this paragraph? "It is lightweight, versatile, and effective and using the CLAM will make following the protocols easy and at times unnecessary ." The bolded language doesn't make sense?	agreed to change

166	66	5.3	3.11	There is a typo within the second sentence, "experience" should be "experienced".	agreed to change
167	66	5.3	3.13	In the 2nd line of 1st paragraph - add the word "to" after "It is used".	agreed to change
168	67	5.3	4	Define "COLIWASA" (Composite Liquid Waste Sampler) - 5.3.4	it is already defined (first sentence).
169	68	5.3	4.1	section iv Check Chapter 2 Location reference	reference correct
170	68	5.3	4.2	section iii Check Chapter 2 Location reference	reference correct
171	69	5.3	4.3	section iv Check Chapter 2 Location reference	reference correct
172	70	5.4	1.1	Check Chapter 2 Location reference	reference correct
173	71	5.4	1.2	Under Figure 5.31, in the caption there is an extra space between D. and Dibblee.	agreed to change
174	71	5.4	1.2	Second paragraph: "chose the auger best suited for your needs". Chose should be replaced with choose	agreed to change
175	72	5.4	1.2	An additional disadvantage that should be added to the bulleted list for the bucket auger is that rocks, gravel, roots, wood debris, etc. can completely stop its' advancement into the soil and prevent collection of a full sample.	agreed to add a disadvantage
176	72	5.4	1.2	In "Procedures for Use" vi, there should be a period.	agreed to change
177	72	5.4	1.2	section vii Check Chapter 2 Location reference	reference correct
178	72	5.4	1.3	Appears to be an extra space in the beginning of sentence two.	cannot find extra space
179	72	5.4	1.3	Change "con-structed" to "constructed"	agreed to change
180	73	5.4	1.3	section x Check Chapter 2 Location reference	reference correct
181	73	5.4	1.3	Under Figure 5.32, appears to be an extra space between J. and Schoenleber	agreed to change
182	75	5.4	1.4	"Procedures for Use" viii. should end with a period.	agreed to change
183	75	5.4	1.4	Bullet v.:Suggest adding "split sample" to the document glossary	adding split samples to glossary
184	76	5.4	1.6	This section details that En Core samplers are the only way to collect samples for VOCs. However, in Chapter 6, a number of methods (preferred and not preferred) are listed for collection of VOC-soils samples. Section 5.4.1 should be updated to include these other methods.	changed section to make more clear of the use of the sampler
185	76	5.4	1.6	Section 5.4.1.6 states that the En Core sampler is the only approved soil sampling tool for volatile organics analyses in soil. I have also used the Terracore sampler for volatile organics analysis though I cannot recall if that was in Pennsylvania or New Jersey. Is the Terracore sampler not permitted?	changed to make more clear that en core is not the only approved but only sampler that can be used completely and not transferred prior to lab
186	76	5.4	1.6	If a full 5-gram sample is not achieved during first attempt, advise whether its appropriate to keep the soil in the Encore and make a 2nd attempt to fill the remainder of the 5 grams or whether to push out the soil from the first attempt and choose an undisturbed section of the soil core to make the second attempt for the full 5 grams.	discussed and agreed to give steps to what is preferred (one plunge needed per sample)
187	77	5.4	1.6	"Procedures for Use" xii. "Ship" should include "Deliver" as most samples are not shipped.	agreed to change
188	78	5.4	1.8	Remove the hyphen between "man" and "age" to make the word "manage".	agreed to change
189	78	5.4	1.8	References Section 6.9.6.5 for Temporary Well Points and Direct Push Technology. This should be 6.9.6.6.	agreed to change
190	78	5.4	1.8	First full paragpah, second to last sentence, "proceeded" should be proceed".	agreed to change
191	78	5.4	1.8	Second full paragraph, last sentence, "man-age" should be "manage".	agreed to change
192	78	5.4	1.8	Last sentence of section should end with a period.	agreed to change

193	78, 82	5.4	1.8 ,2.2	Change "man-aged" to "managed" and "with-stand" to "withstand".	agreed to change
194	79	5.4	2.1.1	In "Procedures for Use" i., there is an extra space before "Attach".	agreed to change
195	81	5.4	2.1.1	xii Check Chapter 2 Location reference	reference checked
196	80	5.4	2	Another disadvantage of the ponar is that the same sort of impediments listed in Comment 16 can cause incomplete closure of the jaws and thus it is not suitable for environments with such conditions. Section 5.4.2.1.2 focusing on the Ekman Grab Sampler states "Sticks, decayed leaves, and mixtures of sand and stone may prevent the jaw from closing properly". In my experience, this also applies to the petite ponar and similar language should be added to its section though with a focus on larger impediments like stones, roots, wood debris, etc.	added text to make more clear
197	82	5.4	2.1.5	Last sentence of section should end with a period.	agreed to change
198	82	5.4	2.2	The word "with-stand" should just be "withstand".	agreed to change
199	84	5.4	1.2.2.1	vi Check Chapter 2 Location reference	reference checked
200	86	5.4	2.2.3	Last sentence after quote should end with a period.	agreed to change
201	86	5.4	2.2.4	First full paragraph of section should end with a period.	agreed to change
202	88	5.4	2.2.4	vii Check Chapter 2 Location reference	reference checked
203	88	5.4	2.2.6	There is inconsistency with the punctuation/ period use in the Advantages and Disadvantages section.	agreed to change
204	88	5.4	2.2.5	The first paragraph contains two typos in its' last sentence. "applica- tion" should just be "application". The final comma should be in front of "against" instead of in front of "or" like it is now.	agreed to change
205	89	5.4	2.2.6	Table 5.3, "Petersen" and "Birge-Ekman" "Application" section should end with periods.	agreed to change
206	89-91	5.4	table 5.3	Although the language of this Table may be taken from USGS Field Manual, I think the language of the header could be clearer by stating "D = Diameter", L = Length", etc. instead of "D, Diameter, L, Length".	agreed to change
207	91	5.4	2.2.6	Table 5.3, "Benthos" "Application" section should end with a period.	agreed to change
208	91	5.4	footnote	Technically, the footnote reference should be "Chapter A8" and not 8A.	agreed to change
209	92	5.4	2.3.1	Second paragraph in section should end with a period.	agreed to change
210	92	5.4	2.3.1	There is inconsistency with the punctuation/ period use in the "Procedures of Use" section.	agreed to change
211	93	5.4	2.3.1	vi.: Check Chapter 2 Location reference	reference checked
212	94	5.4	2.3.2	vi. Check Chapter 2 Location reference	reference checked
213	93	5.4	2.3.2	There is inconsistency with the punctuation/ period use in the "Procedures of Use" section.	agreed to change
214	93	5.4	2	I have used the Swing Jar Sampler to collect surface water samples and was instructed to do so by personnel at Langan. Should section 5.4.2.3.3 be moved to the Surface Water section and a reference to the Swing Jar Sampler be added to the Sludge section?	added text to make more clear and agreed to not move to surface water
215	95	5.4	2.3.4	iii.:Check Chapter 2 Location reference	reference checked
216	95	5.4	3	I have used soil sampling equipment to sample waste piles and was instructed to do so by personnel at Langan. Is that permissible? If so, this section header should include that soil sampling equipment can be used for waste piles. In addition, the picture on this page being partially cropped to avoid obscuring text looks awkward and should be changed if possible.	added text to indicate that other equipment can be used and agreed to not change image.
217	95	5.4	3	Change "tele-scoping" to "telescoping" and "stain-less" to "stainless".	agreed to change
218	96	5.4	3.1	vii. Check Chapter 2 Location reference	reference checked

219	97	5.4	3.2	v.: Check Chapter 2 Location reference	reference checked
220	97	5.4	3.3	Second paragraph should end with a period.	agreed to change
221	98	5.4	3.3	Table 5.4, inconsistent period use in the "Limitations" section.	periods used after complete sentences
222	99			Another general comment upon finishing the chapter. Why was sampling equipment for indoor air or sub-slab soil gas not included? Is that within a different chapter or guidance document?	soil gas is discussed in chapter 9 but indoor air is discussed in the vapor intrusion guidance not the manual. Sentence added in the intro of Chapter 5 directing readers to Chapter 9 and the VIG.
223	101			Between references of Elton and Fetter the spacing is off.	agreed to change
224	101			Gallant reference should end with a period.	agreed to change
225	101			Hackett reference should end with a period.	agreed to change
226	102			Hewitt reference should end with a period.	agreed to change
227	102			ITRC reference should end with a period.	agreed to change
228	103			McCallister reference should end with a period.	agreed to change
229	103			New Jersey Department of Environmental Protection reference has format issues.	agreed to change
230	103			Nyer reference has format issues.	agreed to change
231	104			Robbins reference has format issues.	agreed to change
232	106			USEPA reference should end with a period.	agreed to change
233	107			University of Arizona reference has format issues.	agreed to change
234	107			the references included for the contract lab program statement of work are outdated and must be updated to be current with the most recent version. There are two references contained in this section and both are outdated and no longer current.	reference updated
235	108			Three Vrobesky references should end with periods.	agreed to change
236	109			All three USEPA Links are not functioning properly, "Sorry but this web page does not exist"	first link removed, other two fixed
237	110			First link of page 110 leads to a database not a specific article/journal.	link removed
238	110			First two "Sediments" links are identical.	deleted second link
239	110			"European Sediment Research Network" link not functioning/found.	link is working
240	111			First link end with a comma?	removed comma
241	111			Why is the second link underlined?	removed underline
242	111			"Columbia" (caslab) link not functioning. "Hmmm.... Cant't recall this page".	link is working
243	111			should include a link to the DEPs quality management plan, at: https://www.nj.gov/dep/enforcement/oqa/docs/qmp.pdf	link added to beginning of chapter