Appendix C

Waste Acceptance Tables and Attachments

- Table R-1: Approved Residual Waste Codes
- Table R-2: Waste Code Testing/Reporting Frequency and Analytical Requirements
- Table R-3: Waste Analysis Methods
- Table R-4: Waste Acceptance Criteria
- Table R4A: Waste Compatibility Criteria
- Attachment I: Non-hazardous Chemical & Waste Petroleum Contaminated Soil
- Testing Reduction/Elimination Certification
- Non-Hazardous Waste Certification
- Field Oversight for Contaminated Soil Characterization
- Contaminated Soil Pile or In-Situ Sampling
- Diagram of Sample Collection Area

Table R-1
Approved Residual Waste Codes

Bradford County Landfill

RWCs	Residual Waste Code (RWC) Description
001	Coal-derived bottom ash
002	Coal-derived fly ash
003	Flue gas desulfurization residue (Fgd)
004	Incinerator bottom ash
005	Incinerator fly ash
006	Incinerator mixed ash
007	Other ash (to be further specified)
101	Foundry sand
102	Slag
103	Refractory material
104	Grindings, shavings
105	Ferrous baghouse dust
106	Non-ferrous baghouse dust
107	Ferrous scrap, including auto recycle
108	Non-ferrous scrap
109	Sandblast abrasive and residue
110	Air emission control dust
111	Lubricating soaps
201	Water treatment sludge/sediment
203	Industrial wastewater treatment sludge, including acid mine drainage sludge
204	Metallurgical sludge
205	Food processing sludge
206	Paint, coating sludge and scale
207	Tank bottoms
208	Still bottoms (non-hazardous)
209	Oily sludge, petroleum derived
210	Air Emission control sludge (excluding FGD sludge and gypsum)
211	Other industrial sludge (to be further specified)
212	Lime/cement kiln scale, residue
213	Lime-stabilized spent pickle liquor
214	Cooling tower sediment/sludge
215	Flue Gas Desulfurization (FGD) sludge (including FGD gypsum)
301	Acidic chemicals (pH < 6)
302	Basic chemicals (pH > 8)

RWCs	Residual Waste Code (RWC) Description
303	Combustible chemicals (non-hazardous)
304	Chemical salts
305	Spent activated carbon (e.g., decoloring, filtering) For carbon/graphite scrap, see RWC 481
306	Surface coatings (e.g., solid/semi-solid paints, polishes, adhesives, inks, cans of hardened paint) For paint filters, see RWC 473
307	Filter media/aids (e.g., diatomaceous earth, ion exchange resins, silica gels, silica bead desiccant)
308	Spent dyes
310	Detergents, cleaning agents
311	Off-specifications products, intermediates (non-hazardous, further describe)
312	Pharmaceutical, biological wastes (manufacturing and lab wastes)
313	Wax, paraffin
318	Photographic chemicals (non-hazardous)
401	Leather wastes (for Cr tannery process sludges, see RWC 211)
402	Rubber, elastomer wastes, Latex
403	Wood wastes (scrap lumber, pallets, particle board)
404	Paper, cardboard wastes, laminated paper
405	Textile wastes including yarn, fabric, fiber, elastic
406	Glass wastes (cullet), excluding industrial refractory material
407	Polyethylene, polystyrene, polyurethane, and other non-halogenated plastics
408	Glass reinforced plastics
409	Halogenated plastics (e.g. PVC, Teflon, CPE)
410	Electronic component wastes (e.g. off-spec semiconductors, circuit boards)
411	Agricultural wastes (e.g. fertilizers, pesticides[1], feed, feed supplements)
412	Photographic wastes (e.g. film, photographic paper)
413	Asphalt (bituminous), asphalt shingles
414	Ceramic wastes
415	Linoleum wastes
416	Thermal insulation wastes (cellulose, glass, wool)
417	Wiring, conduit, electrical insulation
418	Sawdust, including wood shavings/turnings
419	Empty containers, metallic and non-metallic drums and pails. (For containers with contents, choose appropriate waste code for contents)
424	Treated wood, railroad ties
430	Food waste (for food processing wastewater treatment sludges, see RWC 205)
440	Resins, (Epoxy waste)
450	Polymers (other than 407, 409)

RWCs	Residual Waste Code (RWC) Description
460	Vinyl (sheet, upholstery)
470	Spent filters - air/gas
471	Spent filters - aqueous
472	Spent filters- non-hazardous fuel, oil, solvent
473	Paint filters, other cloth/paper filters, supersacs
474	Grease
480	Refractory (furnace, boiler), other than RWC 103
481	Carbon/graphite residue/scrap
482	Baghouse dust, other than RWC's 105 and 106
483	Blasting abrasive/residue, other than RWC 109
484	Gypsum plaster molds
501	Asbestos-containing waste (e.g. insulation, brake lining, etc.)
502	PCB-containing waste
503	Oil-contaminated waste (e.g. spent absorbent, oily rags)
505	Spent catalysts
506	Contaminated soils/debris/spill residues (nonpetroleum), dredged material, water intake debris and sediment, coal mill rejects
507	Waste petroleum material contaminated soil/debris
508	Virgin petroleum fuel contaminated soil and debris
510	Waste Tires (excluding whole tires, except as provided in Act 190)
701	Pumping, piping, vessels, instruments, storage tanks
702	Scrap materials from maintenance, product turnaround
703	Batteries[1] - non-hazardous (excluding lead acid batteries per §273.201(h))
704	Grinding wheels, sanding disks, polishing belts, welding rods, broken tools
710	Plant trash
801	Non-oil and Gas Well Drilling Waste – includes drilling fluids, residuals, and drill cuttings from monitoring well and drinking water well construction.
802	Produced Fluid – includes flow-back, brine and any other formation fluids recovered from the wellbore. Flow-back is defined as fracturing/stimulation fluids, including any colloidal and suspended solids within the fluid, recovered from the wellbore after injection into the wellbore.
803	Drilling Fluid Waste (oil & gas drilling mud, other drilling fluids other than fracking fluid and spent lubricant)
804	Wastewater Treatment Sludge – sludge and solids generated during the processing of any oil and gas-related wastewater including any sediment generated during storage of oil and gas-related wastewater. Mixed loads of wastewater treatment sludge with other waste for disposal purposes, such as filter socks (RWC 812), will be coded as RWC 804.
805	Unused Fracturing Fluid Waste - oil and gas fracturing/stimulation fluid waste and fracturing sand waste that has not been injected into a wellbore.

RWCs	Residual Waste Code (RWC) Description
806	Synthetic Liner Materials – includes well site liners, liners used in pits or other approved storage structures, freshwater impoundments, centralized impoundments, or used in conjunction with primary containers.
807	Sediment from Production Storage – sediment from storage of marketable oil and gas products. Does not include sediment from oil and gas related wastewater storage.
808	Servicing Fluid – oil and gas production well maintenance/work over fluids, oil/water-based mud and foam and well cellar cleanout waste after drilling operation shave been completed. Does not include well cellar cleanout waste covered under existing RWCs, well cellar fluids that are recycled/reused, or rainwater that is collected in a well cellar that has not been mixed with a residual waste.
809	Spent Lubricant Waste (spent oil & gas drilling lubricants, spent plug drilling lubricants)
810	Drill Cuttings (oil & gas drill cuttings using a drilling mud formula)
811	Soil Contaminated by oil and Gas-related Spills – Soil contaminated by spills of RWCs 802, 803, 805, 807, 808, 809 and 810. Soils contaminated by spills of RWC 804 will be coded using RWC 804. Soil contaminated by spills of RWC 812 will be coded using RWC 812.
812	Filter Socks – Filters, filter socks and other media used to filter any oil and gas-related wastewater. Does not include filter socks mixed with RWC 804 for disposal purposes. Except where filter socks are mixed with RWC 804 and coded as RWC 804, mixed loads of RWC 812 with other waste for disposal purposes, such as drill cuttings, will be coded as RWC 812.
899	Other Oil and Gas Wastes – all remaining oil and gas wastes other than those already covered under existing RWCs. Includes containment water. Does not include rainwater that is collected in a containment area that has not been mixed with residual waste.
901	Auto shredder "fluff"
902	Non-hazardous residue from treatment of hazardous waste, other than RWC 203. (Treated hazardous waste residue should include land ban certification as required.)
35	Processed infectious/chemotherapeutic waste
36	Municipal waste incinerator ash
43	Sewage sludge

[1] Unless acceptance is restricted by the Universal Waste Rule.

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T[illegible]e R-2

Waste Code Testing/Reporting Frequency and Analytical Requirements

BRADFORD COUNTY LANDFILL

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS					Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1]	or TOX[1]	CN S	PCB	O&G TPH	Retest[5]
001	X			X	X	X		X	X		X	X		X	X	I
002	X			X	X	X		X	X		X	X		X	X	I
003	X			X	X	X		X	X		X	X		X	X	I
004	X			X	X	X		X	X		X	X		X	X	I
005	X			X	X	X		X	X		X	X		X	X	I
006	X			X	X	X		X	X		X	X		X	X	I
007	X			X	X	X		X	X		X	X		X	X	I
101	X	X		X	X	X		X	X					X		I
102	X	X		X	X	X		X	X					X		I
103	X	X		X	X	X		X	X					X		I
104	X	X		X	X	X		X	X					X		I
105		X		X	X	X		X	X					X		I
106		X		X	X	X		X	X					X		I
107	X	X		X	X	X		X	X					X		I
108	X	X		X	X	X		X	X					X		I
109	X	X		X	X	X		X	X					X		I
110		X		X	X	X		X	X					X		II
111				X	X	X		X	X					X		I
201	X			X	X	X		X	X					X		I

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS				Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1] or TOX[1]	CN S	PCB	O&G TPH	Retest[5]
203	X				X	X			X				X		I
204	X			X	X	X		X	X				X		I
205	X			X	X	X		X	X				X		I
206					X	X			X				X		I
207					X	X			X				X		I
208					X	X			X				X		I
209					X	X			X				X		I
210	X	X		X	X	X		X	X				X		I
211					X	X			X				X		I
212	X	X		X	X	X		X	X				X		I
213	X			X	X	X		X	X				X		I
214	X			X	X	X		X	X				X		I
215	X	X		X	X	X		X	X				X		I
301				X	X	X		X	X				X		I
302				X	X	X		X	X				X		I
303				X	X	X		X	X				X		I
304				X	X	X		X	X				X		I
305				X	X	X		X	X				X		I
306					X	X			X				X		I
307					X	X		X	X				X		I
308					X	X			X				X		I

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH			TOTALS			Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1]	or TOX[1]	CN S	PCB	O&G TPH	Retest[5]
310				X	X	X		X	X					X		I
311				X	X	X		X	X					X		I
312				X	X	X		X	X					X		I
313		X	X	X	X	X	X	X	X				X	X		I
318				X	X	X		X	X					X		I
401	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
402	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
403	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
404	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
405	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
406	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
407	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
408	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
409	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
410	X	X		X	X	X		X	X	X			X	X	X	I
411	X	(Pest)	(Pest)	X	X	(Pest)	(Pest)	X	Phenols (Pest)		(Pest)	(Pest)	(Pest)	X	(Pest)	I
412				X	X	X		X	X					X		I
413																
414	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
415	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS					Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[4]	or TOX[4]	CN S	PCB	O&G TPH	Retest[5]
416	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
417	X	X		X	X	X	X	X	X	X	X	X	X	X	X	I
418	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
419	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
424	X	X	Cr, As if pre-served	X	PCP – if pre-served	X	Cu – if pre-served	X	X	X	X	X	X	X	TPH – if pre-served	I
430	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
440				X	X	X		X	X					X		I
450				X	X	X		X	X					X		I
460	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
470		X		X	X	X		X	Phenols					X		I
471				X	X	X		X	Phenols					X		I
472				X	X	X		X	Phenols					X		I
473					X	X		ETX	X					X		I
474				X	X	X		X	X				X	X		I
480	X	X		X	X	X		X	X					X		I
481				X	X	X		X	X					X		I
482		X		X	X	X		X	X					X		I
483	X	X		X	X	X		X	X					X		II
484	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
501																

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS					Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1]	or TOX[1]	CN S	PCB	O&G TPH	Retest[5]
502	X					X		ETX	X		X	X	X			III
503	Use Most Recent Form U-CS & Attachment I Procedures for RWC 503															IV
505				X	X	X		X	Phenols					X		I
506	Use Most Recent Form U-CS & Attachment I Procedures for RWC 506															IV
507	Use Most Recent Form U-CS & Attachment I Procedures for RWC 507															IV
508	Use Most Recent Form FC-1 & Procedures for RWC 508															IV
510																
701	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
702	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
703	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
704	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	I
710																V
801	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	VI
802[2,3]						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl				X	O&G + Diesel TPH	II
803						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl				X		II
804						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl				X	O&G + Diesel TPH	VII VIII IX, X XI

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS				Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1] or TOX[1]	CNS	PCB	O&G TPH	Retest[5]
805						X							X		II
806															II
807						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + DieselTPH	II
808						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	II
809						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	II
810						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	IX X XI
811						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	II
812						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	II
899						X	+ Sr	Diesel range short list[4]	Diesel range short list[4]	+ Cl			X	O&G + Diesel TPH	II
901				X	X	X		X	Phenols				X		I

Waste Code Testing/Reporting
Bradford County Landfill

RW	CHAR		RCRA TOXICITY				NON-RCRA TOXICITY			ASTM LEACH	TOTALS				Freq
Code	Ign	Free Liq	Metals	Vols	Semi Vols	Herb Pest	Metals	Vols	Semi Vols	Corr pH	TOX[1] or TOX[1]	CN S	PCB	O&G TPH	Retest[5]
902			(if treated for)	(if treated for)	(if treated for)	(if treated for)		X	Phenols				(if treated for)		I
35	Forms 40 and 44 for incineration, Form 40 for autoclaving														XII
36	Form 41 Parameters (No certifications in lieu of testing. This is considered a variable wastestream)														XIII
43	Form 43 Parameters														

KEY:

X	INITIAL CHARACTERIZATION TESTING OR GENERATOR CERTIFICATION: Initial waste stream characterization may be certified in writing through generator knowledge in lieu of testing. Certification may be made if the process by which the waste was generated is known, the process has not changed, the waste's composition is known, and has not changed. Certification based on known composition must either be for absence of the parameter or absence of its leaching in the waste stream.
	INITIAL CHARACTERIZATION TESTING WITH LIMITED GENERATOR CERTIFICATION. ROUTINE MONITORING TESTING REQUIRED UNLESS GENERATOR CERTIFICATION: Initial Generator Certifications are restricted to known composition and must either be for absence of the parameter in the waste stream or absence of parameter leaching in the waste stream. Routine monitoring generator knowledge would be based on known composition, certification that the process and waste stream composition have not changed.

(I) A complete Form U reanalysis is required once every five years to verify certifications, due on or before the anniversary date of original Form U approval. This is not required for parameters at or below 30% of Form R acceptance limiting criteria, if waste generating process is certified as not having changed. Results shall be filed at your facility and be made available upon request.

(II) Tested per disposal event, per generator location.

(III) Tested per disposal event, per generator location. If the waste is PCB-contaminated soil, follow RWC 506 for sampling and chemical monitoring requirements.

(IV) Contaminated soils are to be tested per clean-up event, per generator location.

(V) Form U approval for plant trash generated from oil & gas industry operations is required to be submitted for approval minimally on a countywide basis as the generation source.

(VI) Test parameters depend on contaminants in groundwater. Initial characterization parameters may be reduced or dropped for monitoring well and potable water well drilling residues.

(VII) Oil & gas industry hydro-fracture water is tested per well, per generator.

(VIII) Flow-back hydro-fracture water treatment sludge is tested monthly from fixed treatment generators and per disposal event from mobile treatment generators. This treatment sludge is to be tested for TENORM parameters. Monthly reporting to the Department may be required once sludge is approved.

(IX) Oil & gas drill cuttings and hydro-fracture flow-back sands are tested per well pad, per generator.

(X) Test samples of drill cuttings and hydro-fracture flow-back sands shall be from within the geologic formation for oil/gas extraction and which utilize lubricants and other additives in the drilling mud. Samples shall be representative of the deepest horizontal drilling/fracturing or deepest vertical drilling/fracturing if horizontal drilling is not performed.

(XI) For chemical characterization of drill cuttings and hydro-fracture flowback sands as new waste types, initial analytical testing shall be of that first well pad. Requests for these wastestreams at the second well pad shall include submittal of the chemical characterization analytical testing from the first well pad. Subsequent wastestream requests shall continue in this manner, submitting the chemical characterization analytical testing for the most recent previous well pad as the characterization analytical with the current well pad wastestream request. Simultaneous development of multiple well pads could result in multiple analytical reports in subsequent requests or multiple requests based on a single previous analysis, as long as analytical representing all well pads is received once and promptly. Sample results for these wastes from the final well pad constructed by the generator, or from a well pad submittal that has gone beyond ninety days without a subsequent well pad development, shall be submitted to the Department within thirty days after Department determination of their disposal request. Unacceptable analytical chemistry for wastestream characterization requests shall require wastestream chemical characterization retesting at the previous well pad where analytical was obtained and used for temporary certification, and chemical characterization analytical testing shall be required at the pending well pad being requested, all prior to Department approval, unless there is no activity at the previous well pad. In that event, retesting and submitting there shall occur prior to removing these wastestreams resulting from future drilling there.

(XII) For incinerator ash, test ash chemistry annually on Form 44. For incinerator ash microbiological, test quarterly on Form 40. For autoclaving, test microbiological every forty (40) hours on Form 40.

(XIII) You are required to receive quarterly monitoring chemistry from the ash generator, following Form 41 parameters. For start-up resource recovery facilities, sampling must meet the EPA's Guidance for *The Sampling and Analysis of Municipal Waste Combustion Ash for the Toxicity Characteristic*, June 1995. The ash generator must supply your disposal facility with the plan they follow for sampling their ash for disposal at your facility.

Endnotes

[1] Organic scans for TCLP halogens may be used to certify "known composition" of the TOX indicator parameter. This is allowed because TOX is not a required parameter for wastestream characterization but may be required as an indicator parameter for monitoring. Analysis for TOX may be performed using the ASTM Leach or Total TOX test methods.

[2] Specific wastestreams excluded as hazardous solid waste per 261.4(b)(5) may be characterized by total analysis rather than TCLP leach analysis.

[3] For releases to soil or water of the environment, see Attachment I - Non-hazardous Contaminated Soil, 506 Contaminated Soil/Debris/Spill Residue (Non-Petroleum) From Non-Hazardous Spills Containing (from RWC 800).

[4] See Department Storage Tank Program diesel range short list. Use most current list.

[5] An updated Form U must be submitted to the Department for approval for any change in characterization of the waste stream, including process changes. For an existing Form U to remain in effect, all sampling and reporting requirements of §297.54 must be met.

Table R-3
Waste Analysis Methods

BRADFORD COUNTY LANDFILL NO. 2

Parameter	Leaching Procedures	Digestion/Extraction Procedures	Determinative Procedures
Waste Characteristics			
Corrosivity			See pH
Free Liquids			9095
Ignitability			1030, DOT Oxidizer
Reactive Sulfide			7.3.4.2
Reactive Cyanide			7.3.3.2
Toxicity Characteristic Inorganics			
Arsenic	1311	3051	6010, 7060, 7061
Barium	1311	3051	6010, 7080, 7081
Cadmium	1311	3051	6010, 7130, 7131
Chromium	1311	3051	6010, 7190, 7191
Lead	1311	3051	6010, 7420, 7421
Mercury	1311	3051	245.1, 245.2, 7470
Selenium	1311	3051	6010, 7740, 7741
Silver	1311	3051	7760, 7761
Inorganics			
Aluminum	1311	3051	6010, 7020
Antimony	1311	3051	6010, 7040, 7041
Beryllium	1311	3051	6010, 7090, 7091
Boron	1311	3051	200.7, 200.8, 200.9
Cobalt	1311	3051	6010, 7200, 7201
Copper	1311	3051	6010, 7210, 7211
Iron	1311	3051	6010, 7380, 7381
Manganese	1311	3051	6010, 7460, 7461
Molybdenum	1311	3051	6010, 7480, 7481
Nickel	1311	3051	6010, 7520
Thallium	1311	3051	6010, 7840, 7841
Zinc	1311	3051	6010, 7950, 7951

Parameter	Leaching Procedures	Digestion/Extraction Procedures	Determinative Procedures
Toxicity Characteristic Volatile Organics			
Benzene	1311	5030/5035	8260
Carbon Tetrachloride	1311	5030/5035	8260
Chlorobenzene	1311	5030/5035	8260
Chloroform	1311	5030/5035	8260
1,2-Dichloroethane	1311	5030/5035	8260
1,1-Dichloroethene	1311	5030/5035	8260
Methyl Ethyl Ketone	1311	5030/5035	8260
Tetrachloroethene	1311	5030/5035	8260
Trichloroethene	1311	5030/5035	8260
Vinyl Chloride	1311	5030/5035	8260
Volatile Organics			
Acetone	1311	5030/5035	8260
1,2-Dibromoethane (Ethylene Dibromide)	1311	5030/5035	8260
cis-1,3-Dichloropropene	1311	5030/5035	8260
Ethylbenzene	1311	5030/5035	8260
2-Hexanone	1311	5030/5035	8260
Isopropylbenzene (Cumene)	1311	5030/5035	8260
Methylene Chloride	1311	5030/5035	8260
4-Methyl-2-Pentanone	1311	5030/5035	8260
Methyl-tert-butyl ether (MTBE)	1311	5030/5035	8260
Styrene	1311	5030/5035	8260
Toluene	1311	5030/5035	8260
1,1,1-Trichloroethane	1311	5030/5035	8260
Xylenes	1311	5030/5035	8260
Toxicity Characteristic Semivolatile Organics			
Cresol	1311	3540/3541	8270
o-Cresol	1311	3540/3541	8270

Parameter	Leaching Procedures	Digestion/Extraction Procedures	Determinative Procedures
m-Cresol	1311	3540/3541	8270
p-Cresol	1311	3540/3541	8270
1,4-Dichlorobenzene	1311	3540/3541	8270
2,4-Dinitrotoluene	1311	3540/3541	8270
Hexachlorobenzene	1311	3540/3541	8270
Hexachlorobutadiene	1311	3540/3541	8270
Hexachloroethane	1311	3540/3541	8270
Nitrobenzene	1311	3540/3541	8270
Pentachlorophenol	1311	3540/3541	8270
Pyridine	1311	3540/3541	8270
2,4,5-Trichlorophenol	1311	3540/3541	8270
2,4,6-Trichlorophenol	1311	3540/3541	8270
emivolatile Organics			
Acenaphthene	1311	3540/3541	8270
Anthracene	1311	3540/3541	8270
Benzo (a) anthracene	1311	3540/3541	8270
Benzo (a) pyrene	1311	3540/3541	8270
Benzo (b) fluoranthene	1311	3540/3541	8270
Benzo (g,h,i) perylene	1311	3540/3541	8270
Butylbenzyl phthalate	1311	3540/3541	8270
Chrysene	1311	3540/3541	8270
bis (2-Ethylhexyl) phthalate	1311	3540/3541	8270
Fluoranthene	1311	3540/3541	8270
Fluorene	1311	3540/3541	8270
Indeno (1,2,3-cd) pyrene	1311	3540/3541	8270
Naphthalene	1311	3540/3541	8270
di-n-Octyl Phthalate	1311	3540/3541	8270
Phenanthrene	1311	3540/3541	8270
Phenol	1311	3540/3541	8270
yrene	1311	3540/3541	8270

Parameter	Leaching Procedures	Digestion/Extraction Procedures	Determinative Procedures
Toxicity Characteristic Pesticide Organics			
Chlordane	1311	3540/3541	8081
2,4-D	1311	3540/3541	8151/555
Endrin	1311	3540/3541	8081
Heptachlor and its Epoxide	1311	3540/3541	8081
Lindane	1311	3540/3541	8081
Methoxychlor	1311	3540/3541	8081
Toxaphene	1311	3540/3541	8081
2,4,5-TP (Silvex)	1311	3540/3541	8151/555
Water Leaching Tests			
Ammonia-Nitrogen	ASTM D3987-85		350, 4500
Chloride	ASTM D3987-85		9056, 9250, 9251
COD	ASTM D3987-85		410, 5220
Cyanide	ASTM D3987-85		9010, 9012
Fluoride	ASTM D3987-85		340, 9056
Nitrate	ASTM D3987-85		352, 9056
Nitrite	ASTM D3987-85		354, 4500, 9056
Organic Halogen (TOX)	ASTM D3987-85		9020, 9022, 9023
pH	ASTM D3987-85		9040, 9045
Solids, Suspended (TSS)	ASTM D3987-85		SM 2540
Sulfate	ASTM D3987-85		9035, 9036, 9038, 9056
Total Analyses			
Cyanides			9010, 9012
Metals		3051	200, 6000, 7000
Oil and Grease		1664	1664
Organic Halogens (TOX)		3540, 3550	9020, 9022, 9077
PCBs		3540, 3541	8082
Pesticides		3540, 3541	8081, 8151

Parameter	Leaching Procedures	Digestion/Extraction Procedures	Determinative Procedures
Petroleum Hydrocarbons (TPH)		3560, API/Gas/Diesel/ PHC, NY DOH 310-13	8440,API/Gas/Diesel/ PHC, NY DOH 310-13
Semi-Volatiles		3540, 3541	8270
Sulfides			427, 9030, 9031
Volatiles		5035	8015, 8021, 8260

Note: This is a collection of currently acceptable methods, and not a complete listing. DEP or EPA may remove, replace, or update methods over time. The most recently promulgated test method updates shall be used.

Table R-4
Waste Acceptance Criteria

BRADFORD COUNTY LANDFILL NO. 2

Parameter	Warning Limits (mg/L, unless noted)	Acceptable Limits (mg/L, unless noted)	Basis
Waste Characteristics			
Corrosivity	pH < 3	pH> 2	1,6
Free Liquids	-	No Free Liquids	1
Ignitability	-	Non-Ignitable, Non-Oxidizer	1,2 1,2
Reactivity • Sulfide • Cyanide	 400 mgH_2S/kg 200 mgHCN/kg	 500 mgH_2S/kg 250 mgHCN/kg	 1,2,5 1,2,5
Toxicity Characteristic Inorganics			
Arsenic	4.00	<5.00	2
Barium	80.00	<100.00	2
Cadmium	0.80	<1.00	2
Chromium	4.0	<5.00	2
Lead	4.00	<5.00	2
Mercury	0.016	0.02	4
Selenium	0.80	<1.00	2
Silver	4.00	<5.00	2
Inorganics[1]			
Aluminum			
Antimony			
Beryllium			
Boron			
Cobalt			
Copper			
Iron			
Manganese			
Molybdenum			
Nickel			
Thallium			
Zinc			

Parameter	Warning Limits (mg/L, unless noted)	Acceptable Limits (mg/L, unless noted)	Basis
Toxicity Characteristic Volatile Organics			
Benzene	0.40	<0.50	2
Carbon Tetrachloride	0.40	<0.50	2
Chlorobenzene	40.00	<100.00	2
Chloroform	4.80	<6.00	2
1,2-Dichloroethane	0.40	<0.50	2
1,1-Dichloroethene	0.56	<0.70	2
Methyl Ethyl Ketone	160.00	<200.00	2
Tetrachloroethene	0.56	<0.70	2
Trichloroethene	0.40	<0.50	2
Vinyl Chloride	0.16	<0.20	2
Volatile Organics			
Acetone	344.00	430.00	4
1,2-Dibromoethane (Ethylene Dibromide)	80.00	100.00	4
1,1-Dichloroethane	80.00	100.00	4
trans-1,2-Dichloroethene	12.00	15.00	4
cis-1,3-Dichloropropene	12.00	15.00	4
Ethylbenzene	12.00	15.00	4
2-Hexanone	40.00	50.00	4
Isopropylbenzene (Cumene)	12.00	15.00	4
Methylene Chloride	266.40	333.00	4
4-Methyl-2-pentanone	40.00	50.00	4
Methyl-tert-butyl ether (MTBE)	486.40	608.00	4
Styrene	12.00	15.00	4
Toluene	106.40	133.00	4
1,1,1-Trichloroethane	12.00	15.00	4
Xylenes	20.80	26.00	3
Toxicity Characteristic Semivolatile Organics			
Cresol	54.40	68.00	3
Cresol	54.40	68.00	3
m-Cresol	54.40	68.00	3
p-Cresol	54.40	68.00	3

Parameter	Warning Limits (mg/L, unless noted)	Acceptable Limits (mg/L, unless noted)	Basis
1,4-Dichlorobenzene	6.00	<7.50	2
2,4-Dinitrotoluene	0.10	<0.13	2
Hexachlorobenzene	0.10	<0.13	2
Hexachlorobutadiene	0.40	<0.50	2
Hexachloroethane	2.40	<3.00	2
Nitrobenzene	1.60	<2.00	2
Pentachlorophenol	32.00	40.00	3
Pyridine	4.00	<5.00	2
2,4,5-Trichlorophenol	24.00	30.00	3
2,4,6-Trichlorophenol	1.60	<2.00	2
Semivolatile Organics			
Acenaphthene	8.80	11.00	3
Anthracene	4.00	5.00	3
Benzo (a) anthracene	2.40	3.00	3
Benzo (a) pyrene	4.00	5.00	3
Benzo (b) fluoranthene	2.40	3.00	3
Benzo (g,h,i) Perylene	4.00	5.00	3
Butylbenzyl Phthalate	18.40	23.00	3
Chrysene	3.20	4.00	3
bis (2-Ethylhexyl)phthalate	40.00	50.00	4
Fluoranthene	4.00	5.00	3
Fluorene	4.00	5.00	3
Indeno (1,2,3-cd) pyrene	2.40	3.00	3
Naphthalene	22.40	28.00	3
di-n-Octyl Phthalate	40.00	50.00	4
Phenanthrene	4.80	6.00	3
Phenol	1120.00	1400.00	3
Pyrene	4.00	5.00	3
Toxicity Characteristic Pesticide Organics			
Chlordane	0.024	<0.03	2
2,4-D	0.80	1.00	3
Endrin	0.016	<0.02	2

Parameter	Warning Limits (mg/L, unless noted)	Acceptable Limits (mg/L, unless noted)	Basis
Heptachlor and its Epoxide	0.006	<0.008	2
Lindane	0.32	<0.40	2
Methoxychlor	4.00	5.00	3
Toxaphene	0.40	<0.50	2
2,4,5-TP (Silvex)	0.80	<1.00	2
Water Leaching Tests[2]			
Ammonia-Nitrogen			
Chloride			
COD			
Cyanide			
Fluoride			
Nitrate			
Nitrite			
Oil and Grease			
Organic Halogen (TOX)[3]	>100.00 mg/L		
PCBs[4]			
Petroleum Hydrocarbons (TPH)[5]			
pH	pH < 3	pH > 2	1,6
Solids, Dissolved (TDS)			
Sulfate			
Total Analyses			
Cyanides[6]	>50.00 mg/kg		
Metals[7]	20 x 80% "trigger" values		
Oil and Grease[8]	96,000.00	120,000.00	3
Organic Halogen (TOX)[9]	>100.00 mg/kg		
PCBs	3.20 mg/kg	<4.00 mg/kg	1
Pesticides[10]	20 x 80% "trigger" values		
Petroleum Hydrocarbons(TPH)[11,12]	96,000.00	120,000.00	3
Semi-Volatiles[13]	20 x 80% "trigger" values		
Sulfides[14]	>100.00 mg/kg		
Volatiles[15]	20 x 80% "trigger" values		

Basis:

1. Regulatory Requirements.
2. Toxicity Limit.
3. (Liner Compatibility Limit) x (Dilution Attenuation Factor of 100).
4. (Leachate Treatability Limit) x (Dilution Attenuation Factor of 100).
5. Safety Limits, found in SW-846 analytical methods
6. Waste of extreme pH must be chemically compatible with other waste disposed at the landfill.

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[1] Liner compatibility limits for inorganics were not included in acceptance limits since the Department's worst-case leachate list does not include inorganics. Inorganics are not known to degrade landfill liner systems.
[2] Liner compatibility limits for inorganic indicator parameters were not included in acceptance limits since the Department's worst-case leachate list does not include inorganic indicator parameters. Inorganic indicator parameters are not known to degrade landfill liner systems.
[3] Exceeding 100 mg/L TOX on any waste shall "trigger" organic scans.
[4] Low solubility limit of PCB's in water. Regulate by PCB total concentration limit.
[5] Approximate solubility limit of BTEX in water is ~135 mg/L. A 100x DAF results in a limit that well exceeds the solubility limit of BTEX in water, therefore regulate TPH by total analysis.
[6] Exceeding 50 mg/kg total CN on any waste shall "trigger" reactive cyanide testing.
[7] "Triggering" for any waste requires leaching of the eight RCRA metals. Additional metals should be extracted dependent on suspected contaminant.
[8] Exceeding 120,000 mg/kg Oil & Grease on any waste requires TPH analysis.
Exceeding 100 mg/kg TOX on any waste shall "trigger" organic scans.
[10] "Triggering" for any waste requires leachable pesticide testing.
[11] Total TPH exceeding 120,000 mg/kg for any waste shall be evaluated on a case-by-case basis and may require organic scans for specific petroleum fractions, showing results for all fractions having method standards.
[12] Total TPH is to be measured on a dry weight basis.
[13] "Triggering" for any waste requires leachable semivolatile testing.
[14] Exceeding 100 mg/kg total S^{-2} on any waste shall "trigger" reactive sulfide testing.
[15] "Triggering" for any waste requires leachable volatile testing.

Table R-4A
Waste Compatibility Criteria

BRADFORD COUNTY LANDFILL NO. 2

Parameter	Toxicity Limits (mg/L, unless noted)	Liner Compatibility Limits (mg/L, unless noted)	Leachate Treatability Limits (mg/L)
Waste Characteristics			
Corrosivity	pH > 2[1]		
Free Liquids	No Free Liquids		
Ignitability	Non-Ignitable Non-Oxidizer		
Reactivity • Sulfide • Cyanide	 500 mgH_2S/kg 250 mgHCN/kg		
Toxicity Characteristic Inorganics			
Arsenic	<5.00	15.00[2]	2.00
Barium	<100.00	120.00	1.00
Cadmium	<1.00	540.00[3]	0.30
Chromium	<5.00	11.00	0.08
Lead	<5.00	3.00	0.10
Mercury	<0.20	540.00[4]	0.0002
Selenium	<1.00	15.00[5]	0.10
Silver	<5.00	12.00[6]	0.10
Inorganics			
Aluminum		540.00[7]	
Antimony		15.00	
Beryllium		120.00[8]	
Boron		540.00[9]	
Cobalt		25.00[10]	
Copper		12.00	
Iron		3,600.00	
Manganese		120.00	
Molybdenum		3.00	
Nickel		25.00	
Thallium		3.00[11]	
Zinc		540.00	

Parameter	Toxicity Limits (mg/L, unless noted)	Liner Compatibility Limits (mg/L, unless noted)	Leachate Treatability Limits (mg/L)
Toxicity Characteristic Volatile Organics[12]			
Benzene	<0.50	0.78	0.50
Carbon Tetrachloride	<0.50	0.40	0.10
Chlorobenzene	<100.00	18.00	1.00
Chloroform	<6.00	6.90	6.00
1,2-Dichloroethane	<0.50	16.00	1.00
1,1-Dichloroethene	<0.70	16.00[13]	0.30
Methyl Ethyl Ketone	<200.00	13.00	6.08
Tetrachloroethene	<0.70	0.55	1.00
Trichloroethene	<0.50	0.70	1.00
Vinyl Chloride	<0.20	16.00[14]	1.00
Volatile Organics			
Acetone		14.00	4.30
1,2-Dibromoethane (Ethylene dibromide)		16.00[15]	1.00[16]
1,1-Dichloroethane[17]		10.40	1.00[18]
trans-1,2-Dichloroethene[19]		0.68	0.15
cis-1,3-Dichloropropene		16.00[20]	0.15
Ethylbenzene		2.50	0.15
2-Hexanone		13.00[21]	0.50
Isopropylbenzene (Cumene)		2.50[22]	0.15[23]
Methylene Chloride		14.00	3.33
4-Methyl-2-pentanone		13.00[24]	0.50
Methyl-tert-butyl ether (MTBE)		13.00[25]	6.08[26]
Styrene		0.16	0.15
Toluene		15.00	1.33
1,1,1-Trichloroethane		1.28	0.15
Xylenes		0.26	0.50
Toxicity Characteristic Semivolatile Organics			
p-Cresol	<200.00	0.68	1.00
o-Cresol	<200.00	0.68	1.00
m-Cresol	<200.00	0.68	1.00

Parameter	Toxicity Limits (mg/L, unless noted)	Liner Compatibility Limits (mg/L, unless noted)	Leachate Treatability Limits (mg/L)
p-Cresol[27]	<200.00	0.68	1.00
1,4-Dichlorobenzene	<7.50	0.80	3.00
2,4-Dinitrotoluene	<0.13	0.08	0.10
Hexachlorobenzene	<0.13	0.20	0.50
Hexachlorobutadiene	<0.50	0.42	1.00
Hexachloroethane	<3.00	0.60	1.00
Nitrobenzene	<2.00	0.56	0.30
Pentachlorophenol	<100.00	0.40	10.00
Pyridine	<5.00	0.64	0.10
2,4,5-Trichlorophenol	<400.00	0.30	10.00
2,4,6-Trichlorophenol	<2.00	0.30	10.00
Semivolatile Organics			
Acenaphthene		0.11	0.50
Anthracene		0.05	0.50
Benzo (a) anthracene		0.03	0.50
Benzo (a) pyrene		0.05	0.50
Benzo (b) fluoranthene		0.03	0.50
Benzo (g,h,i) perylene		0.05[28]	0.50[29]
Butylbenzyl Phthalate		0.23	0.50
Chrysene		0.04	0.50
bis (2-Ethylhexyl)phthalate		0.89	0.50
Fluoranthene		0.05	0.50
Fluorene		0.05	0.50
Indeno (1,2,3-cd) pyrene		0.03[30]	0.50[31]
Naphthalene		0.28	0.50
di-n-Octyl Phthalate		0.89[32]	0.50
Phenanthrene		0.06	0.50
Phenol		14.00	28.32
Pyrene		0.05[33]	0.50[34]

Parameter	Toxicity Limits (mg/L, unless noted)	Liner Compatibility Limits (mg/L, unless noted)	Leachate Treatability Limits (mg/L)
Toxicity Characteristic Pesticide Organics			
Chlordane	<0.03	0.01	0.10
2,4-D	<10.00	0.01[35]	1.00
Endrin	<0.02	0.01	0.02
Heptachlor and its Epoxide	<0.008	0.05	0.01[36]
Lindane	<0.40	0.01	0.10
Methoxychlor	<10.00	0.05[37]	0.10
Toxaphene	<0.50	0.05	1.00
2,4,5-TP (Silvex)	<1.00	0.01	0.10
Water Leaching Tests			
Ammonia-Nitrogen			
Chloride		7,500.00	
COD			
Cyanide			
Fluoride		460.00	
Nitrate		1.00	
Nitrite		1.00	
Oil and Grease		400.00[38]	210.00[39]
Organic Halogen (TOX)			1.07
Petroleum Hydrocarbons (TPH)		135.00[40]	1,500.00[41]
pH		7.50	6 - 9
Solids, Dissolved (TDS)		32,500.00	14,000.00
Sulfate		2,400.00	
Total Analyses			
Cyanides			
Oil and Grease		120,000.00 mg/kg	
Organic Halogen (TOX)			
PCBs	4.00 mg/kg		
Petroleum Hydrocarbons (TPH)		120,000.00 mg/kg	
Solids (%)			
Sulfides			

[1] Hazardous Waste Regulation 261.22 does not apply for solid wastes that are not aqueous. Therefore, an upper pH limit of 12.5 is not appropriate. However, maintaining a lower pH limit is appropriate, due to corrosive characteristic of strong acids, compatibility problems with more alkaline wastes, and leachability of metals at low pH.
[2] Liner compatibility value for arsenic is based on antimony.
[3] Liner compatibility value for cadmium is based on zinc.
[4] Liner compatibility value for mercury is based on zinc.
[5] Liner compatibility value for selenium is based on antimony.
[6] Liner compatibility value for silver is based on copper.
[7] Liner compatibility value for aluminum is based on zinc.
[8] Liner compatibility value for beryllium is based on barium.
[9] Liner compatibility value for boron is based on zinc.
[10] Liner compatibility value for cobalt is based on nickel.
[11] Liner compatibility value for thallium is based on lead.
[12] Liner compatibility limits are based on Pine Hills 9090 data submitted by Bradford County Landfill as Attachment 2, rec'd 5/10/95.
[13] Liner compatibility value for 1,1-dichloroethene is based on 1,2-dichloroethane.
[14] Liner compatibility value for vinyl chloride is based on 1,2-dichloroethane.
[15] Liner compatibility value for 1,2-dibromoethane is based on 1,2-dichloroethane.
[16] Leachate treatability value for 1,2-dibromoethane is based on 1,2-dichloroethane.
[17] Detected in Bradford County Landfill untreated leachate.
[18] Leachate treatability value for 1,1-dichloroethane is based on 1,2-dichloroethane.
[19] Detected in Bradford County Landfill untreated leachate.
[20] Liner compatibility value for cis-1,3-dichloropropene is based on 1,2-dichloroethane.
[21] Liner compatibility value for 2-hexanone is based on MEK.
[22] Liner compatibility value for Cumene is based on Ethylbenzene.
Leachate treatability value for Cumene is based on Ethylbenzene.
[24] Liner compatibility value for 4-methyl-2-pentanone is based on MEK.
[25] Liner compatibility value for MTBE is based on MEK.
[26] Leachate treatability value for MTBE is based on MEK.
[27] Detected in Bradford County Landfill untreated leachate used for leachate treatability study.
[28] Liner compatibility value for benzo (g,h,i) perylene is based on benzo (a) pyrene.
[29] Leachate treatability value for benzo (g,h,l) perylene is based on benzo (a) pyrene.
[30] Liner compatibility value for indeno (1,2,3-cd) pyrene is based on benzo (b) fluoranthene.
[31] Leachate treatability value for indeno (1,2,3-cd) pyrene is based on benzo (b) fluoranthene.
[32] Liner compatibililty value for di-n-Octyl phthalate is based on bis-(2-ethylhexyl) phthalate.
[33] Liner compatibility value for pyrene is based on benzo (a) pyrene.
[34] Leachate treatability value for pyrene is based on benzo (a) pyrene.
[35] Liner compatibility value for 2,4-D is based on 2,4,5-TP LOQ.
[36] Leachate treatability value for heptachlor is based on methoxychlor.
[37] Liner compatibility value for methoxychlor is based on heptachlor LOQ.
[38] Exceeds solubility limit of BTEX in water. Therefore, regulate Oil & Grease by total analysis.
[39] Exceeds solubility limit of BTEX in water. Therefore, regulate Oil & Grease by total analysis.
[40] Approximate solubility limit of BTEX in water. A 100x DAF results in a limit that well exceeds the solubility limit of BTEX in water, therefore regulate TPH by total analysis.
[41] Exceeds the solubility limit of BTEX in water, therefore regulate TPH by total analysis.

Attachment I
Non-hazardous Chemical & Waste Petroleum Contaminated Soil

Sampling Requirements

BRADFORD COUNTY LANDFILL

Regardless of the sampler, the following procedures are to be used in collecting Non-hazardous Contaminated Soil samples:

1. To assure the protection of the sampler and the sample, the sampler will wear protective gloves and other personal protective equipment as needed, and use an appropriate clean sampling tool to obtain the sample.

2. Before collecting the sample, the sampler will verify the quantity of contaminated soil by measuring the pile and performing the most suitable mathematical computation. A form for reporting this information will be provided by the Landfill.

3. Unless otherwise approved by the Department, a minimum of one sample shall be taken for every 250 cubic yards of contaminated soil, or as more specifically described in the most recent version of Form U-CS. Field screening methods, as described on the Form FC-1, may be employed to reduce the number of samples required to be submitted with the Form U-CS, provided the use of screening methods is pre-approved by the Department. For smaller amounts, a minimum of one sample is required for waste characterization.

4. Where sampling is required for non-hazardous contaminated soil, the top twelve inches of soil should be removed prior to sampling.

5. The sample shall be collected with a soil probe or other appropriate clean sampling tool. Composite sampling shall not be used to determine volatile organics.

6. The sampled soil is to be carefully packed into clean sample containers that have been provided by the laboratory; the sample containers are to be packed and filled level with the top to eliminate headspace. Samples are to be cooled using standard freezer packs or ice and protected from sunlight and heat and delivered to the laboratory approved by the Landfill and it's consultant.

7. Attach a map of the spill or cleanup site, and a diagram of the sample collection area to the Form U submittal.

8. Appropriate holding time limitations for testing shall be met.

9. The bulk density that will be used to convert from yd^3 volume to tonnage is 1.4 tons/yd^3.

Rev. 11/8/19

TESTING REDUCTION/ELIMINATION CERTIFICATION

Check (X) all applicable

Generator: _____

Waste: _____

Disposal Facility: _____

The generator hereby certifies that the Form R chemical parameters, not shown as tested in this application for our above named waste, are being certified in lieu of analysis, on the following bases:

I. INITIAL WASTESTREAM CHARACTERIZATION:

1. **Generator Knowledge:**

☐ The chemicals are not used in our production process. There is no reason to expect presence of these parameters in the waste. This certification is based on our knowledge of the production process and review of MSDS's for the raw materials used in the part of our process generating this waste. This certification is limited to the levels of accuracy for any instrumentation used and reporting requirements for MSDS's required of the manufacturers of our raw materials by the State and Federal governments.

2. **Known Chemical Composition:**

☐ The parameters are of known chemical concentrations or are leaching N/D, based on recent chemical analyses performed on _____. This wastestream is of known composition and remains acceptable for disposal at the above named facility.

II. APPROVED WASTESTREAM MONITORING:

1. **Generator Knowledge.** (Pertains to parameters on Table R-2 of the permit):

☐ The chemicals are not used in our production process. There is no reason to expect presence of these parameters in the waste. This certification is based on our knowledge of the production process and review of MSDS's for the raw materials used in the part of our process generating this waste. This certification is limited to the levels of accuracy for any instrumentation used and reporting requirements for MSDS's required of the manufacturers of our raw materials by the State and Federal governments.

☐ The chemical parameters have not changed in concentration from the original chemical characterization performed on _____. We know this because the process by which the above named waste was generated has not changed since the original wastestream chemical characterization.

2. **Known Chemical Composition.** (Pertains to parameters on Table R-2 of the permit):

☐ The chemical parameters are of known chemical concentrations or are leaching N/D, based on recent chemical analyses performed on _____. This wastestream is of known composition and remains acceptable for disposal at the above named facility.

III. ONCE EVERY FIVE YEAR REANALYSIS TO VERIFY CERTIFICATIONS:

1. **Parameters N/D Leaching or Within 30% of Form R Limiting Criteria**

☐ Untested chemical parameters remain within 30% of the named disposal facility's approved Form R limiting criteria and need not undergo reanalysis at this time. We know this because the parameters were certified N/D or tested within 30% of the named disposal facility Form R limiting criteria at the time of last analysis on _____, and the process generating the waste has not changed since then.

Name of Generator's Certifying Official: _____

Title of Generator's Certifying Official: _____

Signature of Generator Official: _____

Date: _____

Rev. 11/8/19

NON-HAZARDOUS WASTE CERTIFICATION

Check (X) all applicable

Generator: _____

Waste: _____

Waste Code: _____

Disposal Facility: _____

1. **Generator Knowledge:**

☐ The generator hereby certifies that the _____ is non-hazardous. This certification is based on our knowledge of the production process and review of MSDS's for the raw materials used in the part of our process generating this waste. This certification is limited to the levels of accuracy for any instrumentation used and reporting requirements for MSDS's required of the manufacturers of our raw materials by the State and Federal governments.

2. **Known Chemical Composition:**

☐ The generator hereby certifies that the _____ is non-hazardous. This certification is based on review of pertinent MSDS's, "spec" sheets, and/or testing. The waste is of known composition. TCLP metals, ZHE volatile or semi-volatile organics, herbicides, pesticides, or PCB's are not present from sources, or at levels that would make the above wastestream a listed or characteristic hazardous waste.

Name of Generator's Certifying Official: _____

Title of Generator's Certifying Official: _____

Signature of Generator Official: _____

Date: _____

Rev. 11/08/19

Field Oversight for Contaminated Soil Characterization

The Department forms, FC-1 and U-CS are used by regulated disposal facilities for requesting acceptance of virgin petroleum fuel contaminated soil and waste petroleum/chemically contaminated soil, respectively. Generators or tractors for the generators supply the sampling and analytical information that gets attached to these forms for submittal to the Department's regional chemists for review.

The Department's Fill Policy is used by generators to evaluate soil for use as fill rather than disposal.

Both of the Department disposal request forms and the fill policy require a minimum number of samples, tested for specific applicable parameters. Parameters are dictated by the forms and/or by the landfill's Form R, Waste Analysis and Classification permit amendment to their operating permit. Minimum number of samples is dictated by the forms and the policy.

1. **To ensure that the minimum number of samples are collected in the field and to verify proper sampling:**

   a. Refer sample collectors to the appropriate Department form or policy.
   b. Refer sample collectors to the two-sheet guide: Pile or *In-Situ* Sampling For Form FC-1, Form U-CS or Fill Policy Contaminated Soil Characterization with Field Screening For Volatiles and Compositing for Metals. This guide compares sampling requirements of the two disposal forms and the fill policy and indicates the minimal requirements to meet all three criteria, in the event that the generator wants to evaluate the soil for clean fill or disposal with the same analytical.

Both Department disposal request forms require a diagram of the sample collection area. With *in-situ* sampling, this is often overlooked.

2. **To ensure that a diagram of the sample collection area is made to document the sampling:**

   a. Refer sample collectors to directions for the appropriate Department disposal request form.
   b. Refer sample collectors to the one-sheet guide: Diagram of Sample Collection Area. The sampler can mark samples on the guide sheet and use it as their diagram submittal.

3. **Other important points to be aware of:**

- Compositing cannot be used for volatile organic compounds, due to potential loss of volatiles.
- A composite sample must originate from no less than four grab samples.
- The Department must pre-approve visual screening to reduce number of samples and field screening other than PID or immunoassay. Refer samplers to Department regional chemists.
- Samples collected for volatiles must meet EPA SW-846 Method 5035. Soil collection options are: (<200 ppb) 5-g sample weighed in the field w sodium bisulfate preservative in vial. (>200 ppb) ~5-g sample in Encore or preweighed vial containing methanol. (>200 ppb oily wastes) Encore, diluted methanol method or Method 3585 n-hexadecane solvent for oily wastes insoluble in water-miscible solvents.
- Piles must be sampled no shallower than one foot from the surface of the pile.
- Encourage an extra sample beyond the minimum, especially for *in situ* samples, to avoid coming-up short at the landfill scales. Sampling is based on yd3 volume and is checked at the landfill scales by weight and a bulk density conversion, recorded in NCRO landfill Form R amendments.
- Analysis is waived for 25 tons or less of FC-1 soil, but not for U-CS soil.
- Abbreviated Form R testing requirements for Form U-CS wastes apply to known contamination. Complete Form U-CS testing may be appropriate initially to characterize the contaminants of concern prior to utilizing this abbreviated testing scheme.
- Applicable Residual Waste Codes (RWCs) for disposal requests are:
  - RWC 506 Contaminated soils/debris/spill residues (nonpetroleum) Use Form U-CS
  - RWC 507 Waste petroleum material contaminated soil/debris Use Form U-CS
  - RWC 508 Virgin petroleum fuel contaminated soil and debris Use Form FC-1

Rev. 11/8/19

Pile or *In-Situ* Sampling
For Form FC-1, Form U-CS or Fill P[illegible]y Contaminated Soil Characterization
with Field Screening For Volatiles and Compositing for Metals

Tank Short List Volatiles including BTEX + TPH[1] & TOX[2], or any volatiles that can be screened by PID[3],

Soil Volume[4]	Fill Policy		Fill Policy w PID Screen or EPA Method 4030 Immunoassay[5]		Form FC-1		Form U-CS		Forms FC-1 or U-CS w PID Screen[6]		**Total Min # PID Screens**	**Total Min # of Screen Grab Samples**
Yd^3	Grab Frequency	# Grab Samples	Screen[7] Frequency	# Screened Samples	Grab[8] Frequency	# Grab Samples	Grab Frequency	# Grab Samples	Screen Frequency	# Screened Samples[9]		
10	8/125	8	**8/125**	**2**	1/50+1	2	1/250	1	1/25	**2**	**8**	**2**
25	8/125	8	**8/125**	**2**	1/50+1	2	1/250	1	1/25	**2**	**8**	**2**
50	8/125	8	**8/125**	**2**	1/50+1	2	1/250	1	1/25	**2**	**8**	**2**
75	8/125	8	**8/125**	**2**	1/50+1	3	1/250	1	1/25	**2**	**8**	**2**
100	8/125	8	**8/125**	**2**	1/50+1	3	1/250	1	1/25	**2**	**8**	**2**
125	8/125	8	**8/125**	**2**	1/100+2	3	1/250	1	1/25	**2**	**8**	**2**
140	12/3,000	12	**12/3,000**	**3**	1/100+2	3	1/250	1	1/25	2	**12**	**3**
175	12/3,000	12	**12/3,000**	**3**	1/100+2	3	1/250	1	1/25	2	**12**	**3**
250	12/3,000	12	**12/3,000**	**3**	1/100+2	4	1/250	2	1/25	2	**12**	**3**
350	12/3,000	12	12/3,000	**3**	1/100+2	5	1/250	2	**1/25**	2	**14**	**3**
500	12/3,000	12	12/3,000	**3**	1/100+2	7	1/250	2	**1/25**	2	**20**	**3**
550	12/3,000	12	12/3,000	**3**	1/100+2	7	1/250	2	**1/25**	**3**	**22**	**3**
600	12/3,000	12	12/3,000	**3**	1/100+2	8	1/250	2	**1/25**	**3**	**24**	**3**
750	12/3,000	12	12/3,000	**3**	1/100+2	9	1/250	3	**1/25**	**3**	**30**	**3**
1,000	12/3,000	12	12/3,000	3	1/100+2	12	1/250	4	**1/25**	**4**	**40**	**4**
1,500	12/3,000	12	12/3,000	3	1/100+2	17	1/250	6	**40+1/100**	**6**	**45**	**6**
3,000	12/3,000	12	12/3,000	3	1/100+2	32	1/250	12	**40+1/100**	**12**	**60**	**12**
3,500	12/3,000	24	12/3,000	6	1/100+2	37	1/250	14	**40+1/100**	**14**	**65**	**14**
6,500	12/3,000	36	12/3,000	9	1/100+2	67	1/250	26	**40+1/100**	**26**	**95**	**26**
10,000[10]	12/3,000	48	12/3,000	12	1/100+2	102	1/250	40	**40+1/100**	**40**	**130**	**40**
10,200	12/3,000	48	12/3,000	12	1/100+2	104	1/250	40	**40+1/100**	**41**	**132**	**41**

[1] A PID reads the volatile components of gasoline, #2 diesel fuel or home heating oil as a single component.
[2] Halogenated solvents that can not be detected by PID do not qualify for PID-screening to reduce number of samples. With a 10.6 eV lamp, PID's will detect TCE and PCE, but not TCA. An 11.7 eV lamp is required to detect TCA by PID. Consult table of electron volt ionization potentials for photo ionization detection capability.
[3] Complete Form U testing may be appropriate initially to characterize the contaminants of concern prior to utilizing this abbreviated testing scheme.
[4] When determining soil volume in-situ, use coefficient of expansion for the appropriate class of soil to allow for % increase in soil volume when soil is excavated for disposal. This will allow assurance of sufficient minimum number of samples being taken, since number of samples in these tables are taken from policies that generally applied to soil piles rather than *in-situ*. This should only be a significant issue on very large contaminated soil cases.
[5] Other screening methods or visual screening must be pre-approved by the Department. Contact a regional chemist.
[6] Locations of highest PID readings.
[7] or fraction thereof
[8] or fraction thereof, in the first 100 yd3.
[9] Locations of highest PID readings.
[10] 10,000 yd^3 = 100yd x 100 yd x 3' depth.

Pile or *In-Situ* Sampling
For Form FC-1, Form U-CS or Fill Policy Contaminated Soil Characterization
with Field Screening For Volatiles and Compositing for Metals

Total Pb/TCLP Pb, other metals of known concern[11]

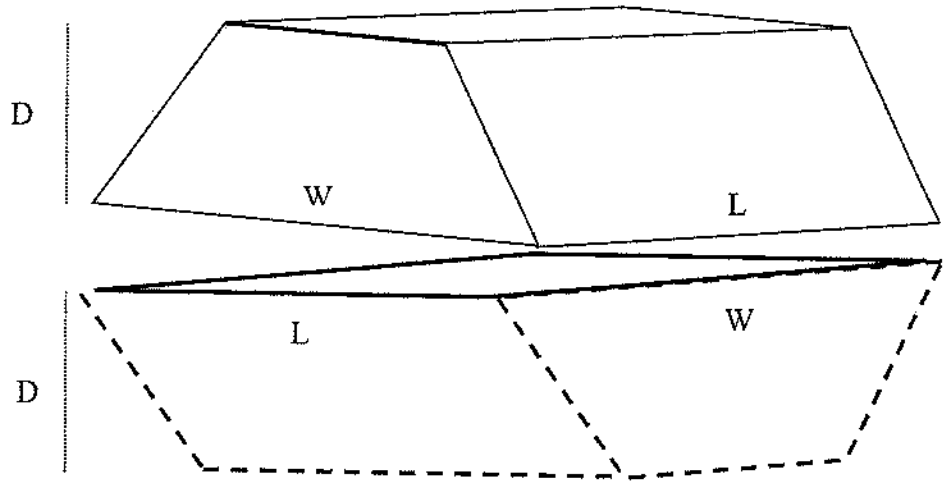
Soil Volume	Fill Policy		Fill Policy w Composite		Form FC-1		Form FC-1 w Composite		Form U-CS	Form U-CS w Composite	**Total Minimum # Composite Samples**
Yd^3	Grab Frequency	# Grab Samples	Composite Frequency	# Composite Samples	Grab Frequency	# Grab Samples	Composite Frequency*	# Composite Samples	Grab & Composite Frequency[12]	# Grab or Composite Samples	
10	8/125	8	**2/125 yd3**	**2**	0	0[13]	0	0	1/250 yd3	1	**2**
25	8/125	8	**2/125 yd3**	**2**	1/50+1	2	4/250	1	1/250 yd3	1	**2**
50	8/125	8	**2/125 yd3**	**2**	1/50+1	2	4/250	1	1/250 yd3	1	**2**
75	8/125	8	**2/125 yd3**	**2**	1/50+1	3	4/250	1	1/250 yd3	1	**2**
100	8/125	8	**2/125 yd3**	**2**	1/50+1	3	4/250	1	1/250 yd3	1	**2**
125	8/125	8	**2/125 yd3**	**2**	1/100+2	3	4/250	1	1/250 yd3	1	**2**
140	12/3000	12	**3/3000 yd3**	**3**	1/100+2	3	4/250	1	1/250 yd3	1	**3**
175	12/3000	12	**3/3000 yd3**	**3**	1/100+2	3	4/250	1	1/250 yd3	1	**3**
250	12/3000	12	**3/3000 yd3**	**3**	1/100+2	4	4/250	1	1/250 yd3	1	**3**
350	12/3000	12	**3/3000 yd3**	**3**	1/100+2	5	4/250	1	1/250 yd3	1	**3**
500	12/3000	12	**3/3000 yd3**	**3**	1/100+2	7	4/250	2	1/250 yd3	2	**3**
550	12/3000	12	**3/3000 yd3**	**3**	1/100+2	7	4/250	2	1/250 yd3	2	**3**
600	12/3000	12	**3/3000 yd3**	**3**	1/100+2	8	4/250	2	1/250 yd3	2	**3**
750	12/3000	12	**3/3000 yd3**	**3**	1/100+2	9	**4/250**	**3**	**1/250 yd3**	**3**	**3**
1,000	12/3000	12	3/3000 yd3	3	1/100+2	12	**4/250**	**4**	**1/250 yd3**	**4**	**4**
1,500	12/3000	12	3/3000 yd3	3	1/100+2	17	**4/250**	**6**	**1/250 yd3**	**6**	**6**
3,000	12/3000	12	3/3000 yd3	3	1/100+2	32	**4/250**	**12**	**1/250 yd3**	**12**	**12**
3,500	12/3000	24	6/6000 yd3	6	1/100+2	37	**4/250**	**14**	**1/250 yd3**	**14**	**14**
6,500	12/3000	36	9/9000 yd3	9	1/100+2	67	**4/250**	**26**	**1/250 yd3**	**26**	**26**
10,000	12/3000	48	12/12000 yd3	12	1/100+2	102	**4/250**	**40**	**1/250 yd3**	**40**	**40**
10,200	12/3000	48	12/12000 yd3	12	1/100+2	104	**4/250**	**40**	**1/250 yd3**	**40**	**40**

[11] Complete Form U testing may be appropriate initially to characterize the contaminants of concern prior to utilizing this abbreviated testing scheme.
[12] No advantage to composite sampling for Form U-CS.
[13] The final Form FC-1 Policy of July 23, 1993 waives analytical reporting requirements for 25 tons or less. Use the bulk density for the soil (generally >1 ton/yd3 but <2 ton/yd3) to determine the minimum volume of soil that is expected to exceed 25 tons and require analytical. The bulk density that the disposal facilities in the Northcentral Region agree to use for soil calculations is included in their Form R permits.

Rev. 11/08/19

Diagram of Sample Collection Area

Pile

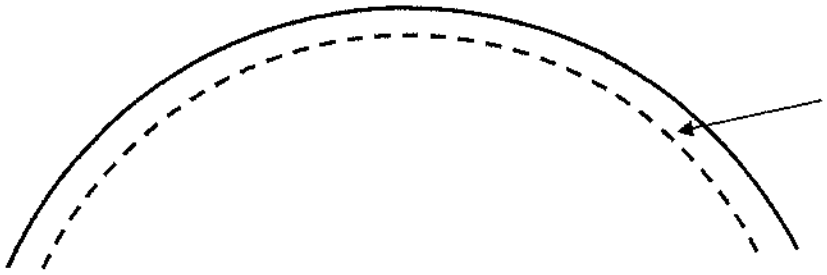


In-situ

Estimate cubic yard volume of soil pile or *in-situ* soil as: [(L x W x D) / 27 ft/yd3] to allow for irregular shaped piles & expansion of excavated soil.

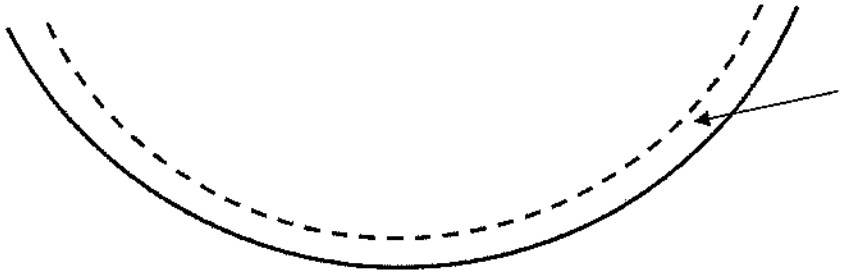
Mark sample locations on appropriate sketches below. Indicate depths, in feet. Use additional sheets as necessary for multiple piles or excavations

Pile cross-section



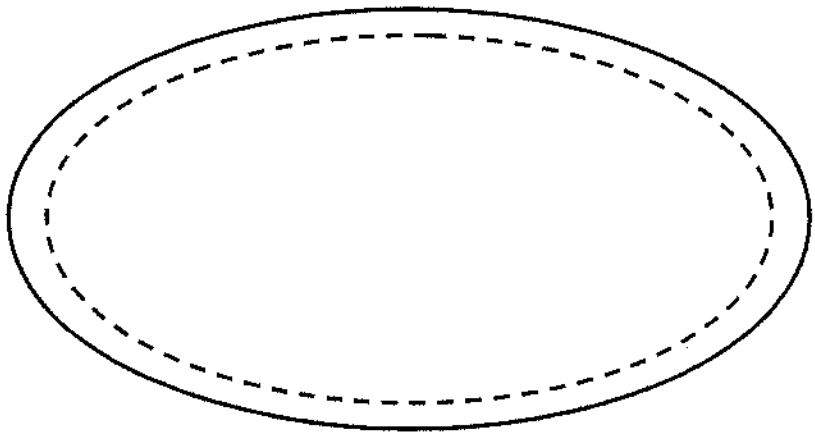
Do not sample in the outer 12" of a soil pile

In-situ cross-section



Include samples beyond extent of proposed excavation to illustrate horizontal and vertical delineation

Pile or *In-situ* aerial view



Sample	Depth

Length _____ ft
Width _____ ft
Depth _____ ft
Volume _____ Yd3

Appendix D

List of Approved Permit Modifications
(See Attachment 1 for Conditions)

This Appendix is reserved for listing of future permit modifications.