

ECA Technical Subgroup Monitoring

Landfill Monitoring and Exposure Summary

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Goal for Today

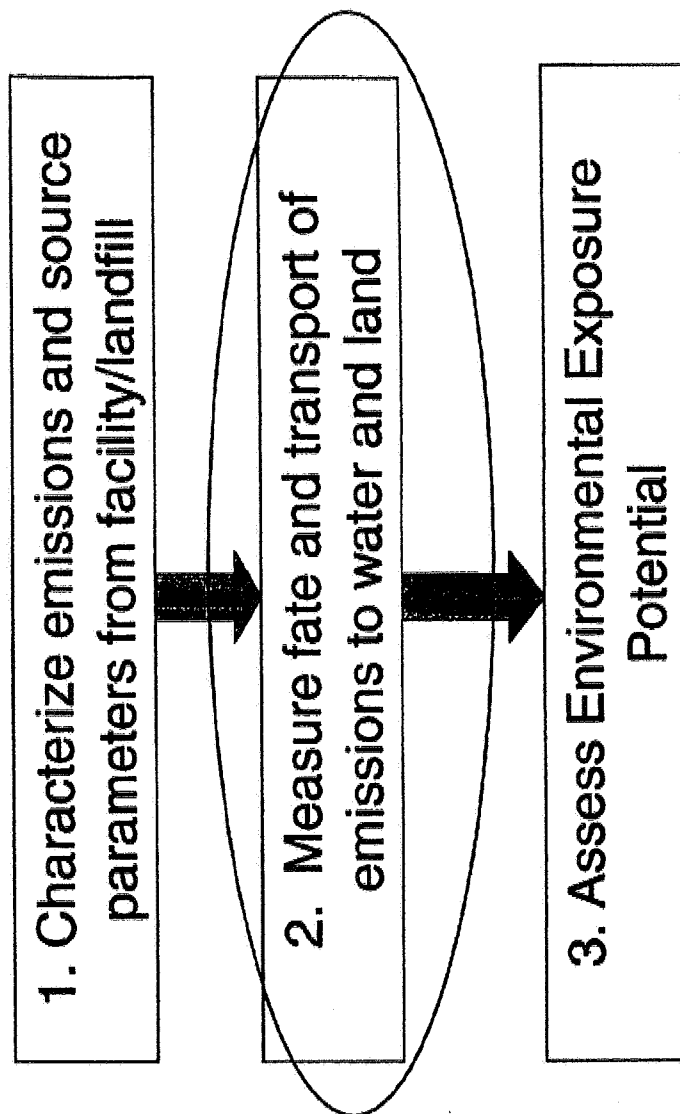
- Understand the contribution of landfills to PFOA levels in the environment

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Environmental Assessment From Manufacturing Facilities/Landfills



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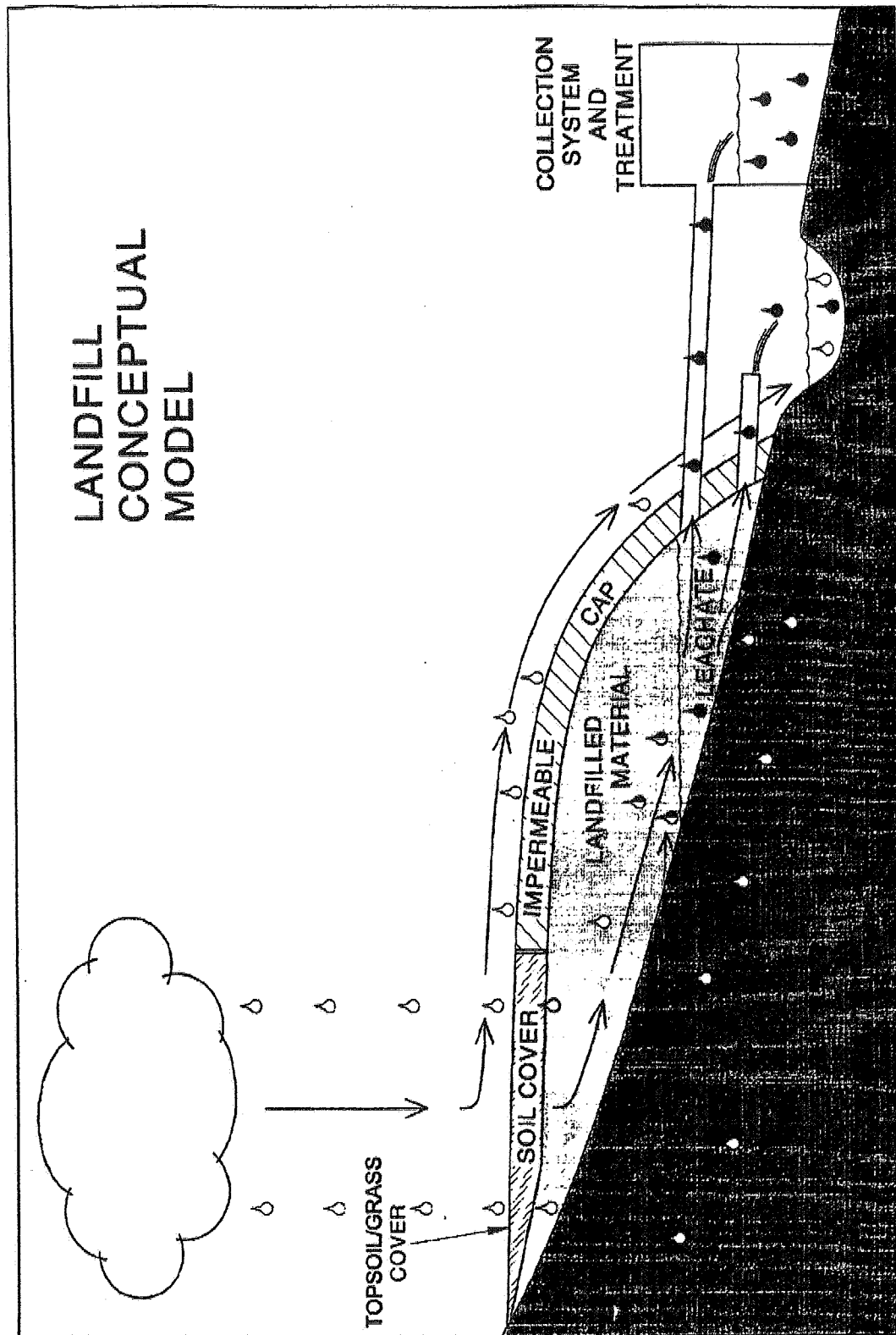
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Landfills Are Regulated And Well Managed

- Industrial landfills are subject to State solid waste management requirements:
 - Most have engineered containment and cover systems (i.e., daily and permanent)
 - Extensive/frequent surface water and groundwater monitoring
 - Discharges are NPDES permitted

Typical Industrial Landfill Conceptual Model



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Typical Landfill Monitoring

- Surface Water Monitoring
 - Ponds
 - Outfalls
 - Stormwater
 - Streams
- Groundwater Monitoring
 - Program dictated by hydrogeologic complexity
 - Quarterly or semi-annual
- Leachate Monitoring

What we have learned from monitoring at landfills.....

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Landfills On-site Summary

Item	Site 1	Site 2	Site 3
Landfill Type	Engg Cap	Active	Soil Cover
Site Wells	15	13	9
Sampling Events	Over 20	10	8
On-site PFOA Range (ppb)	0.058-30,500	NQ-22.8	NQ-65.9
On-site PFOA Mean (ppb)	2763	2.87	17.7
GW-SW Flow (gpy)	525,600	6,664,900	2,482,000
PFOA Flux (lbs/yr)	4.03	8.65	1.01

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Flux Calculation

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Groundwater Investigation Steering Team (GIST)

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GIST Offsite Summary-3 Landfills

Item	Site1	Site 2	Site 3
GIST Offsite Sample	1-mile	1-mile	2-mile
# Off-site Samples	30	53	109
Offsite PFOA Range (ppb)	ND-0.636	ND-0.974	ND-14.3
Offsite PFOA Mean (ppb)	0.04	0.185	1.46

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Landfills-Overall Impressions

- Landfills are regulated by state permits
- Permits require:
 - Engineering controls
 - Monitoring plans
- Our experience demonstrates:
 - Engineering controls are effective for PFOA
 - The monitoring conducted indicates minimal PFOA contribution to the environment

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Actions

- The other Fluoropolymer LOI signatories will compare the DuPont data with their industrial landfill data in order to develop an understanding of the contribution of other landfills to PFOA environmental loadings

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