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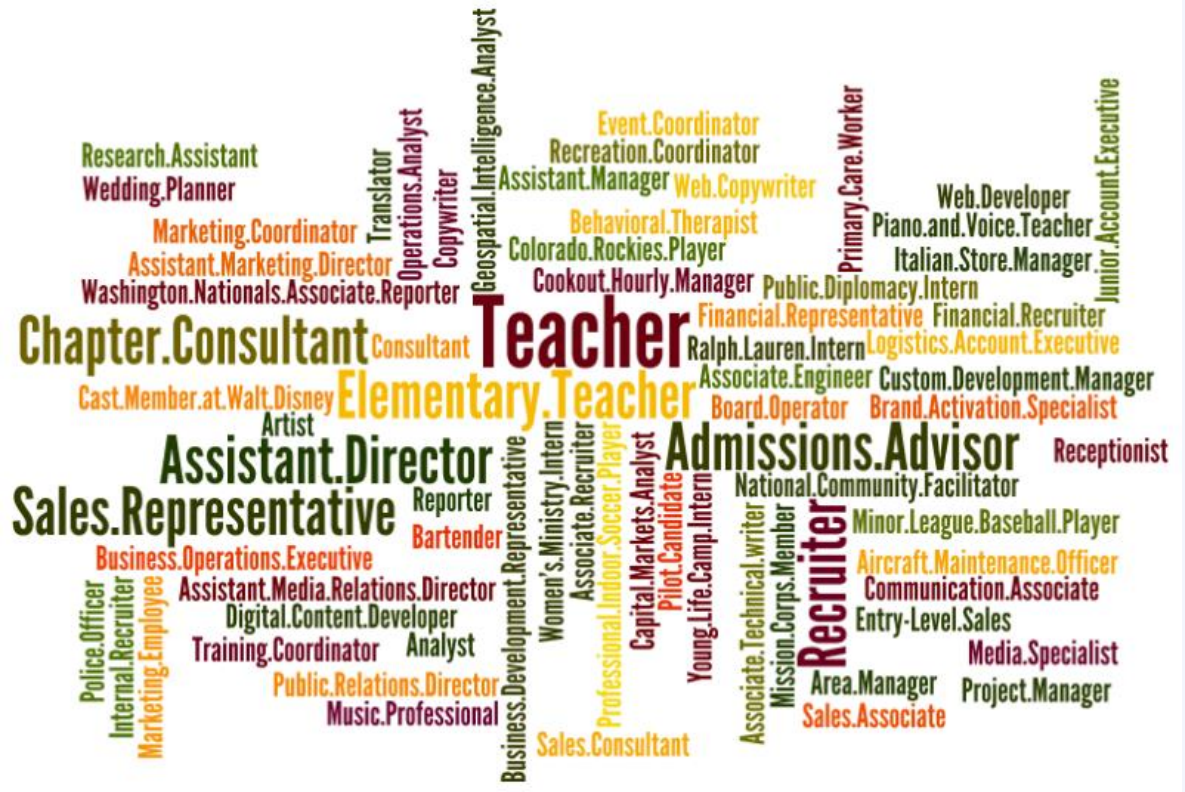
Reflections on Four Decades of Geotechnical Consulting

Greg Fischer

March 18, 2025

Where You Work?

- Teaching and/or Research
- Government or Agency
- Consulting
- Other



My Background

- BS, MS, PhD
- Geotechnical Engineer – Staff to Senior Engineer, PM
- Two Consulting Companies in 3 States/4 Locations
- Opened and Managed an Office
- Taught Classes at 2 Universities
- Board of Directors / Board Chair
- President / CEO

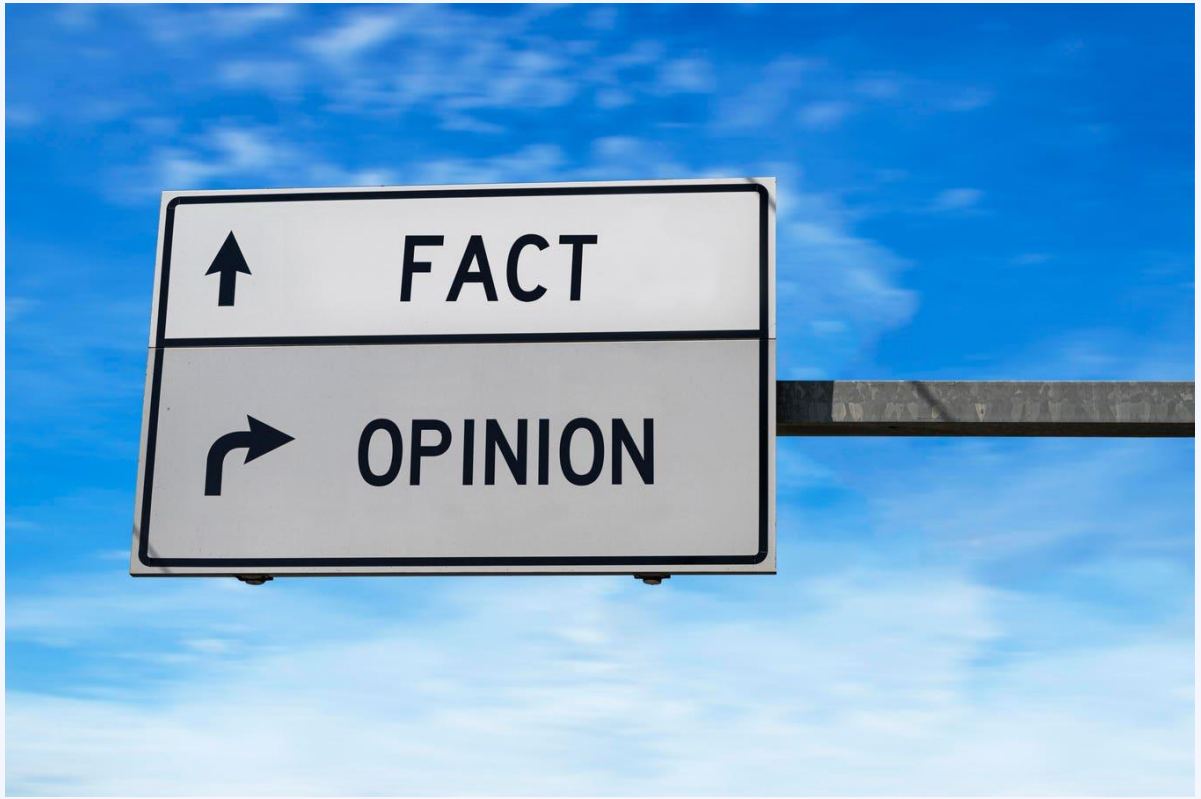
Where You Work?

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- Other



My Opinions and Take-Aways

- May Not Be Yours
- Provoke Some Conversation
- Give You Some Things to Think About



Agenda

- Reflections on Being a Geotechnical Consultant
- Reflections on Geotechnical Practice
- Reflections on Geotechnical Technical Areas

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Reflections on Being a Geotechnical Consultant

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Reflections on Consulting – Early Years

- Ralph B. Peck – On Being Your Own Engineer (1976)
  - *"Form and follow (your) own plan for the development of (your) professional career…nobody else is quite as interested in your career as you…"*
  - *"…(choose) your jobs carefully and (change) your job if and when it seems necessary…Even (a good) organization may tend to let you get stuck in one phase of their work, and you may have to persuade them from time to time to let you work in other parts of their activities."*



Reflections on Consulting – Early Years

- Ralph B. Peck – Advice to a Young Engineer (1977)
  - "…make every assignment count."
  - "…teach your brain to register what your eyes see."
  - "…consciously evaluate the size of things."
  - "…read."
  - "…study precedents."



Reflections on Consulting – Advanced Years



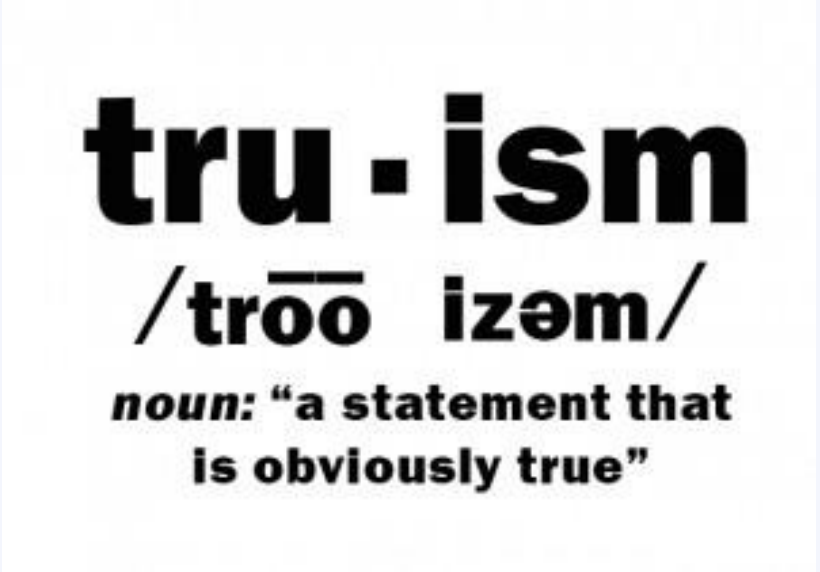
- Career Paths:
  - Engineering
  - Project Management
  - Business *Development*
  - People Management
  - Business *Management*
- 4 of 5 Don’t Involve Engineering
- Don’t Forget or Give Up Your Geotechnical Engineering

Reflections on Consulting –Truisms (Not)

- Work-Life Balance
- Flexible Work Schedule

Reflections on Consulting –Truisms

- Work-Life Imbalance
- Inflexible Work Schedule



Lessons Learned from Political Quotes - Service

- It takes a village.
- Any definition of a successful life must include service...
- Ask not what your *company* can do for you - ask what you can do for your *company*.



Lessons Learned from Political Quotes - Failures

- You can’t let your failures define you. You have to let your failures teach you.
- Always try to learn from other people's mistakes, not your own- it is much cheaper that way!



Lessons Learned from Politicians - Judgment

- We must adjust to changing times and still hold to unchanging principles.
- Trust but verify.

Judgment: The process of forming an opinion or evaluation by discerning and comparing.



Lessons Learned from Politicians - Leadership

- It's easy being vice president - you don't have to do anything.
- Leadership…means listening from time to time.



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Reflections on Geotechnical Practice

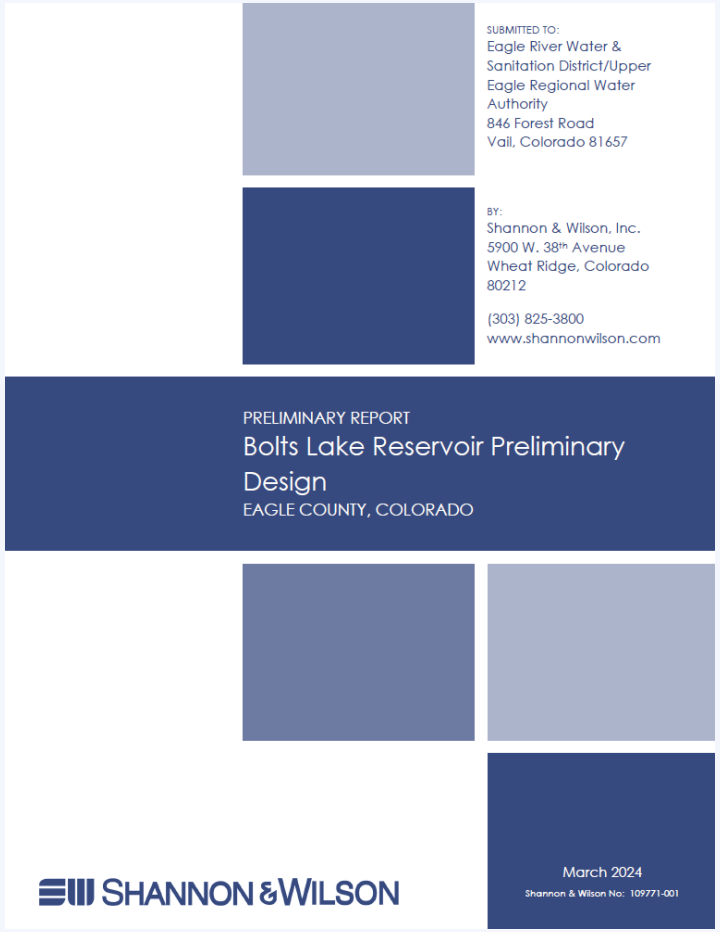
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Reflections on Practice - Design

- Righting Goode Dus Matters
- Clear Thoughts
- Tell a Story
- Does it Make Sense?
- What's NOT in a Report is Typically What Gets You
- Put a Report Down and then Pick it Back Up
- Seek Out a Good Review



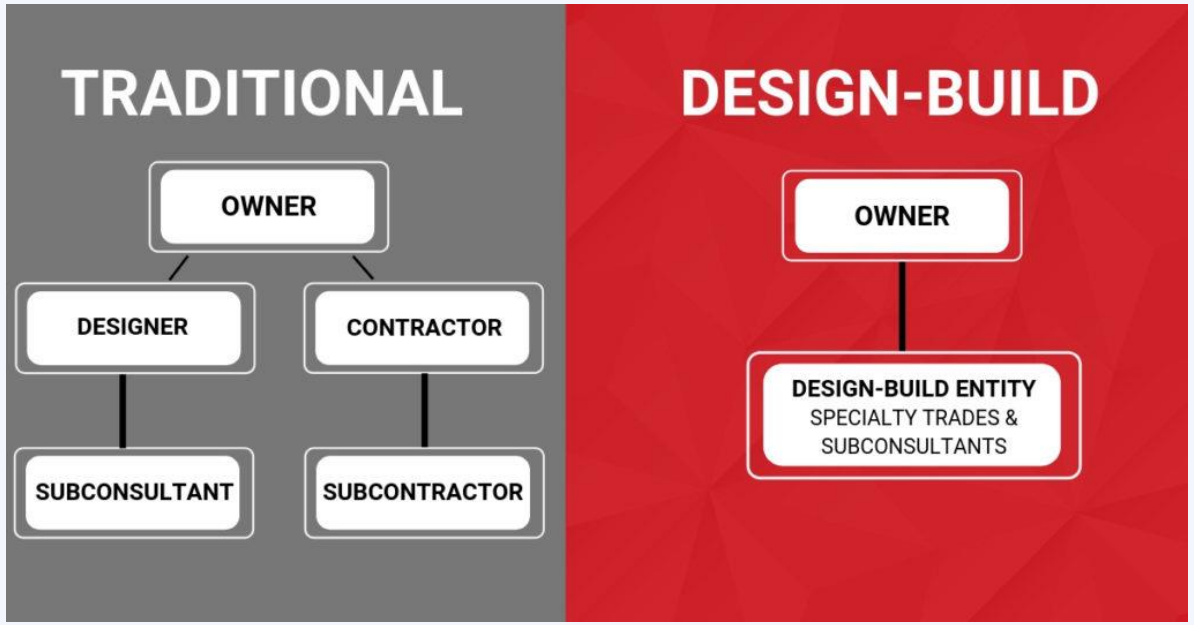
Reflections on Practice – Construction Oversight

- Safety First
- Communication Protocol
- Documentation
  - Just the Facts Ma’am
  - Daily Double
  - What’s IN a Report is Typically What Gets You
  - Be Alert and Active on Construction Sites
  - Lots of Photos
- You Never Know When You Will Learn Something



Reflections on Practice - Alternative Delivery

- Not Going Away
- Big Projects
- Really the Right Way to get Things Built
- But…
- Pursuit Phase Beware



Reflections on Practice - Technology & Computational Programs & Devices

- MUST Use
- Wonderful Tools
- Computational Speed
- Graphics
- Don’t Forget Judgment



Reflections on Practice - When Being Good is Not Good Enough

- We’re Nice People
- No Good Deed…
- Be Wary of Assuming
- Get it in Writing
- Document, Document, Document



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Reflections on Geotechnical Technical Areas

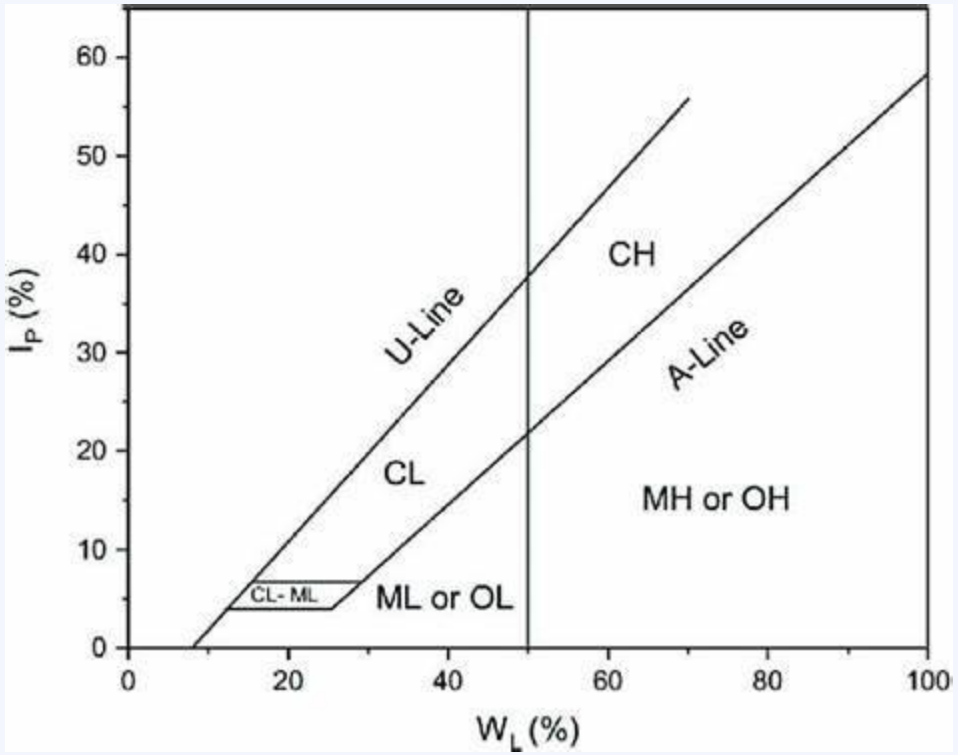
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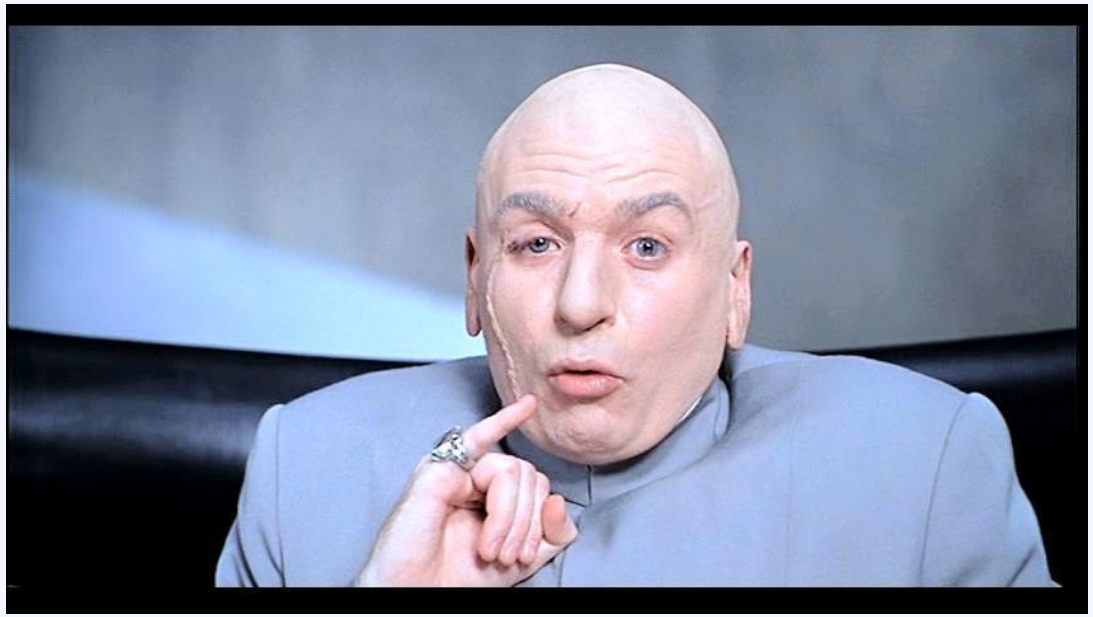
Reflections on Technical Topics – Subsurface Exploration and Characterization

- Engineering Geologists
- Is there Ever too Much Exploration?
- Read the Room - Study the Data
- Not all Data the Same
- Does it Make Sense?



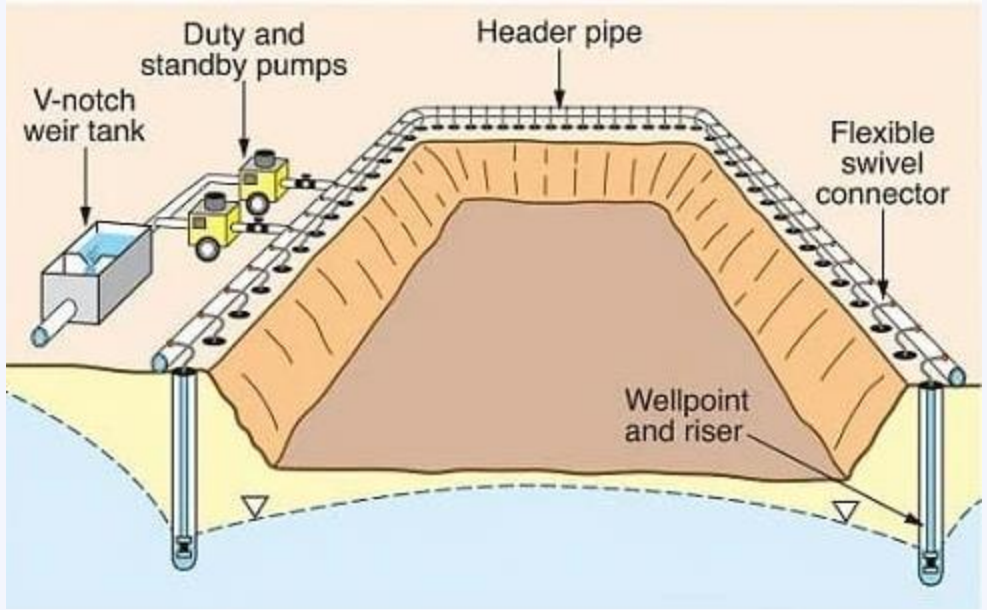
Reflections on Technical Topics – Subsurface Exploration and Characterization

- Use Graphics
- Don’t Leave the ?



Reflections on Technical Topics - Groundwater

- Root of a Lot of Geo-Problems
  - Landslides
  - Frost Heave
  - Swell/Collapse
  - Erosion
  - Constructability
  - Contaminant Transport
- Spend Enough Time and $ to Understand



Reflections on Technical Topics - Stabilizing Large Landslides (or Not)

- Geology and Geologists
- Water
- Back-Calculation
- FS = 1.07?
- Let it Flow



Reflections on Technical Topics - Risk-Based Design

- We Don’t Use Risk/Reliability-Based Design Enough
- Numerous Advantages
  - More Reliable/Confident Design
  - Less Likelihood of Over/Under Design
  - Better Communicates Uncertainty
  - Engages Owners/Clients in Decision Making
  - Less Liability to Us?



Closing Thoughts on Geotechnical Consulting

- Geotechnical Consulting is a Noble Profession
- Get to Work Outside
- Get to See Designs Get Built
- Paid OK
- We are a Decent Group of People
- Generally Admired
- We Help Build Cool Stuff and Necessary Things



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