

Perspectives on Writing for Environmental Consulting

Robert W. Simmons, PG, LEP
Chief Hydrogeologist
Geological Services Division
HRP Associates, Inc.



Importance of Quality Writing

- The highest quality work can be performed, but it needs to be conveyed well so the facts can speak for themselves
- Small, simple errors can detract from the impression of the work
- In consulting, besides the invoice, our reports are the tangible product our customers see.
- If the client or regulator need to search for the answers inside your document.....

Hiring Process

- **Cover Letter**
- **Resume**
- Employment Application
- Affirmative Action Voluntary Information Form
- Research Services Exhibit B
- Transcripts for all College Level Studies
- **Writing Example**
- Three References

Hiring Process

- Cover Letter
 - Clarity, why you feel the you are a good fit
 - Show that you know what we do
- Resume
 - Tell your story, don't just list topics
 - Emphasize work experiences, volunteer experiences, field and lab skills
- Writing Example
 - Demonstrate your ability to communicate technical information in your field of study

New Employee

- Annotated Templates (fill in, choices)
- Examples and “go-bys” (Don’t reinvent the wheel)
 - Borrow text/ideas from existing documents
 - Model your text after other documents
 - not for cut and paste!
- Repetition until confidence and competence are demonstrated (number and complexity of projects)
- Multiple levels of review

Template Language

Template example from a Phase I Environmental Site Assessment Report:

5.4 Previous Environmental Investigations

No prior environmental reports or investigations that are associated with the Site were identified during this assessment. Additionally, no prior reports or investigations were provided to HRP by the User of this report.

OR

The following previously prepared environmental reports were provided to HRP or otherwise identified during this assessment. Excerpts of the reports that identify recognized environmental conditions or known or potential contamination on the Site are included in **Appendix E**. A summary of the previous investigations are presented below.

Field Notes/Forms

- Be complete but concise
- Record **EVERYTHING** (time, weather, who stops by, odors, samples, photos, measurements, vehicles, etc.)
- Make it a habit to always have a field book with you
- Learn how to write legibly!
- Review your notes periodically to be sure they are complete and legible
- Use the graph paper side of the notebook to draw/sketch things to scale
- Act like your notes are going to be presented as evidence in court (they very well might someday)

Field Notes/Forms

Field Notebook

8/14/98 115

Wallburg Ford, CT

HRP # [redacted] .P2

weather: overcast, rain part / hr, T=70°
 loc: 707 am (humidity↑)

7:07 MTS onsite to inspect markout

7:35 Glacier onsite
 Miller: Terry
 asst: OS

7:56 began drill MW-1 (sheet #1)
 + former VST area

→ An of fill/return line @ compressor
 discharge

soil description
 tan silt + f sand 1" pvc
 * superficial staining <.05'
 typ

x - sampled loc to
 pulsed composite

Monitoring Well Sampling Sheet

HRP Associates, Inc.
 197 Scott Swamp Rd.
 Farmington, CT 06032
 (860) 674-9370

Well ID: MW-10

Monitor Well Data Sheet
 Page 1 of 1

Site Background Information

Site Location: [redacted] Sampling Dates: 4/13/18
 Job Number: WH7505.GW Field Team Leader: [redacted]
 Weather: K. Cloudy 45°F Team Personnel: [redacted]

Ground Water Elevation Data

Date	Time	Sampler Name	Equipment Model	Depth to Water (ft)	Depth to Bottom (ft)
4/13/18	8:11	KG	Solinst-101 corr. factor = 0	uncorrected 6.46 corrected 6.46	uncorrected 15 corrected 15

Measurement Point: 2" pvc HW DTB - after sampling = 15.5'

Well Condition (circle one)

General Condition	Visible Well ID	Well Cap Present	Well Plumbness	Lock
Good	No	Yes	Good	No

Concrete Collar: Good Ponded Water: Comments:

Well Purging Data

Date	Equipment Set-up		Purging		Sample Collection		Sampler Initials	Instrument Calibration Date
	Start	Finish	Start	Finish	Start	Finish		
4/13/18	8:11	8:14	8:16	8:53	8:53	8:57	KG	4/13/18

Instrument Mfg & Model

pH: YSI - 556 - Serial # 16B09
 Temp:
 Sp. Cond.:
 ORP:
 DO:
 Turbidity: HF Scientific DRT-15CE - Serial # HRP-5

Time	Initial Water Depth (ft)		pH (p.u.)	Temp (°C)	Sp Con (µS)	ORP (mV)	DO (mg/l)	Turbidity (ntu)
	Water Depth (ft)	Flow Rate (ml/min)						
8:27	6.53	380	6.55	12.56	128.1	165.3	7.42	1.75
8:32	6.58		6.37	12.20	125.2	152.2	7.59	1.24
8:37	6.57		6.34	12.45	124.0	152.2	7.51	0.52
8:42	6.57		6.32	12.34	125.1	150.4	7.35	0.71
8:47	6.40		6.32	12.33	120.3	150.2	7.54	0.32
8:52	6.60		6.30	12.22	121.8	142.1	7.63	0.33

Req. Limits for Last 3 Readings: pH: ±0.1, Temp: 3%, Sp Con: ±10 mV, DO: 10% > 0.5, Turbidity: 10% > 5

Pump Mfg & Model: GeoTech Geo PumpII peristaltic
Color: <48 PCU
Odor: -
Purge Vol (ml): 13.3cc
Sample Depth (ft): 0.75

Sample Containers

Type & No.	Volume	Preservative	Type & No.	Volume	Preservative
3 wa vials	3 x 40mL	HCl			
1 amber glass	1 L	As is			
1 plastic	250mL	HNO ₃			

Report Writing Process

- You will be working on multiple projects at any given time with different schedules and demands
- Speed: Many projects are on a 3-4 week turn around from authorization to final report; others may have been going on for decades
 - This may require you write up certain sections ahead of others as you wait for lab data, the site inspection results, FOI Documents
 - Multiple authors: May need to “divide and conquer” to distribute work load when schedules are tight
 - Primary author will need to be sure everything matches and flows

Report Review Process

- Peer reviews
 - Bounce ideas and ask questions of your fellow professionals
- Project Manager review
 - Your direct supervisor, often the signatory Environmental Professional
- Possible “Client Manager” review
 - One client changes the word “contaminated” to “impacted” in all instances
- WP Departmental review (format, structure, style guide)
- Client review
- Regulator review

Differing Audiences/Readers

- You need to consider the use of the document you are preparing and who the reader is. The facts remain the same but the level of detail, presentation and emphasis may differ:
 - Experienced reader or New or first time reader
 - Lender (Template)
 - Regulator (Report Outlines, Guidance Documents)
 - Attorneys
 - Buyer or Seller
 - Requirements vs Recommendations

Different Learners

- Remember that each of us learn/comprehend differently
- Reports are Multi-media:
 - Text
 - Maps and Figures
 - Photographs
 - Tables and Charts
- Use all the tools at your disposal

Common Issues

- Cut and paste issues
- Spelling and Grammar checks (multiple times, not perfect), add scientific terms to software dictionary on a regular basis
- Acronyms: Define first time they appear in document then use only the acronym going forward
- Be mindful of chronologies
- Use compass directions (east, north) and not relative directions (left, back); it helps to have an oriented map of the site in view when writing
- Remember that certain words have specific meanings under regulation
- Avoid unnecessary adjectives and adverbs

Common Issues

- The simple stuff, no excuses
 - Internal report references (Appendices, Sections, Tables, etc.)
 - Internal agreement (text says A, table says A, Appendix says A)
 - Using the same terms throughout
 - Making the same error or issue repeatedly
 - Capture all significant issues in the conclusions and in the executive summary (sometimes that's all that get read)
 - If you need to discuss more than four or five items, use a bullet list or an imbedded table
 - Reference documentation and reported information

Other Writing Types

- Proposals, RFQ/RFP Responses
 - Problem statement and understanding
 - Technical Scope of Work
 - Experience write ups
- Website and Social Media Presence
 - A new service offering
 - A White Paper on an emerging topic
- Bi or Multi-lingual issues (Informational Brochures, etc.)
- Legal Notices/Third party communications

Email Issues

- Professional Emails are not like the ones you send to your friends
- No abbreviations
- Complete sentences, punctuation, brevity
- All emails are discoverable in court, so don't write anything you'd not be willing to state in a courtroom
- May be forwarded to others, who you did not intend to see it
- Can provide a quick documentation of a meeting or phone call-be sure everyone got the same message
- Attachments

Constant Improvement

- Use your manager and fellow staff to bounce things off
- Ask a peer to read a section/paragraph/etc. to see that the point is properly conveyed (be sure to tell them who the audience is)
- We have occasionally brought in instructors to go over certain writing issues, independently
- Take a writing class or a class that is field related with a significant writing component (business and environmental law)
- If still in university,
 - Do a Senior Thesis as an undergrad
 - Go to field camp!
 - Do an Internship in the field!!



Thank You

Bob Simmons

HRP Associates, Inc.

Bob.simmons@hrpassociates.com