No. 73419-4

SUPREME COURT OF THE STATE OF WASHINGTON

PORT OF SEATTLE, a port district of the State of Washington,

Petitioner,

v.

THE POLLUTION CONTROL HEARINGS BOARD, an agency of the State of Washington; AIRPORT COMMUNITIES COALITION; and CITIZENS AGAINST SEATAC EXPANSION,

Respondents,

v.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, an agency of the State of Washington,

Respondent Below.

DECLARATION OF JOHN ROTHNIE, P.E. IN OPPOSITION TO AIRPORT COMMUNITIES COALITION'S MOTION FOR INJUNCTIVE RELIEF

Linda J. Strout, WSBA No. 9422
Traci M. Goodwin, WSBA No. 14974
PORT OF SEATTLE
2711 Alaskan Way
Post Office Box 1209
Seattle, Washington 98111

Gillis E. Reavis, WSBA No. 21451
Jay J. Manning, WSBA No. 13579
BROWN REAVIS & MANNING PLLC
1201 Third Avenue, Suite 320
Seattle, Washington 98101

Roger A. Pearce, WSBA No. 21113
Patrick J. Mullaney, WSBA No. 21932
FOSTER PEPPER & SHEFELMAN PLLC
1111 Third Avenue, Suite 3400
Seattle, Washington 98101-3299
(206) 447-4400

Attorneys for Petitioner/Respondent Port of Seattle

John Rothnie declares under penalty of perjury of the laws of the State of Washington:

1. I am over the age of 18 years, am competent to testify, and have personal knowledge of the facts stated herein.

2. I am the Airfield Program Manager, Aviation Project Management Group, for the Port of Seattle. In that capacity, I am the Project Manager for the Port's Master Plan Update (MPU) projects, which include construction of a third runway at Seattle-Tacoma International Airport (STIA). I am a registered Professional Engineer in the State of Washington.

3. The Port has been engaged in planning efforts for construction of its MPU projects for a number of years. After the Washington Department of Ecology (Ecology) issued its 401 certification in September 2001 and the Pollution Control Hearings Board affirmed Ecology's decision, with additional conditions, on August 12, 2002, the Port has moved forward with the expectation that it would be able to begin construction in 2004. During the 2003 session of the Washington legislature, SSB 5787 was passed, approving the use of SPLP as a valid scientific tool for determining what levels of metals and other constituents could exist in fill material without endangering water quality.

4. In the spring and early summer of 2003, the Port began collating a single set of cohesive requirements for fill material to be imported to the third runway embankment. That process required comparing Ecology's 401 certification, the PCHB's decision, the 404 permit issued to the Port by the U.S. Army Corps of Engineers and the Biological Opinion issued by the U.S. Fish & Wildlife Service that was utilized by the Corps in issuing the 404 permit. Where multiple options for constituent concentrations existed, the Port selected the most stringent option.

5. The goal of the Port's planning was to develop a detailed Work Plan to Qualify Fill Materials that described for contractors the preconditions necessary to obtain Ecology approval of fill material for the project. The Work Plan was designed to require contractors to provide: (1) a certification that any proposed fill source was not, and never had been, contaminated, and (2) that any proposed fill sources did not contain any of the naturally-occurring metals or other constituents above levels allowed by the 401 certification, as modified by the PCHB, or by the 404 permit. After the Legislature passed SSB 5787, the Port included within the Work Plan use of SPLP as a supplementary tool.

6. The Port provided Ecology a first draft of the Work Plan on June 30, 2003. Ecology considered the plan and brought on additional

technical experts to help evaluate it. After several revisions, Ecology approved the work plan in early October 2003. A true and correct copy of excerpts from the work plan is attached as Exhibit A.

7. After the Work Plan was approved, the Port translated it into formal construction bid specifications, which was completed in October 2003. The Port also developed a process for communicating with potential bidders about the details of the Work Plan, a crucial step due to the unique nature of the fill requirements.

8. In summary fashion, the steps the Port took that were necessary to receiving and evaluating the bids were as follows:

September 2003: The Port placed the first advertisement in the Daily Journal of Commerce identifying the scope of the project.

October 3, 2003: The Port held a Pre-Advertisement meeting with interested contractors to announce the project, discuss the scope and schedule, and summarize the testing protocol for the fill material.

October 22, 2003: The first formal advertisement was published in the Daily Journal of Commerce. Information was also posted on the Port's website. Although most aspects of the project were at the 60% design level stage, the fill qualification bid specifications were at the 100% design level stage.

October 29, 2003: The second formal advertisement was published in the Daily Journal of Commerce.

November 17, 2003: The first of two Pre-bid Conferences was held to educate contractors further about the fill testing requirements.

January 27, 2004: Final contract documents were issued to all plan holders along with an announcement of the second Pre-bid Conference.

February 20, 2004: The second Pre-bid Conference covered the entire project and basic contract requirements.

March 5, 2004: The bid period closed. The Port received bids from two companies. Between them, twelve potential fill sources were identified.

March 6, 2004: The Port began its initial screen of bidder fill qualification submittals. The Port requested technical clarification from the bidders, and only the low bidder responded. The Port reviewed the documentation when it was received between March 19 and March 25.

March 22, 2004: Between March 22 and March 26, the Port submitted documentation for the fill sources. Ecology agreed to respond within ten days.

9. This timeline describes the extensive planning and execution necessary to translate fill criteria into specifications, to distribute that information to the contracting community, which does not normally deal with numeric fill criteria, to receive and evaluate the information, and to work with Ecology to ensure that all applicable requirements are being met. It has taken a year to move from translating fill criteria into specifications to being able to evaluate bid proposals.

10. Ecology is currently evaluating the testing data and results for the sites submitted by the bidders. The Port presently anticipates issuing a Notice of Intent to Award the contract in mid-April and to execute a contract in late April. Assuming that schedule holds, the Port expects to issue a Notice to Proceed in mid-June, after which work can begin in wetland areas and fill material can be imported. This is the earliest time that work could begin in wetland areas or that fill will be placed on site for the purpose of embankment construction.

11. During the bid process, the contractors identified twelve fill sources. They reported that evaluating each source and preparing submittals cost an average of $100,000, for a total exceeding $1.2 million. Out of the twelve sources, only five appear to meet the numeric fill criteria included in the Work Plan without use of SPLP. For the remaining seven sources, the contractors reported analyzing from one to four chemical

constituents with SPLP, meaning that all sources passed the numeric criteria for the majority of constituents. No sources were submitted that had any history of human-caused contamination, and all the constituents for which samples were taken occurred naturally in the fill material.

12. While it is possible to move forward with initial stages of the project using only the five sources that do not require SPLP to qualify, there is not enough material in those five sources to complete the contract. If the Port were to begin using only the five sources the contract would have to be modified in mid-course, thereby creating significant planning challenges and greatly increasing the overall cost of the project. The Port has determined that it would likely be less costly to cancel the 2004 construction season entirely rather than to begin this year only to change plans in mid-course. Moreover, the Port cannot feasibly award the contract without having full approval of the fill material.

13. If the Port were to forego the 2004 construction season, significant sums of public money would be lost. Considering only the effects of inflation, a one-year delay would add an estimated $25 million to total project cost. Additional factors such as fluctuation of fuel prices and interest rates cannot be estimated accurately, but would almost certainly add additional costs to the delay. Apart from the increased cost, canceling the project for 2004 would cause a direct loss of approximately

900 jobs this year that would otherwise be available if the project were to move forward.

14. The Port believes it needs to decide the fate of the 2004 construction season by June 1, 2004. In order to make that decision, the Port needs either a decision from the Supreme Court on the merits of the appeal or a denial of the injunction requested by ACC that allows the Port to proceed with construction.

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct to the best of my knowledge and belief.

SIGNED at Seattle, Washington, this 8th day of April, 2004.

JOHN ROTHNIE

WORK PLAN TO QUALIFY FILL MATERIALS

Third Runway and Related 404 Projects

Prepared for: Port of Seattle

Project No. 030015-001 • October 3, 2003 • Final

Aspect Consulting, LLC

Steve Germiat, LG, CGWP
Associate Hydrogeologist
sgermiat@aspectconsulting.com

Lori J. Herman, LG, CGWP
Principal Hydrogeologist
lherman@aspectconsulting.com

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1 Introduction

This Work Plan establishes requirements and protocols for qualifying imported fill materials intended for use in the Third Runway, Runway Safety Areas, South Aviation Support Area, and other appropriate Master Plan Update Improvements (hereafter referred to as "404 Projects") as determined by the Port and the Washington State Department of Ecology (Ecology). The work to be conducted under this plan is developed to fulfill Condition E.1 of the Port's 401 Water Quality Certification (Order #1996-4-02325 (Amended) dated September 21, 2001) for the 404 Projects.

This Work Plan is prepared to satisfy Ecology and the Pollution Control Hearings Board (PCHB) requirements regarding the quality of fill imported for 404-project construction. This Work Plan also meets the requirements of the US Fish and Wildlife Service (FWS) Biological Opinion (BO) for fill quality.

To fulfill these requirements, this Work Plan establishes a two-part process: PART 1 is an Environmental Assessment that is conducted to prohibit contaminated soil from being included in a prospective fill source. The PART 1 assessment includes a Phase I Environmental Site Assessment (ESA) and, if necessary, a Phase II investigation, completed in accordance with ASTM requirements. PART 2 is a rigorous sampling and analysis program intended to ensure that the fill imported for these projects meets all applicable fill criteria. The PART 1 assessment and the PART 2 fill characterization tasks presented in this Work Plan were developed with the following features to enable satisfaction of the requirements of Ecology, the PCHB and the FWS:

- Definition of Contamination: For work conducted under 401 Condition E.1, as modified by the PCHB decision, soil with chemical concentrations above the higher of Puget Sound background constituent concentrations or laboratory Practical Quantitation Limits (PQLs), will be considered contaminated.
- Specific soil quality criteria: The PCHB decision established fill criteria at "natural background" levels or "back calculated" levels where natural background levels do not exist, for 14 metals and TPH. Despite use of the term "natural background", studies conducted on uncontaminated borrow site soils identified the likelihood that in some undisturbed geologic units, concentrations of some constituent metals will fail the criteria based on geologic origin and/or the natural variability in geologic deposits.
- A large number of samples: Consistent with the PCHB ruling, this Work Plan requires a sufficient number of samples to enable defensible statistical evaluation of the soil quality data of the fill to be supplied, by calculation of the 95% upper confidence level (UCL) of the mean soil quality in accordance with MTCA.
- Sampling designs that address geologic variability and provide a rigorous, yet practical, approach to pre-certifying prospective fill sources for 404 project construction: This sampling design includes geologic characterization in conjunction with soil sampling to provide data representative of specific geologic

units. Chemical testing is conducted on specific geologic units so that the soil quality of a prospective fill source will be known in advance of its import for construction. In addition, Synthetic Precipitation Leaching Procedure (SPLP) testing is included as a supplemental test for cases where uncontaminated potential fill sources are, based on their natural mineralogic composition, unable to meet the PCHB fill criteria for certain metals.

- Fill proposed for the embankment by bidders is likely to be made available from currently unexcavated, in-place sources, or from previously excavated material currently stored in stockpiles. Regardless of the source, all imported embankment fill must satisfy the requirements of this Work Plan as detailed in Sections 2, 3, and 4. The PCHB concluded that material already imported to the airport site at the time of the PCHB decision (August 12, 2002) is not subject to this Work Plan.
- This Introduction section is a brief summary of the requirements for fill qualification for the 404 projects. The following sections provide significant task detail. All work undertaken to qualify fill for this project must satisfy each and every work element described in the remainder of this document.

2 PART 1. Fill Source Environmental Assessment

As required by 401 Condition E.1, sources of imported fill material will be limited to state-certified borrow pits, contractor-certified construction sites (e.g. construction sites, stockpiles from documented sources), and gravel mining sites or other borrow sources permitted as appropriate through government agencies (federal, state, provincial, etc). The origin of each proposed fill source must be documented, and the specific area of occurrence from which the fill material will be supplied to the Port must be defined. Fill material will not be accepted from sources that are in whole or in part contaminated, or were previously, even if the contaminated soil has been treated and is now considered "clean". Fill material cannot contain asphalt, concrete, wood waste, or other construction debris.

This section of the Work Plan outlines the PART 1 of the fill source qualification process. PART 1 is an Environmental Assessment that must be performed to establish that the proposed fill source is free of contamination. The PART 1 process includes a Phase I ESA that identifies the potential for contamination based on historical use of the site or surrounding properties. If a potential for contamination is identified during the Phase I ESA, additional data review, including if necessary a Phase II investigation, must be completed to identify whether contamination is, in fact, present, and, if so, to clearly define the extent of contamination. Any area of contamination that is identified must then be excluded from the proposed fill source.

2.1 Phase I Environmental Site Assessment

A Phase I ESA conducted in general conformance to the ASTM E 1527-00 Standard Practice for Environmental Site Assessments shall provide documentation as to uncontaminated fill character. The Phase I must be completed by an Environmental Professional experienced in conducting Phase I "due diligence" assessments in accordance with ASTM E 1527, and who is a licensed professional engineer or hydrogeologist. Documentation of the Phase I ESA shall include:

i) **Fill Source Description.** Provide a description of the proposed fill source including its location, geologic setting, current ownership, existing facilities and on-going or intended operations, and a scaled site map identifying the areal extent of the proposed fill source, and cross sections identifying its boundaries at depth. Include the estimated quantity of fill to be transported to the Port for this project. For stockpile fill sources, document and describe the original in-place location (stockpile originating properties) of all materials in the stockpile.

ii) **Historical Land Use Information.** Complete an historical land use assessment by reviewing historical records including aerial photographs, property tax files/assessor maps, recorded land titles, historic USGS topographic maps, local street directories, building department records, personal interviews, zoning and historical land use records, fire insurance maps, and other reasonably available resources in accordance with ASTM standards. In addition to review of the historical land use of the fill source location, historical review must be conducted on all originating properties for any proposed stockpile fill source.

iii) **Records Review.** Obtain and review environmental records of the proposed fill source and adjoining properties, and all stockpile origination properties. In conformance to the Standard Environmental Record Sources and databases specified in ASTM E 1527-00, fill source sites located in Washington state must include review of the following Ecology environmental databases:

- Confirmed and Suspected Contaminated Site Report
- No Further Action Site List
- Underground Storage Tank List
- Leaking Underground Storage Tank List
- Site Register
- Solid Waste Facility Database
- Voluntary Cleanup Action Program sites
- Underground Storage Tanks on Indian Lands
- Environmental (Spill) Response Tracking System (ERTS) database

Fill sources outside of Washington State must review the comparable state environmental lists to those specified in Standard Environmental Record Sources section of ASTM E 1527-00.

iv) **Interviews and Site Reconnaissance.** Conduct at least one visit to each fill source site and identify current site use and site conditions that assist in identifying the likelihood of environmental contamination and/or the potential migration of hazardous substances into the fill source. Conduct interviews of the proposed fill source owner(s) and occupant(s) and answer questions as identified on the Phase I Transaction Screen Questionnaire of ASTM E 1528.

Fill source bidders shall document the Phase I findings, as further described in Section 4.1, and shall include a certification that the proposed source of fill meets each requirement described in this Section of the Work Plan.

2.2 Phase II Investigation of Potential Contamination

No part of any fill source may be contaminated. If the Phase I ESA identifies known contamination of soil (and groundwater, if portions of the fill source extend below the water table) within the fill source, the extent of impacted material must be identified and excluded from the proposed fill source. If the Phase I identifies *potential* contamination of soil (and groundwater, if portions of the fill source extend below the water table) within the fill source, the presence or absence of the potential contamination must be confirmed, and if present, delineated and excluded from the proposed fill source. In the case of stockpiles that might serve as fill sources, any known or potential contamination identified by the Phase I ESA on a stockpile originating property disqualifies the stockpile as a potential fill source. Likewise any known or potential contamination on the property where the stockpile resides that poses a potential threat of contamination to the stockpile, disqualifies the stockpile as a potential fill source.

Confirming the presence or absence of contamination and identifying the extent of any impacted fill material shall be based on data collected through the conduct of a Phase II Investigation or through use of prior investigation and/or cleanup data. No Phase II investigation can be conducted on a stockpile fill source. Any Phase II Investigation shall be conducted in general accordance with ASTM 1903-97, WAC 173-340-350 (7) and the requirements of this Work Plan. Consistent with Ecology requirements and the PCHB ruling, contamination shall be defined as chemical constituents in soil at concentrations above background. Background shall be defined as Puget Sound natural background concentrations[1], or non-detectable at the laboratory PQL[2] for those constituents that do not have published natural background levels. The extent of any identified contaminated areas must be delineated, establishing a "no contamination", or background soil quality "boundary", and the contaminated area must be excluded from the fill source. Compliance shall be determined as defined in WAC 173-340-740 (7).

[1] Natural background values for metals can be found in "*Natural Background Soil Metals Concentrations in Washington* State", Ecology 1994.

[2] PQLs are defined for this project as the lower of current laboratory PQLs for standard priority pollutant analyses or the PQLs provided in "*Guidance on Sampling and Data Analysis Methods*", Ecology 1995.

3 PART 2. Fill Source Sampling and Analysis Plan

After all identified contaminated areas have been excluded from the fill source by completion of the PART 1 assessment, fill source sampling must also be completed in accordance with Condition E of the Port's 401 Water Quality Certification. PART 2 fill characterization sampling will consist of data collection and evaluation in accordance with a Fill Source Sampling and Analysis Plan (SAP) as outlined in this section. The SAP includes geologic characterization and soil quality sampling to identify the chemical characteristics of each proposed fill source. Accomplishment of this SAP must be supervised by a licensed geologist or professional engineer.

This section of the Work Plan presents the sampling and analysis protocols that must be used to determine whether prospective sources of imported fill material meet chemical quality criteria established in PCHB decision and the FWS BO. The fill criteria are as follows:

Table 1- Fill Criteria

Constituent	Concentration in mg/kg (dry weight)
Antimony	5.79
Arsenic	7
Barium	1,250
Beryllium	0.6
Cadmium	1
Chromium	42
Copper	36
Lead	24
Mercury	0.07
Nickel	48
Selenium	0.52
Silver	0.28
Thallium	2
Zinc	85
TPH	0

The PCHB and FWS established these criteria to ensure that constituents in fill materials do not leach at concentrations that could pose a risk to area wetlands and streams. The PCHB determined that the basis for selection of fill criteria is "natural background" concentrations when available; therefore many of these criteria are set at "natural background" values, computed as the 90th percentile of a set of data collected throughout Puget Sound[3]. A few criteria (e.g. antimony, selenium, and silver) are back-calculated

[3] Natural background values used are those established by the Washington State Department of Ecology Toxics Cleanup Program for the Puget Sound Region, in "*Natural Background Soil Metals Concentrations in Washington State*," Ecology 1994.

concentration levels[4], which may be below background levels. The criteria for barium and chromium are proposed ecological standards identified in the BO, and are more stringent than the respective back-calculated levels based on groundwater and surface water protection.

Note that the PCHB criterion for TPH (gasoline, diesel, and oil ranges) is zero, the PCHB's assumed concentration for "natural background" petroleum concentrations. Because analytical laboratories define their reporting limit as the lowest concentration that the analytical instrument can detect with statistical confidence for a specific analytical method (which is never zero), the fill criteria for TPH fractions are defined operationally in this Work Plan as the PQLs discussed in Section 3.3 of this Work Plan.

Ecology's methodology for determining specific constituent background concentrations, especially given the natural chemical variability of geologic materials, results in the potential that some uncontaminated fill sources will not meet these criteria for all constituents, particularly the trace metals. This Work Plan has been developed to enable prospective fill source suppliers to collect data that provide a reasonable likelihood that most uncontaminated fill sources will meet these criteria. This plan includes specific geologic unit characterization, appropriate low-level analytical methods, statistical analysis of the results, and supplemental analytical testing as may be required to determine the leaching potential for metals at each potential fill source.

The focus of the PART 2 SAP design is to:

- Collect a sufficient number of data points to develop a representative concentration, defined as the 95 percent upper confidence limit on the mean (95% UCL), for each constituent for each potential fill source;
- Define the geologic unit(s) from which the fill is to be supplied, and collect samples within each single geologic unit in a spatially-distributed manner such that the chemical quality of that geologic source material is defined in advance of import; and
- Conduct low-level laboratory analyses such that compliance with these stringent criteria can be determined (i.e., laboratory reporting limits are at or below the criteria).

Based on the PART 1 environmental assessment, potential fill sources will have been demonstrated to be uncontaminated. If at any time during the conduct of this SAP, an unusual color, odor, or other apparent non-soil substance is encountered, this material must be discretely sampled. These samples must be analyzed for the priority pollutants including volatiles (EPA Method 8260), semi-volatiles (EPA Method 8270), pesticides (EPA Method 8081), PCBs (EPA Method 8082), and the metals and TPH analyses specified herein. The laboratory shall comply with all quality control requirements specified in Table 5, as appropriate to the chemical suite being analyzed and the

[4] Back-calculated values were derived using the MTCA fixed parameter three-phase partitioning method in WAC 173-340-747 in conjunction with water quality criteria for these metals, to determine a soil concentration protective of groundwater and surface water.

analytical method used. Any suspect soil sample analytical result detected above the PQL constitutes known contamination of a fill source, which must be addressed through a Phase II investigation to exclude any contaminated material from the fill source. Note that any fill source that is a stockpile is automatically excluded and can not conduct a Phase II Investigation.

The PART 2 SAP is organized into the following sections that address the specific data requirements and protocols for collecting data and conducting analyses for each fill source:

3.1 Fill Supply Source and Geologic Characterization - presents the requirements to geographically define the location of each prospective fill sources, the fill source dimensions, and the geologic characteristics of the proposed fill material

3.2 Field Sampling - presents the sampling protocols for representative chemical characterization of prospective fill sources.

3.3 Laboratory Analysis - presents the analytical laboratory protocols required to generate chemical data of suitable quality to compare against fill criteria.

3.4 Data Evaluation - describes the statistical methodology for evaluating the analytical data to determine whether a prospective fill source complies with the fill criteria.

3.5 Supplemental Analyses - describes additional testing that may be performed for a fill source based on the initial sample results.

Section 4 of this Work Plan describes the documentation required to demonstrate that prospective fill source complies with this Work Plan.

3.1 Fill Supply Source and Geologic Characterization

The first step in conducting the sampling and analysis is for a prospective fill source supplier to delineate the prism of soil proposed for supply to the Port for this project. The fill prism delineation will describe the area, depth, and volume of each prospective fill source. The delineation shall include a topographic map depicting the location and extent of the fill prism proposed for supply to the Port, and at least two geologic cross sections showing the full depth of that prism.

It will then be necessary to identify the geologic unit(s) comprising the fill prism; and to identify all changes in material type (i.e. fine-grained and coarse-grained layers) within the geologic unit(s). The intent of the geologic characterization is to delineate all distinct geologic units within the source material prism (e.g., recessional outwash, till, advance outwash, interglacial deposits, etc.) and any significant facies or material type changes within each geologic unit. It is not necessary to define the specific geologic unit by stratigraphic (or age) name (e.g. Vashon or Possession Drift), rather it is important to delineate geologic units with distinct and different source/depositional environments.

The geologic delineation must be supervised and certified by a licensed geologist. The identification of units must include exploration data that encompass the full depth of the

3.5 Supplemental Analyses

If the 95% UCL for a metal exceeds the respective fill criterion and is below the Upper Bound Limit (defined below), the prospective fill source supplier may use the Synthetic Precipitation Leaching Procedure (SPLP), EPA Method 1312, to provide a more accurate measure of whether the metal(s) of interest would leach from the soil at concentrations that could impact area wetlands, streams, or aquifers.

Based on provisions of the US Fish and Wildlife Service BO, no soil will be accepted for Port 404 Projects that contains concentrations of metals (95% UCL on the mean) above MTCA Method A unrestricted soil cleanup levels, irrespective of SPLP testing. These Method A soil cleanup levels therefore represent Upper Bound Limits. If the 95% UCL concentration for a metal exceeds the respective Upper Bound Limit, confirmation SPLP testing may not be conducted for that metal, and the fill source is unacceptable for Port 404 Projects. The Upper Bound Limits are as follow:

- Arsenic: 20 mg/kg
- Cadmium: 2 mg/kg
- Chromium: 2000 mg/kg
- Lead: 250 mg/kg; and
- Mercury: 2 mg/kg.

The SPLP methodology will be used to assess the fill suitability only in cases where natural deposits, unaltered by any past land use with potential for contributing constituent contamination, contain a particular metal(s) elevated above the fill criteria and below the Upper Bound Limits. Because the fill criterion for TPH is total absence of "refined" TPH, operationally set at the PQL, SPLP testing cannot be used for TPH.

SPLP testing may be conducted only after the total metals concentration data have been evaluated and potential exceedences of fill criteria (total metals) identified. SPLP data generated prior to determination of the total metals 95 % UCL will not be accepted.

If the 95% UCL for a metal is above the respective fill criterion, and the prospective fill source supplier proposes to use SPLP as a supplemental test to evaluate whether concentrations of that metal have the potential to leach at levels above water quality criteria, all samples that exceed the fill criteria must be analyzed.

The SPLP extraction shall be performed as per the SW-846 Method 1312. In the SPLP extraction, extraction fluid #2 (pH = 5.0), representing acid rain west of the Mississippi River, shall be used. The SPLP leachate from each individual sample that exceeds fill criteria will be analyzed using the analytical methods specified in Table 6. SPLP leachate testing will be performed for only the specific metal (or metals) that exceeded the fill criterion in the totals analysis of that sample. Note that the detection levels for SPLP leachate sample analyses are significantly lower than typically associated with this testing procedure. It will be critical that bidders and/or prospective fill source suppliers pre-notify the laboratory of these detection levels and request/contract for ultra clean laboratory procedures.

Table 6 - Analytical Methods and Practical Quantitation Limits for SPLP Leachate (following extraction by EPA Method 1312)

Analyte	Analysis Method	Leachate PQL in ug/L
Antimony	EPA 6020/200.8	3
Arsenic	EPA 6020/200.8	1
Barium	EPA 6020/200.8	10
Beryllium	EPA 6020/200.8	1
Cadmium	EPA 6020/200.8	0.5
Chromium	EPA 6020/200.8	1
Copper	EPA 6020/200.8	1
Lead	EPA 6020/200.8	1
Mercury	EPA 1631	0.01
Nickel	EPA 6020/200.8	1
Selenium	EPA 6020/200.8	1
Silver	EPA 6020/200.8	0.1
Thallium	EPA 6020/200.8	1
Zinc	EPA 6020/200.8	10

The SPLP testing will be conducted on three replicate aliquots obtained from the sample jar from which an aliquot was initially tested for total metals concentrations, unless insufficient sample remains. In this case, samples may be obtained from one of the additional archived sample jars from that same sample location. An arithmetic average of the analytical results of the three replicate SPLP measurements shall be calculated from these data. In calculating the arithmetic average, non-detected results shall be assigned a value equal to the analytical detection limit. The arithmetic average of the three SPLP replicate sample analyses shall be used for all SPLP data evaluations.

Data generated from the analysis of the SPLP leachate (the arithmetic average of the triplicate results for each sample, including the detection limit value for non-detects) shall be adjusted by dividing the arithmetic average by a factor of 10, an Ecology-approved default dilution factor. The result of that calculation will be compared against the water quality criteria listed in Table 7. If the adjusted SPLP results from the samples tested are equal to or below the water quality criteria in Table 7, the soil will have acceptable concentrations of the metal(s) analyzed by SPLP for use as imported fill to the 404 Project. If one or more of the adjusted SPLP results exceed the water quality criteria in Table 7, the soil is unacceptable for use as imported fill.

Table 7 – Applicable Water Quality Criteria for Comparison Against SPLP Results

Constituent	Most Stringent of Groundwater or Surface Water Quality Criterion in ug/L	Criterion Source
Antimony	6	b
Arsenic	14.75	c
Barium	1450	a
Beryllium	4	b
Cadmium	1.03	a
Chromium	100	b
Copper	11.4	a
Lead	2.5	a
Mercury	0.012	a
Nickel	100	b
Selenium	5	a
Silver	0.12	a
Thallium	2	b
Zinc	104	a

Criteria sources:

a. These values were chosen from the following sources (in this order): (1) Ecology water quality standards for surface water (Chapter 173-201A WAC); (2) criteria proposed by US EPA (silver); and (3) chronic effects threshold values in the US EPA AQUIRE database (barium), see Parametrix (2002) reproduced as Appendix D in this Work Plan. For hardness dependent criteria calculated under Chapter 173-201A WAC, a hardness of 100 mg/L was assumed.

b. Chapter 173-200 WAC, Implementation Guidance for Ground Water Quality Standards (Ecology 1996)

c. Local area background value, as provided for in Chapter 173-200 WAC. Determination of background water quality value for arsenic is in process, in conjunction with performance of 401Condition E.3; presented values are current estimates for the 95% Tolerance Interval based on statistical analysis of data collected to date from 14 groundwater monitoring wells.

4 Reporting

Documentation to be submitted to the Port for each prospective fill source will include two reports addressing PART 1 and PART 2 of the fill qualification process. To facilitate the bidding and review process, the reports will consist of a series of forms and attachments with which bidders will present required information in a consistent manner. These forms are provided in Appendix A. PART 1 and Appendix B. PART 2 to this Work Plan. The requirements for these two reports are outlined below.

4.1 PART 1. Environmental Site Assessment Report

The findings from the Phase I ESA, and if required, Phase II Investigation, will be provided in the PART 1. Forms 1 through 7. The report includes the information described in Section 2 of this Work Plan as summarized below.