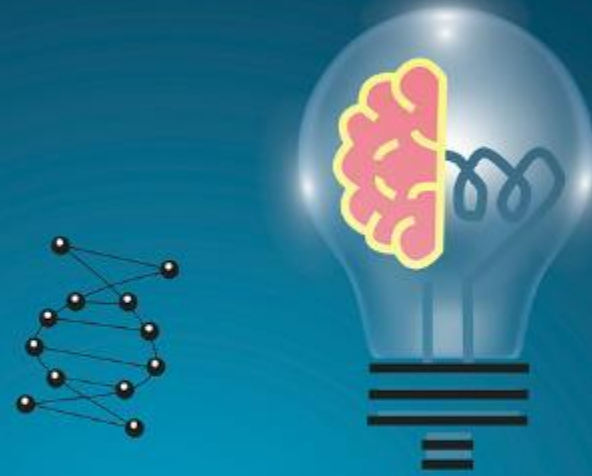




# Laboratory Ethics



# ETHICS



# The Importance of Lab Ethics & Scientific Integrity to Customers

Presented by Josh Scales  
WM Waste Approvals Manager

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Some examples used in this presentation are for demonstrational purposes only and do not represent actual events and/or compliance with all local, state, and federal regulatory requirements.

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**Like the Trash Company?**

**WM also handles:**

**Recycling Operations**

**Industrial Wastes**

**Hazardous Wastes**

**Waste Treatment Activities**

**LF Monitoring Programs**





# Ethics is Part of Scientific Integrity

From the US EPA:

Scientific integrity is the adherence to professional practices, ethical behavior, and the principles of honesty and objectivity when conducting, managing, using the results of, and communicating about science and scientific activities. Inclusivity, transparency, and protection from inappropriate influence are hallmarks of scientific integrity.

([www.epa.gov/scientific-integrity](http://www.epa.gov/scientific-integrity))

Without Scientific Integrity, the results are only ink on paper





# So Much Trust

Because the Risk is High

Environmental testing is predominantly performed to meet a regulatory requirement, either directly or indirectly, that exists to ensure human health and environmental protection.





# Important Decisions Based on Lab Results





# Monitoring Programs

## Environmental Impact Monitoring

- Air
- Ground Water
- Landfill Leachate

## Health & Safety Monitoring

- Operational Safety Decisions
- PPE Requirements





# Release Remediation Aka: Spill Cleanup

Laboratory Results may be used in  
determining the:

Extent of contamination

Best approach for remediation

Verification that cleanup is complete





# Waste Characterization

Is It Hazardous & have special  
requirements?

Federal RCRA and TSCA applicability

State hazardous waste regulations

Acceptable Management Facilities

Permit Conditions

Operational Handling





# Hazardous Waste Treatment

Additional Rules May Apply. Such as if the material is subject to 40 CFR Part 268:

- Land Disposal Restrictions
- Universal Treatment Standards

Commercial Labs may receive samples from:

- Generators: establishing if requirements are naturally met
- Treatment Facilities: establishing treatment effectiveness

This may impact the laboratory:

- Additional method requirements
- Lower reporting limits





# Ways to be the Best

Some Customer Considerations when choosing a Lab



# Quality Standards

Sufficient QA/QC Department to Maintain QA Programs

Laboratory Accreditation

Ethics and Integrity Policies & Training

Training for Data Reviewers & Management

Communication Practices for the Abnormal





# Solving Issues

People are Not Perfect, how does the laboratory handle issues?

Robust Corrective  
& Preventative Action System(s)

- Thorough Root Cause Investigations
- Suitable Corrective Actions

Lab Managerial Review



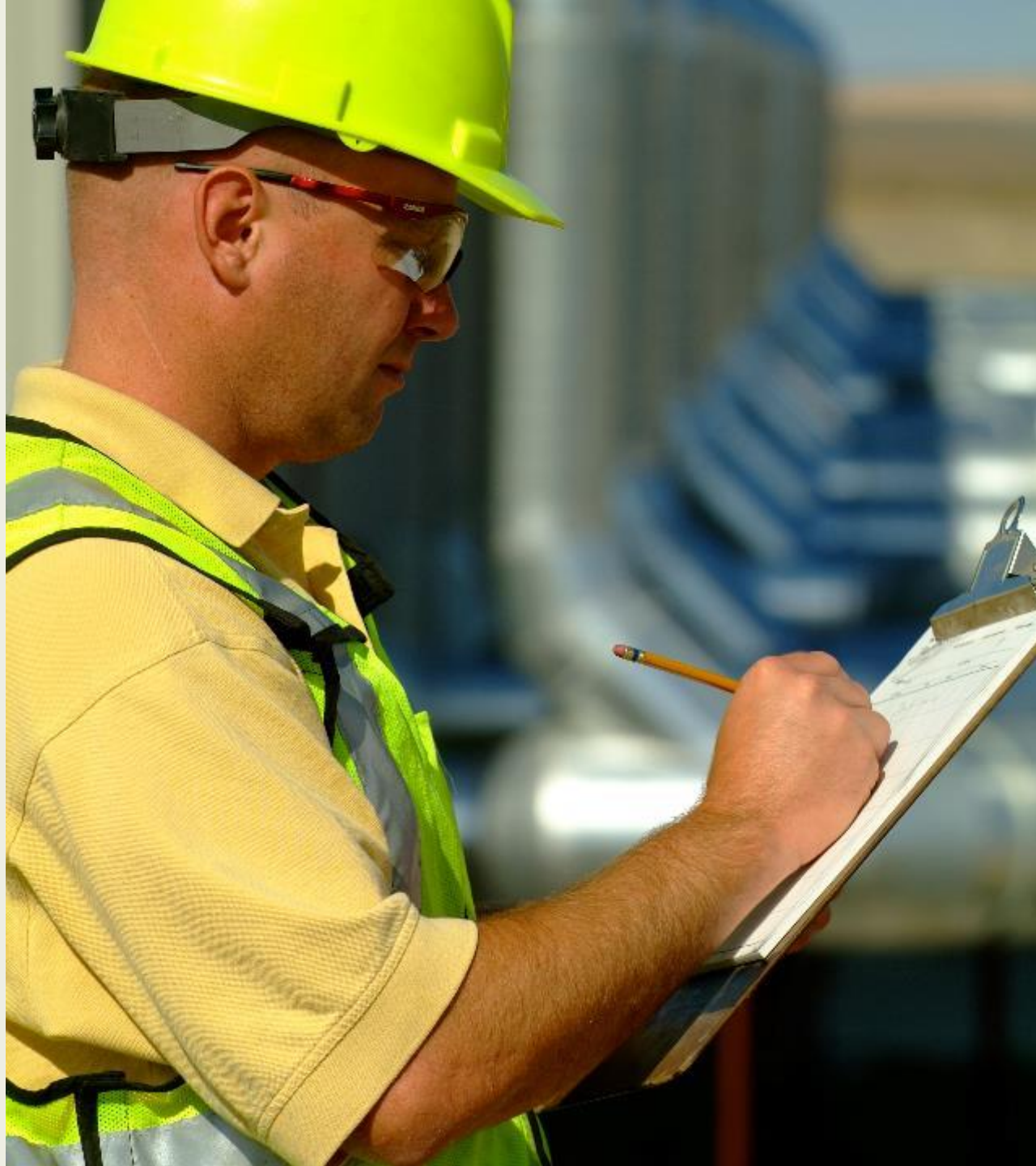
# Assessments

## PT Records

### Internal & External Audit History

#### Does the laboratory perform:

- Defensibility Testing
- Volume Stress Testing
- Independent Review of Audit Trails

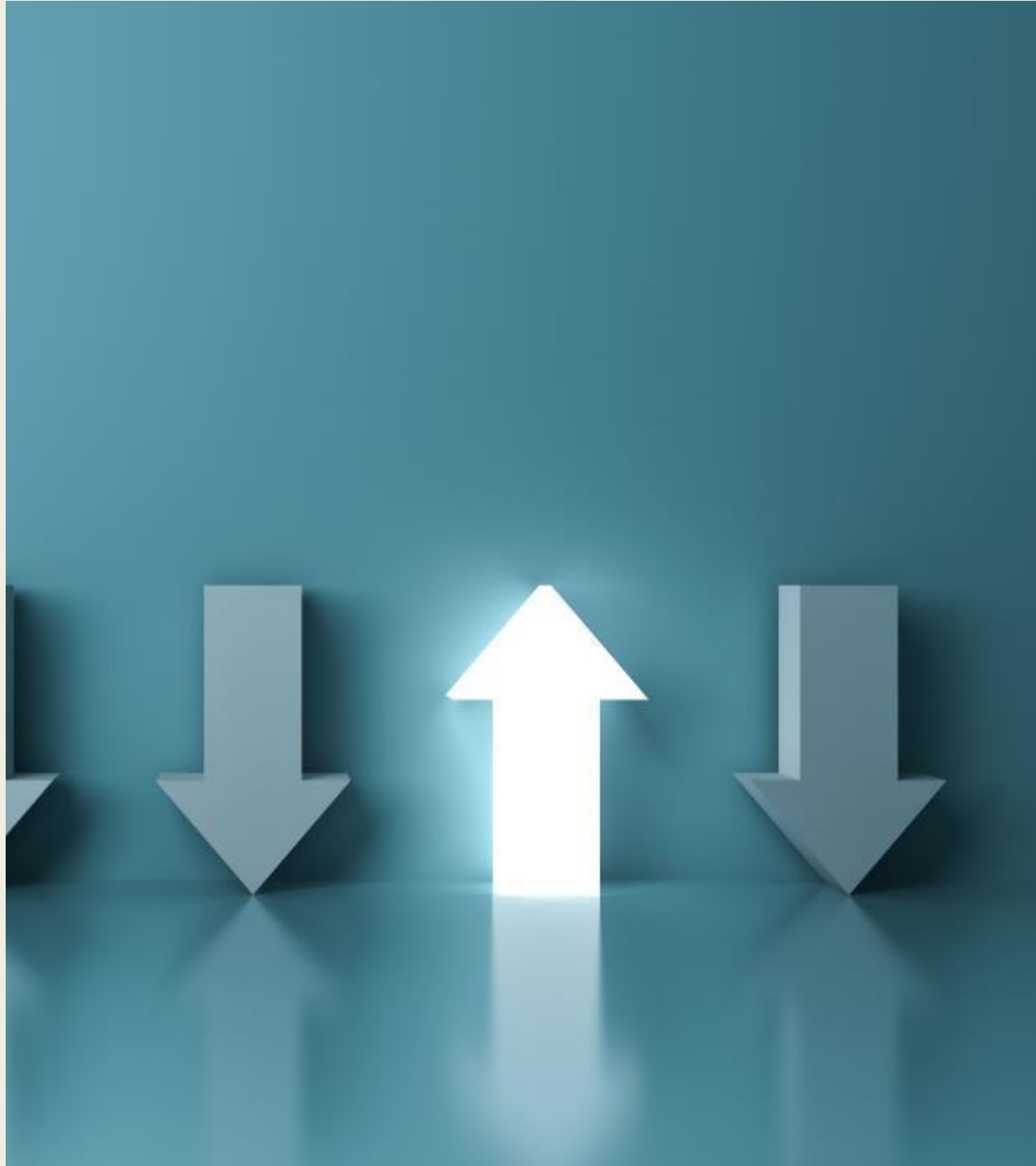




# Ris k Mitigatio n

The Best Solution is  
Preventing the Problem

Limit Conflicts of Interest  
Using Access Controls  
Using Vetted Automation



# Competency

Familiarity with the Matrices & Data Usage

Is the Lab Proactive in Establishing  
Project Requirements and Capabilities?

Procedures meet Cited Methods & Regulatory  
Requirements

Standard Procedures = Standard Practices





# Reputation

In the court of public opinion, is the lab a strong partner?

Industry Reputation

Previous Enforcement Actions



# Why It Matters

The Scientific Integrity of the report impacts the long-term defensibility of the results for ensuring the protection of the environment and public health.

If you have concerns regarding your laboratory's policies, confidential reporting is available at:

OR E L A P . I N F O @ o d h s o h a . o r e g o n . g o v





# Thank You

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