

ELIZABETH CLARK

AR 016275

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POLLUTION CONTROL HEARINGS BOARD
FOR THE STATE OF WASHINGTON

AIRPORT COMMUNITIES COALITION and
CITIZENS AGAINST SEA-TAC
EXPANSION,

Appellants,

v.

DEPARTMENT OF ECOLOGY and
THE PORT OF SEATTLE,

Respondents.

No. PCHB 01-160

**PREFILED TESTIMONY OF
ELIZABETH CLARK**

AR 016276

Outline of Testimony

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ORIGINAL

- 1 • Fill from seven sources has been accepted since the September 21, 2001 issuance of the
2 401 Certification. These sources were incoming at the time of issuance of the 401
3 Certification and had been previously reported to Ecology under the 1998 and 1999
4 Fill Acceptance Agreements. The Port has, since September 21, 2001, evaluated these
5 seven previously reported sources of fill relative to the requirements of the 401
6 Certification and provided Ecology with all supplemental information needed to
7 demonstrate compliance with the 401 Certification.
- 8 • In reviewing these seven active fill source sites since September 21, 2001, four of the
9 seven exceeded the background values for one or more of the metals in 401
10 Certification, Condition E.1.b. The concentrations of metals were attributed to natural
11 variations in background concentrations. Subsequent SPLP test results indicate that
12 naturally occurring metals from these fill sources do not leach at levels of concern to
13 water quality, and comply with the conditions of the 401 Certification.

14 **EDUCATIONAL BACKGROUND / EXPERIENCE**

15 2. I have a bachelors and a masters degree in Geological Engineering. I am a
16 licensed Professional Engineer (Civil) in the State of Washington. I have worked with the Port
17 of Seattle Environmental Group since 1997, both as a consultant and as a Port employee. *See*
18 *Exhibit A (CV of E. Clark)*. My involvement at the Port has been with contaminated site
19 investigation and remediation, environmental review of new property acquisitions, and Third
20 Runway fill coordination and review. I have 17 years of experience in the environmental field
21 working in the Puget Sound area.

22 3. My involvement with the Third Runway fill acceptance process includes the
23 environmental review of material proposed for placement in the Third Runway embankment
24 relative to the Ecology-approved fill acceptance criteria contained in the 1998 Third Runway
25 Soil Fill Quality Criteria and its 1999 successor (collectively the "Fill Criteria Agreements")
26 and more recently relative to the fill acceptance criteria contained in the September 21, 2001
27 Ecology 401 Certification and the May 22, 2001 FWS Biological Opinion. My direct
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1 involvement with the Third Runway fill acceptance process began in 1999. I have reviewed
2 environmental documentation for fill placed prior to 1999 and have become familiar with fill
3 sources for material placed prior to 1999 through discussions with Port staff responsible for
4 the acceptance of fill during that time.

5 **FILL ACCEPTANCE PRIOR TO AMENDED 401 CERTIFICATION**

6 **Fill Acceptance Prior to 1998 Construction Season**

7 4. To the best of my knowledge, all of the fill accepted for eventual use in the
8 Third Runway embankment *prior* to the 1998 construction season was obtained from two
9 state-certified borrow pits. It is my understanding that no known sources of contamination
10 are associated with those sites.

11 **The 1998 and 1999 Fill Criteria Agreements**

12 5. In 1998, Ecology and the Port negotiated a process to evaluate the
13 environmental suitability of soil coming into the Third Runway embankment. The 1998 Third
14 Runway Soil Fill Quality Criteria and its 1999 successor are referred to as the "Fill Criteria
15 Agreements." It is my understanding that the Port responded to a request by Ecology to
16 jointly develop the agreements and that the Port's compliance with these agreements was
17 voluntary.

18 6. The 1998 and 1999 Fill Criteria Agreements present a multi-level confirmation
19 system to evaluate compliance with the agreed fill criteria, both prior to acceptance and during
20 placement of accepted material. This review process was designed to identify the
21 environmental suitability of proposed fill and subsequently to exclude unacceptable fill. The
22 review included, as appropriate, an evaluation by an environmental professional of site use
23 and history, site reconnaissance, testing of soil samples collected from the proposed fill
24 sources, comparison of soil quality test results to MTCA Method A levels (which are
25 applicable to unrestricted land uses), and inspection of incoming fill. Soil could be determined
26 unsuitable for placement at the Third Runway at any stage of this evaluation.

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1 7. Comparison of proposed fill material sampling data relative to MTCA Method
2 A levels was only one of many components of this process. However, to the best of my
3 knowledge, all fill currently in place that was accepted during the effective dates of the 1998
4 and 1999 Fill Criteria Agreements does not exceed the criteria set forth in those agreements
5 with the exception of certain material placed from the Black River Quarry (*see* discussion in
6 Paragraphs 9 to 16 below).

7 **Sources of Fill Received Under the 1998 and 1999 Fill Criteria Agreements**

8 8. In its pre-filed testimony, the ACC has expressed concern regarding Third
9 Runway fill received from three sources: the Black River Quarry, the Army Corps of
10 Engineers Hamm Creek Habitat Restoration Project, and the WSDOT First Avenue Bridge
11 Project. These fill sources are described below.

12 **Black River Quarry Fill Source**

13 9. In July 2000 the Port received a request from City Transfer, Inc. (CTI) to
14 accept material from the Black River Quarry. The site, also referred to as the Stoneway Pit,
15 crushes native bedrock and produces aggregate that is used for construction projects
16 throughout the Puget Sound. A separate portion of the site is used as an asphalt-recycling
17 center.

18 10. Black River Quarry Data Reported in a Timely Fashion. CTI provided the
19 Port with environmental documentation for this site (AGRA, Fill Source Site Approval Black
20 River Quarry, July 27, 2000 and August 10, 2000 Addendum). This documentation was
21 submitted to Ecology in the Third Quarter 2000 fill submittal report, the same quarter the
22 report was received. Contrary to the allegations made in Paragraph 38 of the pre-filed
23 testimony of Dr. John Strand, these results and all subsequent results *were* reported to
24 Ecology in a timely fashion.

25 11. TPH Issues at Black River Quarry. Environmental documentation for the
26 Black River Quarry included test results for samples collected on June 9, June 22, and July 6,
27 2000. The test results for the June 9, 2000 sample, collected from an existing stockpile at the
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1 quarry, exceeded the then-existing Method A level for total petroleum hydrocarbons (TPH) of
2 200 ppm. The presence of TPH was attributed to the inadvertent mixing of asphalt materials
3 from the recycling operations with the crushed rock. No soil from this stockpile was accepted
4 at the Third Runway. Data from subsequent samples of newly blasted rock collected on June
5 22, 2000 and July 6, 2000 did not exceed the 200 ppm Method A level. The Port began
6 importation of material from this site on the condition that (1) only newly excavated rock be
7 accepted; (2) the rock excavation and crushing operations be kept distinct from ongoing
8 recycling operations; and (3) that additional samples of fill material be collected and analyzed
9 for TPH at a frequency of at least one sample for every 5,000 yards of fill.

10 12. Rock from the quarry was accepted for a two-month period from August 17,
11 2000 through October 17, 2000. Test results for two out of fourteen samples collected during
12 this time exceeded the then-effective Method A level for TPH (230 and 270 ppm TPH heavy
13 oil as compared to the 200 ppm Method A level). The presence of TPH was attributed to the
14 residual asphalt in the crushing equipment left from the asphalt recycling operations; however,
15 the concentrations did not exceed the levels now required under the 401 Certification and
16 current Method A level of 2000 ppm. In February, 2002, the TPH MTCA Method A soil
17 concentrations for unrestricted land use was changed from 200 mg/kg to 2000 mg/kg for diesel
18 range organics and heavy oils (Table 740-1, WAC 173-340-900). The TPH results were
19 reported to Mr. Chung Yee of the Department of Ecology during phone conversations in the
20 fall of 2000.

21 13. Black River Quarry Material Isolated in Embankment. The material from Black
22 River Quarry exceeding the Method A level was placed in the upper portion of the
23 embankment in an area referred to as the Phase II embankment. It is my understanding that in
24 evaluating the material placed from the Black River Quarry and its location in the
25 embankment, the Third Runway Transport Model prepared by S.S. Papadopolus &
26 Associates concluded that the material is not a threat to water quality.

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1 14. Modifications to Fill Excavation Operations at Black River Quarry. The Port
2 instructed CTI and Stoneway to evaluate potential modifications in quarry operations to
3 further separate the asphalt recycling and rock crushing operations. Stoneway modified
4 operations to include a thorough cleaning of the crushing equipment after the asphalt recycling
5 operations, and agreed to exclude from material provided for Third Runway fill the first one-
6 hundred tons of rock crushed after the use of the equipment for asphalt recycling. Subsequent
7 sampling for TPH, reported to Ecology in the First and Third Quarter 2001 fill submittals,
8 indicated that the operational changes effectively addressed the concerns regarding asphalt
9 materials. Using the modified operations, import of rock from the Black River Quarry
10 resumed in July 2001. Additional TPH test results, all below the old MTCA Method A level
11 of 200 ppm, were reported to Ecology in the Third Quarter 2001 fill submittal.

12 15. Naturally Occurring Copper Levels at BRQ. During phone conversations in
13 October and November, 2000, Mr. Chung Yee raised concerns regarding elevated levels of
14 naturally occurring copper in the rock from the Black River Quarry. In November 2000,
15 AMEC Earth & Environmental (formerly AGRA) collected additional samples from the Black
16 River Quarry and analyzed these samples for metals. These test results were provided to the
17 Port in early January 2001. The Port provided the test results to Ecology in the First Quarter
18 2001 Ecology fill submittal. There were no exceedances of Method A levels. Subsequent
19 Synthetic Precipitation Leaching Procedure (“SPLP”) testing of material from the Black River
20 Quarry conducted in accordance with the requirements of the 401 Certification indicate that
21 copper and other naturally occurring metals in the rock from the Black River Quarry are not
22 leachable at levels detectable by the analytical laboratory and do not pose a potential risk to
23 water quality. The SPLP test results were submitted to Ecology in the November 2001 fill
24 submittal.

25 16. All BRQ Fill Accepted to Date Meets Requirements of the 401 Certification.
26 Environmental documentation of fill accepted from the Black River Quarry demonstrates
27 compliance with the requirements of the September 21st 401 Certification. This
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1 documentation includes fill submittals provided to Ecology in the November 2001 and January
2 2002 monthly fill submittal reports. The November 2001 and January 2002 submittals
3 supplement previous environmental reviews conducted of the Black River Quarry and address
4 specific requirements of the 401 Certification that were not included in the 1998 and 1999 Fill
5 Acceptance Agreements. See also discussion in Paragraphs 33 - 35 regarding fill sources
6 accepted since the September 21, 2001 issuance of the 401 Certification. To date,
7 approximately 50 samples have been collected and analyzed from the Black River Quarry to
8 characterize both TPH and metal concentrations.

9 **Hamm Creek Habitat Restoration Site**

10 17. Early in 1999, the Port of Seattle received a request from the U.S. Army Corps
11 of Engineers ("USACOE") to accept soil excavated as part of the development of the Hamm
12 Creek Habitat Restoration Project. The evaluation of the suitability of the soil from that
13 project was based on: (1) a review of a 1990 environmental site assessment by Boeing, and (2)
14 a 1997 USACOE Sediment Characterization Report (including the Site Sampling and Analysis
15 Plan). Environmental documentation for the Hamm Creek Project was provided to Ecology in
16 the Third Quarter 1999 fill submittal.

17 18. USACOE, Boeing Studies Characterized Hamm Creek Habitat Restoration
18 Source. The evaluation of the Hamm Creek Habitat Restoration Project was based on review
19 of information contained in both the USACOE studies and the Boeing studies. The Port
20 review included consideration of site uses and operational history as well as chemical test
21 results. The USACOE study included samples collected from ten discrete locations, which
22 were composited to two samples for analysis. The Boeing studies included collection and
23 analysis of 12 soil samples and three groundwater samples. Therefore, the decision to accept
24 these materials was based on 14 soil sample results collected from 22 sample locations and
25 *not*, as stated in Paragraph 36 of the pre-filed testimony of Dr. John Strand, on 2 samples
26 from 4 sample locations.

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1 19. In Paragraph 36 of his pre-filed testimony, Dr. Strand also cites my March 24,
2 1999 memo (Beth Doan to Paul Agid, Port of Seattle) which states that “since the samples
3 were composited over large areas and depths, there is a potential for “‘hotspots’ to go
4 undetected.” Dr. Strand omits the very next sentence of my memo that states: “however, the
5 Boeing study, which did look for problem areas, did not detect PCBs and DDTs.” In short,
6 data from the USACOE (which looked at the bulk characteristics of the soil) *and* data from the
7 Boeing study (which looked specifically for “hotspots”) were used in making the suitability
8 determination.

9 20. DDT and PCBs Levels in Compliance with Fill Agreement. Analytical test
10 results for samples from the USACOE and the Boeing study were below MTCA Method A
11 levels and the material ultimately accepted from the Corps project satisfied the fill acceptance
12 criteria. In 1999, approximately 80,000 cubic yards of soil were brought from the Hamm
13 Creek Habitat Restoration Project to the Third Runway for use as fill. A Senior Port Site
14 Inspector visited the Project on two occasions during excavation activities to observe the
15 material being brought into the Third Runway. In addition, the material was regularly
16 inspected at the Third Runway receiving site.

17 21. ACC concern regarding the Hamm Creek fill arose with respect to the
18 USACOE study’s report of a failed bioassay test. Closer examination of this test result,
19 however, reveals that the test is not applicable to the use of the material for the Third
20 Runway. The USACOE study focused on specific portions of the Hamm Creek source area
21 being considered for potential open water disposal in Puget Sound. The sampling was
22 performed in accordance with Puget Sound Dredge Disposal Authority (PSDDA) protocol for
23 open water (*marine*) disposal. The results of bioassay testing of *marine organisms* conducted
24 with Hamm Creek samples under PSDDA protocols did not meet the criteria for open water
25 disposal in Puget Sound. To my understanding, the USACOE determined that the bioassay
26 test failures were attributed to the oxidized nature of the Hamm Creek fill source as compared
27 to a marine environment and not to any sources of contamination in the fill and *not*, as has
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1 been alleged, to the low levels of PCBs and DDTs detected at the Hamm Creek site. As
2 discussed in my March 24, 1999 memo, I independently verified those conclusions with a
3 marine sediment specialist. In short, a marine bioassay test was inappropriately used for
4 freshwater upland soils, resulting in mortality of marine test organisms due to chemical
5 changes in the test material from exposure to salt water, not from soil contaminants.

6 22. The material from Hamm Creek was placed in the portion of the Third Runway
7 embankment north of 154th Street. It is my understanding that in evaluating the material
8 placed from Hamm Creek and its location, the Third Runway Transport Model prepared by
9 S.S. Papadopulus & Associates concluded that DDD and PCBs will not discharge from the
10 embankment even if the entire Hamm Creek fill is modeled at the highest detected
11 concentrations of DDD and PCB. Note that DDD was modeled instead of DDT because it is
12 more mobile, thus analysis of DDD results in more conservative conclusions.

13 **WSDOT First Avenue Bridge Project**

14 23. Impacted Soil was Excluded. In the Fall of 1999, the Port of Seattle received a
15 request from the WSDOT to accept soil generated as part of its First Avenue Bridge Project.
16 WSDOT initially provided results for five samples collected on October 1, 1999. These
17 samples were collected throughout the proposed fill material. One of these samples exceeded
18 the then-applicable MTCA Method A level for TPH (870 ppm for TPH heavy oil as
19 compared to the Method A level of 200 ppm). The concentration did not exceed the levels
20 now required under the 401 Certification and the current Method A level of 2000 ppm. It
21 should be noted than in Paragraph 37 of his pre-filed testimony, Dr. John Strand erroneously
22 characterizes the TPH as diesel rather than heavy oil range; therefore, the 460 ppm TPH diesel
23 criteria does not apply. In any instance, this soil was not considered suitable for placement at
24 the Third Runway. Six additional samples, three collected on October 18, 2000 and three
25 collected during construction on May 1, 2000 by the WSDOT environmental consultant, were
26 collected around the TPH area to better characterize the nature and extent of the TPH
27 exceedances. Based on the sample results, the soil containing the TPH appeared to be limited
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1 to a distinct brown sand unit associated with the top surface of the soil beneath the former
2 First Avenue Ramp. The *entire* brown sand unit was rejected for placement at the Third
3 Runway.

4 24. First Avenue Fill in Compliance with Fill Agreement Criteria. The Port agreed
5 to conditionally accept the remaining, unimpacted material from the First Avenue Bridge
6 Project and, along with WSDOT, developed a program to monitor and chemically test the
7 material during excavation to confirm continued compliance with Third Runway criteria and to
8 confirm that material from the identified TPH impacted area was not brought to the Third
9 Runway. Material from the First Avenue Bridge Project was brought to the Third Runway in
10 Spring 2000 on this basis. During excavation on May 25, 2000, an additional six samples were
11 collected throughout the fill area. All sample test results were below Method A levels. A
12 total of 17 samples were used to characterize soil from the First Avenue Project fill source. In
13 short, there was significantly more characterization of the First Avenue Project fill source than
14 alleged in Paragraph 37 of the pre-filed testimony of Dr. John Strand.

15 25. Additional Monitoring, Inspection at Fill Source, Third Runway. On-site
16 supervision by a Senior Port Site Inspector was provided to monitor soil excavation,
17 specifically observing any visual or olfactory signs of contamination. At the request of the
18 Port Site Inspector, the previously identified impacted soil area at the excavation site was
19 flagged so that it would clearly be distinguished from other site material. WSDOT also had a
20 full-time site inspector at the excavation site. At the Third Runway receiving site, a full-time
21 observer observed all loads received from the First Avenue Bridge Project.

22 26. In short, none of the soil from the impacted brown sand unit was accepted for
23 use at the Third Runway. The material from the First Avenue Bridge Project was placed in
24 the upper portion of the embankment in an area referred to as the Phase II embankment. It is
25 my understanding that, in evaluating the material that *was* placed from the First Avenue
26 Bridge Project, including its location, the Third Runway Transport Model prepared by S.S.
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1 Papadopulus & Associates concluded discharge from the embankment associated with First
2 Avenue fill is not expected to adversely impact water-quality.

3
4 **MULTI-LEVEL CONFIRMATION SYSTEM TO EVALUATE
COMPLIANCE WITH CURRENT FILL CRITERIA REQUIREMENTS**

5 27. Under the fill acceptance requirements of the 401 Certification, the Port
6 implements a multi-level confirmation system to evaluate the environmental suitability of fill,
7 both prior to acceptance and during placement of accepted material. A supplier of proposed
8 fill, which may or may not be the Port, is generally responsible for conducting a Phase I and
9 Phase II Environmental Site Assessment for the proposed fill source. The Port is responsible
10 for the review of the environmental documentation provided by the supplier for compliance
11 with the fill criteria and for reporting this compliance to Ecology. The Port also inspects
12 incoming fill material, specifically inspecting for signs of contamination, as well any other
13 indication (e.g., soil type) that the material is different from the soil accepted for import. In
14 addition, based on the particular source, the Port may inspect source excavation activity on a
15 periodic or regular basis. Review of proposed fill material relative to specific numeric criteria
16 is one of many components of the Port's analysis of potential fill, which analysis is designed
17 to identify the environmental suitability of proposed fill and subsequently to exclude
18 unacceptable fill.

19 28. Phase I Environmental Site Assessment. The initial step in the fill review
20 process is a Phase I Environmental Site Assessment conducted by an environmental
21 professional in general conformance with the American Society of Testing and Material
22 Standards (ASTM) E 1527-00 Standard Practice for Environmental Site Assessments. This
23 assessment must include, at a minimum, a fill source description, records review (e.g., agency
24 databases, airphotos, property ownership records), and site reconnaissance. If the results of
25 the Phase I Environmental Site Assessment identify suspected contamination, or if a fill
26 source has complex site conditions, the Port is required to consult with Ecology regarding

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1 sampling requirements for this site. Either the Port *or* Ecology may determine that a source is
2 unsuitable for supplying fill based solely on the Phase I results.

3 29. Phase II Environmental Site Assessment. The next step in the evaluation is a
4 Phase II Environmental Assessment conducted by an Environmental Professional in general
5 conformance with ASTM E1903-97. This includes the collection and evaluation of samples
6 from the proposed fill source. If the Phase I Environmental Site Assessment identifies
7 suspected contamination or if a fill source has complex site conditions, the Port is required to
8 consult with Ecology regarding sampling requirements for the site. For fill sources with no
9 likelihood of environmental contamination, as determined under the Phase I, the 401
10 Certification identifies *minimum* sampling requirements. At a *minimum*, all fill sources will be
11 evaluated for TPH and the fourteen (14) metals identified specifically in the 401 Certification
12 and the Biological Opinion, as well as for any other constituents of potential concern
13 identified in the Phase I Environmental Site Assessment.

14 30. Application of Fill Criteria. The results of the Phase II Environmental Site
15 Assessment sampling and testing will be compared to the fill criteria in the 401 Certification
16 and the FWS Biological Opinion (using the most stringent criteria where the 401 Certification
17 and Biological Opinion do not agree) to determine the suitability of a proposed fill source.
18 Depending on where in the Third Runway embankment the fill is proposed to be placed,
19 different numeric criteria apply. As described in Condition E of the 401 Certification and in
20 the Biological Opinion, different criteria apply to the top three feet of embankment fill, to the
21 drainage layer cover, and to the remainder of the embankment. Criteria applicable to the
22 remainder of the embankment also apply to other 404 projects. If no criterion exists for a
23 given constituent, Ecology shall be consulted for the proper criteria.

24 31. SPLP Testing. If proposed fill does not meet the applicable criteria—for either
25 the drainage layer cover, the rest of the embankment, or for other 404 Projects—the Port can
26 also demonstrate the suitability of that fill by employing a Synthetic Precipitation Leaching
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1 Procedure (SPLP); however, Ecology reserves the right to disapprove the use of fill analyzed
2 under the SPLP method.

3 32. Prohibited Fill. Under the 401 Certification, fill consisting in whole or in part
4 of soils or materials determined to be contaminated or that have been treated and are
5 considered remediated, are prohibited from use as fill Port 404 Projects (Condition E.1.d).
6 The Port will work closely with Ecology to determine if a particular fill source is prohibited
7 under these conditions.

8 **FILL SOURCE REVIEW SINCE THE SEPTEMBER 401 CERTIFICATION**

9 33. At the time of the September 21, 2001 issuance of the 401 Certification, there
10 were seven sources of fill incoming to the Phase IV Embankment. These were: Marine View
11 Pit, Kent Kangley Pit, CTI Pit No. 3, Black River Quarry, Lincoln and Summit Stockpile,
12 Lakeland Hills Pit and the Port Cooling Tower Project. These sources were reported to
13 Ecology in the Third Quarter 2001 fill submittal, and had been previously reported to Ecology
14 under the 1998 and 1999 Fill Acceptance Agreements. To date, only fill from these sources
15 has been accepted for use at the Third Runway site September 21, 2001. To date, all fill
16 material accepted since September 21, 2001 has been placed within the general embankment.
17 No material accepted since September 21, 2001 has been placed within the drainage layer
18 cover or within the upper 3-feet of the embankment.

19 34. Additional Site Use and Soil Testing Analysis to Confirm 401 Compliance.
20 The Port has evaluated these seven previously reported sources of fill to determine what
21 additional “Phase I” (site use review) or “Phase II” (soil testing) evaluation was to be
22 conducted to satisfy the new requirements of the 401 Certification (“supplemental
23 information”). For some sources, the necessary additional information was minimal (e.g., an
24 update of the database review or discussion of the current site status). For other sources, a
25 more thorough evaluation was deemed appropriate. All required supplemental information for
26 these sources was obtained and provided in the November 2001, December 2001, and January
27 2002 monthly Ecology fill submittal reports.

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35. Existing Fill Sources Meet Fill Criteria and/or Pass SPLP Screening Criteria.

Concentrations of metals and TPH for three of the seven fill sources were below the 401 Certification numeric fill criteria presented in Condition E.1.b. of the 401 Certification. Each of the remaining four sources had one or more samples that exceeded the numeric fill criteria for beryllium, chromium, and/or copper. At these four fill sources, no anthropogenic (human-caused) source of metals was identified, therefore, the exceedances were attributed to the variability of naturally occurring metals. This was not unexpected as the numerical fill criteria for these three metals were developed based on the upper 90th percentile for background concentrations in the Puget Sound region, meaning that for each constituent, 10% of natural soils are statistically predicted to exceed the criteria. There is an increasingly greater probability that a sample will exceed a background criterion with every additional metal considered (for instance, statistically, 19% chance for two metals and a 27% chance for three metals). Because more of the criterion in the drainage layer cover are based on background values, there is a greater chance of exceedances for fill proposed for the drainage layer cover. Samples from these four fill sources were subsequently evaluated using SPLP protocols contained in Attachment E of the 401 Certification. All SPLP test results passed the SPLP screening criteria.

I declare under penalty of perjury under the laws of the state of Washington that the foregoing is true and correct.

Executed at Seattle, Washington, this 6th day of March 2002.

Elizabeth Clark
Elizabeth Clark

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ELIZABETH CLARK. P.E.

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EMPLOYMENT HISTORY:

Port of Seattle – SeaTac, Washington

Independent Consultant/Environmental Manager, 1997-2000

Provide support to the Port of Seattle Environmental Group at the Seattle-Tacoma International Airport. Specific responsibilities include coordination of incoming fill to the Third Runway Project; environmental review of new property acquisitions; review of project plans and specifications for environmental compliance; and oversight of contaminated site investigations and cleanup. Work involves coordination of environmental project requirements with larger site development and construction activities during a time of unprecedented growth at the airport. Activities involve interaction with other airport departments, the public, and airport tenants as well as a working knowledge of regulatory requirements.

Responsibilities include project management, strategic planning and budgeting, project briefings, and consultant coordination. Projects have included Third Runway Construction, Concourse A Terminal Expansion, and Central Terminal Expansion.

Port of Tacoma - Tacoma, Washington

Environmental Program Manager, 1993-1996

Managed a variety of environmental and site development projects as part of the Port Environmental Team. Project work involved close coordination with other Port departments, tenants, regulatory agencies, tribes, and the general public. Represented the Port at public meetings, hearings, and similar forums.

Provided project management assistance on environmental projects including the permitting of a major container terminal on the Blair Waterway, including extensive interaction with a variety of regulatory agencies and tribes on habitat mitigation, site permitting, and cleanup issues. Also managed other projects involving tenant compliance, site cleanup, and Port environmental compliance.

Landau Associates, Inc. - Edmonds and Tacoma, Washington
Project Engineer/Tacoma Branch Manager, 1985-1993

Over eight years of progressive experience with a Washington-based consulting firm dealing with a variety of engineering and environmental issues. Office manager for the company's Tacoma branch office.

Project manager for numerous environmental studies and cleanups throughout Washington and Oregon. Provided consultation and training to clients as well as others within the firm concerning the application of the Model Toxics Control Act regulations.

Washington State University, Civil and Environmental Engineering Department - Pullman, Washington
Research Assistant, 1983-1985

Assisted in research projects including the reclamation of a dredge-mined stream in central Idaho and analysis of land use impacts on streamflow characteristics of several western Washington streams.

RELATED EXPERIENCE:

Licensed Civil Engineer in Washington State
Kepner Tregoe Project Management Training Certification
Port of Tacoma representative to WPPA Environmental Committee (1994-1995)
Participant Association Washington Business Environmental Group (1990-1993)
Speaker at numerous conferences and briefings regarding the application of the Model Toxics Control Act

EDUCATION:

M.S. Geological Engineering, 1985, Washington State University. Thesis topic: Evaluation of land use impacts on low stream flows of several western Washington streams.

B.S. Geological Engineering, 1982, University of New Hampshire, *magna cum laude*.