



Soil Import Specifications

**Adopted by the
Union Pacific Engineering Department**

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Import Soil Specifications - Arizona

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory approved to perform analytical testing in Arizona.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The Arizona Department of Environmental Quality (ADEQ) Residential Soil Remediation Levels (SRLs) as published in Arizona Administrative Code Title 18, Chapter 7, Article 2, Appendix A, can be found at the following web page: http://apps.azsos.gov/public_services/Title_18/18-07.pdf

- In the event that metal constituents exceed SRLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the Arizona SRL criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Arkansas

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with United States Environmental Protection Agency (USEPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Arkansas.

One representative sample of the imported soil shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites assuming Residential Land Use (<http://www.epa.gov/risk/regional-screening-table>) as the Arkansas Department of Environmental Quality (ADEQ) does not have state-specific criteria (http://www2.adeg.state.ar.us/hazwaste/branch_tech/risk_assessment.htm).

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the EPA criteria. Laboratory analytical reports

shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - California

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with USEPA Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a NELAP-Accredited laboratory approved to perform analytical testing in California.

Sampling of the imported soil shall be collected based on the stockpile volume, as follows:

VOLUME OF IMPORT SOIL	SAMPLES PER VOLUME
Up to 1,000 cubic yards	1 sample per 250 yards
1,001 to 5,000 cubic yards	4 samples for the first 1,000 cubic yards + 1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yard	12 samples for the first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) and a general description of the soil type sampled in accordance with the Unified Soil Classification System (USCS), shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination as per the recommendations from the Department of Toxic Substances Control (https://www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf):

- Volatile Organic Compounds (VOCs) by 8260B, combined with collection by EPA Method 5035
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8310
- Total Petroleum Hydrocarbons (TPH) by modified EPA method 8015
- California Assessment Manual 17 metals (CAM 17 Metals) by EPA methods 6010B and 7471A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organophosphorus Pesticides by EPA Method 8141
- Organochlorine Pesticides by EPA Method 8081A
- Chlorinated Herbicides by EPA Method 8151A

- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the most conservative (lowest threshold) value when compared to the following two criteria:

1) Environmental Protection Agency (EPA) Region 9 Regional Screening Levels

- For soil placed within 10 feet of groundwater table at the project site: (Residential Soil to Groundwater (TR=1E-06 and THQ=0.1))
(http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/soil2gw_sl_table_01run_JUNE2015_rev.pdf)
- For soil placed greater than 10 feet from groundwater table at the project site: (Residential Soil (TR=1E-06 and THQ=0.1))
(http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/ressoil_sl_table_01run_JUNE2015.pdf)

2) San Francisco Bay Regional Water Quality Control Board (SFRWQCB) Environmental Screening Levels (ESLs)

(http://www.waterboards.ca.gov/rwqcb2/water_issues/programs/ESL/Lookup_Tables_Dec_2013_Detail.pdf):

- For soil placed at a depth less than 3 meters below ground surface (bgs) at the project site: Table A-1. Shallow Soil Screening Levels; Residential Land Use
- For soil placed at a depth greater than 3 meters bgs at the project site: Table C-1. Deep Soil Screening Levels; Residential Land Use

In cases where an analyte is not listed in the applicable RSL table, the value from the applicable ESL table will be used; in cases where an analyte is not listed in the applicable ESL table, the value from the applicable RSL table will be used.

Analyte concentrations must be evaluated on a case-by-case basis where:

- 1) An analyte is not listed in either agency's screening criteria
- 2) Concentrations of metals exceed screening criteria (regional background levels may be higher than screening levels)

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the criteria outlined above. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Colorado

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Colorado.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative Environmental Protection Agency (EPA) Regional Screening Levels (RSLs), as presented in <http://semspub.epa.gov/work/03/2220581.pdf>.

- In the event that metal constituents exceed RSLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the EPA RSL criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Idaho

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory approved to perform analytical testing in Idaho.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260;
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM;
- Volatile Total Petroleum Hydrocarbons (TPH) by Method NWTPH-Gx;
- Semivolatile TPH by Method NWTPH-Dx with silica gel cleanup;
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6020/7471;
- Organophosphorus Pesticides by EPA Method 8141;
- Chlorinated Herbicides by EPA Method 8151;
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A;
- Organochlorine Pesticides by EPA Method 8081;
- pH/Corrosivity by EPA Method 9045; and,
- Cyanide by EPA Method 9012.

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- Idaho Department of Environmental Quality (IDEQ) most conservative Initial Default Threshold Limits (IDTLs) as defined in IDEQ's 2004 Risk Evaluation Manual.

- In the event that metal constituents exceed IDTLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrddata.usgs.gov/geochem/doc/averages/countydata.htm>

- In the event that petroleum-related constituents exceed IDTLs, the screening levels listed in Table 2 of the 2012 Risk Evaluation Manual for Petroleum Releases will be used for comparison.

Summary tables for the IDEQ IDTLs for soil (2004 Risk Evaluation Model, Appendix A) and screening levels for petroleum releases (2012 Risk Evaluation Model, Table 2) can also be found at the following website:

<http://www.deq.idaho.gov/risk-evaluation-manual>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the IDEQ criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Illinois

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Illinois.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270C
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative soil remediation objectives (SROs) presented in Illinois EPA Tiered Approach to Corrective Action Objectives (TACO), Appendix B, Table A, *Tier 1 Soil Remediation Objectives for Residential Properties*, located in 35 IAC 742.

The most conservative TACO SRO values are presented in Illinois EPA *Maximum Allowable Concentrations (MACs) of Chemical Constituents in Uncontaminated Soil Used as Fill Material at Regulated Fill Operations*, as defined in 35 IAC 1100 Subpart F. A summary table of the MACs can be found at the following website: <http://www.epa.state.il.us/land/ccdd/new-max-allowable-concentrations-table.pdf>.

- In the event that metal constituents exceed SROs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrddata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the IEPA criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Iowa

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Iowa.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- IDNR Statewide Standards, as defined by 567 IAC 137.55. A summary table of the Statewide Standards can be found at the following website:
<https://programs.iowadnr.gov/riskcalc/pages/standards.aspx>.

- In the event that metal constituents exceed Statewide Standards, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the IDNR criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Kansas

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Kansas.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative Kansas Department of Health and Environments (KDHE) Risk-Based Standards for Kansas (RSKs) for the Residential scenario. A summary table of KDHE's RSKs can be found in Appendix A at the following website:

http://www.kdheks.gov/remedial/download/RSK_Manual_15.pdf

- In the event that metal constituents exceed RSKs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the KDHE's RSK's. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Louisiana

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with United States Environmental Protection Agency (USEPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Louisiana.

One representative sample of the imported soil shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- Louisiana Department of Environmental Quality (LDEQ) Risk Evaluation/Corrective Action Program (RECAP) Non-Industrial Screening Standards (SSni), assuming residential (non-industrial) areas
(<http://www.deq.louisiana.gov/portal/Portals/0/RemediationServices/Table1.pdf>).

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the LDEQ criteria. Laboratory analytical

reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Minnesota

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with: US Environmental Protection Agency (EPA) Publication No. SW-846, *"Test Evaluating Solid Wastes, Physical/Chemical Methods"*; Methods for Minnesota Pollution Control Agency (MPCA) *"Soil Sample Collection and Analysis Procedure, Guidance Document 4-04"*; and, MPCA *"Guidelines for Risk-Based Guidance for the Soil – Human Health Pathway, Volume 2"*. MPCA required soil analysis shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory approved to perform analytical testing in Minnesota.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Polyaromatic Hydrocarbons (PAHs) by EPA method 8270
- Wisconsin DNR Modified Gasoline Range Organics (GRO) Method
- Wisconsin DNR Modified Diesel Range Organics (DRO) Method
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Pesticides MDA List 1 EPA Method 8270
- Herbicides MDA List 2 EPA Method 8321
- Organochlorine Pesticides by EPA Method 8081
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- MPCA's and MDA's most conservative regulatory threshold values. The following regulatory

references are provided:

1. MPCA most conservative Residential Soil Reference Values (SRVs), as presented in the *“Risk-Based Guidance for the Soil-Human Pathway, Volume 2”* & *“Tier 1 SRV Spreadsheet”* documents at the following web site:

<http://www.pca.state.mn.us/index.php/waste/waste-and-cleanup/cleanup/superfund/risk-based-site-evaluation-process-guidance-documents.html>

- In the event that metal constituents exceed SRVs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrddata.usgs.gov/geochem/doc/averages/countydata.htm>

2. A DRO concentration of less than 100 milligrams per kilogram (mg/kg), and a GRO concentration of less than 100 mg/kg.

3. MDA Preliminary Soil Cleanup Goals for High Groundwater Risk, as presented in Table 1 of Guidance Document 19 at the following web site:

<http://www.mda.state.mn.us/en/chemicals/spills/incidentresponse/guidelist/gd19/guidance-doc-19-table1.aspx>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the MPCA and MDA criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Missouri

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods*; Missouri Department of Natural Resources (MDNR) *Missouri Risk-Based Corrective Action Technical Guidance*; and MDNR *Guidelines for Soil and Groundwater Sampling – Brownfields/Voluntary Cleanup Program* (PUB2432). Soil samples shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Missouri.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Total Petroleum Hydrocarbons as Diesel and Oil Range Organics (TPH-DRO/ORO) by EPA Method 8270C
- Polynuclear Aromatic Hydrocarbons by EPA Method 8270C
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9045
- Nitrate as Nitrogen by EPA Method 353.2
- Ammonia as Nitrogen by EPA Method 350.1

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

The most conservative MDNR Default Target Levels (DTLs), as published in the *Missouri Risk-Based Corrective Action Technical Guidance, Appendix B*. A summary table of DTLs can be found in the technical guidance at the following website:

- <http://dnr.mo.gov/env/hwp/mrbca/docs/appb-6-06.pdf>
 - In the event that metal constituents exceed DTLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the MDNR criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Nebraska

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Nebraska.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative Nebraska Voluntary Cleanup Program (VCP) Remediation Goals, as presented in Attachment A of the VCP Guidance Document. A summary table of Nebraska's VCP Remediation Goals can be found at the following website:

<http://deg.ne.gov/publica.nsf/PubsForm.xsp?documentId=D243C2B56E34EA8486256F2700698997&action=openDocument>

- In the event that metal constituents exceed Remediation Goals, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above remediation goals to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the Nebraska VCP criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Nevada

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Nevada.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270D
- Total Petroleum Hydrocarbons as Diesel and Oil Range Organics (TPH-DRO/ORO) by EPA Method 8015C
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative Basic Comparison Levels (BCLs) for soil, as defined in the Nevada Division of Environmental Protection (NDEP) Basic Comparison Levels table. The table can be found at the following website:

https://ndep.nv.gov/bmi/docs/bcl_calculations_February_2015.pdf

- In the event that metal constituents exceed BCLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the NDEP criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - New Mexico

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with United States Environmental Protection Agency (USEPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in New Mexico.

One representative sample of the imported soil shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- New Mexico Environment Department (NMED) Risk Assessment Guidance for Site Investigations and Remediation (July 2015) Residential Soil Screening Levels Appendix A, Table A-1 (https://www.env.nm.gov/HWB/documents/SSLs_RA_Guidance_for_SI_and_Remediation_July_2015.pdf).

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the NMED criteria. Laboratory analytical

reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Oklahoma

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with United States Environmental Protection Agency (USEPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Oklahoma.

One representative sample of the imported soil shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005
- Resource Conservation and Recovery Act Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- USEPA Regional Screening Levels (RSLs) for Chemical Contaminants at Superfund Sites assuming Residential Land Use (<http://www.epa.gov/risk/regional-screening-table>) as the Oklahoma Department of Environmental Quality (ODEQ) does not have state-specific criteria (<https://www.deq.state.ok.us/factsheets/land/SiteCleanUp.pdf>). ODEQ does allow evaluation using a 10^{-5} cancer risk level for establishing RSLs.
- ODEQ Total Petroleum Hydrocarbons (TPH) Tier 1 Residential Generic Cleanup Levels (<http://www.deq.state.ok.us/factsheets/land/TPH.pdf>).

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the EPA/ODEQ criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Oregon

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Oregon.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270C
- Volatile Total Petroleum Hydrocarbons (TPH) by Method NWTPH-Gx
- Semi-volatile TPH by Method NWTPH-Dx
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The Clean Fill Screening Level, as defined in the Oregon DEQ Clean Fill Table for Uplands. The table can be found at the following website:

<http://www.oregon.gov/deq/docs/CleanFillIMD.pdf>

- In the event that metal constituents exceed Clean Fill Screening Levels, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the ODEQ criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Texas

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with United States Environmental Protection Agency (USEPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Texas.

One representative sample of the imported soil shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Petroleum Hydrocarbons (TPH) by Texas Method TX1005
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Tier 1 Residential Protective Concentration Levels (PCLs) assuming 0.5-acre source area. Applicable PCLs should be based on the lower concentration between the TRRP Tier 1 Residential total soil combined ($^{Tot}Soil_{Comb}$) PCL and the soil to groundwater ingestion ($^{GW}Soil_{Ing}$) PCL (<http://www.tceq.state.tx.us/remediation/trrp/trrppcls.html>) for each constituent; and
- TCEQ Texas-Specific Soil Background Concentrations (TSBCs) (if TSBCs are greater than the applicable Residential PCLs, then the TSBC concentrations shall used).

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the TCEQ criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Utah

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Utah.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative Environmental Protection Agency (EPA) Regional Screening Levels (RSLs), as presented at the following website:

<http://semspub.epa.gov/work/03/2220581.pdf> .

- In the event that metal constituents exceed RSLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential (COCs) above the EPA RSLs criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.

Import Soil Specifications - Washington

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Washington.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260;
- Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM;
- Volatile TPH by Method NWTPH-Gx;
- Semivolatile TPH by Method NWTPH-Dx with silica gel cleanup;
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6020/7471;
- Organophosphorus Pesticides by EPA Method 8141;
- Chlorinated Herbicides by EPA Method 8151;
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A;
- Organochlorine Pesticides by EPA Method 8081;
- pH/Corrosivity by EPA Method 9045; and,
- Cyanide by EPA Method 9012.

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- Washington State Department of Ecology's (Ecology) Model Toxics Control Act (MTCA) Method A Cleanup Levels for Unrestricted Land Uses, as defined in MTCA Cleanup Regulation Chapter 173-340-900, Table 740-1. A summary table for the MTCA Method A Cleanup Levels for soil can also be found at the following website:

<https://fortress.wa.gov/ecy/publications/publications/9406.pdf>

- In the event that metal constituents exceed MTCA Method A Cleanup Levels, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the Ecology criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Wisconsin

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Wisconsin.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- The most conservative WDNR Non-Industrial Direct Contact – Residual Contaminant Levels (DC-RCL), as defined in NR720. A calculation table can be found at the following website: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>

- In the event that metal constituents exceed DC-RCLs, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential chemicals of concern (COCs) above the WDNR criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated laboratory report must be sent to UPRR for review and approval.

Import Soil Specifications - Wyoming

If import soil is needed, analytical testing shall be performed to ensure that the import soil is free from contamination. Costs associated with analytical testing of import soil are the responsibility of the Contractor.

Soil samples shall be collected in accordance with US Environmental Protection Agency (EPA) Publication No. SW-846, "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," and shall be analyzed by a National Environmental Laboratory Accreditation Program (NELAP)-Accredited laboratory approved to perform analytical testing in Wyoming.

One representative soil sample shall be collected for every 5,000 cubic yards (in place), or fraction thereof, of import soil. If import soil will be derived from more than one source or location, import soil qualifications must be attained from each source in accordance with the sampling frequency mentioned in this section. Approximate geographic coordinates (latitude/longitude) of the import soil sample location(s) shall be provided to Union Pacific Railroad (UPRR) in addition to the analytical data detailed below.

The following laboratory analyses shall be performed to document that imported soil is free from contamination:

- Volatile Organic Compounds (VOCs) by EPA Method 8260B
- Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C
- Total Extractable Hydrocarbons by Iowa Method OA-2
- Resource Conservation and Recovery Act (RCRA) Metals by EPA Method 6010C/7471B
- Organophosphorus Pesticides by EPA Method 8141
- Chlorinated Herbicides by EPA Method 8151A
- Polychlorinated Biphenyls (PCBs) by EPA Method 8082A
- Organochlorine Pesticides by EPA Method 8081A
- Cyanide by EPA Method 9010
- pH/Corrosivity by EPA Method 9040
- Nitrate as Nitrogen by EPA Method 4500

Imported soils shall be deemed acceptable for use if concentrations of all analytes from the representative soil sample(s) are below the following criteria:

- Wyoming Department of Environmental Quality (WDEQ) Voluntary Remediation Program (VRP) Soil and Groundwater Cleanup Levels Table as defined in the VRP Fact Sheet 12A, *Soil Cleanup Levels*. A summary of the requirements from the VRP program can be found at the web links below:

<http://deq.wyoming.gov/media/attachments/...20Tables.pdf>

http://deq.wyoming.gov/media...SHWD_VRP_FACTSHEET-12a-Soil-Cleanup-Levels_2014-1202.pdf

- In the event that metal constituents exceed Cleanup Levels, the maximum value of the county-specific USGS dataset for naturally-occurring elements will be used for comparison. These values can be obtained at the following website:

<http://mrdata.usgs.gov/geochem/doc/averages/countydata.htm>

- If a chemical of concern (COC) is not listed on the VRP Soil and Groundwater Cleanup Table, then the analyte must be below the most conservative Environmental Protection Agency (EPA) Regional Screening Levels (RSLs), as presented in <http://sempub.epa.gov/work/03/2218422.pdf>

Analytical data shall be compared to the above standards to preliminarily evaluate if the import soil contains any potential (COCs) above the VRP or EPA RSLs criteria. Laboratory analytical reports shall be provided to UPRR for all imported soil to verify the soil is free from contamination. To qualify a given volume of soil for use as import soil, a copy of the associated lab report must be sent to UPRR for review and approval.