

**To:** Michael Wolf  
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**Subject:** Summary of comments and response to comments received on the NPDES 1200-A application for Oregon Resources Corporation proposed chromite mine in Coos County

### **Overview**

Due to the similar nature of many comments, comments are summarized in categories, and DEQ and DOGAMI response follows. To focus on the comment rather than who submitted it, reference for the comment is made with a number. The list of people providing comment and their corresponding reference numbers follow at the end of this memo.

### **Organization of comments and responses**

An acronym list is provided to assist in review of this document. Comments and responses follow and are organized into categories:

- 1200-A Stormwater Discharge General Permit Registration..... 2
- 1200-A Permit Conditions ..... 7
- Threemile and Fivemile Creeks and Coos Bay..... 9
- Stormwater Pollution Control Plan..... 11
- Groundwater ..... 19
- Site Inspections and Monitoring ..... 22
- General Concerns..... 23
- Comments Outside the Scope of 1200-A Registration ..... 24
- List of Commenters..... 28

### **Acronym List**

1200-A = NPDES 1200-A Stormwater Discharge Permit  
ACOE = U.S. Army Corp of Engineers  
BMPs = best management practices  
CFR = Code of Federal Regulation  
DEQ = Oregon Department of Environmental Quality  
DOGAMI = Oregon Department of Geology and Mineral Industries  
DSL = Oregon Department of State Lands  
ESA = Endangered Species Act  
ESCP = Erosion and Sediment Control Plan  
NMFS = National Marine Fisheries Service of the National Oceanic and Atmospheric Administration, U.S. Department of Commerce  
NPDES = National Pollutant Discharge Elimination System  
OAR = Oregon Administrative Rule

ODF= Oregon Department of Forestry  
ORC = Oregon Resources Corporation  
ORS = Oregon Revised Statute  
OWRD = Oregon Water Resources Department  
SWPCP = Storm Water Pollution Control Plan  
SIC = Standard Industrial Classification code for the *1987 Standard Industrial Classification Manual*, Office of Budget and Management, Executive Office of the President  
TDS = total dissolved solids  
TSS = total suspended solids

### **1200-A Stormwater Discharge General Permit Registration**

1. **Comment:** Why is the stormwater permit considered “general” instead of “individual”?  
[13]

**Response:** General permits, such as the 1200-A, are developed by DEQ when the agency believes that a group of activities can be regulated with the same set of conditions regardless of where an individual operation may occur. While there are no site-specific conditions in general permits, general permits require that applicants address site-specific conditions through the development of management plans or other means as required by the general permit. For example, a mining activity in Bend would have the same set of conditions as a mining activity in Coos Bay if both operations meet the registration requirements of the 1200-A. Site-specific conditions in either case would be addressed by the applicant’s stormwater pollution control plan as required by the 1200-A. If an operation cannot meet the registration requirements of a general permit, DEQ would require application for an individual permit.

2. **Comment:** The 1200-A General NPDES permit is not the appropriate permit for chromite mining because the 1200-A General NPDES permit does not govern the Standard Industrial Classification for chromite mining. Why is the Applicant requesting coverage under a permit that does not encompass chromite mining? [28] How has DEQ confirmed that ORC’s proposed operation is a facility with primary SIC code 14 and subject to coverage under the 1200-A? [30]

**Response:** The 1200-A was developed to provide coverage for all activities within Standard Industrial Classification (SIC) code 14 *Mining and Quarrying on Nonmetallic Minerals, Except Fuels*. SIC code 14 includes SIC 1446 for mining of industrial sand and applies to the mining of chromite, garnet, and zircon mineral sands for industrial purposes. SIC code 1446 accurately describes ORC’s proposed mining activity; therefore, ORC’s request for coverage under the 1200-A is appropriate. To determine whether a primary SIC code assignment is appropriate, DEQ reviews the *1987 Standard Industrial Classification Manual*, which was in effect at the time the federal NPDES stormwater regulations were adopted by EPA.

3. **Comment:** Why does DEQ not require an individual permit for stormwater discharges given the adverse environmental effects associated with this mining operation? [28] On what basis did DEQ determine that ORC would meet the benchmark values in the 1200-A

Permit? On what basis did DEQ determine that ORC qualifies for coverage under the 1200-A Permit, rather than an individual permit for stormwater discharges? [30] ORC should be issued an individual stormwater permit, rather than a general permit that can be issued to truck stops and the like, especially when there is a high potential for toxic heavy metals to pose potential health hazard and an industrial wastewater discharge will occur (mining is an industry). [13, 14, 19] The ORC stormwater permit application should be denied because there is not enough evidence to show that runoff from ORC's operations will not pollute the area. [4, 12, 19, 22, 25, 28, 31] On what basis did DEQ determine that ORC would meet the benchmark values in the 1200-A Permit?

**Response:** DEQ and DOGAMI determined, through review of ORC's application - which included their SWPCP, ESCP, haul road plan, and other supplemental information - that stormwater and pit water exposed to industrial activities associated with the mining of chromite, garnet, and zircon industrial sands can be appropriately managed under the 1200-A. An individual permit will not be required because ORC has met the 1200-A registration requirements. The material proposed to be mined is loose sediment (mineral sand), not ore (ore is by definition a rock; rock by definition contains more than a single mineral grain). Further, processing is accomplished offsite through physical separation with the use of a flocculant rather than smelting and/or chemical leaching. As a result, the materials returned to the mining site after processing do not leach heavy metals and have been determined by DEQ to meet the definition of clean fill (see DEQ letter re: solid waste permit exemption determination to ORC dated October 14, 2009).

As discussed in the response to comment #2 on p. 2, the 1200-A covers industrial activities under SIC code 14. Truck stops are typically under SIC code 55 and are not required by federal regulation to obtain an NPDES permit for stormwater discharges to surface waters. Wastewater from 1200-A activities typically results from the washing of rock to separate out fines. ORC is not proposing to conduct such washing activities. Pit water that is contaminated by sediment from mining activities must be managed on site (see comment #48, p. 21, for more information).

Please note that there were several permitting and certification actions that preceded DEQ and DOGAMI's review of and decision on ORC's 1200-A application: the DEQ 401 Certification/ACOE permit, DSL Wetland Permit, and DOGAMI Operating Permit. As part of the DEQ 401 certification process conducted prior to receipt of the 1200-A application, DEQ evaluated the potential for hexavalent chromium to be generated by the mining operation and concluded that it was unlikely for hexavalent chromium to be generated at significant levels that would pose a threat to human health or aquatic species (DEQ June 2009 memo re: *Hexavalent Chromium Generation Potential, Oregon Resources Corporation*).

4. **Comment:** Approve ORC's 1200-A permit and develop a monitoring program that is similar to other mining activities in our region. [15]

**Response:** DEQ and DOGAMI approved ORC's registration to the 1200-A. No additional monitoring requirements were established as part of the approval process; however, ORC is required to comply with the existing monitoring requirements specified in the 1200-A and

its associated SWPCP. ORC is also required to conduct additional monitoring as required by their DEQ 401 Certification/ACOE permit, DSL Wetland Permit, and DOGAMI Operating Permit.

5. **Comment:** How will DEQ ensure that ORC's operations do not include mining of heavy metals such as gold and platinum, which would not be covered by the 1200-A? [30]

**Response:** DEQ and DOGAMI relied on the information in ORC's application to determine the type of activity that is being proposed. According to ORC's 1200-A application, they are not proposing to mine for gold or platinum.

6. **Comment:** It is unacceptable that the agencies are relying on data supplied by a company that was hired by ORC to do their impact analysis because the consultant will be biased in favor of their client. [29]

**Response:** The review of ORC's 1200-A application and supporting materials was consistent with normal agency practice. DEQ and DOGAMI typically rely on information submitted by a permit applicant and the applicant's consultant to determine whether registration to the 1200-A will be approved. If necessary, DEQ and DOGAMI will typically request additional information from the applicant or conduct independent research on issues of concern. Applicants are also required to certify under penalty of law that the information they submit is true and accurate to the best of their knowledge. There are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowingly submitting such information. See 40 CFR 122.22(d) for certification requirements.

As discussed in the response to comment #3, p. 2, there were several permitting and certification actions that preceded DEQ and DOGAMI's review of and decision on ORC's 1200-A application. These processes generated significant review of ORC materials by various government agencies and resulted in requests for additional information from ORC and DEQ's research on hexavalent chromium.

7. **Comment:** DEQ failed to give the public a full opportunity to comment on the application. Will the DEQ extend the permit period so that the public can meaningfully comment on the entire application for the entire comment period? Why has the DEQ not provided the public with the full comment period as required by OAR 340-045-0027? [28]

**Response:** As described below, DEQ provided the public with an adequate opportunity for public comment in accordance with OARs and requirements of the 1200-A. The public comment period was extended from its required 14-day period with an original end date of March 22, 2010 to May 12, 2010. No additional public comment period is planned.

"Registration" to a DEQ general permit is regulated by OAR 340-045-0033, which specifies that the general permit itself must describe the procedures to be followed for registration. Registration is not subject to the public notice and hearing requirements in OAR 340-045-0027 because it is legally a different process than "issuance" of a general or individual permit. Regulations differ between individual and general permits because

general permits are not site-specific. DEQ develops a general permit only when it believes the activity can be adequately regulated with the same set of conditions regardless of where an individual operation may occur. Once the general permit is issued, DEQ registers qualified applicants to the general permit if they can demonstrate that they are able to meet the conditions of the permit. The registration process varies between general permits.

The 1200-A was issued in 2007 and public notice and hearings on the specific conditions of the permit were conducted by DEQ prior to its issuance as required by OAR 340-045-0027. Once DEQ has evaluated an applicant's proposal to determine if it qualifies for registration to the 1200-A, the 1200-A specifies that DEQ must provide a minimum of 14-calendar days for public review and comment on the registration application.

8. **Comment:** The permit application lacks necessary information. Existing sources must submit an application for an individual or general permit containing quantitative data based on samples collected during storm events from all outfalls containing stormwater discharge associated with industrial activity. 40 CFR §122.26(c)(1)(E)(1). New sources must submit estimates for the pollutants or parameters limited in an effluent guideline. 40 CFR §122.26(c)(1)(G). These regulations apply to all discharges in Oregon. 40 CFR §123.25. What other pollutants (not including turbidity) will be discharged from outfalls 001, 002, 003, and 004? [28]

**Response:** 40 CFR §122.26(c)(1)(E)(1) and 40 CFR §122.26(c)(1)(G) cited by the commenter refer to application requirements for facilities that are required to obtain an *individual* permit [see introductory paragraph at 40 CFR §122.26(c)(1)]. 40 CFR §122.28(b) is the correct citation that specifies the applicable procedures for administration of general permits. General permit applications must require the submission of information necessary for adequate program implementation. At a minimum, the application must include the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream. The DEQ and DOGAMI application requirements for the 1200-A meet this minimum federal requirement.

Oregon is required by 40 CFR §123.25 to have legal authority to implement the provisions of the NPDES permit program set out in CFR. To ensure that the Oregon program is sufficient, EPA regularly audits DEQ and reviews NPDES individual and general permits for consistency with federal regulation. 40 CFR §123.25 also notes that states are not required to implement provisions identical to federal regulation provided the provisions are at least as stringent as the federal regulation. As a result, a state's permit program will not always be identical to the federal program.

Mining activities regulated by the 1200-A have the potential to discharge turbid stormwater caused by total suspended solids and settleable solids, as well as stormwater contaminated with oil and grease from vehicles and machinery and stormwater with varying pH levels due to acid rain and soil and mineral pH values. DEQ and DOGAMI expect that similar pollutants may be present in stormwater discharges from ORC's proposed mining activity.

9. **Comment:** Why has DEQ not required the applicant to provide all information directly requested by the 1200-A permit application, specifically the information requested in the

site description of the SWPCP? Why has DEQ not required the applicant to provide all information related to stormwater discharge from the associated haul roads and access roads for this chromite mining operation? Why has DEQ not required the applicant to provide information related to stormwater associated with mining operations and not limited only to reclamation activities associated with the mine sites? [30]

**Response:** The 1200-A application provided to DEQ and DOGAMI by ORC was complete and sufficient. ORC provided their SWPCP, ESCP, and haul road plan along with additional documentation to DEQ and DOGAMI for review. These materials addressed both activities associated with the mining operations as well as reclamation activities for the site.

10. **Comment:** There is no evidence of an individual DEQ Anti Degradation Analysis for the ORC permit. [6, 14, 21]

**Response:** An anti-degradation analysis for the 1200-A was conducted in August 2006, prior to its adoption in 2007; a separate analysis for registration of an applicant to the 1200-A is not required. For more information, the 1200-A permit development documents under item K on DEQ's website at:

<http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

11. **Comment:** The application states that spills of petroleum products to land in amounts of 42 gallons or less do not need to be reported to DEQ. According to the application, it appears that this volume is deemed acceptable for a single spill occurrence. How has DEQ determined that a spill of 42 gallons of oil or less is not significant enough to warrant reporting? [30]

**Response:** OAR 340-142-0050(1)(b) requires any quantity of oil that would produce a visible film, sheen, oily slick, oily solids, or coat aquatic life, habitat, or property to be reported if spilled or discharged into waters of the state or in a location from which it is likely to escape into waters of the state. OAR 340-142-0050(1)(c) requires reporting of any quantity of oil over one barrel (42 gallons) spilled on the surface of the land that is not likely to escape to waters of the state. The 1200-A application references both of these requirements.

12. **Comment:** An economic analysis should have been done that included pollution impacts and impacts of the damage that will be caused to the watershed by this project. [8, 29]

**Response:** An economic analysis of pollution impacts is not required as part of the 1200-A application. The purpose of the 1200-A is to prevent damage to the watershed by prohibiting the pollution in violation of instream water quality standards and groundwater standards. Permit violations are subject to enforcement action by DOGAMI and DEQ and may include the assessment of civil penalties by DEQ. The amount of a civil penalty reflects the type of alleged violator and violation(s) and the severity, frequency, and duration of the alleged violation(s). Other factors are also considered such as the history of compliance or noncompliance with environmental laws, degree of negligence, and the economic benefit gained through noncompliance.

13. **Comment:** Landowners adjacent to the Section 33 mining site are concerned that the project will affect water quality, both surface and ground, and wonder why recent application materials do not reference the Section 33 site. [23]

**Response:** The Section 33 mining site was included in the DOGAMI Operating Permit; however, ORC does not have county approval to haul material on the adjacent portion of Seven Devils Road. Due to this fact, ORC has withdrawn the Section 33 site from consideration at this time.

14. **Comment:** The commenter believes we must trust the officials who oversee these processes and trust you will protect the environment with the best possible plan to mine this area [2].

**Response:** DEQ and DOGAMI are committed to ensuring that regulated activities are in compliance with applicable state statutes and rules. Both agencies appreciate the time and effort citizens have taken to review and comment on ORC's proposed mining activities.

### **1200-A Permit Conditions**

15. **Comment:** If the permit applicant develops, implements, and revises its SWPCP in compliance with Schedule A, then DEQ assumes that the discharges will comply with instream water quality standards unless the department obtains evidence to the contrary. First, DEQ's assumption does not ensure water quality standards are met. DEQ puts the unreasonable burden on the public to prove a violation of water quality standard with coincident samples of the discharge at upstream and downstream locations in the receiving water body. Regardless of DEQ's assumption that belies the purpose of the SWPCP, the numerous shortcomings in the Applicant's Schedule A defeats DEQ's unreasonable assumption. Therefore, the Applicant must (1) Develop and implement an action plan that describes additional effective BMPs to address the parameters of concern and their locations at the site; (2) Submit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is meeting water quality standards; or (3) Curtail stormwater pollutant discharges to the extent possible and submit an individual permit application. Why will DEQ assume compliance with water quality standards without actually requiring proof of compliance? [28]

**Response:** The 1200-A was developed, in part, to ensure compliance with water quality standards and visual monitoring and grab samples are required to determine compliance with permit conditions. The terms and conditions in the 1200-A were subject to public notice and comment prior to its adoption in August 2006 and the permit itself is not open for public comment at this time. Only comments regarding the registration of ORC for coverage under the permit may be considered. For more information on development of the 1200-A benchmarks and selection of indicator pollutants for monitoring to ensure compliance with water quality standards, please see the permit development documents under item K on DEQ's website at:

<http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

16. **Comment:** Will DEQ include in the Permit requirements for monitoring of pH and other pollutants in receiving streams in order to establish background levels and any change due to mining activities, as stated would be required in the 401 Certification? [30]

**Response:** The DEQ 401 Certification established additional monitoring requirements as part of its process. Additional monitoring requirements as part of the 1200-A registration process will not be required. The 1200-A was subject to public notice and comment prior to its adoption in August 2006 and the permit itself is not open for public comment at this time. For more information on development of the 1200-A benchmarks and selection of indicator pollutants for monitoring to ensure compliance with water quality standards, please see the permit development documents under item K on DEQ's website at: <http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

17. **Comment:** Evaluation of the last four samples collected from each outfall monitored is required on the 4th year of permit coverage to determine whether the geometric mean exceeds benchmark. The purposes of the benchmarks would be frustrated because three of the sites will be finished within a year or a year and a half. Four years is unreasonably long to delay determination of exceedances. Because these samplings ensure compliance, they should be performed at an earlier time where they can be effectively aid in reducing pollutant concentrations, or, at the very least, samplings must be taken before mining is completed. Why will there be an unreasonable four-year delay in the benchmark compliance evaluation when it can identify effective means to reduce pollutant concentration? [28] DEQ should not wait four years before enforcing stronger requirements if such requirements are necessary to insure compliance with applicable water quality standards. Why did DEQ decide to employ the benchmark compliance evaluation only after the fourth year of permit coverage? [30]

**Response:** The 1200-A was subject to public notice and comment prior to its adoption in August 2006 and the permit itself is not open for public comment at this time. For more information on development of the geometric mean evaluation, please see the permit development documents under item K on DEQ's website at: <http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

The purpose of the benchmark evaluation in the 4<sup>th</sup> year of permit coverage is to determine whether the facility should be allowed to remain on the 1200-A or be required to apply for an individual permit; it does not delay the evaluation of stormwater monitoring data. Condition A.9 *Response to Benchmark Exceedance* of the 1200-A clearly lays out the process the permit registrant must follow should a benchmark be exceeded. If a stormwater sampling result exceeds any of the benchmark values, the permit registrant must, within 30 calendar days of receiving the sampling results, investigate the cause of the elevated pollutant levels, review the SWPCP, and submit an Action Plan for DEQ or DOGAMI approval.

18. **Comment:** Under the 1200-A permit, the Applicant may discontinue collection of grab samples for the remainder of the permit term if four consecutive sampling results meet the benchmarks. This requirement is not reasonable under these circumstances because the Applicant will be performing different activities. Four consistent measurements do not

ensure that future grab samples would be in compliance. An activity may consistently exceed benchmarks after a brief period of compliance. This is insufficient to protect the environment. Why will the DEQ allow benchmark exceedances after a brief period of compliance? [28]

**Response:** The 1200-A was subject to public notice and comment prior to its adoption in August 2006 and the permit itself is not open for public comment at this time. For more information on the monitoring waiver provision, please see the permit development documents under item K on DEQ's website at:

<http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

Monitoring waivers do not automatically imply that benchmarks will be exceeded. If changes are made to site conditions that are likely to affect stormwater discharge, the 1200-A requires the registrant to resume monitoring. DEQ or DOGAMI may also revoke a monitoring waiver if site conditions change. In addition, the 1200-A does not allow monitoring waivers for visual observations to ensure that stormwater discharges are regularly observed.

19. **Comment:** The stormwater permit does not contain a condition for testing or treating the groundwater discharge from the dewatering process prior to infiltration for contaminants such as hexavalent chromium, arsenic, and zinc. Testing of the discharge should be done on a daily basis because the chemistry involved is complex. This permit should not be issued until groundwater and stormwater analytical data have been collected. [6, 11, 21] Although chromite is supposedly a stable mineral, many of us have read opinions to the contrary, and even several of your DEQ documents mention the need for concern and continual monitoring of this mining activity [23, 3].

**Response:** The 1200-A does not require testing or treating for the contaminants detailed in the comment. DEQ and DOGAMI reviewed the potential for the generation of high concentrations of heavy metals in runoff from the site and concluded that the potential for elevated levels of heavy metals to be generated by the proposed activity is low. Please see the response to comment #38, p. 16, for more information on the determination that tailings from the site do not leach heavy metals such as chromium and the response to comment #45, p. 19, for a summary of the groundwater and hexavalent chromium analyses.

### **Threemile and Fivemile Creeks and Coos Bay**

20. **Comment:** Turbidity standards should be established for creeks near the mining operations in light of the capacity of these creeks to hold several species of anadromous fish and the potential for stormwater runoff to affect ocean fisheries. [6, 13, 14, 21]

**Response:** The turbidity standard for Oregon's surface waters is detailed in OAR 340-041-0036. No more than a ten percent cumulative increase in natural stream turbidities may be allowed, as measured relative to a control point immediately upstream of the turbidity causing activity. However, limited duration activities necessary to address an emergency or to accommodate essential dredging, construction or other legitimate activities that may

cause the standard to be exceeded may be authorized by DEQ. For more information, please visit DEQ's website at: <http://www.deq.state.or.us/wq/standards/turbidity.htm>.

21. **Comment:** In the General Stormwater Control Plan, Section 2 Discharge Information, paragraph e: TMDL has not been established for these creeks. Why?[6, 21]

**Response:** There are no TMDLs for Threemile and Fivemile Creeks in the Coos Subbasin of the Southern Oregon Coastal basin because none is required at this time. TMDLs are only required when water bodies are listed by DEQ as not meeting water quality standards and these creeks are not listed as impaired. For more information on the assessment of water bodies for TMDLs, please visit DEQ's website at: <http://www.deq.state.or.us/wq/assessment/2010Report.htm>.

22. **Comment:** The EPA regulates a variety of pollutants in its stormwater permits. DEQ, on the other hand, restricts its analysis to only six pollutants, including pH, suspended solids, settleable solids, oil and grease, oil and grease sheen, and turbidity. DEQ's arbitrary restriction does not ensure that stormwater pollution will effectively be mitigated in Threemile and Fivemile Creeks. Why has DEQ not assessed all potential pollutants in Threemile and Fivemile Creeks? [28] The 1200-A permit should not be approved because, as stated above, all of the potential discharges have not been disclosed and monitored. Because DEQ has insufficient information about these water bodies that support federally threatened and proposed species and numerous deficiencies are contained within the application, DEQ cannot in good faith approve the Applicant's permit. DEQ must take precautionary measures and make an informed decision on this application only after it has the requisite information on Threemile and Fivemile Creeks. Why has DEQ allow an application for stormwater pollution to be considered without having the requisite data on the water bodies at issue? [28]

**Response:** DEQ and DOGAMI have sufficient information on Threemile and Fivemile Creeks from ODFW, OWRD, DSL, and NMFS. This information included endangered and threatened and species in the creeks as well as water quality of the creeks. In addition, the water bodies are not on DEQ's 303(d) list of impaired water bodies. For a general overview of the available information, the commenter is directed to the *DEQ Evaluation Report and Findings on the Application for Certification Pursuant to Section 401 of the Federal Clean Water Act Submitted via Joint Permit Application to U.S. Army Corps of Engineers for Oregon Resources Corporation Industrial Heavy Minerals (chromite, zircon, garnet) Mine near Coos Bay, Oregon, File #2007-00538*. This document also refers to other references that were consulted to prepare for the 401 certification and describes the public notice process for DEQ 401 certifications. DEQ's stormwater program and DOGAMI reviewed the information consolidated by the DEQ 401 certification process to assess Threemile and Fivemile Creeks as part the 1200-A application process.

For more information on the selection of indicator parameters for stormwater monitoring required by the 1200-A, please see the permit development documents under item K on DEQ's website at: <http://www.deq.state.or.us/about/eqc/agendas/2006/200608EQCagenda.htm>.

23. **Comment:** OAR 340-041-0305(2) lists water quality standards for the South Coast Basin, and it states that 100.0 mg/l may not be exceeded for total dissolved solids. The benchmark for total suspended solids lists the benchmark at 130 mg/l. The benchmark in the 1200-A General NPDES and the water quality standards in the OARs are inconsistent. DEQ must use the more restrictive standard found in the OARs. Why is the benchmark for total suspended solids inconsistent with the water quality standard for total suspended solids for the South Coast Basin in the OARs? [28]

**Response:** As the commenter notes, the water quality standard in OAR for the South Coast Basin is for *total dissolved solids (TDS)* and the benchmark in the 1200-A permit is for *total suspended solids (TSS)*. The benchmark is not the same as the standard because total suspended solids (material trapped by a glass fiber filter) is not the same parameter as total dissolved solids (material passing through a glass fiber filter). There is no water quality standard for total suspended solids in the South Coast Basin.

24. **Comment:** The Coos Bay Estuary has been added to the Oregon 303(d) list in 2004 for fecal coliform contamination. It is already a compromised water-body system. Estuaries are the most important and dynamic habitat type known on earth, where fresh and saline waters mix, creating natural resource biomass far exceeding all others. Recent signs show improvement or biological recuperation of the Coos Bay estuary. Notwithstanding this important healing process, the ORC development could reverse this biological recovery and cause irreplaceable and irretrievable ecosystem change. It is far off the mark stating there would only be 'limited adverse environmental impact' from the Oregon Resources Corporation strip-mining project. [29] Given that the mining sites sit at a much higher elevation than the ocean, stormwater runoff will drain towards the beach and may affect ocean fisheries. [13, 14]

**Response:** The 1200-A does not allow the discharge of sanitary sewage and prohibits discharges in violation of water quality standards. ORC mining area operations are located some distance away from Coos Bay and are not expected to contribute fecal coliform loads or any other pollutant load that would exacerbate the current condition of the bay or harm ocean fisheries and habitat for freshwater fish.

Please note that there were several permitting and certification actions that preceded DEQ and DOGAMI's review of and decision on ORC's 1200-A application. These included the DEQ 401 Certification/ACOE permit, DSL Wetland Permit, and DOGAMI Operating Permit. As a part of these actions, potential impacts to fisheries were evaluated by ODFW and NMFS. DEQ, DOGAMI, and DSL added conditions to their respective certifications and permits to address ODFW and NMFS's concerns. ODFW also plans to assist DOGAMI during inspections of ORC's practices to ensure that fish habitat is not being impacted.

### **Stormwater Pollution Control Plan**

25. The Permit requires the applicant to "[e]stimate the maximum amount of surface area that, within the next five (5) years, will be stripped of vegetation and could contribute to stormwater discharges relative to the total area drained by each stormwater outfall." Permit,

Sch.A.3.b.v. ORC indicates on its application that there will be four outfalls. Outfalls 001 and 002 are located at the West Bohemia mine site. The West Bohemia mine site will disturb an estimated total impact area of 92.36 acres. ORC indicates that Outfall 001 will drain only the stripped 7.9-acre Mitigation Site A and approximately 10 additional acres that will slope toward the mitigation site. ORC states that Outfall 002 will discharge from a stripped area including the 4.4 acre Mitigation Site B and approximately 4 additional acres that will slope toward the mitigation site. This accounts for only 26.3 acres of the total 92.36 acres of disturbed area. Outfall 003 is located near the North Seven Devils mine site. The North Seven Devils site will disturb an estimated total of 21.75 acres. ORC states that the stripped area that will discharge to Outfall 003 includes approximately 1 acre of temporary haul road footprints and 3.8 acres of land sloping towards the reconstructed conveyances. This accounts for only 4.8 acres of the total 21.75 acres of disturbed land at the North Seven Devils mine site. How will DEQ ensure that the reclamation of the disturbed areas not accounted for by ORC's outfalls will not contribute to stormwater runoff and increased pollution and sedimentation of Threemile and Fivemile Creeks and the Pacific Ocean? [30]

**Response:** 1200-A applicants are asked to estimate the expected disturbance over a 5-year period for each area *drained by a stormwater discharge point*, which is not necessarily the total area that will be disturbed. As a result, this estimate may not always reflect the total area planned to be mined. If ORC determines during actual operation that they will likely need to drain more disturbed acreage than initially estimated, they may submit an action plan to DEQ and DOGAMI for approval if it is necessary to modify their SWPCP and ESCP to manage the increased drainage area.

26. **Comment:** Pumping water uphill does not seem like an appropriate stormwater management technique. [5]

**Response:** The 1200-A does not prohibit the pumping of stormwater water uphill. Under ORC's SWPCP, stormwater and pit water (groundwater that seeps into the pit) will be pumped out of the mine excavation and applied to either adjacent undisturbed ground within the excavation boundary or to areas that have been already been mined out and backfilled for infiltration into the ground. The local topography of the site receiving the water and vegetation and soil conditions will influence the rate and amount of water that is pumped for infiltration. The 1200-A requires that ORC monitor and manage stormwater and pit water that is land applied in a manner that is consistent with its SWPCP and in compliance with instream water quality standards and state groundwater standards.

27. **Comment:** Why will the Applicant not utilize oil/water separators to contain, eliminate, or minimize oil and grease contamination of stormwater discharges? Why will the Applicant not employ other methods, aside from booms and skimmers, to contain, eliminate, or minimize oil and grease contamination of stormwater discharges? Why are booms and skimmers sufficient in light of the Applicant's failure to employ other methods to contain, eliminate, or minimize oil and grease contamination from stormwater? [28]

**Response:** ORC's SWPCP specifically states that oil absorbent booms will be used in the event of an oil or grease leak. This is a common and effective best management practice at

mining sites throughout the state. Typically, the installation of an oil/water separator occurs when an area is paved and piped for stormwater drainage. DEQ and DOGAMI do not believe that increasing the impervious area of the site by paving and piping stormwater drainage to accommodate such a practice is necessary or prudent at this time. If the measures proposed in ORC's SWPCP are ineffective at preventing the contamination of stormwater runoff, the 1200-A requires that ORC modify its SWPCP to adequately address the problem.

28. **Comment:** Why has the Applicant not identified the general types of chemicals and similar products that might be used or stored on site in their ESCP? [28]

**Response:** ORC's SWPCP section 1 identifies fuels, oil, grease, raw material (soil, overburden, and mineral sands), turbidity, and material backhauled from the processing plant as substances that may be stored on site.

29. **Comment:** Why has the Applicant not provided specific information with regard to the storage and containment measures in section 12.2 of the ESCP? [28]

**Response:** ORC's SWPCP identifies storage and containment measures specific to the vehicles and equipment that will be used on site. The exact location of these measures will change through the life of the mining operation, which is standard practice for this type of operation.

30. **Comment:** Why has the Applicant not provided any specifics of waste materials disposal? [28]

**Response:** The ESCP, referred to in ORC's SWPCP, provides additional detail on expected waste material and waste management practices. ORC will provide portable sanitary facilities for workers and labeled accessible containers for solid waste disposal. The 1200-A requires that all waste materials be recycled or properly disposed.

31. **Comment:** Heavy rainfall on the south Oregon coast at times overwhelms most drainage systems, and therefore also will overwhelm Oregon Resources Corporation stormwater management systems. ORC's system should be engineered to accommodate the volume of the heaviest anticipated rainstorms, and untreated stormwater should not be allowed to run off-site over permit limits. Treatment should remove silt, brake dust, oil, and other contaminants. Water management systems (e.g., pumps) should be redundant and have backup systems. [5] The Applicant has failed to address the excessive rainfall in the geographic area. It is questionable as to whether the Applicant is taking appropriate precautions in an area with annual rainfall that can exceed eighty inches of rain per year. Where, in its application, has the Applicant considered the excessive rainfall of the geographic region? How will the Applicant mitigate and account for numerous allegedly minor increases in stormwater volume associated with the project? How will the DEQ reconcile the Applicant's conflicting statements with regard to stormwater volumes? [28] How will DEQ ensure that, during times of high rainfall, the already saturated ground will not be incapable of filtering discharged stormwater and prevent un-separated, contaminated stormwater from discharging directly to surface waters? [30] ORC is proposing to use

pumps and conveyance pipe to bring water from the mining areas to locations above the mining pits to land apply and filter the mine's water. Heavy southern Oregon storms likely will overwhelm the water management system ORC puts in place. Safeguards should be put in place to prevent overflows, and the system should be easy to inspect. In addition, the ground is typically saturated during the winter, so any land-applied water will run off. This should be prevented. [4, 14, 25]

**Response:** DEQ and DOGAMI are familiar with the various precipitation zones in Oregon and regulate activities throughout the state that receive significant amounts of rain. DEQ and DOGAMI reviewed ORC's SWPCP, which includes their ESCP, and determined that ORC is implementing appropriate BMPs to address the rainfall amounts expected for the Oregon Coast. DEQ and DOGAMI do not believe that ORC is providing conflicting statements with respect to potential stormwater runoff volumes. In situations that are primarily vegetated with less paved impervious surface, it is inherently difficult to be precise about stormwater runoff volumes. This is due to varying permeability rates associated with different surfaces as well as variations in the density and duration of storm events. The ESCP references the expected rainfall amounts for the area and provides for monitoring of the weather forecast for rainfall events. In addition the ESCP includes construction specifications for the implementation of inspection and maintenance BMPs and operational BMPs (e.g., pollution prevention practices, erosion and sediment control practices) to manage the site during variable rainfall events.

32. **Comment:** Haul roads will result in the discharge of significant amounts of sediment. Has DEQ ensured that the Applicant's activities, road construction, and usage will not result in the discharge of significant amounts of sediment? Haul roads are surrounded by clearcut forest. Clearcuts can result in excessive sedimentation, especially in areas of heavy rainfall. The project area can receive eighty to ninety inches of rain per year. The Applicant must provide more information on recently clearcut areas in order to determine whether excessive sediment from clear cuts will affect the project area's BMPs and other mitigation efforts. What precautions have been taken to ensure that excessive sedimentation from the combination of clearcuts and heavy rains do not adversely affect BMPs? What precautions have been taken to ensure that excessive sedimentation from the combination of clearcuts and heavy rains will not contribute to the discharge of significant amounts of sediment? In those areas where grade does not allow roadside vegetation to filtrate runoff, what BMPs will be employed? How does DEQ expect the public to meaningfully comment on an application that contains omissions for filtration of runoff? [28] How has DEQ determined that the diversion methods will not create increased sedimentation or other pollutant runoff in light of the heavy machinery use, frequent truck traffic, and intensity of activity and ground disturbance in the mining areas? [30]

**Response:** ORC's application package was complete and included the information necessary for public notice and meaningful review. DEQ and DOGAMI do not believe that any relevant information was omitted and our responses to public comment direct commenters to the applicable document for information that commenters believe are missing. Please note that ORC is not responsible for the clear cuts that occurred around the haul roads or activities outside of their proposed mining operation. ORC, however, is responsible for controlling stormwater runoff from their mining operation, including runoff

from their haul roads, and diverting uncontaminated upstream flow in such a manner that they do not cause erosion. ORC's SWPCP states that ORC will redirect runoff from up slope areas around active mining operations to prevent that runoff from causing erosion to areas impacted by mining operations. The ESCP, referred to in the ORC's SWPCP, also specifies measures to control erosion and sediment from roads. ORC's haul road plan refers to practices that will be used to divert runoff. In general, berms, check dams, and increased vegetation will be used to manage diverted flows so they do not cause erosion and increase sedimentation. Stormwater runoff in areas adjacent to haul roads with steep slopes will be managed with road side ditches containing rock check dams to convey the water down slope to areas that are flatter and are vegetated. ORC's ESCP also specifies that energy dissipaters will be used at all locations where stormwater run-on and/or diverted streams will be discharging to stream capture areas or prior to discharging off site and sediment traps and vegetation strips may also be used.

33. **Comment:** As a licensed forest engineer with extensive experience managing stormwater runoff on forest operations and haul routes throughout Coos, Curry and Western Douglas counties, the commenter believes that ORC's plan adequately addresses stormwater runoff issues that would be expected from their mining activities in Coos county.[15]

**Response:** DEQ and DOGAMI believe that ORC's haul road plan and proposed BMPs to control erosion and sediment as described in the SWPCP and ESCP are adequate. The plan and BMPs must be properly implemented, however, to ensure their effectiveness. DOGAMI will inspect the haul road BMPs once they have been installed and prior to full-scale mining operations to ensure that the plan and BMPs are being properly implemented. Additional DOGAMI inspections will be scheduled when hauling and dewatering activities occur during heavy rain events.

34. **Comment:** Wheel washing to prevent tracking of sediment offsite needs to be included in the Stormwater Pollution Control Plan. [6, 21] The runoff from trucks, etc, will affect the watershed via stormwater runoff. [29]

**Response:** ORC's ESCP (referred to in their SWPCP) specifies that they will gravel access roads to the mine site to reduce tracking of sand on to paved roadways. As discussed in the responses to comments #32 and 33 above, ORC's SWPCP and ESCP also include BMPs to prevent runoff of sediment from the gravel haul roads. There are also BMPs to prevent material or water seepage from trucks.

35. **Comment:** Why has the Applicant not taken additional precautions in the form of plastic ground covers to minimize erosion in affected areas? [28]

**Response:** Plastic ground covers and other ground fabric erosion control BMPs are most appropriately used in areas with slopes steeper than 3:1 (horizontal:vertical). The ESCP referred to in ORC's SWPCP specifies that compost blankets and other erosion control matting will be used on steep slopes, which is sufficient to meet the requirements of the 1200-A.

36. **Comment:** Without elaboration, the Applicant states that “[a]dditional BMPs will be implemented to divert and disperse haul road runoff into vegetated upland areas to filter sediment from stormwater and dispose of the water via infiltration.” Why are existing BMPs insufficient to filter sediment from stormwater and dispose of the water via infiltration so that additional BMPs would be required? Why has the Applicant not specifically listed or described these additional BMPs? [28]

**Response:** Mine sites change continually during active mining operations. As a result, implementation of best management practices to adequately provide infiltration capacity for stormwater runoff will also change to address specific site conditions and variable rainfall amounts. This situation is not unique to ORC’s proposed operation; it is a common issue for mining activities throughout the state. The ESCP referred to in ORC’s SWPCP describes additional BMPs that may be used to remove sediment from stormwater runoff dependent on the situation encountered.

37. **Comment:** The Applicant provides no information as to the cleanout provisions it will implement in its utilization of settling ponds. What cleanout provisions will the Applicant employ for settling ponds? [28] Preventative maintenance: No condition has been established for testing the removed material for contaminants.[6, 14, 21]

The ESCP referred to in ORC’s SWPCP specifies maintenance procedures for the erosion prevention and sediment control BMPs to be used at the mining site. Sediment basins will be cleaned out once their settling capacity has been decreased by half (p. 134 of the ESCP). Sediment removed from settling ponds that has not been contaminated with petroleum products or hazardous material may be used as clean fill in the mined out pits or stockpiled onsite in a manner that it will not erode and discharge to surface waters. Contaminated sediments will be disposed of according to DEQ regulation. Section 12 of ORC’s ESCP provides more detail on procedures for chemical storage, containment, and response measures.

38. **Comment:** What precautions will be taken to ensure that tailings do not mix with stormwater from the mine site when using settling ponds? Why has the Applicant not implemented the preventative measure of avoiding removal and stockpiling of overburden or other easily erodible materials during the wet weather season when overburden will be stockpiled on site? [28] How has DEQ determined that the sedimentation and potential pollutants contained in the mine tailings and overburden reclamation material will not cause increased turbidity or pollutant loads in the reconstructed streams, Threemile and Fivemile Creeks, and the Pacific Ocean? How has DEQ ensured that the large stockpiles of biomass and overburden are not a source of pollutants that must be dealt with in the SWPCP? [30]

**Response:** “Tailings” is a generic term most commonly used to refer to processed waste material or overburden (material removed to access the desired product) dumped adjacent to a mine portal or processing plant. Topsoil removed to access the industrial sands and material remaining after the processing of these sands is not considered waste and will be used in the reclamation process. Specifically, the material from the processing operation will be used to backfill the mined out pits. This material was tested by ORC and is considered

clean fill according to DEQ regulations (see DEQ letter re: solid waste permit exemption determination to ORC dated October 14, 2009) meaning it does not leach heavy metals. The ESCP referred to in ORC's SWPCP details erosion and sediment control BMPs for stockpiling of the processed material and the topsoil to ensure that discharges of significant amounts of sediment are prevented. Please note that the 1200-A does not require that material back hauled from the processing plant never reach the settling ponds, rather the permit requires that discharges of significant amounts of sediment be prevented. Settling ponds are often the ideal BMP with which to separate sediments from stormwater prior to the stormwater being discharged off site.

The ESCP also refers to BMPs that will be used when clearing vegetation. Trees, shrubs, and ground cover will be removed and sorted. With the exception of invasive weeds, such as gorse, onsite vegetation will be used as much as possible as mulch and perimeter erosion control. A silt fence or similar perimeter erosion control will be placed outboard of the mulch material in flat or outward downhill sloping areas. Larger woody material will be hauled off site or stockpiled for use during reclamation and/or wetland mitigation. Excess material and noxious weeds will be burned on site when allowed. Finally, the ESCP includes a BMP for scheduling activities with consideration of wet weather events to decrease the potential for erosion to occur.

39. **Comment:** Section 3.1.3.1 of the Stormwater Assessment for the Haul Roads states: "the specific locations of turn-outs will likely vary as mining proceeds through each mine site." It is questionable whether the Applicant can put forth accurate information without knowing the location and placement of turnouts. It is further questionable as to how the public can comment on the application without complete information. How can the effects of the turnouts associated with stormwater pollutants within mine sites be appropriately assessed and mitigated without knowing their location? [28]

**Response:** There are specified turnouts that are located on the maps submitted with the haul road plan dated January 2009. The haul road plan was made available during the public comment period as part of the ORC 1200-A registration application package.

40. **Comment:** The mining may contaminate surface water and groundwater, so someone should be monitoring the workers, staff, the neighbors, wild animal population, and livestock for effects of chromium toxicity. Often the signs and symptoms of the chromium toxicity take years to develop and then progress even after they have been found. [10]

**Response:** Worker safety at mining operations is regulated by the federal Mining Safety and Health Administration and outside of DEQ and DOGAMI jurisdiction. However, as part of the DEQ 401 Certification and DOGAMI Operating Permit processes conducted prior to evaluation of ORC's 1200-A application, DEQ evaluated the potential for hexavalent chromium to be generated by the mining operation and concluded that it was unlikely for hexavalent chromium to be generated at significant levels that would pose a threat to human health or aquatic species (DEQ June 2009 memo re: *Hexavalent Chromium Generation Potential, Oregon Resources Corporation*). For nearby residents, wildlife, and livestock to experience effects of chromium toxicity, they would have to first be exposed to

water containing concentrations of the metal above levels that cause toxic effects and, based on DEQ's analysis, these exposures are not likely to occur.

41. **Comment:** How will the Applicant ensure that no take of a federally listed species will occur when it concedes that it will discharge pollutants into water bodies with federally listed species? How will the DEQ reconcile these apparently inconsistent positions? [28] Has DEQ ensured that ORC's SWPCP complies with the findings of the NMFS report, and that the activities at these sites will not directly or indirectly contribute to increased or unsafe levels of contaminants entering surface waters in violation of the ESA standards? [30]

**Response:** The discharge of stormwater associated with industrial activities to surface waters that is allowed and regulated by the 1200-A does not automatically constitute a taking of threatened and endangered species. As such, there is no inconsistent position that needs reconciliation by DEQ or DOGAMI. As discussed previously, there were several permitting and certification actions that preceded DEQ and DOGAMI's review of and decision on ORC's 1200-A application: the DEQ 401 Certification/ACOE permit, DSL Wetland Permit, and DOGAMI Operating Permit. ODFW, NMFS, and ODFW participated in these actions and ESA issues were adequately addressed through these actions. DEQ and DOGAMI reviewed ORC's SWPCP, ESCP, and haul road plan and believe the plans comply with the NMFS report. If ORC's operations are managed in accordance with the requirements of the 1200-A, ORC will not violate state water quality standards.

42. **Comment:** How will DEQ ensure that a fully functional wetland has been restored and that the wetland will provide the stormwater capture as envisioned by ORC's Stormwater Management Plan? [30]

**Response:** DSL regulates wetland mitigation and will determine when ORC has met its wetland mitigation responsibilities. DEQ does not regulate wetland mitigation; however, the 1200-A requirements remain in effect until there is no longer a point source discharge of stormwater associated with industrial activity to surface waters.

43. **Comment:** How will DEQ ensure that sufficient material is returned to the mining site to restore the land to pre-mining levels and thereby prevent abnormally high levels of water accumulation and runoff? How will DEQ monitor post-fill compaction of the tailings and compaction effects on turbidity, surface flows, and pollutant discharges? [30]

**Response:** DOGAMI regulates reclamation of mining activities through the DOGAMI Operating Permit and will determine when ORC has met its reclamation requirements. DEQ does not regulate reclamation of mining activities; however, the 1200-A requirements remain in effect until there is no longer a point source discharge of stormwater associated with industrial activity to surface waters.

## **Groundwater**

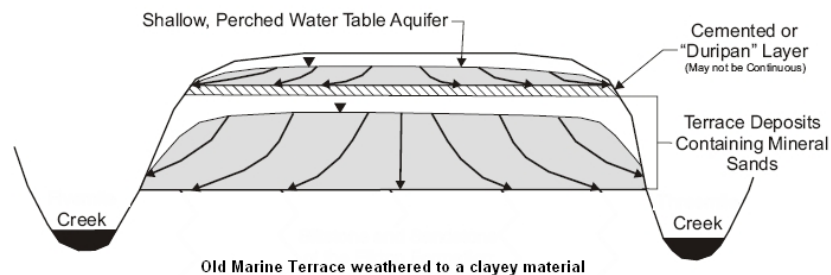
44. **Comment:** Someone at DEQ or DOGAMI needs to understand the local hydrogeology systems or draw on local knowledge about them before mining begins. DEQ or DOGAMI should consult with local experts on the conditions here, including Bandon Dunes and the local Watermaster, about the nature and distribution of aquifers before this permit is issued. [27]

**Response:** DEQ has extensive experience with the local hydrogeology in the site vicinity. DEQ also contacted the local watermaster, Mitch Lewis. He is not a hydrogeologist or geologist, but is somewhat familiar with the “Whiskey Run” type aquifers present in the area.

45. **Comment:** The mining is likely to affect the quality and quantity of groundwater used by 200+ homes that obtain their water supply from water wells. Baseline testing and ongoing testing (e.g., daily) of all drinking water wells in the area should be rigorously enforced [1, 7, 8, 11, 13, 14, 23, 25] Will DEQ require ORC to control stormwater runoff so as not to adversely affect groundwater as required by the 1200-A Permit? [30]

**Response:** The 1200-A prohibits the violation of groundwater standards as well as instream water quality standards. Prior to evaluating ORC’s 1200-A application, DEQ and DOGAMI assessed the potential for the four proposed mining areas to affect nearby groundwater wells as part of the DEQ 401 Certification and DOGAMI Operating Permit processes. Based on site-specific information (geology, hydrology) collected from boreholes and monitoring wells and research on the potential for hexavalent chromium to be generated, DEQ came to the following conclusions:

- Groundwater near the mine pits occurs in beach sands that were deposited on top of old, clayey marine terraces.
- The groundwater rests (“is perched”) on this clay.
- The terraces are divided by deep tributary ravines and drainages of Twomile Creek, Threemile Creek, and Fivemile Creek, which discharge directly to the Pacific Ocean. The ravines and drainages have incised through the sands, and perched groundwater discharges to these creeks. Seeps into the creeks are visible at the contact between the beach sand and the clay.
- These drainages isolate the perched groundwater zones from one another, as shown in the figure below.



- The drinking water wells closest to the mining areas are not present in the same perched groundwater zones (that is, the perched zones are separated from each other) in which the mining will take place or are over a mile or more from the mine sites. As a result, the potential for drinking water well contamination from ORC's operations is very low.
- Hexavalent chromium is unlikely to reach creeks at concentrations that would pose a threat to human health or aquatic species.

Although potential for groundwater and surface water contamination is low, DOGAMI's Operating Permit requires ORC to conduct additional monitoring because of public concerns over the potential uncertainties in DEQ's analysis. ORC is required to implement a groundwater and surface water-monitoring program, including baseline monitoring, monitoring during mining, and monitoring after mining has been completed. DOGAMI also has the ability to modify mining operations to prevent any groundwater contamination if any is detected.

46. **Comment:** Many questions concerning groundwater remain unanswered, including studies of flow quantities and direction, and the aquifer needs to be better delineated through more monitoring wells and piezometers before any permit is granted. At least 3 piezometers are required to assess the water flow quantity and direction in even a simple geologic area. [6, 13, 14, 21, 25]

**Response:** As discussed in comment #45, p. 19, DEQ and DOGAMI evaluated groundwater issues as a part of the DEQ 401 Certification and DOGAMI Operating Permit actions for ORC's proposed mining activities. In shallow, perched groundwater systems, groundwater flow direction typically mirrors the topography of the land surface. In the case of the four proposed mine sites, the monitoring well and borehole information confirms that the mines are located in topographically driven groundwater flow systems. As a result, ORC was not required to install additional piezometers for the purposes of further confirming groundwater flow directions. DEQ and DOGAMI did not receive any additional information during the comment period for ORC's 1200-A application that affected this previous assessment.

47. **Comment:** ORC will break into and destroy the existing aquifers that feed the surrounding creeks. This will permanently affect the area's ecosystem. [6, 21, 25, 27] It will cause flooding onto private and public lands when larger than normal amounts of groundwater flow into streams than before mining during the winter, and substantially less than usual in the dry months. [27]

**Response:** As discussed in comment #45, p. 19, DEQ and DOGAMI evaluated groundwater as part of application review for the DEQ 401 Certification and DOGAMI Operating Permit. DEQ and DOGAMI believe the commenter is concerned that the duripan or cemented layer (see figure in response to comment #45, p. 19) will be removed and no longer act as a barrier to recharging the aquifer. The duripan is only 2 to 3 feet down and ORC's mining activities will remove this layer. However, removal of the duripan will allow more water to enter the aquifer during the wet months resulting in less stormwater runoff during winter. During the summer months, the aquifer will be more full than before

the mining. This will allow the aquifer to continue to discharge groundwater to the creeks for a longer period than before mining because the aquifer will contain a greater volume of water. In addition, the rate of groundwater flow to the creeks will not change because the DOGAMI Operating Permit prohibits mining right up to the edge of the creek. The permeability in these setback areas is what affects the rate of groundwater flow into the streams. By ensuring that the setback areas will be undisturbed, the sands in these areas will continue to have the same permeability in existence prior to mining.

48. **Comment:** ORC cannot viably separate stormwater from groundwater. ORC must produce a viable plan before the stormwater permit is issued. [19] How will Oregon Resources Corporation (ORC) separate storm and surface water after they have broken into the aquifer and it is raining 1 – 2 inches a day on the south coast? [25] Mine pit groundwater may commingle with stormwater that discharges to the mine pit. The component of groundwater should be defined and quantified before the permit is granted. [6, 21] There appears to be no management plan for dewatering. [13]

**Response:** ORC is not required to separate stormwater from pit water. Directing stormwater runoff into a self-contained excavation or pit is a common practice in Oregon. This practice keeps turbidity and other contaminants out of Oregon's streams and rivers and is not prohibited by the 1200-A. Many sand and gravel and some rock quarry mining operations excavate pits below the groundwater creating water-filled impoundments. Pumping "pit water" out of these pits and into adjacent pits or discharging uncontaminated pit water to surface waters to continue mining deeper is a common mining practice in Oregon. These practices are not prohibited by the 1200-A permit and can be accomplished in compliance with water quality standards. As discussed in the response to comment #47, p. 20, breaking into the aquifer will allow stormwater to enter the aquifer during the wet months resulting in less stormwater runoff during winter.

The 1200-A does not require that the amount of stormwater versus groundwater be quantified because such amounts are highly variable due to weather conditions and mining operations. The 1200-A instead requires that ORC's SWPCP contain BMPs to address variable conditions, including inspection frequencies to ensure that erosion and sediment control practices are in working condition and monitoring of weather conditions to anticipate storm events. These BMPs may be found in ORC's ESCP referenced in the SWPCP.

ORC's SWPCP specifies that the management plan for water pumped out of the pits is to contain that water onsite. Once an excavation encounters groundwater, a "sump" will be excavated below the water level. A pump will be placed in the sump to disperse water (e.g., sprinkle or disperse through perforated drainpipe) to adjacent areas within the excavation boundary to allow for infiltration.

49. **Comment:** With these many Leaking Underground Storage Tanks causing problems in the State of Oregon, it is not even remotely a good idea to be spreading the waste products over the service of the land and letting it percolate down through the soil. The ORC project has a very strong likelihood of causing unintended consequences [12]. Will DEQ require ORC to

demonstrate how stormwater from potential spill sites will be separated from all other stormwater that is directed to the groundwater pit? [30]

**Response:** ORC is not proposing to land apply pit water or stormwater that has been contaminated with petroleum or other hazardous materials. ORC's SWPCP and ESCP detail storage procedures to be followed to prevent spills as well as containment and response procedures to be followed in the event of a spill of petroleum or other hazardous material.

### **Site Inspections and Monitoring**

50. **Comment:** DOGAMI should be on site when heavy rainstorms occur to ensure that ORC does not exceed the allowable amount stormwater run off from entering the waterways. [5] Agency oversight as currently practiced will not be adequate to protect nearby priority streams (e.g., Mastech Pipeline), and permit conditions are no guarantee against contaminated stormwater runoff. Once-a-month agency checks is not sufficient, and daily, independent oversight is necessary to ensure resources are being protected. We need daily oversight being done by someone who is truly independent of the company for all aspects of the project in all phases of the project including reclamation. [29] How will DEQ ensure that ORC implements BMPs to control erosion and sediment? [30]

**Response:** DEQ and DOGAMI budgets do not allow for daily inspections of permitted facilities; however, DOGAMI has prioritized ORC's mining operation for additional inspections. DOGAMI intends to inspect the haul road BMPs prior to full scale mining operations to ensure that BMPs are being properly implemented. Additional DOGAMI inspections will be scheduled when hauling and dewatering activities occur during heavy rain events.

51. **Comment:** Regimented testing should be required to protect the watershed. We understand that a monitoring plan will be written, but have seen many of the ORC previous documents and are skeptical. DEQ needs to take an aggressive, active role in this monitoring, and make sure the fox isn't left guarding the henhouse. [23]

**Response:** The 1200-A permit requires that ORC visually monitor discharges of stormwater to surface waters for turbidity and oil and grease sheens at least once a month and test for total suspended solids, oil and grease, pH, and settleable solids at least four times a year. ORC is also required to conduct additional monitoring by their DEQ 401 Certification, DOGAMI Operating Permit, and DSL Wetland Permit. DOGAMI or DEQ may also conduct its own monitoring in the future to confirm ORC's monitoring results or as part of an inspection or complaint investigation.

52. **Comment:** The current level of oversight and water sampling is more than adequate. Strongly against the idea brought up during the last public meeting in Coos Bay suggesting a 24 hour, on-site monitor paid for by ORC. Based on my understanding of ORC's mining process, regional storm events, and probability of significant impacts to the waters of the state, the idea of 24 hour, on-site monitors would be a waste of resources. Approve ORC's

1200-A permit and develop a monitoring program that is similar to other mining activities in our region. [15]

**Response:** The 1200-A does not require a 24-hour onsite monitor. ORC is required to comply with the monitoring requirements of the 1200-A.

53. **Comment:** Based on the soil survey map, soil conditions at each of the five discharge points from the North Seven Devils site are not substantially similar. ORC's application does not provide the required analysis to justify use of representative outfalls supporting an exception to the discharge point monitoring requirement. DEQ should require ORC to sample and monitor discharge from each point of discharge. [30]

**Response:** DEQ and DOGAMI believe that the commenter is referring to the three culverts and two surface water conveyances detailed on Figure 3 of ORC's 1200-A application. These areas were specifically permitted through the Joint Permitting Process for fill and removal projects located within Waters of the State and are covered by the Fill Removal Permit issued through DSL. As part of this permitting process, DEQ reviewed the proposed work at these locations and issued a 401 Water Quality Certification that placed specific conditions on these projects to ensure water quality will not be adversely impacted. These drainages may receive sheet flow from ORC's activities; however, there are no true point source discharges of stormwater that are required to be monitored in these areas and ORC is not required to create a point source discharge for monitoring purposes. ORC's SWPCP and ESCP, however, do specify BMPs that will be used to control erosion and sediment in overland flow situations and ORC is proposing to monitor at the instream location titled "Outfall 3." ORC's monitoring proposal is sufficient at this time but may need to be modified once ORC submits additional information (engineered mining and slope stability plans specific to the North Seven Devils site) required under their DOGAMI Operating Permit (DOGAMI ID 06-0073). These engineered plans may include additional point sources that will need to be incorporated into ORC's SWPCP. ORC may submit an action plan to DEQ and DOGAMI for approval if it is necessary to modify their SWPCP to address changes to their monitoring plan.

54. **Comment:** Please enforce baseline testing and daily testing to monitor changes in air quality, including for toxics. [7, 8, 10]

**Response:** The 1200-A does not require the type of monitoring discussed in the comment. Air quality monitoring or an air quality permit for the mining operation is not required by DEQ. ORC has applied for a DEQ air quality permit for their processing plant. Please contact Martin Abts, (541) 269-2721 x222, in the DEQ Coos Bay Office for more information on the public comment period for ORC's proposed air quality permit.

### **General Concerns**

55. **Comment:** Strip mining ruins the environment, and unless all precautions are taken, dire consequences can occur [1, 7].

**Response:** DEQ and DOGAMI regulate mining activities because they have the potential to cause environmental harm. The overall scale of ORC's proposed mining operation is relatively small when compared to most open pit, strip mines, or mountain top removal mining operations. No more than two 5-acre mining cells can be open at any time. As discussed previously in this document, there were several permitting and certification actions that preceded DEQ and DOGAMI's review of and decision on ORC's 1200-A application: the DEQ 401 Certification/ACOE permit, DSL Wetland Permit, and DOGAMI Operating Permit. ODFW, OWRD, and NMFS also participated in these actions and provided additional recommendations to DEQ and DOGAMI on how best to regulate ORC's activities. These recommendations were incorporated into the previous actions.

56. **Comment:** Has anyone actually done a real economic analysis of signing a mineral lease with ORC? For example, has anyone weighed the costs associated with jobs gained sometime in the future, two or three years as ORC ramps up and jobs lost, like the road crew more than a year ago? Are the potential revenues from royalties greater than the current timber revenues already being earned on a sustainable harvest yield basis? What about the consequence of enterprise zone tax exemptions ORC plans to avail itself of? What about potential lost timber sales if ORC mitigation methods aren't adequate? How many years after the county ties up its mineral rights before the public see a return? What is the NPV (Net Present Value) for working timberland today? What is the county's business model for entering into the mineral rights business? [8]

**Response:** DEQ and DOGAMI are not required to do an economic analysis as part of the NPDES 1200-A permit process and are not aware of an existing economic analysis of ORC's proposal.

57. **Comment:** ORC will excavate directly in stream courses. "The best available stream reconstruction engineering design and implementation are considered unlikely to minimize impacts...." North Seven Devils Unit excavation depths are considerably deeper and there is more overburden that must be moved. Considering the existing steep slopes and the sandy texture of the material being mined there is a high likelihood of sediment and turbidity being released into the streams. [3]

**Response:** The 1200-A does not regulate excavation in stream courses. All excavation and restoration work conducted within stream channels has been reviewed and permitted by DSL. DEQ's 401 Certification program and DOGAMI both had concerns about the mining and reclamation of the North Seven Devils mining site. To address those concerns DOGAMI added a condition to the DOGAMI Operating Permit requiring ORC to submit engineered plans with additional detail for DOGAMI approval prior to mining of the North Seven Devils site. Until such time as an engineered plan is submitted and approved by DOGAMI, ORC cannot mine the North Seven Devils site.

### **Comments Outside the Scope of 1200-A Registration**

The comments listed in this section are outside the scope of the 1200-A registration process; however, additional information is provided below as a courtesy to the commenters to help navigate through the different regulatory processes. The additional information is in no way to be

construed as a second or extended public notice opportunity on the DOGAMI Operating Permit, DSL Wetland Permit, DEQ 401 Certification, or any other state license, certificate or permit that has already been issued to ORC. In addition, DEQ and DOGAMI do not have jurisdiction over local land use planning and regulation.

58. In Appalachia, the reclamation of mountaintop removal mines has shown that nothing grows there except grass and perhaps a few stunted little trees. Complete reforestation is rare. It is likely that the forested areas of this ORC project may not be able to be restored. Was this potential impact considered and if not, why not? Margaret Palmer, a biology professor at the University of Maryland, compiled a comprehensive database of 37,000 U.S river and stream restoration projects, and none were successful. Surface mining destroys ancient interrelationships and disrupts them for many miles around. No amount of bond put up by ORC would likely be sufficient to guarantee restoration of the land. [8, 9, 12, 13, 20, 29] There appears to be no full analysis for reclamation. [13] There is a perception at DOGAMI and DEQ that because Weyerhaeuser or Kimberly Clark is in the tree growing business and is willing to allow healthy timber producing property to be 'fluffed up' through strip mining, then it must be okay. Yet Oregon really has no experience reclaiming healthy timberland after chromite strip mining [20, 29]. Because a tree grows in South Carolina doesn't mean the same will happen along Oregon's southern coast.[20]

*DOGAMI has extensive experience in reclaiming mined land. To ensure that the site will be reclaimed to the secondary beneficial use of forestry, DOGAMI conducted a thorough review of ORC's initial reclamation plan and required ORC to make significant changes to the plan via permit conditions in the DOGAMI Operating Permit. DOGAMI also incorporated recommendations from DEQ, DSL, and ODFW into the final DOGAMI Operating Permit. DOGAMI will not sign off on the reclamation of the site until it can be demonstrated that trees will survive and the site has stabilized and reclamation plan requirements have been fulfilled. Weyerhaeuser, a company with extensive experience in reforestation, also reviewed the reclamation plan and determined that it was satisfactory. As the sole surface and mineral estate owner for all areas covered under the DOGAMI Operating Permit, Weyerhaeuser has a stake in ensuring that proper reclamation of their property occurs.*

*The existing surface at the proposed mining sites is underlain by the mineral hard pan at a shallow depth that limits tree root growth and leaves tree vulnerable to the high winds that are common along the Oregon Coast. The proposed mining activity will remove the mineral hard pan and allow deeper penetration of tree roots and increase the trees ability to withstand windstorms. This process will reduce nutrients and organic material in the soil as well as the amount of soil at the mining site. As a result, the reclamation plan includes a provision to return soil, organic matter, and woody debris to the surface of the site following mining. Following the placement of back hauled fill from the processing plant (washed terrace sand and fines), ORC is required to place at least 12 inches of soil over the fill material prior to planting trees in accordance with industry standards for forestry.*

*ORC's proposed mining operation is not comparable or similar to a mountain top removal coal mining operations for a number of significant reasons. First, the scale of active*

*mining operations is significantly smaller (only 159 acres are currently permitted for mining). Mountain top removal mining operations are generally several hundred to thousands of acres in size. Second, the depth of mining is significantly less. The majority of the 159 acres approved for mining will only be mined to depth of 15-20 feet. Mountain top removal mining operations remove significantly more material and have mining depths of up to or greater than 400 feet. Third, there will be no permanent valley fills where significant sections of stream are permanently filled in. Under the ORC proposal, there will be two stream crossings that will not fill in the active portion of the streams. Finally, the geochemical character of both the mined material and the reclaimed surface is significantly different. Coal formation requires deep burial and metamorphosis of organic rich sedimentary material, which tends to result in the formulation of sulfides in surrounding rock layers. The reclamation of mountain top removal mining operations generally suffers from a lack of adequate soil replacement and the overburden that is often used on the reclaimed surface contain sulfides that can lead to acidic conditions and restrict the type of vegetation that can grow following reclamation of the site. The marine terrace deposits that will be mined by ORC have existed at the surface of the earth since their formation and do not contain significant amounts of organic material that has been converted to sulfides.*

*Finally, Dr. Palmer and her study partners have never stated that “none” of the stream restoration projects in the database of 37,000 U.S river and stream restoration projects were successful. In fact, in other journal articles on the topic, they indicated that half or fewer of the projects were ecologically successful by some very specific measures, but by other measures the success rate was 89 percent. This is a significantly higher success rate than “none.”*

59. Because ORC is owned by a foreign company and does not have a track record in Oregon, they could make mistakes or fail in their mining efforts and leave Oregonians holding the bill for reclamation. It does not appear that they have sufficient financial backing to clean up areas they contaminate. [4, 7, 14]

*DOGAMI has an initial reclamation security of \$125,000 provided by ORC to cover the cost of reclaiming up to 10 acres of ground disturbed by mining operations. DOGAMI has the authority to increase the reclamation security when a determination is made that actual reclamation will cost more the existing \$125,000. DSL also has a separate security for the construction of mitigated wetlands, which we understand, is significantly more than \$125,000. Please contact Bob Lobdell, (503) 986-5282, at DSL for more information on their security requirement. DOGAMI and DSL will use these securities if ORC's becomes defunct and can no longer meet there reclamation and wetland mitigation objectives.*

60. The Coos County commissioners are selling off rights to our local forests without considering the economic and environmental impacts. Please take these questions to heart as I urge you to stop this destruction to our environment. [8] This area was zoned Forest, but over the years (as early as the last commissioner's meeting) F zoning has been converted to Rural Residential. My property is RR-5. [7]

*DEQ and DOGAMI do not have jurisdiction over the process of leasing public land administered by Coos County or land use zoning issues. Please note that the proposed mining activities will occur on private land owned entirely by Weyerhaeuser. This land is currently zoned for forestry use. DOGAMI is required by statute to ensure reclamation of mining sites is consistent with the existing land use zoning of the property. When reviewing a reclamation plan proposal for approval, DOGAMI cannot consider future or potential zoning changes to the land use of a property. If there were a change in land use zoning during reclamation, then the permittee would be responsible for modifying their reclamation plan to ensure it is consistent with the new land use designation.*

61. What organization oversees Weyerhaeuser and how they currently grow the trees in their forestlands? Deer and fish population in Weyerhaeuser's tree growing areas have severely declined over the years. It does not appear that anyone is overseeing what they do or how what they do it, and if what they currently do to grow trees is in any way affecting the marine and wildlife habitat in these areas. [29]

*ODF regulates commercial forestry activities on private land under the Oregon Forest Practices Act.*

62. ORC truck traffic ultimately will affect our main tourism industry in and around Coos County. [1, 29]. Let the work begin, BUT is there a plan to ease the traffic on 101 near the refinery? [2] Was an independent traffic analysis done by ODOT and if not, why not? [8]

*DEQ and DOGAMI do not have jurisdiction over traffic impacts. Typically, local planning departments are required to consider traffic impacts prior to granting land use approval for mining operations. Please see the Coos County Final Decision and Order 07-10-278PL; conditions #12 and 13 appear to address traffic issues.*

63. All mined pits should be sloped to allow wildlife to get out. [3]

*DOGAMI has required through the DOGAMI Operating Permit that all mine pits be sloped at 3:1 (horizontal:vertical) or flatter following active mining operations to allow wildlife to get out of the reclaimed pits. Pit walls on some mine pits may be temporarily steeper during active mining operations; however, all pits will have equipment access ramps that will allow wildlife to exit the pits.*

64. Wetland mitigation needs to be kept free of gorse. [3]

*DSL is the agency that regulates wetland mitigation; DEQ and DOGAMI do not have jurisdiction over wetland mitigation requirements. DSL has required that ORC develop a plan to deal with gorse. Please contact Bob Lobdell, (503) 986-5282, at DSL for more information.*

### **List of Commenters**

Note: Several people submitted more than one set of comments at different times during the comment period. Their comments were not consolidated into a single set. As a result, they are listed below more than once.

1. Carol Bassine
2. Joan Goodman
3. Christopher W. Claire, ODFW
4. Nancy Ellen Locke
5. Tim and Sue Pearce
6. Jack and Julie Jones
7. Todd Petrey
8. Amy Levin
9. Nancy Ellen Locke
10. Nancy Ellen Locke
11. Ricki J. Green
12. Nancy Ellen Locke
13. Gail and Darryl Dunham
14. Mike Fitzgerald and Lisa DeSalvio
15. Eric E. Farm, PE
16. Janice Yeager
17. Diana Zutell
18. Karl Berry & Mare Smith
19. Tim and Sue Pearce
20. Mary Geddry
21. Bill and Kim Graham
22. Julie Jones
23. Jim and Tamara Heinrich
24. Larry Grove
25. Thomas A Brown
26. John B. Jones III, Bandon Woodlands Community Association
27. Sharon Comden
28. Sean Malone, Attorney at Law on behalf of Phillip Johnson, Executive Director, Oregon Shores Conservation Coalition
29. Jody McCaffree
30. Courtney Johnson, Staff Attorney on behalf of Oregon Coast Alliance
31. Lynne Matejcek