GEORGIA
DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

Intermezzo

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An Option for RCRA Permit Termination

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HOW DID WE GET HERE?

The rules promulgated pursuant to RCRA and the GHWMA require that closure activities, "…remove or decontaminate all waste residues, contaminated containment system components…contaminated ***soils***, and structures and equipment contaminated with waste…"

If this can't be done, the rules require that post-closure care be conducted under a permit pursuant to the requirements for landfills

PCC FOR LANDFILLS 40CFR264.310

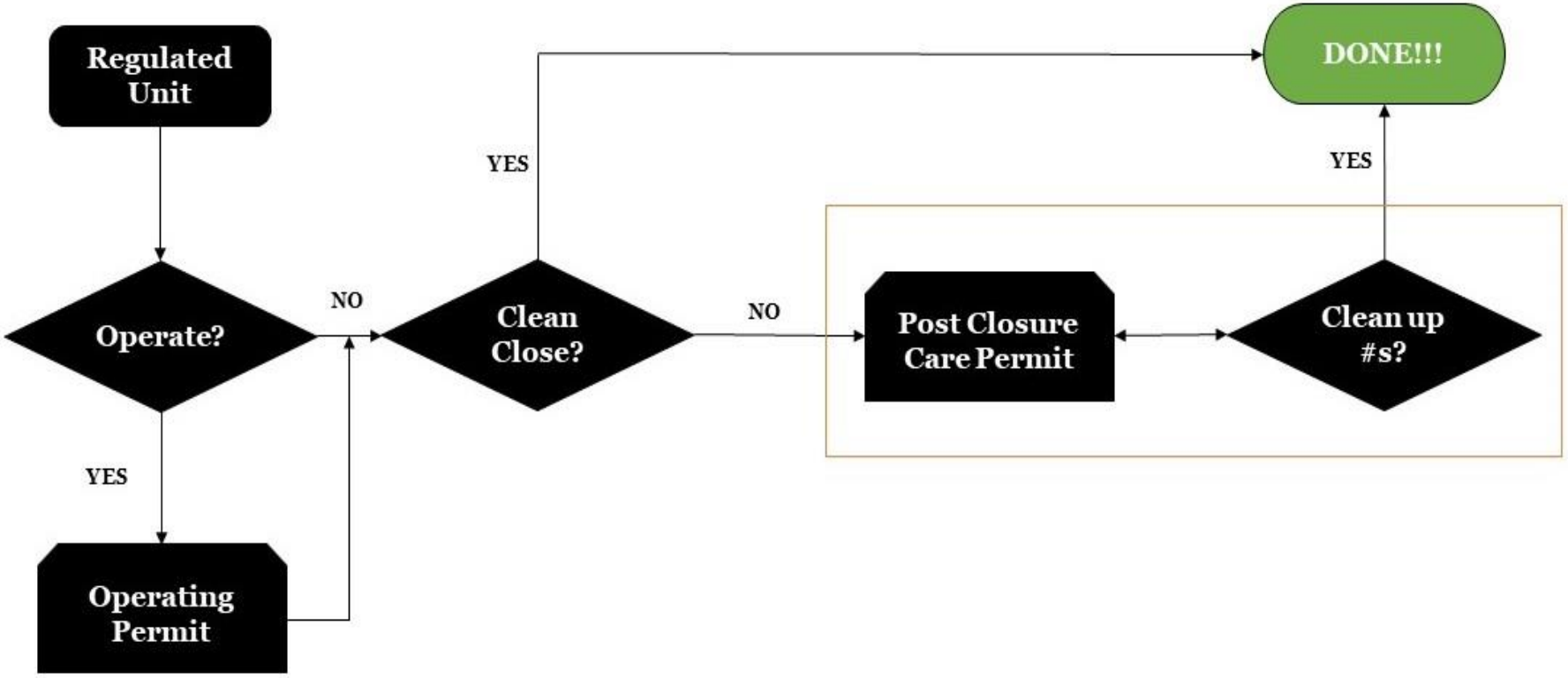
Includes installation (a) and maintenance (b) of a final cover that:

1. Minimizes long-term migration of liquids
2. Requires minimal maintenance
3. Promotes drainage and minimizes erosion
4. Accommodates settling to maintain integrity
5. Permeability ≤ bottom liner/natural subsoils

PC use of property of can't disturb integrity of final cover or components of the containment system [40CFR264.117(c)]

PATH TO PERMITTING

Permit Flow Chart



COTSWORTH MEMO

- Elizabeth Cotsworth, Acting Director for the EPA Office of Solid Waste, issued a memo entitled, “Risk-Based Clean Closure” dated March 16, 1998 (https://rcrapublic.epa.gov/rcraonline/details.xhtml?rcra=14174)
- Prior to this, EPD (and EPA) had interpreted the “complete removal” standard of 52FR8704 (03/19/87) as background conditions, consistent with the groundwater remediation standards of 40CFR264.94(a)(1)

COTSWORTH MEMO

The Cotsworth memo provides for:

- "…the appropriate use of non-residential exposure assumptions when identifying the amount of decontamination necessary to satisfy the 'remove or decontaminate' standard."
- However, this standard must ensure protection of environmental receptors and that no "unacceptable transfers" from one medium to another (*e.g.*, soil to groundwater) will occur

COTSWORTH MEMO

Further, “The Agency emphasizes that non-residential exposure assumptions should not be used unless there is a reasonable degree of confidence that future land use will conform to those assumptions. EPA believes this confidence would typically be based on the existence of long-term controls over land use.”

SO, WHAT CHANGED?

- The agencies (EPA and EPD) have far more robust programs for evaluation of residual risks
- The GA Uniform Environmental Covenants Act (O.C.G.A. 44-16-1 *et seq.*) provides a standard for implementation of "long-term controls over land use" that are enforceable by EPD
- PCC rule change addressing commingled GW plumes from SWMUs and regulated units [40CFR264.110(c)(1)]
- EPA Region IV acceptance

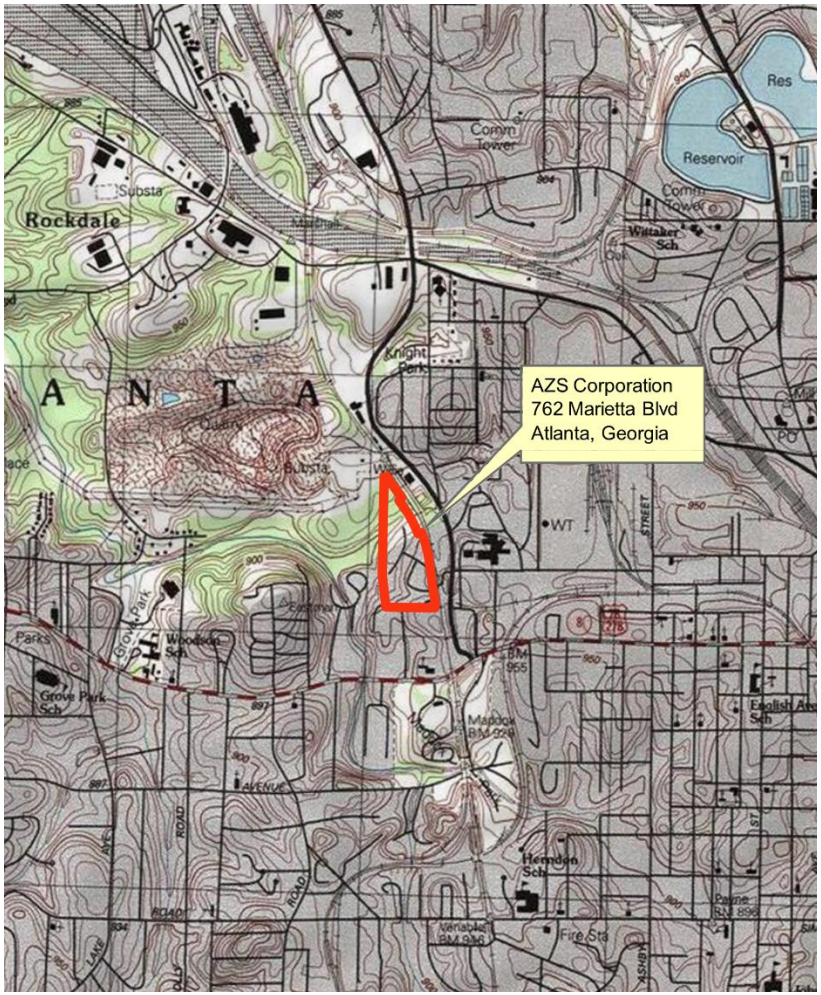
WHAT DIDN'T CHANGE

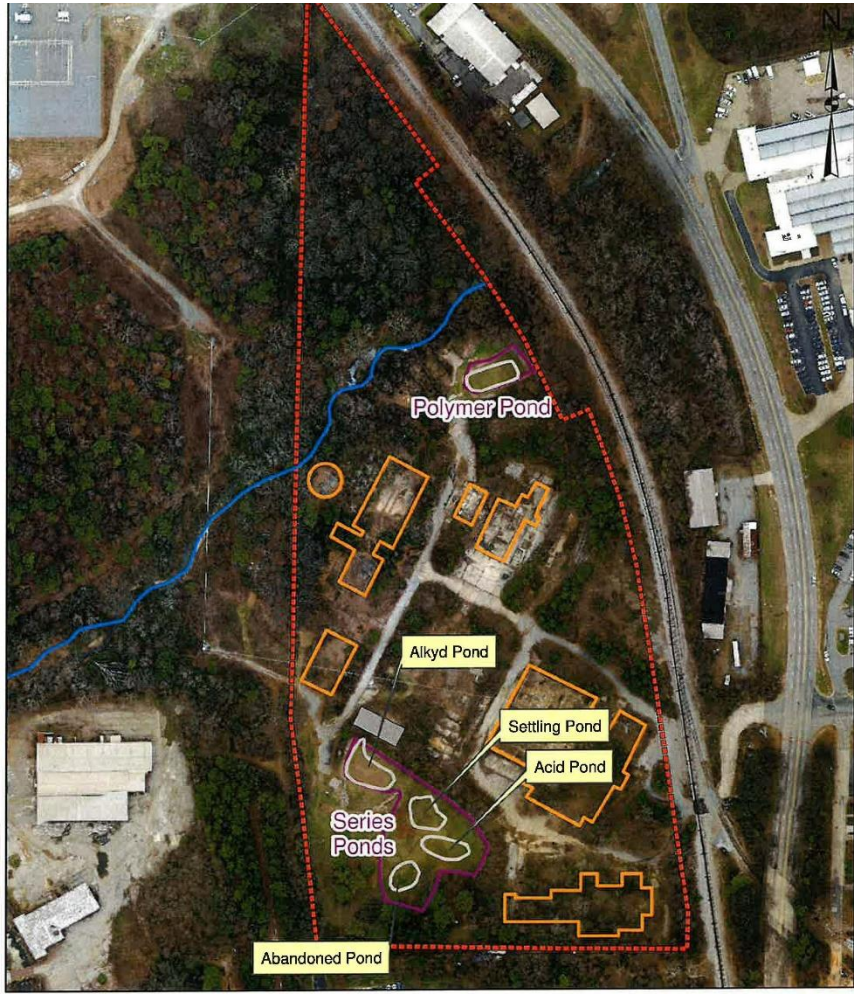
"Moreover, although some additional increment of contamination may be allowed to remain in media through application of non-residential exposure assumptions, as during any other clean closure, *owners and operators may not rely on physical barriers (such as fences or slurry walls) to ensure protection of human health and the environment."*

PATH TO PERMIT TERMINATION

- "Clean closure" of regulated unit(s) to risk-based standards; requires removal or delisting of Listed hazardous wastes (F, K, U, P)
- Complete any active remedial measures required for SWMUs
- Groundwater monitoring under a Consent Order to validate models/assumptions used in risk management
- Execution of a UEC to ensure land use controls are maintained as necessary for risk management

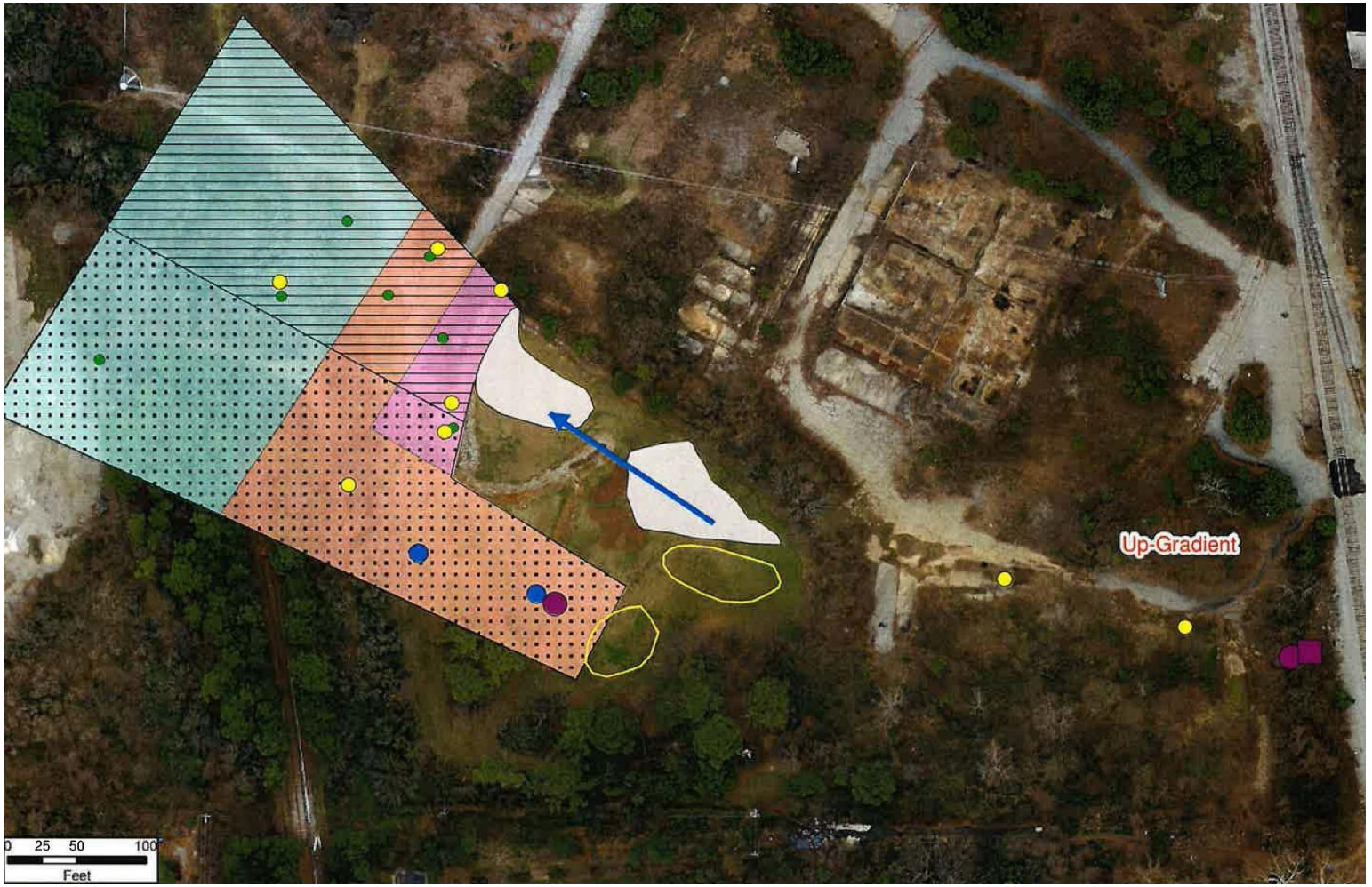
AZS, INC. CASE STUDY





AZS POTENTIOMETRIC SURFACE

AZS TOTAL CHLORINATED ETHENES



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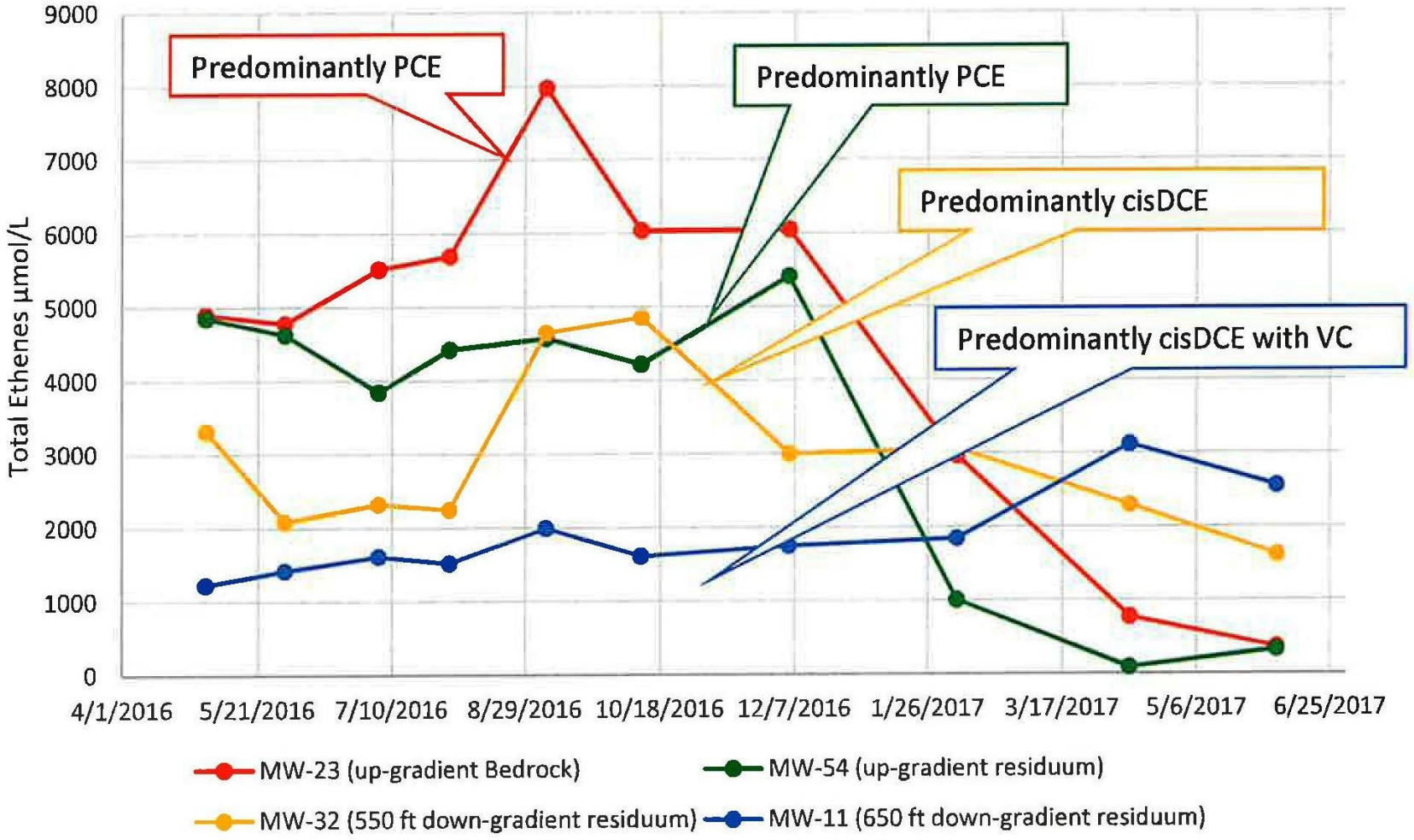

AZS FINAL EVALUATION

Well	1,4-Dioxane Concentration Range (µg/L)	Vinyl Chloride Concentration Range (µg/L)	Comment
RL RRL	100 1478	2 66	
MW-6	< MRL	< MRL	In compliance with RL
MW-7	< MRL	< MRL	In compliance with RL
MW-8	< MRL - 45	< MRL	In compliance with RL
MW-11	< MRL	< MRL - 3.1	**Evaluate vinyl chloride further**
MW-14	< MRL - 21	< MRL	In compliance with RL
MW-22	11 - 120	< MRL	**Evaluate 1,4-dioxane further**
MW-29	< MRL	< MRL	In compliance with RL
MW-32	< MRL	< MRL	In compliance with RL
MW-47	7.7 - 17	< MRL	In compliance with RL
MW-48	< MRL	< MRL	In compliance with RL
MW-49	< MRL	< MRL	In compliance with RL
MW-52	< MRL	< MRL	In compliance with RL

Constituent	Area	95% UCL (µg/L)
1,4-Dioxane	RL 100 µg/L	
	MW-22	81
	Downgradient Proximate-Zone	8
	Down-gradient Mid-Zone	20
	Down-gradient Distant-Zone	47
	All Down-gradient	23
Vinyl Chloride	RL 2 µg/L	
	MW-11	1.8
	All Down-gradient	0.36
	All Side-gradient	0.62
	Side-gradient Mid-Zone	0.71

MRL: Method reporting Limit

RL: Remediation Level

RRL: Restricted Remediation Level

QUESTIONS?

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