



Innovation in EHS Compliance Inspections

SO YOU'RE TELLING ME



**THAT THERE ARE CHANGES
COMING?**

Changes are Coming

Staffing Changes

- Retirement
- Turnover
- Head count reductions
- Pandemic

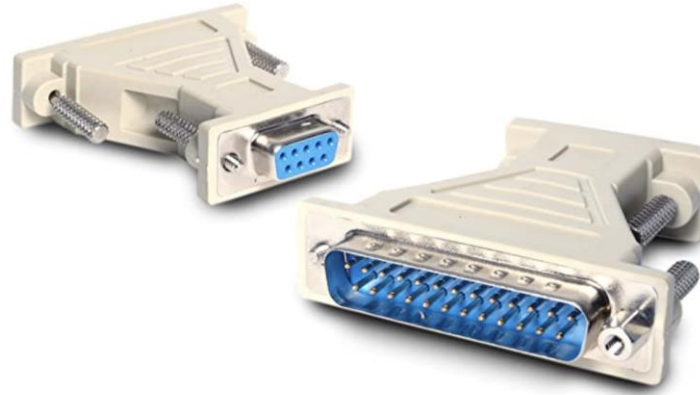
Process and Facility Changes

- Small process changes happen often
- Most of our facilities update their SPCC Plan every 180 days
- LDAR component lists are updated monthly

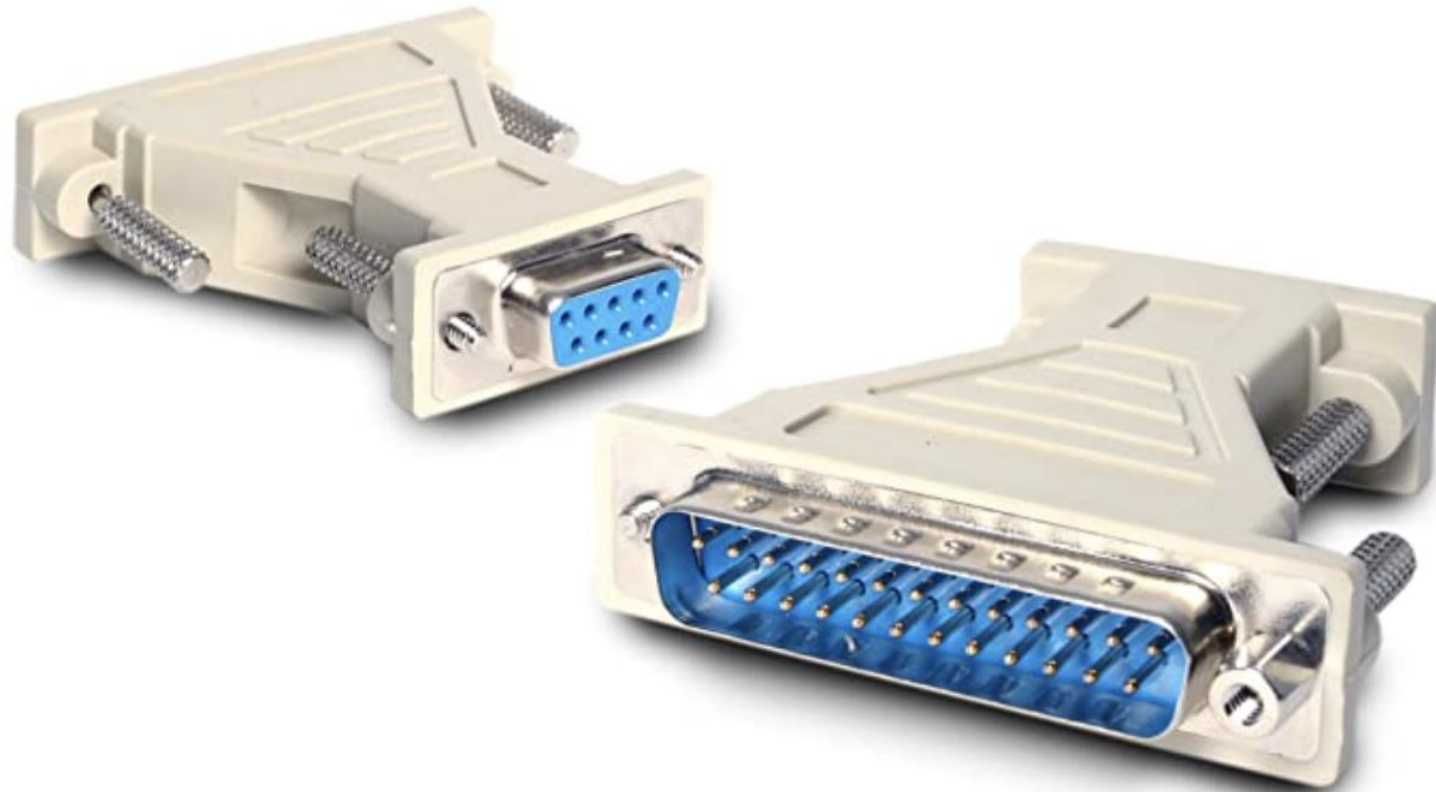
Regulatory Changes and How We Report Compliance

- Regulatory updates and permit changes
- Updated regulatory guidance
- Changes to the way reports are submitted

The Old Days...



“The Evil One”: The 9 Pin to 25 Pin Serial Adapter



Technology is Changing



Environmental 360 Road to Innovation

Our Needs

- Remote workforce requiring innovative recordkeeping strategies for all processes
- Provide compliance inspections (SPCC, SWPPP, RCRA, LDAR, Misc.) to over 100 sites from Washington to Florida all with remote team members
- Decrease the training curve while enhancing quality control

Our Process

- Reviewed multiple third-party applications
- Tested multiple software solutions and applications provided by our clients
- Engaged with technology consultants

EHSTracks Development Process

- Began design phases in 2018
- Designed with feedback from multiple stakeholders
- Receive continuous feedback from our field inspectors to our developers

“EHS Team” Compliance Inspection Wishlist

Compliance Inspectors

- Tools to make the inspection efficient
- Accurate inspection points
- Quality guidance

Compliance Managers

- Quality data/quality reports
- Organized data and accessible reports
- Completed on time and in compliance with the regulation
- Timely corrective action communication

Compliance Auditors

- Quality assurance
- Organized data and reports
- Easy access to data

Inspection Stakeholder Pain Points

Compliance Inspectors

- This is A LOT of paper
- Version control
- Where are all these inspection points located anyway?

Compliance Managers

- Integrity
- Where is that dang report?
- Regulatory deadlines

Compliance Auditors

- There is no way they looked at all these inspection points this quickly
- We are still waiting for 3 monthly reports. Have you found them yet?
- I'm going to spend a week at this site looking through all these reports

Our Progression at Environmental 360, Inc.



Inspection Efficiency – Database Software Applications



Inspection Efficiency – Tablet

Inspection Efficiency – Multiple Inspection Sheets

Inspector: _____

Date: _____

Bleach & Wash Plant

Map Locator

Container Name

Content Product

Capacity (Gallons) Floor

Instructions: This form is to be completed once/month. Please place a Y (yes) or N (no) in the appropriate box and indicate findings below. Place N/A where inspection requirement is not applicable.

	D-4	D-113	T-55	T-54	O-82	D-5	D-7	D-70
Drum Storage		Wash Plant Grease Station Drum Storage - Mobil SHC 636	Nalco Defoamer Tank	Nalco Defoamer Tank	North Delaval IMO Pump Oil Sys. Refiner	Drum and Tote Storage	Gear Oil Drums Beside E-32	Misc. Drum and Tote Storage
Various		Lube Oil	Defoamer	Defoamer	Hydraulic Oil	1-Used Oil and 3-Nalco Defoamer Totes	Gear Oil	Various Oils
165		55	350	220	56	1,500	220	
4th FL BP		4th FL WP	4th FL WP	4th FL WP	2.5 FL WP	Ground FL	Ground FL	
Container:								
Significant tank damage, buckling, or corrosion that could compromise integrity?								
Signs of active leak or oil on tank, foundation, ground?								
Container properly labeled with contents?								
Ladders/platform/walkways/tank supports appear to be secure with no signs of severe corrosion or damage?								
If present, is liquid level indicator in good condition and free of visible damage?								
Fill connection/container properly sealed or closed?								
Piping Systems:								
Significant damage or corrosion to piping/piping supports that could compromise integrity?								
Visible signs of leaks at pipe connections, fittings, or valves?								
Transfer hose properly stored when not in use?								
Containment Systems:								
Local secondary containment present and free of damage that could compromise integrity?								
Drain valves closed (locked if drains to stormwater)?								
Containment area/interstice free of oil leaks, water, debris, trash, clutter, and fire hazards?								

Map Locator Number:

Findings:

Inspection Efficiency – Inspection Point Specific Questions

Inspection Efficiency – Inspection Point Spreadsheets

Excel BnzcAcSA2020 R - Saved

Search (Option + Q)

File Home Insert Draw Page Layout Formulas Data Review View Open in Desktop App

Undo Paste Clipboard Font Alignment Number Analysis

SECURITY WARNING External Data Connections have been disabled Enable Content Manage Workbook Links

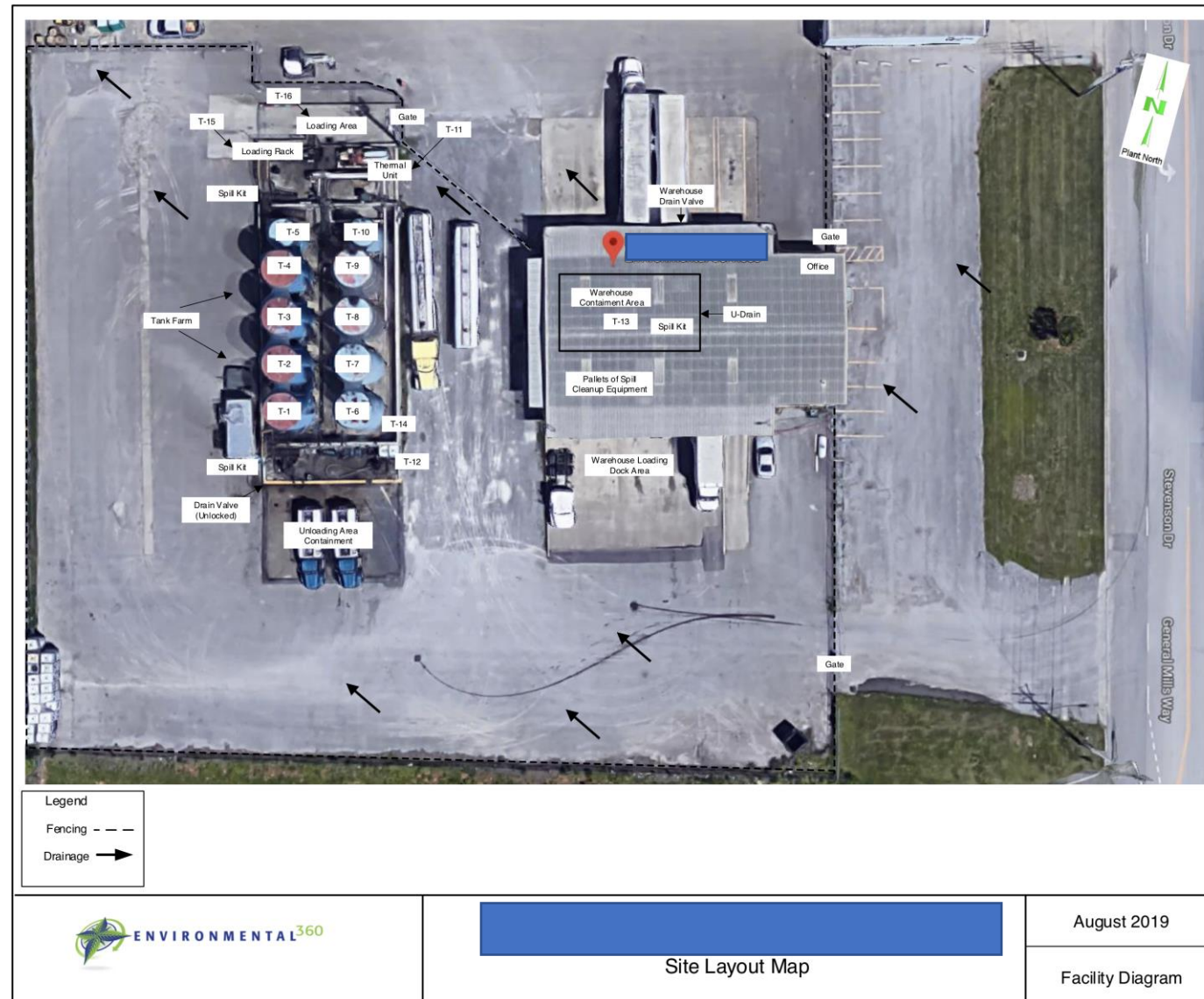
M75 fx

	A	B	C	D	E	F	G	H	I	J	K
	New Tag Number	Component Number	Size	Pa	Serv	Location	Notes	Background Reading (ppm)	Measured Reading (ppm)	Date Monitored	Technician
9											
34	Dock-1		1"	BV	LLV	DOCK	Removed V				
39	Dock-2		1.5"	BV	LLV	DOCK	Removed V				
44	Dock-3		.75"	BV	LLV	DOCK		4.0	5.0	8/10/2020	Torry Gannon
49	Dock-4		.5"	BV	LLV	DOCK		4.0	4.0	8/10/2020	Torry Gannon
52	Dock-4.1		.5"	SV	LLV	DOCK		4.0	4.0	8/10/2020	Torry Gannon
56	Dock-6		8"	GV	LLV	DOCK		4.0	4.0	8/10/2020	Torry Gannon
59	Dock-7		.75"	BV	LLV	DOCK		4.0	4.0	8/10/2020	Torry Gannon
64	Dock-8		.75"	BV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
70	Dock-9		.75"	BV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
75	Dock-10		.75"	BV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
78	Dock-10.1		.75"	PSV	GV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
79	Dock-11		8"	GV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
82	Dock-12		.75"	BV	LLV	Dock Utility Pad		3.0	7.0	8/10/2020	Torry Gannon
85	Dock-12.1		.75"	PSV	GV	Dock Utility Pad		3.0	3.0	8/10/2020	Torry Gannon
86	Dock-13		.75"	GV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
90	Dock-14		8"	GV	LLV	Dock Utility Pad		3.0	4.0	8/10/2020	Torry Gannon
95	Dock-15		8"	GV	LLV	Dock Utility Pad		3.0	3.0	8/10/2020	Torry Gannon
98	Dock-16		.75"	BV	LLV	Dock Utility Pad		3.0	3.0	8/10/2020	Torry Gannon

Benzoic 2015 Benzoic 2016 Benzoic 2017 Benzoic 2018 Benzoic 2019 Benzoic 2020 +

Inspection
Efficiency –
Photos
Associated
with
Inspection
Points

Inspection Efficiency – Inspection Point Maps

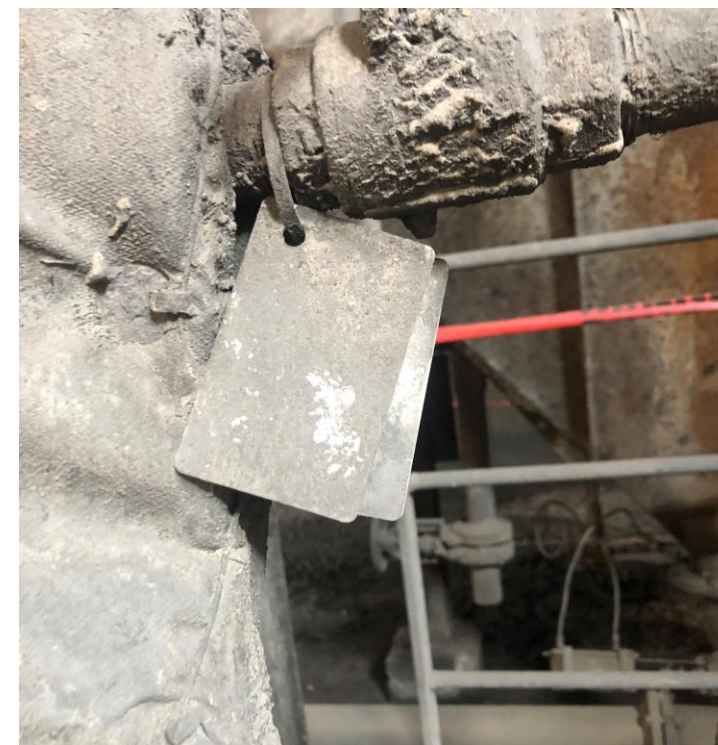


Inspection Efficiency – Real-Time Inspector to Inspection Point Mapping

Attempts to Enhance Quality – Time/Date/GPS

UNIT: CS2 STORAGE/RAILCAR/ISOTAINER										
TAG: 14057		CLASS: VALVE		DRAWING:		LOCATION: CARBON DISULFIDE RAILCAR UNLOADING PMP 31-416-65 DISCHARGE AT 5FT				
Date Reported	Test Type	Leak Definition	First Att. Due	Repair Due Date	Repaired	Inspection Date	Event	Result	Technician	Instrument
12/8/2019	M	499	12/13/2019	12/23/2019	1/5/2020					
						12/8/2019 9:15:05 AM	Method21 Insp	1553 ppm		PGM7320 RT
						12/8/2019 9:15:05 AM	Condition Noted	Valve stem leaking.		
						12/8/2019 10:33:09 AM	Visual Insp	Pass		PGM7320 RT
						12/8/2019 10:46:20 AM	Repair Attempt	PACKING TIGHTENED.	MAINT	
						12/10/2019 8:43:08 AM	Condition Noted	TEMPORARILY OUT OF SERVICE		
						12/10/2019 2:09:02 PM	Repair Attempt	TEMPORARILY OUT OF SERVICE	MAINT	
						1/5/2020 9:29:11 AM	Visual Insp	Pass		VISUAL
						1/5/2020 10:03:08 AM	Method21 Insp	0 ppm		PGM7320

Attempts to Enhance Quality – Bar Codes/Scanning



Attempts to Enhance Quality - Distance Tracking

Access to Data/Reports – Filing



Access to Data/Reports – Cloud Data

David Owen

My files

Recent

Shared


Recycle bin

Quick Access

E360

More places...

Create shared library

 **E360**

+ New

↑ Upload

Share

Copy link

Sync

Download

Add shortcut to My files

Export to CSV

...

E360 > Documents > Projects > [redacted] > [redacted] > Insp

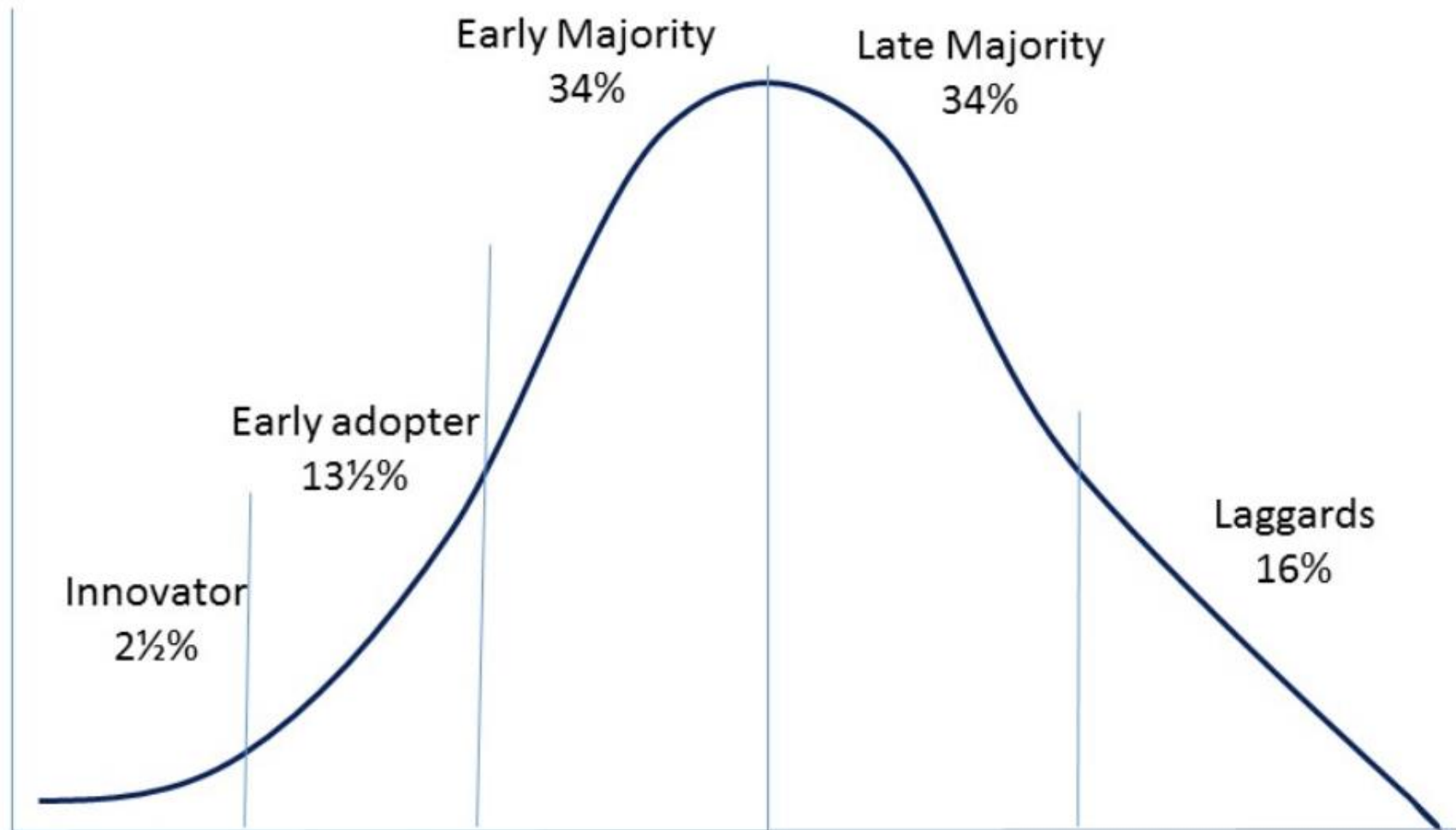
	Name	Modified	Modified By
	01-Jan	January 15	Chris Sanders
	02-Feb	February 8	Mitch Berkey
	03-Mar	March 8	Mitch Berkey
	04-Apr_Annl	April 6	Chris Sanders
	05-May	May 10	Mitch Berkey
<input type="radio"/>	06-June	June 7	Mitch Berkey
	07-Jul		Mitch Berkey
	08-Aug	August 17	Mitch Berkey
	09-Sept	September 7	Mitch Berkey
	LDARZones.pdf	June 7	Mitch Berkey

Access to Data/Reports – Web-Based/Multi-Media Reporting Platform

Access to
Data/Reports –
Automated
Corrective Action
Reporting/Tracking

Change is Hard

Innovation Theory



Change is Hard

There Will Be Challenges

- There will be pushback from the “laggards”
- Configuration is time consuming and costly
- At some point, something is not going to work
- Custom platforms will take even longer to configure

Training is Key

- Be sure to train ALL Stakeholders – Monitoring/Inspection Team, Management, Maintenance
- Set onboarding training sessions throughout the year for turnover
- Provide resources that users can reference for guidance

Messaging is Paramount

- Make sure your team understands the “Why”
- Make sure to communicate the “Why” multiple times throughout the process

Cost Savings and Risk Reduction

Standardized Platform

- Multiple compliance inspections using the same method/platform
- Standardize setup across multiple facilities
- Allows multiple users to find inspection points without institutional knowledge

Time Efficiency/Savings

- Audits multiple facilities remotely
- Stores photos of components and findings
- Manage “corrective action” efficiently

Risk Minimization

- Increases inspection integrity
- Automate notifications
- Integrate with existing maintenance platforms through API connection projects



David Owen
David.Owen@environmental360.com