



*Science on Trial: What Environmental Consultants Need  
to Know About Giving Evidence in Court*



Jessica Boily  
Gowling WLG (Canada) LLP

SMART Remediation  
Ottawa, ON | February 6, 2020

SMART is  
Powered by:



**VERTEX**  
Environmental Inc.

[www.vertexenvironmental.ca](http://www.vertexenvironmental.ca)



# SCIENCE ON TRIAL: WHAT ENVIRONMENTAL CONSULTANTS NEED TO KNOW ABOUT GIVING EVIDENCE IN COURT

## PRESENTATION TO SMART REMEDIATION

Jessica Boily, Gowling WLG – February 6, 2020, Ottawa



1

## BUT I WON'T END UP IN COURT...

- **Any routine matter may end up in court**
  - You, your company or your client may be charged with an environmental offence
  - Your client may become involved in civil litigation
  - A dispute about the quality of your work may arise – between you and the client
  - Regulators or the public may become concerned about a project
- **There are real consequences to any of the above scenarios – costs, delay and potential impacts on the project itself**

2



2

## SCIENCE IN THE COURTROOM

- Courts are gatekeepers: judges decide what evidence is allowed
- Evidence must be admissible to be allowed in court and considered by the judge in deciding the case
- The laws and rules of evidence decide what is admissible

Just because you did the work (investigation, delineation or remediation), doesn't mean the court will accept your work or opinion...

3



3

## EVIDENCE IN COURT

### The white car was speeding down Highway 10

- The white car was travelling fast
- The white car was speeding
- As a police officer, I'm trained to use photo radar. I calibrated my machine that day and used it, in accordance with all of my instructions and training, to take a speed reading of the white car. I then entered into my notebook that the car was travelling 110 km/hour.



4



4

## OPINION EVIDENCE

### Why do we allow the police officer to testify the car was speeding?

- **Courts only allow opinion evidence (rather than fact evidence) in two cases**
  - The kind of opinions lay people commonly and reliably have that are based on a series of observations – “the car was travelling quickly”
  - Expert opinion evidence – special or peculiar knowledge through study or experience

### Why do we need knowledge about the process he used to arrive at his conclusion?

5



5

## REQUIREMENTS FOR EXPERT OPINION

- **The key factors in determining if expert evidence is admissible:**
  1. Relevance
  2. Necessity
  3. Evidence is otherwise admissible based on rules of evidence
  4. Given by a properly qualified expert
    - Independent, impartial and unbiased
    - Actually an expert...
- Based on “sound science”

6



6

## SOUND SCIENCE OR NOVEL THEORY?

- **Special scrutiny is given to “novel science”**
  - whether the theory or technique can be and has been tested
  - whether the theory or technique has been subjected to peer review and publication
  - the known or potential rate of error or the existence of standards
  - whether the theory or technique has been generally accepted

7



7

## RELIABILITY AND SCIENTIFIC EVIDENCE

- Reliability - the “trustworthiness” of a piece of evidence – is an important factor in the admissibility of any evidence or expert witness
- It is different than credibility – the sincerity of a witness – and is focused more on accuracy
- Consideration of reliability may depend on the evidence, but in technical and scientific evidence, data quality is an important consideration

**Can we trust the data and opinion being presented in court to tell the real story?**

8



8

## ENVIRONMENTAL CONSULTANTS IN THE COURTROOM

- **May act as a party's "expert witness"**
  - Retained for the purpose of providing an opinion on one of the matters in issue (source of contamination, standard of care, etc.)
- **May be a participant expert**
  - Can give opinion evidence based on direct experience and participation in an event
- **Summons (subpoena) by an opposing party**
- **Data collected or work done may be needed as factual evidence (foundation for another witness)**

9



9

## LESSONS LEARNED IN A VOIR DIRE

- **Recent case involved a voir dire on the admissibility of field and lab test results**
- **Cross-examination of environmental monitor and testimony of an expert witness**
- **Court agreed the results were unreliable and could not be admitted into evidence**
  - Court could not consider that data **at all** in arriving at its decision
- **Experts were not permitted to rely on the data providing the foundation for their opinions**

10



10

## LESSONS LEARNED IN A VOIR DIRE

- It is rare for evidence to be excluded entirely from a trial
- Typically, reliability concerns go to weight and not admissibility
- But it is entirely within a judge's authority to exclude data and expert opinion from a trial

11



11

## LESSONS LEARNED IN A VOIR DIRE

- **Cross-examination focused on reliability:**
  1. Training received by the environmental manager
  2. Use of field meter **and understanding of how it worked**
  3. Age and condition of the equipment
  4. Calibration
  5. Secondary verification
  6. QA/QC
  7. Standard operating procedure and industry standards
  8. Chain of custody
  9. Record keeping

12



12

## LESSONS LEARNED IN A VOIR DIRE

- The accuracy of field meter readings depend on the training of the operator and many other factors, including using proper calibration practices and the condition of the equipment
- Where the operator is unaware of those factors and their impact on the results, the reliability of the field meter readings are in doubt
- Even “simple” field meter readings must be testified to by a properly qualified expert
- Chain of custody and lack of other “guarantees of reliability” will lead to courts throwing out evidence

13



13

## BEST PRACTICES FOR ENVIRONMENTAL CONSULTANTS

- **When doing the work:**
  - Record keeping, record keeping, record keeping
  - Standard practices for field notes, log books
  - Follow those standard practices **every time**
  - Be scrupulous about chain of custody
  - Follow industry standard and best practices (even where not required)
    - Reg. 153/04
    - CSA and other standards
    - *Protocol for analytical methods used in the assessment of properties under Part XV.1 of the Environmental Protection Act*
    - Guidance from professional associations and other organizations in the industry

14



14



## BEST PRACTICES FOR ENVIRONMENTAL CONSULTANTS

- **When reviewing the work:**
  - Record keeping, record keeping, record keeping
  - Training for junior staff: not just on “how” but “why”
  - Written standing operating procedures
  - Confirm and review the “nitty gritty”
  - Ensure equipment and technology is available to ensure data quality

15



15

## BEST PRACTICES FOR ENVIRONMENTAL CONSULTANTS

- **As an expert witnesses:**
  - Review the underlying foundation of your opinion and that of any opposing parties
  - Be proactive about identifying “reliability” problems
  - Help counsel understand **why** it matters and **explain** that to the court

**Lawyers and judges are not scientists, but rely on the scientists to put reliable data and opinion before the court**

16



16

# QUESTIONS?

17



17



**Jessica Boily, Gowling WLG (Canada) LLP**

**Email: [jessica.boily@gowlingwlg.com](mailto:jessica.boily@gowlingwlg.com)**

**Phone: (416) 862-4683**

[gowlingwlg.com](http://gowlingwlg.com)

Gowling WLG (Canada) LLP is a member of Gowling WLG, an international law firm which consists of independent and autonomous entities providing services around the world. Our structure is explained in more detail at [gowlingwlg.com/legal](http://gowlingwlg.com/legal)



18

