

FACT SHEET

SAND AND GRAVEL GENERAL PERMIT

On June 25, 1999, the Department of Ecology (Ecology) issued the current Sand and Gravel National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit; this permit expired on August 6, 2004. A revised general permit has been prepared to replace the expired general permit. This fact sheet is a companion document to the revised general permit. The general permit provides coverage for discharges of process water, stormwater, and mine dewatering water associated with sand and gravel operations, rock quarries, and similar mining operations, including stockpiles of mined materials. It also provides coverage for concrete batch operations and hot mix asphalt operations. Operations covered under this permit are authorized to discharge wastewater to waters of the State of Washington subject to the conditions contained in the general permit. This fact sheet explains the nature of the discharges covered by the general permit, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Public involvement information is contained in Appendix A. During the public comment period, Ecology received several substantive public comments on the draft permit and fact sheet. Appendix C includes a summary of these written comments and Ecology's response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. **The fact sheet will not be revised. Comments and the resultant changes to the proposed permit will be summarized in Appendix C--Response to Comments.**

The proposed general permit provides protection of ground water, surface water, and sediment in waters of the state by limiting the discharge of pollutants in process water, mine dewatering water, and stormwater. The pollutants that are limited in this proposed general permit result from the processing of mined material, the manufacture of concrete and asphalt, stormwater runoff, mine dewatering, and from equipment and materials associated with this industry group. Chemical or physical treatment of wastewater may be necessary to comply with the conditions and limits in this permit. All sites must implement Best Management Practices (BMPs) to manage stormwater and prevent pollution. Stormwater may also require treatment before discharge to waters of the state. This proposed general permit limits the discharge of pollutants to surface waters under the authority of the Federal Water Pollution Control Act (U.S.C.S. 1251) and limits the discharge of pollutants to surface and ground water under the authority of Chapter 90.48 RCW.

TABLE OF CONTENTS

INTRODUCTION1

PERMIT COVERAGE1

BACKGROUND INFORMATION3

 DESCRIPTION OF THE INDUSTRY GROUP3

 Mining Activities3

 Mine Process Water4

 Mine Dewatering Water.....4

 Concrete Batch Plants5

 Hot Mix Asphalt Plants.....6

 Stormwater7

 PERMIT STATUS.....7

 SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT7

 WASTEWATER CHARACTERIZATION8

 SELECTION OF POLLUTANT PARAMETERS.....9

 SEPA COMPLIANCE.....13

PROPOSED PERMIT LIMITATIONS.....13

 BACKGROUND13

 TECHNOLOGY-BASED EFFLUENT LIMITATIONS14

 Common Limitations on pH14

 Process Wastewater and Mine Dewatering.....14

 STORMWATER DISCHARGE CONDITIONS16

 DESIGN STORM16

 NON-WATER QUALITY ENVIRONMENTAL IMPACTS.....16

 SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS17

 Numerical Criteria for the Protection of Aquatic Life.....17

 Numerical Criteria for the Protection of Human Health.....17

 Narrative Criteria17

 Antidegradation.....17

 Critical Conditions18

 Mixing Zones18

 Surface Water Quality Criteria18

 Consideration of Surface Water Quality-Based Limits for Numeric
 Criteria19

 Whole Effluent Toxicity20

 Human Health20

 Sediment Quality21

 GROUND WATER QUALITY LIMITATIONS.....21

 COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT.....22

MONITORING requirements.....22

 REPRESENTATIVE SAMPLING.....22

 LAB ACCREDITATION23

FACT SHEET

OTHER PERMIT CONDITIONS23
 TRAINING REQUIREMENTS23
 REPORTING AND RECORDKEEPING24
 DISCHARGE WATER MANAGEMENT.....24
 STORMWATER POLLUTION PREVENTION PLAN.....25
 SPILL PLAN27
 SOLID WASTE DISPOSAL.....27
 GENERAL CONDITIONS27

SMALL BUSINESS ECONOMIC IMPACT STATEMENT28

PERMIT ISSUANCE PROCEDURES28
 PERMIT MODIFICATIONS28
 RECOMMENDATION FOR PERMIT ISSUANCE28

REFERENCES FOR TEXT AND APPENDICES.....29
 BMP REFERENCES29
 GENERAL REFERENCES.....30

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION31

APPENDIX B--GLOSSARY33

APPENDIX C--RESPONSE TO COMMENTS37

INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing general permits (Chapter 173-226 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the proposed permit. One of the requirements (WAC 173-226-110) for issuing a general permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the proposed permit is issued (WAC 173-226-130). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

Public involvement information is contained in Appendix A. During the public comment period, Ecology received several substantive public comments on the draft permit and fact sheet. Appendix C includes a summary of these written comments and Ecology's response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. **The fact sheet will not be revised. Comments and the resultant changes to the proposed permit will be summarized in Appendix C--Response to Comments.**

PERMIT COVERAGE

The sand and gravel general permit provides coverage for discharges of process water, mine dewatering water, and stormwater associated with certain types of mining operations, concrete and asphalt production. A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are similar and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges to surface water or ground water. Coverage under this general permit for discharges to surface water or discharges to ground water will typically be appropriate. Those facilities with activities designated by the following Standard Industrial Classification (SIC) codes are subject to coverage under the sand and gravel general permit:

0811 Timber Tracts (sand and gravel point source activities)
1411 Dimension Stone
1422 Crushed and Broken Limestone

FACT SHEET

1423 Crushed and Broken Granite
1429 Crushed and Broken Stone, Not Elsewhere Classified
1442 Construction Sand and Gravel
1446 Industrial Sand
1455 Kaolin and Ball Clay
1459 Clay, Ceramic, and Refractory Minerals, Not Otherwise Classified
1499 Miscellaneous Nonmetallic Minerals, Except Fuels
2411 Logging (sand and gravel point source activities)
2951 Asphalt Paving Mixtures and Blocks
3273 Ready-Mixed Concrete

The types of facilities included are sand and gravel mines, rock quarries, clay mines, silica mines, diatomite mines, olivine mines, dolomite mines, hot mix asphalt plants, and concrete batch plants. Some facilities may require coverage for stormwater only.

Coverage for timber tracts and logging activities (SIC codes 0811 and 2411) includes mining activities associated with the forestry industry that classify as silvicultural point source. Silvicultural point source activities are limited to rock crushing or gravel washing operations that use a discernible, confined and discrete conveyance (e.g. ditch, pipe) to discharge pollutants to surface waters of the state. The United States Environmental Protection Agency (EPA) pursuant to a court order, excluded most forest management activities from NPDES permit coverage. Additionally, best management practices for gravel pit sites are set by forest practice regulations under the Forest Practices Act, RCW 76.09. However, this exclusion only applies to activities that produce materials for use in forest practices. Any commercial mining operation operating on forestland is subject to the same coverage requirements as any other commercial mining operation.

The criteria for coverage under the proposed general permit are listed in Special Condition S1, Permit Coverage. All facilities identified by the SIC Codes listed above and which meet the criteria of Special Condition S1 must apply for and be covered by the proposed general permit, unless the activity is covered under an individual discharge permit or is regulated under the permit requirements of another section of the Federal Clean Water Act.. In addition to these activities, related activities (e.g. SIC 3272 - Concrete Products, Except Concrete Blocks and Brick) may also be required to obtain coverage under this general permit when Ecology determines that discharge characteristics are similar and the permit conditions satisfy applicable state and federal requirements.

Since a general permit is designed to provide environmental protection under conditions typical for the covered industry group as a whole, it will not be appropriate for every situation. Environmental protection can not always be assured when site specific conditions at a facility are not typical of the industry group or are beyond the scope of the proposed general permit. Special Condition S1.B. identifies specific situations where facilities are excluded from coverage under the proposed general permit and may require coverage under an individual permit.

Special Condition S1.C. describes how to obtain coverage as authorized under WAC 173-226-200. Public notice requirements, SEPA compliance and effective date of coverage are also covered under S1.C. There are some differences in application requirements for new facilities

FACT SHEET

versus existing facilities; definitions for new and existing facilities are in the Appendix B Definitions.

The proposed permit allows portable operations (rock crushers, concrete batch plants, and asphalt batch plants) to obtain coverage under the general permit. Special Condition S1.D. describes how to apply for and maintain general permit coverage for portable facilities. Coverage will only apply to the specific portable equipment but will provide coverage at all sites where the portable operates. Portable facilities must operate at each site under the same permit conditions and requirements as a permanent operation. The proposed permit will require a 10-day notice before beginning operations at a new location using an Ecology approved form (“Notice of Intent to Begin Operations” form). The form will identify the dates and location of the work and also verify that the Permittee can operate at the site under compliance with the terms and conditions of permit coverage. Ecology reserves the right to deny operation at a site where a portable operation cannot adequately assure compliance with the permit. Upon completion of the portable operation, all areas affected by the operation shall be restored in accordance with the “Notice of Intent to Begin Operations” form submitted to Ecology prior to beginning operations. Site restoration shall include: a.) Cleaning up, or otherwise preventing the discharge of, any pollutant to waters of the state, and b.) Stabilizing all areas affected by activities associated with the portable operation with a permanent vegetative cover or equivalent permanent stabilization measure which will prevent erosion. So that Ecology field staff can inspect areas affected by portable operations in a timely manner, the permit requires Permittees to submit a form to Ecology when the portable operation is completed and the site has been restored (“Portable Facility Notice of Completion of Portable Operations” form).

BACKGROUND INFORMATION

DESCRIPTION OF THE INDUSTRY GROUP

MINING ACTIVITIES

According to the Washington Division of Geology and Earth Resources Information Circular 87, in 1991 there were approximately 1,750 mines, quarries, and borrow pits in the state. Of these, approximately 900 were permitted by the Department of Natural Resources (DNR). There were an estimated 350 state or local government-operated mines that did not have active mining permits, 200 mines less than 3 acres in size, and 300 mines on federal lands. DNR data in 1998 indicate that DNR has active permits for 778 sand and gravel mines, 345 rock quarries, 11 clay mines, six silica mines, four diatomaceous earth (diatomite) mines, seven dolomite mines, and four limestone mines.

DNR permits for mining are issued to facilities where surface disturbances are greater than 3 acres (Chapter 78.44 RCW). The coverage of this proposed general permit is not restricted on the basis of disturbed acreage. The intent of this proposed general permit is to require effective and enforceable water quality management practices. Potential adverse water quality impacts from these operations are independent of the size of the facility. Thus, this proposed general permit does not set an exclusion based on disturbed acreage.

FACT SHEET

Mining activities typically begin by removal of the overburden to expose the desired material. Removing topsoil and disturbing the land surface has a number of consequences that increase the potential for adverse consequences to surface and ground water quality. Removing the vegetative cover and disturbing the soil makes the area more susceptible to erosion. Stormwater will readily suspend the exposed soil and carry it to nearby surface water. Sediment can be very harmful to the health of aquatic life and surface water bodies. Vegetation and soil also serve to protect ground water from pollutants. They provide filtration, chemical and physical reactions, and biological activity that often will remove pollutants before they can enter ground water. Therefore mining activities which remove vegetation and topsoil will typically make underlying ground water more vulnerable to pollution.

MINE PROCESS WATER

Some use of water is necessary at most mining-related facilities. In mining operations, water may be used in the mining, processing, handling, or transporting of the mined material. This water is categorized as process water. Most process water results from dust control or washing and screening mined gravel or rock materials. Water may also be used to clean truck tires and wheels and prevent tracking of mud and dirt onto public paved roads.

In addition to these easily identified sources of wastewater, many other activities at a mining facility can impact ground water and surface water quality and will be considered in this proposed general permit. These activities include wastewater from concrete truck cleanup, asphalt truck release agent application, equipment maintenance, and spills or leaks from tanks and equipment. Facilities at which many activities take place, from mining through batch plant operations, generate the greatest volume of wastewater and have the most varied sources of potential water contamination.

Rock crushers are often used in the mining process to provide material that meets job specifications. Processing the material may also include washing. While rock crushers are often a permanent component of a site, there are portable facilities that move from location to location. There is often very little lead-time before these portables must begin operation at a site and they are typically only at the site for a short period. The short notice and transient nature of these facilities create different permitting considerations for these facilities but they must still be able to assure compliance with permit conditions. Whether permanent or portable, rock crushers may generate process water and require best management practices for stormwater management.

MINE DEWATERING WATER

Mine dewatering water is a type of wastewater generated at some facilities which is incidental to the mining operation, including ground water that seeps into the mine pit or accumulates due to precipitation into the mine pit. Suspended solids may be the only contaminant requiring treatment in these circumstances. Water entering the mine site and subsequently becoming commingled with process water becomes process water and is subject to process water requirements.

FACT SHEET

CONCRETE BATCH PLANTS

Concrete batch plant operations (both permanent and portable) are commonly associated with sand and gravel mining. An operator typically controls the batching or mixing process from a central control room. Solid components are metered by weight while water and chemical admixtures are metered by volume. Dry materials may be added to a truck from overhead silos and mixed with water in the truck or they may be premixed at the facility and transferred to the truck wet. Truck capacities typically range from 5-12 cubic yards.

After loading, the truck may move to a wash area where an overhead spray or a hose is used to wash down the truck exterior. The truck then delivers the load to the job site. Between loads or at the end of the day, returned concrete is discharged from the truck. The truck drum must be washed out to avoid setting of concrete in the drum. Water is added to the drum, the drum is rotated and discharged to a wash water collection basin. Settled process water is often used for drum washout.

The truck washout area must drain to a lined pond for treatment before discharge. Containment and treatment was necessary because untreated process water resulting from concrete batch operations has a high pH, typically in the range of 11 to 12. There is also concern that admixtures commonly used in concrete production might introduce chemicals of concern such as nitrates into the wastewater.

Many facilities now totally reuse their process water after treating it to settle or separate out solids. The gravel and fines from the settled solids can be reused. Facilities that discharge process water typically must treat it to lower pH before discharge. Lined ponds must also be cleaned out periodically. There is a potential problem with facilities that deposit the sludge from these ponds on the ground without cover and without containment of leachate. The leachate from the sludge may have a high pH and constitute a violation of Special Condition S12., Solid Waste Disposal.

Batch plants are often located in conjunction with gravel mining operations. This increases the potential for pollutants to affect underlying ground water. Trucks, loaders and other equipment are common on site. Spills and leaks from associated equipment in the manufacturing and delivery process pose a significant potential to contaminate waters of the state. In addition to good housekeeping and best management practices to minimize spills and leaks, facilities often channel wash water and stormwater away from areas prone to spills or leaks to avoid contamination or remove oil from water by skimming it off the surface or through use of oil/water separators.

Portable concrete batch plants pose the same environmental concerns as permanent facilities. However, there is often very little lead-time before they must begin operation at a site and they are typically only at the site for a short period. The short notice and transient nature of these facilities create different permitting considerations for these facilities but they must still be able to assure compliance with permit conditions for concrete batch plants.

FACT SHEET

HOT MIX ASPHALT PLANTS

The manufacture of asphalt concrete paving mixtures by hot mix asphalt plants (portable plants and central mix plants) are associated with sand and gravel mining. Sand and gravel are heated and dried in a rotary drier and then placed in a mixing hopper and mixed with hot asphalt cement. The asphalt concrete is then usually dumped into a truck for transport to the job site.

The particulate emissions from this process are controlled by air pollution control equipment. Two basic types of systems remove the dust particles. A baghouse removes the particles in a dry state and has become the most common removal system in Washington State. Although minor quantities of water may be added to the collected dry material to make it more manageable, there is no discharge of process water from these systems. Typically the collected dust (fines) is reused in the manufacture of asphalt. The other type of system, wet scrubbers, uses water to capture the dust. Water sprays remove the air pollutants but transfer them to the resulting wastewater. The amount of water needed in a wet collection system may range from 50 to 200 gallons per minute. The wastewater must be discharged to a lined pond or holding tank. The water from the pond/tank is typically reused in the scrubber after settling the particulate matter. Even after treatment, this process water cannot be discharged to surface water but may be infiltrated to ground. The settled particulate matter may be returned to the asphalt manufacturing process.

When the fines from a baghouse or wet scrubber are not reused or cannot be completely reused, disposal is typically required. Land application of this material may be acceptable but testing should be conducted to determine if more restrictive disposal options are required.

Except for cleaning within maintenance shop areas, delivery trucks are not typically washed on site but do receive a release agent applied to the bed of the truck before loading with asphalt. An application area is provided with a raised platform and spray nozzles. There are many release agents available but most of those currently in use are not petroleum based. Traditionally diesel fuel was used, and is still used, at some facilities. Best management practices are practiced to control and collect spillage of release agents.

Batch plants are often located in conjunction with gravel mining operations. This increases the potential for pollutants to affect underlying ground water. Trucks, loaders and other equipment are common on site. Spills and leaks from associated equipment in the manufacturing and delivery process pose a significant potential to contaminate waters of the state. In addition to good housekeeping and best management practices to minimize spills and leaks, facilities often channel stormwater to avoid contamination or remove oil by skimming it off the surface or through use of oil/water separators.

Portable hot mix asphalt batch plants pose the same environmental concerns as permanent facilities. However, there is often very little lead-time before they must begin operation at a site and they are typically only at the site for a short period. The short notice and transient nature of these facilities create different permitting considerations for these facilities but they must still be able to assure compliance with permit conditions for asphalt batch plants.

FACT SHEET

STORMWATER

Although stormwater discharges are more common in Western Washington, all parts of the state will occasionally receive significant rainfall events that can result in the discharge of stormwater. Implementation of best management practices (BMPs) for stormwater management is required by the proposed permit. The most important BMP that relates to stormwater is minimization of the amount of stormwater which contacts products and raw materials or flows or falls into an area of active processing or process water storage.

Stormwater falling on a site may become polluted by dissolving or eroding material it contacts. Three types of stormwater have been defined for this proposed general permit. Segregation of stormwater types is essential to minimizing the quantity of stormwater which requires treatment before discharge. Two types of stormwater require do not require treatment, while a third type may require physical or chemical treatment in order to meet the conditions of this permit. BMPs directly or indirectly apply to all three types of stormwater.

Type 1 Stormwater: Stormwater falling on undisturbed, natural areas, or completely reclaimed areas should remain clean and require no treatment. So long as this stormwater reaches waters of the state without contacting any machinery, product or raw material piles or other water which has contacted such material, the stormwater is not considered to be associated with industrial activity. This type of stormwater is classified as Type 1 stormwater for this proposed general permit.

Type 2 Stormwater: Stormwater on a portion of a site that has been disturbed, as for example land cleared in preparation for mining or other industrial activity, is classified as Type 2 stormwater until industrial activity such as mining, processing or manufacturing occurs. BMPs addressing erosion and sediment control are required in the proposed permit.

Type 3 Stormwater: Stormwater falling on the part of a site where manufacturing, processing, active storage, or mining takes place is classified as Type 3 stormwater. Type 3 stormwater is virtually the same as the federally defined "stormwater associated with industrial activity." This type of stormwater has the greatest potential to become contaminated prior to discharge to waters of the state. BMPs to prevent contamination of stormwater by industrial pollutants are required in the proposed permit.

PERMIT STATUS

The current sand and gravel general permit was issued on June 25, 1999 and became effective on August 6, 1999; it expires on August 6, 2004. There are currently 939 facilities with coverage under this general permit.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

Nearly all of the facilities covered under this general permit have received at least one site visit and have received technical assistance to come into compliance with the terms and conditions of the current permit. Because of the large number of permittees, repeat visits have been concentrated on those facilities with compliance problems. During the current permit cycle,

FACT SHEET

permittees received 483 warning letters and calls from Ecology staff to address permit violations; typically, these warnings addressed the failure to submit discharge monitoring reports as required. In addition to warnings, Ecology issued approximately 40 notices of violation/correction, 37 orders, and 14 civil penalties issued.

Data from discharge monitoring reports (DMRs) submitted during the permit cycle (August 1999 through November 2003) were evaluated for compliance with the current permit limits.

The current permit set limits on pH for all discharges to ground water, in the range of 6.5 to 8.5; and for discharges to surface water, in the range of 6.0 to 9.0. According to a review of discharge monitoring records submitted, 644 (4.8%) of the 13,820 samples violated the 6.5 to 8.5 pH limit for discharges to ground water; 65 (1.9%) of the 3361 samples violated the 6.0 to 9.0 pH limit for discharges to surface water.

All discharges of process water to surface water had a limit for total suspended solids. The limit for the industrial sand category was 45 mg/l daily maximum and all other categories were 80 mg/l daily maximum. According to a review of discharge monitoring records submitted, none of the samples reported by industrial sand facilities exceeded the TSS maximum daily limit. For the other categories under permit, 18 (≈4%) of the 493 samples reported exceeded the TSS daily maximum limit; the mean was ≈19 mg/l TSS.

All discharges to surface water had a 50 NTU (Nephelometric Turbidity Units) effluent limit for turbidity. This included process water, mine dewatering water, and stormwater. According to a review of discharge monitoring records submitted, 218 (≈7%) of the 3130 samples reported exceeded the 50 NTU effluent limit. The mean turbidity (daily maximum) reported was ≈30 NTU.

WASTEWATER CHARACTERIZATION

The wastewater discharges from the facilities covered under this general permit are almost always intermittent or “batch” discharges. The size of facility covered will range from facilities discharging only as a result of precipitation to large integrated sand and gravel mines with associated manufacture of concrete discharging on a daily basis. There is a high variation of wastewater generation from site to site. The total quantity of effluent discharged is substantially reduced when settled water is reused for processing and washing.

Potential adverse water quality impacts can be caused by processes or conditions that result from a facility discharging water containing or characterized by some combination of the following: elevated pH; excessive suspended solids; elevated dissolved solids; petroleum products; elevated biochemical oxygen demand (BOD); or elevated nitrate concentration. The table below summarizes pollutants that may be present in the water discharged from various on-site sources:

FACT SHEET

Contaminant	Source
Hydrocarbons (oil and grease, hydraulic fluid, and fuels)	Spills or leaks from equipment and storage tanks Maintenance shop Hot mix asphalt plant wet scrubber Delivery truck and equipment washing, release agent application
Nitrate	Blasting residues Concrete admixtures
Turbidity Suspended solids Dissolved solids	Processing wastes Seepage from working face Stormwater runoff and runoff from disturbed areas Washing, screening, or crushing rock Stripping and digging operations Runoff from overburden, waste piles, and stockpiles Dust suppression Wet scrubber wastes Vehicle washing and cleanout
Alkalinity/High pH	Concrete truck wash water Concrete batch plant water
Chlorides	Concrete admixtures
Sulfates	Concrete admixtures
Ligninsulfonate	Dust suppression

Most of the listed contaminants have sources common to all the activities covered under the proposed permit. Some parameters such as sulfates, however, are only associated with specific industrial activities. All the covered activities have stormwater discharge, many also have process water discharge, and a few have mine dewatering water discharge. It is important for the permittee to recognize the sources of contaminants and implement specific treatment technologies and BMPs for the type of discharge. Segregating process water from stormwater and relatively clean mine dewatering water, for example, can reduce the volume of water that requires treatment before discharge. Likewise, source control BMPs such as covered storage areas can reduce treatment requirements by preventing contamination.

SELECTION OF POLLUTANT PARAMETERS

The previous permit included limits for turbidity, pH, and total suspended solids. Additional monitoring was required for total dissolved solids, and temperature. Based on the collected data, only turbidity, pH, total suspended solids, and total dissolved solids were shown to be pollutants of concern and will be included in the revised permit.

pH extremes are toxic to fish and unsuitable for ground water used as a drinking water source. High pH wastewater is common in concrete batch plants (SIC Code 3273, Ready-Mixed Concrete) due to the soluble cement constituents in washwater. Values up to 12.5 pH units are reported in the literature. Muriatic (hydrochloric) acid is occasionally used in cleaning operations. Low pH water can result from rain water interacting with exposed surfaces in some hard rock quarries. The data demonstrate that within the activities covered under this permit, both high and low pH extremes do occur on occasion. However, the proposed permit is dropping pH monitoring for the Construction Sand and Gravel (SIC 1442) category since the mining and processing activities associated with this industrial category does not typically modify pH. Discharges from all other SIC codes covered under this permit will require monitoring for pH.

FACT SHEET

Total Suspended Solids (TSS) include organic and inorganic materials present in wastewater from sand, cement, and fines as a result of water used to sort and wash materials. These materials include sand, silt, and clay. Stormwater may also contain significant levels of TSS. These solids may settle out rapidly or be suspended in water for a time. While in suspension, TSS increases the turbidity of the water, reduces light penetration and impairs the photosynthetic activity of aquatic plants, thereby contributing to oxygen depletion. TSS can kill fish and shellfish through abrasive injury or clogging of gills and respiratory passages. Excessive TSS can destroy aquatic habitats by coating the bottom with sediment. Because TSS is a known and common pollutant in discharges associated with the industries covered under this general permit, it was selected as a parameter of concern. All surface water dischargers are required to monitor TSS.

Turbidity of water is related to the amount of suspended and colloidal matter contained in the water. It reduces the clarity and penetration of light. Turbidity is an indirect measure of total suspended solids. The data demonstrate that turbidity in discharges to surface water continues to pose a potential problem; approximately 7% of reported discharges exceeded the 50 NTU effluent limit. Because turbidity is a known and common pollutant in discharges associated with the industries covered under this general permit, it was selected as a parameter of concern. All surface water dischargers are required to monitor turbidity.

Drinking water is a major beneficial use of ground water. In drinking water, turbidity is considered an aesthetic contaminant and indicates increased potential for other contaminants. Ground water standards do not allow significant degradation of background levels of contaminants in ground water nor can a discharge cause ground water to exceed maximum contamination levels (MCLs). The MCL for turbidity is 1 NTU. Mining operations often discharge highly turbid water to infiltration ponds. It is possible for this turbidity to be carried a significant distance through the aquifer but typically it will travel only a short distance. One site studied in Oregon had a turbidity plume that resulted in levels of 5 NTU or more in wells up to 6,000 feet from the site. The aquifer consisted of unconsolidated alluvial fan gravels of very high permeability and a background level of about 2 NTU.

Sand and gravel mining impacts on ground water turbidity were explored in a report, *The Direct and Cumulative Effects of Gravel Mining on Ground Water Within Thurston County, Washington* (Robert Mead, Thurston County Public Health and Social Services Department.) Although the report recognized the potential to impact ground water turbidity and expressed concern about disposal of highly turbid wash water into gravel pit ponds, the only example of significant contamination was the site in Oregon. While there is the potential for site specific concern, the typical sites covered by this permit do not appear to pose a threat to ground water turbidity and discharge limits or turbidity monitoring will not be included for discharges to ground water. The current permit under special condition S14.B., provided the basis for Ecology to require the installation of ground water monitoring wells if site specific conditions warrant it. In the proposed permit, this condition has been consolidated with General Condition, G13., which allows Ecology to establish additional monitoring requirements, including the installation of monitoring wells, by order or permit modification.

FACT SHEET

Total Dissolved Solids (TDS) are a gross measure of the amount of soluble pollutants in the wastewater. TDS can be detrimental to aquatic organisms in fresh water systems and unless significant and immediate dilution is available, it may cause unacceptable degradation. TDS can also contaminate ground water and violate drinking water standards. Because the data suggest that discharges from concrete batch plants can have elevated levels of TDS, these facilities will be required to monitor their process water discharges for TDS. Although there is evidence that discharges of process water from asphalt batch plant wet scrubbers can have high levels of TDS, a review of discharge monitoring data submitted during the current permit cycle indicate that no asphalt batch plants exceeded the ground water standard for TDS. This is probably due to the fact that wet scrubbers are typically no longer used in Washington State; most facilities now use bag house technology. As a result, the proposed permit will no longer require asphalt batch plants to monitor TDS.

Iron and Manganese are regulated in drinking water to avoid unpleasant tastes and stains. These substances can be found in association with mined materials but are typically in their stable oxidized state and are not readily soluble. Mining activities do not typically create the conditions that would alter this state and cause iron and manganese enter ground water. Low pH is one condition that could result in dissolving iron and manganese but the permit limit of 6.5 to 8.5 for ground water discharges should be protective. Therefore, monitoring for iron and manganese is not required in the proposed permit.

Oil and grease includes thousands of organic compounds with varying physical and chemical properties. Oil and grease exhibit an oxygen demand. Oil may adhere to fish gills or coat and destroy algae or other plankton. Oil will also taint the flesh of fish and shellfish. Some types of oils have been found to be toxic to aquatic organisms at concentrations as low as 0.1 mg/l. Oil and grease data collected during the first permit cycle indicated that discharge sampling was not required. However, the current general permit required visual monitoring for the presence of an oil sheen in areas where water collects and requires best management practices to prevent oil and grease from contaminating wastewater discharges. This permit will also require visual monitoring and BMPs to prevent discharges from being contaminated from oil and grease.

Total Petroleum Hydrocarbons (TPH) are often considered a subset of oil and grease. TPH measurements exclude that portion of oil and grease which consists of animal and plant oils and fats. Petroleum derived fuels and oils, the more toxic constituents, are measured by the TPH test. The TPH test also quantifies the lighter types of fuels, such as gasoline and diesel fuel, which escape detection in the usual oil and grease test. The first Sand and Gravel General Permit cycle required sampling and laboratory analysis for total petroleum hydrocarbons. The data from this monitoring suggested that ongoing sampling was not necessary and sampling requirements were not required in the current permit. Since the permit will continue to require BMPs and visual monitoring to prevent TPH contamination, sampling requirements for TPH is not required.

Temperature increases and decreases for process water, mine dewatering water, and stormwater are primarily a result of ambient air temperature and solar influences. Processing by the facilities covered under this permit does not typically transfer significant thermal energy. Temperature decreases have not been identified as a significant environmental concern but there are more than 300 rivers in the state that are listed for water quality temperature excursions as a result of high temperatures. The temperature of discharges to surface water during the warm weather months

FACT SHEET

are therefore a concern. The temperature of discharges to ground water, are not expected to be of concern under most conditions because temperature is quickly modified by the thermal inertia of aquifer materials and the effect of dilution. The proposed permit will require monitoring of temperature for all discharges to surface water during the warm weather months (July, August and September). No monitoring of temperature is required for discharges to ground water.

Alkalinity is the sum total of components in the water that tend to elevate the pH of the water above a value of about 4.5. Examples of materials that increase the alkalinity are carbonates, bicarbonates, phosphates, and hydroxides. Excessive alkalinity in water supplies is undesirable due to the shift in availability of certain metal ions. Concrete batch operations could result in wastewater with high alkalinity. The data collected during the first permit cycle included some high levels of alkalinity. High alkalinity levels are also associated with high levels of TDS and since monitoring for TDS is required, additional monitoring for alkalinity was not required in the current permit and is not proposed in the new permit. However, the proposed permit does include a condition to require concrete batch operations that exceed 500 mg/l TDS implement additional monitoring and pollution prevention requirements to prevent TDS contamination.

Chlorides are regulated in the ground water quality standards due to the effect excessive chlorides have on the taste of drinking water. Chlorides may be found in wastewater associated with concrete batch operations. The data collected during the first permit cycle indicated that only a couple discharges had high levels of chlorides which suggested that industry-wide monitoring for chlorides should not continue. However, the proposed permit does include a condition to require concrete batch operations that exceed 500 mg/l TDS implement additional monitoring and pollution prevention requirements to prevent TDS contamination, including excessive chlorides.

Sulfates are regulated in the ground water quality standards due to the laxative effect they have when present in high concentrations in drinking water. Sulfates may be found in wastewater associated with concrete batch operations. The data collected during the first permit cycle included some discharges with high levels of sulfates. However, since high levels of sulfate would be associated with high levels of TDS, no additional monitoring for sulfates was required in the current permit. However, the proposed permit does include a condition to require concrete batch operations that exceed 500 mg/l TDS implement additional monitoring and pollution prevention requirements to prevent TDS contamination, including excessive sulfates.

Nitrate was also considered as a parameter of concern. Mining operations that utilize ammonium nitrate and fuel oil (ANFO) as a blasting agent have the potential for nitrate contamination. Nitrates might also be found in wastewater associated with concrete batch operations. However, nitrate monitoring data collected during the first permit cycle indicated that nitrates are not found at levels of concern. Therefore, the proposed permit will not require monitoring for nitrates. However, the proposed permit does include a condition to require concrete batch operations that exceed 500 mg/l TDS implement additional monitoring and pollution prevention requirements to prevent TDS contamination, including excessive nitrates.

FACT SHEET

SEPA COMPLIANCE

The coverage of existing facilities under this proposed general permit is exempt from the procedures mandated under the State Environmental Policy Act (WAC 197-11-855). The exemption does not apply to any new source dischargers. A new source discharger must complete the SEPA process prior to application for coverage under the proposed general permit.

Any existing facility planning a significant process change must submit a new application for coverage to modify their permit and demonstrate that the proposed change has complied with SEPA review. A significant process change for this industry group would be any modification of the facility that would change the characteristics of the discharge or include for coverage a new activity (SIC) that was not previously covered. There are no easily defined thresholds for what constitutes a change in the characteristics of the discharge other than when a facility adds a new activity (SIC) such as a concrete batch plant to their permitted activities. Other changes are not so easily defined. For instance, a change in the characteristics of the discharge is not necessarily just a change in the volume of the discharge. However, if a modification of the facility resulted in a discharge to surface water where previously no surface water discharge occurred, then a permit modification and SEPA review would likely be required. Facilities should notify their permit manager of any planned change and the potential to impact their wastewater discharge. The permit manager will determine if a permit modification and SEPA review is required.

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology-based or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

BACKGROUND

The sand and gravel general permit provides coverage for discharges to ground water as well as to surface water. About 216 permittees discharge to surface water and about 762 permittees discharge to ground; some permittees discharge to both surface water and groundwater. Permittees on the west side of the Cascade Mountains are much more likely to have a surface water discharge than those on the east side. Although water quality concerns for the state's

FACT SHEET

ground water and surface water are not truly separate and distinct, there are potential differences in the fate of pollutants traveling to ground water versus direct discharge to surface water. Some of these differences are reflected in the current permit with additional monitoring parameters for those discharges to surface water (e.g. turbidity). Because of these differences, water quality-based considerations will consider ground water discharges and surface water discharges separately.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

The federal government evaluated many categories of dischargers as a result of the directives of the CWA. Section 301(b) requires the achievement of effluent limitations for point sources which are based on the application of the best practicable control technology currently available (BPT) and the best available demonstrated control technology (BCT) which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants. The results of the evaluations for the categories covered by this general permit were published by USEPA as “Final Development Document for Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Industry” (July, 1979), “Guidance Development Document Effluent Limitations Guidelines and New Source Performance Standards for Concrete Products Point Source Category” (February, 1978), “Development Document for Proposed Effluent Guidelines and New Source Performance Standards for the Paving and Roofing Materials (Tar and Asphalt)” (September, 1974), and a related category “Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Cement Manufacturing Point Source Category” (August, 1973). The information contained in these documents, the federal requirements for the Mineral Mining Category and the Asphalt Concrete Subcategory, Suspended Solids Removal in the Crushed Stone Industry (August, 1982), and analyses of the data submitted on recent DMRs from permitted facilities form the basis for the technology-based effluent limits of this proposed general permit. State law requires all wastewater be treated with all known, available and reasonable methods of prevention, control and treatment (AKART). This State technology-based requirement may be more stringent than federal requirements. The proposed permit limitations on TSS in process water and quarry water are based on AKART. EPA BPT limitations are imposed on pH in process and dewatering discharges.

COMMON LIMITATIONS ON pH

The technology-based limitation on the pH of discharges is 6 to 9 standard units. This is derived from the federal effluent guidelines (40 CFR Part 436., Mineral Mining and Processing Point Source Category). The costs and benefits of pH adjustment are presented in the “Development Document for Concrete Products.” This technology-based limitation represents BPT for dischargers covered under this proposed general permit.

PROCESS WASTEWATER AND MINE DEWATERING

The limitation on discharges of total suspended solids (TSS) is derived from the requirement to recycle wastewater from the federal effluent guidelines 40 CFR Part 436, Mineral Mining and Processing Point Source Category, 40 CFR Part 443, Subpart B, Paving and Roofing Materials

FACT SHEET

Point Source Category, Asphalt Concrete Subcategory, discharge data records, and the report Suspended Solids Removal in the Crushed Stone Industry.

The BPT requirement to recycle wastewater necessitates a system to direct wastewater to a common area in order to prepare the water for reuse. The water must be treated to remove the solids which would otherwise clog piping, damage pumping equipment, and contaminate the product.

The EPA report Suspended Solids Removal in the Crushed Stone Industry was examined to ascertain the degree of effluent reduction capability within the industry. The pollution control technology examined was settling and recycle or reuse. The report summarized a variety of conditions and waste streams and the attainable TSS limit for each. The non-rain categories are appropriate for consideration of the process wastewater since the proposed general permit requires that stormwater should be segregated from process water unless the facility can treat stormwater to the process wastewater limits. The level of effluent quality attainable for non-rainfall conditions, including all facilities and all wastewater streams (excluding stormwater) is reported as a monthly average TSS of 38 mg/l and a maximum daily TSS of 80 mg/l. The limit proposed for most categories of this proposed general permit is 40 mg/l average monthly TSS and 80 mg/l maximum daily TSS.

The TSS encountered in the process water has a rapid settling rate. TSS removal efficiencies range from 90% with very dilute waste streams to over 99% for the typical process waste streams. Despite the relatively high TSS loadings, the material settles easily, and the limits of 40/80 mg/l TSS will be satisfied so long as adequate settling time and proper design and operation are maintained.

Monthly average limits and daily maximum limits are constructed that alert the facility and Ecology to instances where pollution prevention has failed. The limits recognize that occasional excursions in excess of the average can occur. Ecology, consistent with federal policy and regulation, has chosen to specify limits that define the limit of performance that can reliably be achieved. However, when only one sample is taken in a given month, that sample becomes the monthly average, subject to the more restrictive monthly average limit.

Hot mix asphalt plants and facilities covered under the industrial sand category must meet more stringent effluent guidelines established as BPT and BAT by the federal government. Asphalt Concrete facilities, in accordance with 40 CFR Part 443, Subpart B, must not discharge any process wastewater pollutants to surface waters of the state.

Industrial sand facilities, in accordance with 40 CFR Part 436, Subpart D, must recycle at least a portion of the wastewater and not exceed the following limitations for discharge of process water and mine dewatering: 45 mg/l TSS daily maximum and 25 mg/l TSS for a monthly average.

Based on turbidity data collected during the current permit cycle, 50 NTU has been determined to be economically achievable by dischargers covered by this permit and therefore constitutes a valid technology-based limitation (AKART, BCT). The proposed permit sets a turbidity limit of 50 NTU.

FACT SHEET

STORMWATER DISCHARGE CONDITIONS

The TSS in stormwater from these facilities must be controlled by BMPs. As with all wastewater discharges, the technology-based requirements and water quality-based requirements must be satisfied. The BMPs, such as detention and housekeeping, are based on the federal determination that such BMPs constitute BAT/BCT for stormwater at this time (FR 40974, August 16, 1991).

If permittees are unable to separate stormwater from process water, the commingled water will be considered process water and must comply with all limits and requirements for process water. The proposed general permit requires permittees to identify and control pollution sources that may affect stormwater by development and implementation of a Stormwater Pollution Prevention Plan. The pollutant control, inspections, and standard provisions of this proposed general permit include specific requirements, as well as references to technical guidance. Each discharger will be able to select BMPs best suited for reducing the pollutants in its stormwater on the basis of site-specific conditions.

DESIGN STORM

The proposed permit requires that all control measures are designed to manage the volume of water associated with the design storm. The design storm means the maximum volume of water resulting from the 10 year 24 hour precipitation event. The term "10 year 24 hour precipitation event" is the maximum 24 hour precipitation event with a probable reoccurrence interval of once in 10 years. The maximum volume of water is the total from all areas contributing runoff to the individual treatment facility. In addition to designing for the volume of water associated with the design storm, other treatment options, such as the use of settling aides may be necessary. The intent, however, is that control measures must be designed so that they are not overwhelmed by the volume of water from a storm event equal to the design storm. Problems that might result from too much water for control measures to handle should be very infrequent; certainly no more frequent than the occurrence of the design storm.

NON-WATER QUALITY ENVIRONMENTAL IMPACTS

The effects of wastewater treatment and control technologies on air pollution and noise pollution are usually small and not of any significance. Noise generated by water pumping equipment is insignificant when compared to the noise generated by the mining, sorting, and manufacturing processes.

Settling process water and stormwater to remove solids often produces large amounts of solid waste. When the solid waste is composed of silts and soils, it will typically be classified as non-hazardous. These solid waste materials are easily disposed of since mineral mining properties are often large and space for land disposal is readily available. Inert materials may also be used for backfill at mines. These "wastes" may in fact be a marketable by-product. Since these industries have sufficient space and earth moving capabilities, they manage it with greater ease than most other industries.

Sludges that form in settling ponds used for pH control, however, may require special attention to disposal options. Reuse of the sludge is the preferred option but where that is not practical, it

FACT SHEET

may be acceptable to spread these solids over a large area. Storing the sludge in a pile that allows leachate to infiltrate to ground or discharge to surface water may be unacceptable. These solid wastes should be analyzed for proper designation prior to disposal.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

“Numerical” water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, “narrative” water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDegradation

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be

FACT SHEET

protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The permit has been conditioned to implement the surface water quality standards and protect receiving water from degradation. A general permit, however, provides coverage for an industry group and site-specific conditions may exist that are not adequately addressed by the general permit. In these situations, either an administrative order or application for an individual permit may be necessary to protect the receiving water.

Ecology has determined there will be no loss of beneficial uses from discharges authorized by this permit

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses. Precise determination is very site-specific and not readily accommodated in a general permit.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

A mixing zone is typically based on site-specific characteristics such as the type of water body (e.g. river, lake, ocean) and a mixing zone study or the flow, width and depth of the receiving water. A general permit, however, is not intended to address site-specific conditions but provide coverage for an industrial group based on common characteristics. No mixing zone is authorized by this general permit.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. Criteria for some parameters consider the type of water body (e.g., lake, stream, ocean) and the quality of the water body (e.g., extraordinary, fair). A general permit must consider the typical discharge conditions and cannot readily accommodate site specific variables. Discharges to surface water for this industry group are most likely to be Class A freshwater and criteria or allowable impacts for these discharges are summarized below:

FACT SHEET

pH	6.5 to 8.5 standard units
Turbidity	less than 5 NTU above background
Temperature	≤ 18° C

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

pH - Water quality standards in Chapter 173-201A WAC have established numerical criteria for pH of 6.5 to 8.5 standard units (Class A freshwater). Since this is more restrictive than the technology-based limit of in the range of 6.0 to 9.0 standard units, the water quality-based limit of 6.5 to 8.5 standard units will be assigned for discharges to surface water. A compliance schedule (Appendix E of permit) applies to existing facilities that violate the effluent limitation for pH.

Turbidity - The water quality-based turbidity allowance for discharges to Class A waters is less than 5 NTU above background. Allowing a dilution factor of 10 and a background level of 0 NTU in the receiving water, a water quality-based limit of 50 NTU was assigned in the previous permit. The data collected during this permit cycle indicates that 93% of samples reported under the permit were less than or equal to the 50 NTU limit. Based on this data, 50 NTU has been determined to be economically achievable by dischargers covered by this permit and therefore constitutes a valid technology-based limitation (AKART, BCT). The proposed permit sets a turbidity limit of 50 NTU which will meet water quality standards in most discharge situations.

Temperature - The water quality standards in Chapter 173-201A WAC have established numerical criteria for temperature as follows:

Class AA Waters:

≤ 16° C (freshwater) or ≤ 13° C (marine water)

Class A Waters:

≤ 18° C (freshwater) or ≤ 16° C (marine water)

Class B Waters:

≤ 21° C (freshwater) or ≤ 19° C (marine water)

Class C Waters:

≤ 22° C (freshwater or marine water)

Since the Surface Water Quality Standards (Chapter 173-201A WAC) for temperature are changing from a 1-day maximum temperature to a 7-day average of daily maximum temperature (7-DADMax), pending EPA approval, the one time per week temperature measurements conducted by permittees during the current permit cycle are not sufficient to establish a water quality-based or technology-based effluent limitation. Ecology intends to conduct or coordinate a temperature study during this permit cycle to characterize permitted discharges and their effect on receiving water temperature. Ecology may require, by administrative order, a select number of permittees who discharge to surface waters to conduct additional temperature monitoring. An

FACT SHEET

appropriate temperature limit may be developed and included in the next sand and gravel general permit.

Discharges to 303(d)-Listed Impaired Waterbodies

Permittees that discharge a pollutant which is named as a pollutant causing a water quality standards violation at a location named on the current EPA-approved 303(d) list for Washington State are not authorized to discharge that pollutant at a concentration above the surface water quality standards (Chapter 173-201A WAC). Considering the pollutants associated with this industry group, facilities discharging to waterbodies that are listed for turbidity, fine sediment, pH or temperature must comply with the following requirements:

1. Permittees shall comply with TMDLs, including applicable wasteload allocations, completed prior to the date permit coverage is issued.
2. Permittees that discharge to an impaired water body that does not have a completed TMDL have an effluent limitation that is equal to the applicable Surface Water Quality Standard (WAC 173-201A) at the point of discharge (see Appendix D). This permit references the existing surface water quality standards, since the revised standards are not approved by EPA.

Discharges that exceed the effluent limitation for a discharge to a 303(d)-listed waterbody constitute a violation of the general permit. However, a compliance schedule (Appendix E of permit) applies to existing facilities (defined in Appendix A of permit) that violate the effluent limitation for 303(d)-listed waterbodies. Condition S1.A.3 states that facilities that discharge to a waterbody listed pursuant to Section 303(d) of the Clean Water Act are excluded from the general permit unless the Permittee meets the definition of existing facility and complies with the compliance schedule (Appendix E of the permit) per Condition S3.A.3.

WHOLE EFFLUENT TOXICITY

The Water Quality Standards for Surface Waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the wastewater in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

Toxicity caused by unidentified pollutants is not expected in the effluent from this discharge as determined by the screening criteria given in Chapter 173-205 WAC. Therefore, no whole effluent toxicity testing is required in this permit. Ecology may require effluent toxicity testing in the future if it receives information that toxicity may be present in this effluent.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

FACT SHEET

Ecology has determined that the discharge from this industry group is unlikely to contain chemicals regulated for human health.

SEDIMENT QUALITY

Ecology has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that Ecology may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

Ecology has determined through a review of the discharge characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards.

GROUND WATER QUALITY LIMITATIONS

Ecology has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by Ecology shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100). In accordance with WAC 173-200-060(1), the point of compliance with ground water standards is in the ground water as near and directly down-gradient from the pollutant source as is feasible. Since monitoring wells are not required by the proposed permit, the point of compliance with ground water quality standards shall be any point within an unlined impoundment pond or other point of discharge to ground water.

Ground water quality standards have established a pH limit of in the range of 6.5 to 8.5 standard units. As this limit is more restrictive than the technology-based limit of in the range of 6.0 to 9.0 standard units, the water quality-based limit will be assigned for discharges to ground water.

The current permit requires concrete batch plants and asphalt batch plants to measure total dissolved solids (TDS) in process water this is discharged to ground. These discharges have the potential to violate ground water criteria, which is 500 mg/l TDS. Although samples collected during the first permit cycle indicated that asphalt plants posed a risk to groundwater, no asphalt plants exceeded 500 mg/l TDS during the current permit. This may due to changing air pollution control technology. Most asphalt plant wet scrubbers have been replaced with bag houses which do not produce wastewater. As a result, the proposed permit will not require asphalt plants to continue to monitor TDS.

The current permit had provisions to a ground water impact study could be required for any facility that consistently exceeds 500 mg/l at a ground water discharge point (e.g. unlined pond). The proposed permit has modified this approach and requires concrete batch plant facilities that exceed 500 mg/l TDS to determine the cause of the elevated TDS using a Pollution Prevention Schedule to solve the TDS problem before proceeding directly to the ground water impact study (See Appendix C of permit – TDS Pollution Prevention Schedule). However, if the Pollution Prevention Schedule does not solve the TDS problem, a ground water impact study is required.

The characteristics that make sand and gravel resources valuable, also makes them productive aquifer systems. Over three-quarters of the population of the state depends on ground water as its principal source of drinking water. The high quality ground water associated with unconsolidated glacial deposits near the surface are as valuable as is the gravel that comprise

FACT SHEET

them. The use of an infiltration basin, dry well, drainfield, unlined settling lagoon, or similar means of disposal is likely to adversely affect ground water when adequate pollution prevention measures (BMPs) are not practiced. Spills and leakage of petroleum products is a significant concern. The proposed permit requires a visual inspection of points of discharge to ground water and the elimination of any oil sheen at these points of discharge. An appropriate spill response, best management practices to minimize spills and leaks, and prompt and thorough cleanup must be employed to prevent petroleum contamination of ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT

The proposed permit contains no changes to the surface water effluent limits for turbidity and total suspended solids.

The ground water effluent limits for pH will also remain the same (6.5 – 8.6 standard units) for all categories covered under the permit.

The proposed permit is dropping the surface water pH limit for facilities included in the Construction Sand and Gravel category (SIC 1442). For all other categories covered under permit, the pH limit for discharges to surface water has changed from 6 to 9 standard units to 6.5 to 8.5 standard units. This is required because the water quality based limit of 6.5 to 8.5 standard units, derived from Class A freshwater numeric criteria (Chapter 173-201A WAC), is more restrictive than the technology-based limit of 6 to 9 that was applied in the previous permit.

The change in the pH limit is summarized in the table below:

Stormwater Process Water Mine Dewatering Water	Daily Discharge Limits – Surface Water Discharges	
	Minimum	Maximum
<i>pH limit – existing permit</i>	6.0	9.0
<i>pH limit – proposed permit</i>	6.5	8.5

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved. Permittees that discharge to surface water are also required to monitor temperature during the summer months to determine if there is a reasonable potential to violate water quality temperature standards. Discharges associated with concrete batch plant process water must also monitor for total dissolved solids. The monitoring schedule is detailed in the proposed permit under Special Conditions S2 and S4. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance by the industry as a whole, significance of pollutants, and the cost of monitoring.

REPRESENTATIVE SAMPLING

Monitoring is intended to verify how well control measures are working to assure compliance with discharge limits. The proposed permit requires that monitoring must be representative of the operating conditions at a site and the nature of discharges that occur.

FACT SHEET

Representative sampling of discharges to ground water does not mean that all ponds and puddles that occur onsite must be sampled. It does mean that the Permittee must identify how many samples are necessary to accurately represent discharge conditions. If all the ponds and puddles onsite have the same pH, one sample will typically be representative of the site. If pH at ponds and puddles in one area of a site are typically higher or lower than the rest of the site, more than one sample must be taken. The proposed permit requires a monitoring plan. The plan should include documentation of the testing conducted by the Permittee to determine representative sampling for their site. The Permittee should periodically conduct additional sampling to assure that their monitoring plan provides representative sampling.

Stormwater discharges to surface water pose another problem for representative sampling. Since storm events are not under the control of the Permittee, discharges may occur at any time of day or night and with varying intensity. The intent of monitoring for turbidity is to determine if control measures are adequate to control discharge turbidity. To achieve this sampling should be conducted during a major storm event when control measures are most stressed. Since storm events cannot be predicted far in advance, the proposed permit requires two samples a month, increasing the odds that some samples will be taken during the most significant storm events of a month. It is acceptable for the Permittee to sample twice during one storm event if the duration of the storm event is sufficient to allow at least 24 hours between sampling.

LAB ACCREDITATION

With the exception of certain parameters the proposed permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*. Testing pH is one of the parameters that does not require lab accreditation but does require a pH meter that is accurate to a tenth of a pH standard unit. It may be in the best interest of a facility to obtain accreditation to do some additional testing onsite. Becoming accredited to conduct turbidity tests, for instance, may be a cost saving and provide timely information for improving the quality of their wastewater discharge. However, if a facility does receive accreditation for one or more parameters, then it is necessary to receive accreditation for pH also. Information on accreditation can be obtained from the Department of Ecology lab accreditation program at (360) 895-4649. In addition to the steps to become accredited, they can also provide advice on complying with testing requirements and appropriate equipment.

OTHER PERMIT CONDITIONS

TRAINING REQUIREMENTS

It is the Permittee's responsibility to implement and comply with the terms and conditions of the proposed permit. This responsibility includes training staff to ensure that all spills are reported and responded to appropriately.

Permittee should review all staff duties and responsibilities and identify those functions that require training in permit requirements.

FACT SHEET

REPORTING AND RECORDKEEPING

Special Condition S6., Reporting and Recordkeeping Requirements, are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-226-090).

Various permit conditions require the Permittee to notify Ecology in writing (e.g. notification of change in permit status.) The permit does not specify any special mailing instructions. However, it is the Permittee's responsibility to assure that Ecology receives notification in a timely fashion. If Ecology does not receive notification as required by the permit, the Permittee will be out of compliance. It may be in the Permittee's best interest to use certified mail or other documented delivery service whenever notifying Ecology as required by the permit.

DISCHARGE WATER MANAGEMENT

The proposed permit requirements under S7, Discharge Water Management, are based on sound engineering practices and pollution prevention practices. Lined impoundments are required where process water discharge has a significant potential to contaminate ground water. These impoundments must be constructed and maintained to prevent leakage. The impoundments and other devices to control pollutants must be built to contain the statistically derived stormwater event with a probable reoccurrence interval of once in ten years (design storm). This is consistent with federal regulations regarding these industries.

This condition addresses the use of chemical additives for wastewater treatment or erosion control. Typically these include chemicals to enhance solids settling in retention ponds or promote soil stabilization. Many of these chemicals are used in the drinking water industry and therefore are typically considered to be "safe." However, some do demonstrate aquatic toxicity and others have not even been tested to determine aquatic toxicity. The proposed permit includes restrictions on the use of these chemicals to minimize the potential for any harmful effects on water quality from their use.

Direct discharge of wastewater from a hot mix asphalt plant or a concrete batch plant into an aquifer is prohibited in order to protect drinking water supplies. Wastewater from maintenance shop and vehicle wheel wash/tire bath reservoirs is regulated to prevent discharge of pollutants.

The use of ligninsulfonate is restricted due to the high biochemical oxygen demand (BOD) of the material and the potential for polluting ground water or surface water from road runoff. Otherwise, a BOD limitation and monitoring would be required to restrict its pollution potential in surface water and ground water.

This condition also regulates the discharge to gravel pit ponds. Gravel is often extracted below the water table and when extraction is completed, a pond remains behind. Some facilities then use the pond as a settling basin for stormwater and/or process water. However, gravel pit ponds may be considered as waters of the state. Untreated stormwater and process water would not likely meet surface water criteria for turbidity. This sets up a potential conflict because the addition of sediment laden wastewater adds fines to the gravel pond which can be a desirable part of reclamation. The fines may help seal the pit and, in more shallow areas, provide a substrate for aquatic plants. As a part of a reclamation plan, using the pond as a settling basin may be

FACT SHEET

desirable. The proposed permit defines the period of reclamation as part of the mining process and authorizes solids settling in the pond as long as it is part of an approved reclamation plan.

STORMWATER POLLUTION PREVENTION PLAN

Special Condition S9 requires all facilities to have a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must be retained on-site or within reasonable access to the site and available, upon request, to Ecology. The SWPPP must be developed and implemented to identify and control stormwater pollution by industrial activities. The objectives include: elimination of commingling of process water and stormwater, implementation of best management practices (BMPs), and the prevention of water quality standard violations.

Consistent with the Water Quality Program's policy published in the Washington State Register on August 6, 2003, each SWPPP must either be based upon the *Presumptive Approach* or the *Demonstration Approach*.

For the *Demonstration Approach*, the technical basis for all stormwater BMPs must be documented within the SWPPP. The SWPPP must document:

1. how stormwater BMPs were selected,
2. the pollutant removal performance expected from the BMP being selected,
3. the technical basis which support the performance claims for the BMPs being selected, and
4. an assessment of how the selected BMP will comply with state water quality standards, satisfy the state AKART requirements, and the federal technology-based treatment requirements under 40 CFR part 125.3

For the *Presumptive Approach*, permittees which follow the stormwater management practices contained in approved stormwater management manuals (SWMM), including the proper selection, implementation, and maintenance of appropriate best management practices, do not need to document the technical basis for the BMPs being used. However, the SWPPP must clearly state which SWMM was used. The approved SWMMs are:

1. Stormwater Management Manual for Western Washington; if facility is west of the crest of the Cascade Mountains.
2. Stormwater Management Manual for Eastern Washington; if facility is east of the crest of the Cascade Mountains.
3. Other stormwater manuals and technical guidance approved by Ecology; refer to Ecology's website for a complete list.

Permittees choosing the presumptive approach may select BMPs which are different than, but functionally equivalent to, the BMPs in an approved SWMM but must document their functional equivalency in the SWPPP.

Unless there is site-specific information to indicate otherwise, permittees which choose the presumptive approach are presumed to be in compliance with the discharge limitations in S2 and S3.

The proposed permit requires ongoing wet and dry season investigations to determine if there is commingling of stormwater with process water.

FACT SHEET

Best management practices (BMPs) are a very significant part of complying with permit conditions. BMPs include schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices used to control plant site runoff, spillage or leaks, sludge or waste disposal, and drainage from raw material storage. In this permit, BMPs are further categorized as operational, source control, erosion and sediment control, and treatment.

Operational BMPs include a schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the state. These activities do not require construction of pollution control devices but are very important to a successful SWPPP. Employee training, for instance, is critical to achieving timely and consistent spill response. Prohibitions might include field repair work on equipment but certainly would include intentional draining of crankcase oil on the ground. Good housekeeping and maintenance schedules help prevent incidents that could result in the release of pollutants. Operational BMPs represent a very cost-effective way to control pollutants and protect the environment.

Source control BMPs include physical, structural, or mechanical devices or facilities intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, construction of roofs over storage and working areas, and direction of equipment wash water and similar discharges to the sanitary sewer or a dead end sump. Source control BMPs are likely to include a capital investment but are cost effective compared to cleaning up pollutants after they have entered stormwater.

The previous BMPs are designed to prevent pollutants from entering stormwater to begin with. However, even with a very aggressive and successful program, stormwater may still require treatment to achieve compliance with permit conditions. Treatment BMPs are BMPs intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands¹.

The proposed permit requires BMPs to control and treat stormwater. It also requires BMPs that prevent stormwater contamination.

The permit also requires the Permittee to store additional information in the SWPPP. The Permittee must record the results of visually monitoring surface water discharges for impact on turbidity and monitoring visually for oil sheen in the SWPPP. Storm water inspection reports are also to be kept with the SWPPP. The intention is that the SWPPP becomes a useful document for the Permittee, providing useful information on stormwater control strategy and results.

All facilities must also have a completed Erosion and Sediment Control Plan (ESCP). The ESCP must be retained on-site or within reasonable access to the site and available, upon request, to Ecology. Permittees are required to select, install, and maintain appropriate BMPs. In the BMP

¹ Developing a constructed wetland can be an effective way to treat stormwater. However, wetlands constructed for treatment of stormwater are not eligible for use as compensatory mitigation for authorized impacts to regulated wetland systems.

FACT SHEET

Reference section at the end of this fact sheet are citations for publications that may be useful as guides in selecting appropriate BMPs. Permittees may select or design BMPs not discussed in those references if they are substantially equivalent and appropriate for their situations.

The discharge of stormwater to any sanitary sewer is prohibited. This is necessary to limit both the dilution of sanitary wastewater and the hydraulic loading of sanitary sewers and treatment plants.

SPILL PLAN

It is typical for the industrial activities covered under this permit to include storage of chemicals that have the potential to cause water pollution if accidentally released. Fuel, hydraulic fluid and other petroleum products are commonly stored onsite and heavy equipment and trucks contain significant quantities of these materials. Spills can and do happen at sites covered under this permit. As discussed previously, mining sites are particularly vulnerable to ground water contamination. This permit requires the Permittee to develop best management plans to prevent accidental release of these substances and to respond quickly to clean up spills that may occur. These requirements are consistent with section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080. The Permittee must develop, implement, and maintain a spill plan to prevent the accidental release of pollutants to state waters and to minimize damages if such a spill occurs. This plan must be kept onsite or within reasonable access to the site and made available to Ecology upon request.

SOLID WASTE DISPOSAL

The Permittee is required to properly dispose of solid wastes and comply with the applicable solid and hazardous waste regulations (Chapters 173-303 and 173-304 WAC). Collection, separation, and settling are some of the techniques for controlling stormwater or process water that may result in the generation of solid wastes. The solid waste from the activities covered under this permit will most often contain no hazardous waste materials and may be used as soil or fill material. However, it is the Permittee's responsibility to verify that the solid waste is properly identified, handled and disposed of. Solid waste from concrete truck washout for instance, may have a high pH and leachate from stock piles of this material may have a potential to pollute waters of the state. The small particulate matter (fines) that is removed from air emissions during the production of asphalt may contain pollutants of concern and should be evaluated for toxic substances to determine appropriate disposal options.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by Ecology.

Condition G1 requires the Permittee to comply with the terms and conditions of the proposed permit. Condition G2 requires the Permittee to properly operate and maintain all pollution control facilities and systems. Condition G3 requires the Permittee to control its production in order to maintain compliance with its permit. Condition G4 requires the Permittee to inform Ecology of any wastewater system bypass. Condition G5 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the proposed

FACT SHEET

permit. Condition G6 requires the Permittee to submit a new application for coverage prior to implementing significant changes in covered activities. Condition G8 specifies conditions for modifying, suspending or terminating the permit. Condition G9 requires the permittee to notify Ecology when facility changes may require modification or revocation of permit coverage. Condition G10 states that Ecology will modify or revoke and reissue the permit to conform to more stringent toxic effluent standards or prohibitions. Condition G11 incorporates by reference all other requirements of 40 CFR 122.41 and 122.42. Condition G12 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G13 notifies the Permittee that additional monitoring requirements may be established by Ecology. Condition G14 requires the payment of permit fees. Condition G15 prohibits the reintroduction of removed substances back into the effluent. Condition G16 allows the Permittee to request their general permit coverage be replaced by an individual permit. Conditions G17 and G18 relate to permit renewal and transfer. Condition G19 describes the penalties for violating permit conditions. Condition G20 requires responsible officials or their designated representatives to sign submittals to Ecology. Condition G21 defines appeal options for the terms and conditions of the general permit and of coverage under the proposed permit by an individual discharger. Condition 22 invokes severability of permit provisions.

SMALL BUSINESS ECONOMIC IMPACT STATEMENT

Since only relatively minor changes exist between the current permit and the proposed permit, the original small business economic impact statement (SBEIS) provides sufficient review of economic impact factors. The SBEIS includes evaluations of the economic impacts to these industries based on cost estimates available from USEPA as well as other sources. The compliance costs associated with Chapter 173-201A (surface water quality standards) and compliance with federal law or regulations are not included in the SBEIS.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

Ecology may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. Ecology proposes that this proposed permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

BMP REFERENCES

Barfield, B.J., R.C. Warner, and C.T. Haan

Applied Hydrology and Sedimentology for Disturbed Areas. Oklahoma Technical Press, Stillwater, Oklahoma.

Environment Canada

Recommended Waste Management Practices for the Ready Mix Concrete Industry in British Columbia. March, 1990

Goldman, S.J.,

Erosion and Sediment Control Handbook. McGraw Hill Publishing Co., New York, New York.

Spokane County

Guidelines for Stormwater Management. Spokane County Engineers Office, North 811 Jefferson St., Spokane, WA 99260

United States Environmental Protection Agency

NPDES Stormwater Sampling Guidance Document. USEPA Document 833-B-92-001, July 1992

Development Document for Effluent Limitations Guidelines and Standards, Mineral Mining and Processing Industry, Point Source Category, USEPA Document 440/1-76/059b, July 1979

Guidance Development Document Effluent Limitations Guidelines and New Source Performance Standards for Concrete Products, Point Source Category. USEPA Document 440/1-78/090, February 1978

Urbonas, Ben and Peter Stahre

Stormwater. Prentice Hall, Des Moines, Iowa

Washington State Department of Natural Resources, Division of Geology and Earth Resources

Best Management Practices for Reclaiming Surface Mines in Washington and Oregon, Revised Edition 1997, Open File Report 96-2.

Washington State Department of Ecology

Stormwater Management Manual for the Puget Sound Basin, Publication 91-75

FACT SHEET

GENERAL REFERENCES

Environmental Protection Agency (EPA)

1975. Development Document for Effluent Limitations Guidelines and New Source Performance Standards for the Paving and Roofing Materials. EPA 440/1-75/049a.
1975. Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Minerals for the Construction Industry Vol. I. EPA 440/1-75/059.
1975. Development Document for Interim Final Effluent Limitations Guidelines and New Source Performance Standards for the Clay, Ceramic, Refractory and Miscellaneous Minerals Vol. III. EPA 440/1-75/059d.
1979. Development Document for Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Industry. EPA 440/1-76/059b.
1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.
1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.
1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.
1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.
1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Mead, Robert D.

1995. The Direct and Cumulative Effects of Gravel Mining on Ground Water Within Thurston County, Washington. Thurston County Public Health and Social Services Department.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to reissue the sand and gravel general permit to the industries listed under “Permit Coverage” on page 1 of this fact sheet. The proposed permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

On October 1, 2003, Ecology filed a public notice with the Code Revisers Office to announce the intention to update and reissue the Sand and Gravel NPDES and State Waste Discharge General Permit. The announcement was published in the Washington State Register (WSR 03-20-116) on October 15, 2003. At the same time, a letter summarizing the permit reissuance process was sent to current permittees, interested parties identified in the initial permit issuance, and to parties with standing requests for Ecology announcements.

On June 23, 2004, Ecology filed a Public Notice of Draft (PNOD) with the Code Revisers Office to inform the public that the revised draft permit and fact sheet are available for review and comment; and specify the dates and locations of public workshops and hearings on the proposed permit. The announcement was published in the Washington State Register (WSR 04-13-179) on July 7, 2004. The public notice is also being published in several major newspapers throughout Washington State and on Ecology’s website. Written notice will also be mailed to all parties identified above as interested parties. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at Ecology’s regional offices listed below. Written comments should be mailed to:

Jeff Killelea, Water Quality Program
Department of Ecology
PO Box 47600
Olympia, WA 98504-7600

Ecology will also conduct workshops and public hearings at the following two locations to provide an opportunity for people to give formal oral testimony and comments on the proposed permit.

The August 10, 2004 workshop and hearing will be held at:

Moses Lake Convention Center
1475 Nelson Road, N.E.
Moses Lake, Washington
(509) 766-1416

The August 12, 2004 workshop and hearing will be held at:

Washington State Department of Ecology
300 Desmond Drive
Lacey, Washington
(360) 407-6000

Both public workshops and hearings will begin at 1:00 p.m. and conclude as soon as public testimony is completed.

FACT SHEET

Any interested party may comment on the draft permit or testify at a public hearing on this draft permit. Written comments must be submitted from July 7, 2004 to August 19, 2004 to Ecology's mailing address above. Public notice regarding the hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology will consider all comments received prior to midnight, August 19, 2004, in formulating a final determination to issue, revise, or reconsider the proposed permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from Ecology by telephone, (360)407-6127, by writing to the address listed above, or by visiting Ecology's Sand and Gravel web page:
www.ecy.wa.gov/programs/wq/sand/

This general permit and fact sheet was written by Jeff Killelea, Department of Ecology - Water Quality Program.

Regional office locations are:

Southwest Regional Office
Water Quality Program
300 Desmond Drive
Lacey, Washington
Phone: (360) 407-6280

Central Regional Office
Water Quality Program
15 West Yakima Avenue, Suite 200
Yakima, Washington
Phone: (509) 457-7148

Northwest Regional Office
Water Quality Program
3190 - 160th Avenue SE
Bellevue, Washington
Phone: (425) 649-7201

Eastern Regional Office
Water Quality Program
N. 4601 Monroe, Suite 202
Spokane, Washington
Phone: (509) 456-6310

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for “all known, available, and reasonable methods of treatment.”

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

FACT SHEET

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be “time-composite” (collected at constant time intervals) or “flow-proportional” (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over a short period of time as is feasible.

FACT SHEET

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

FACT SHEET

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C – RESPONSE TO COMMENTS

Addendum to Fact Sheet

Summary of Changes to the Final Draft Permit

Summary of Permit Report Submittals

List of Required Permit Reports – Revised

List of Required Plans – Revised

S1.

- S1.B.1.b. Facilities Excluded from Coverage under this Permit – Revised (TMDLs)
- S1.B.1.c. Facilities Excluded from Coverage under this Permit – Revised (303(d) waters)
- S1.C.3.a. How to Apply for Permit Coverage for Non-portable Facilities – Revised (added reference to WAC 173-226-130(5))
- S1.D. How to Apply For and Maintain Permit Coverage for Portable Facilities – Revised (corrected date for new facilities: February 4, 2005)
- S1.F. Reporting Change in Operating Status – Revised (failure to report is a violation)

S2. Monitoring Requirements and Effluent Limitations Matrix

- Matrix Revised (dropped stormwater pH monitoring for SIC 1442)
- Matrix Revised (reduced pH monitoring frequency to quarterly for non-concrete SIC codes)
- Matrix Added (visible oil sheen monitoring – daily)
- Matrix Clarified (Stormwater means Type 2 & 3 Stormwater)
- Matrix Added (flow monitoring added for discharges to surface waters)
- Matrix Revised (TDS/Ground water column, SIC 3272/3273 row: S2.A.5 replaced with S2.A.6)
- Matrix Added (SIC 3272-Concrete Products monitoring added to matrix)
- S2.A.5. Notes for the Monitoring Requirements and Effluent Limitations Matrix - Deleted (reference to monitoring at inactive sites was redundant with S4.D)
- S2.A.6. Notes for the Monitoring Requirements and Effluent Limitations Matrix - Added (discharge flow monitoring)
- S2.A.7. Notes for the Monitoring Requirements and Effluent Limitations Matrix - Added (prohibits discharge of asphalt wet scrubber water in 18 months)

S3. Additional Discharge Limitations

- S3.A.3. Discharges to Surface Water – Effluent Limitations – Revised (TMDLs)
- S3.A.4. Discharges to Surface Water – Effluent Limitations – Revised (303(d) waters)
- S3.B.4. Discharges to Ground Water – Effluent Limitations – Added (prohibits discharge of asphalt process water to groundwater)

S4. Additional Monitoring Requirements

- S4.A.2. Discharges to Surface Water - Clarified (proper sampling locations)
- S4.A.5. Discharges to Surface Water – Added (new facilities with discharge to 303(d) waters)
- S4.A.6. Discharges to Surface Water – Added (require Receiving Water Flow Report)
- S4.B.2. Discharges to Ground Water – Revised (monitoring wells added); Clarified (proper sampling locations)

- S4.C. Receiving Water Study – Deleted (redundant with G13)
- S4.E. Monitoring for Oil Sheen – Revised; relabeled: S4.D (daily monitoring for oil sheen reported on DMR)
- S4.D. Stormwater Discharges at Inactive Sites – Revised; relabeled: S4.C (stormwater monitoring required at certain inactive sites)
- S4.F. Sampling and Analytical Procedures – Revised; relabeled: S4.E (made consistent with EPA Guidance)

S5. Monitoring Plan

- S5. Introduction – Revised (public access to plans)
- S5.A. Monitoring Plan Requirements – Revised (clarify that plan includes map)
- S5.B. Maintaining Monitoring Plan – Revised (Inform Ecology in writing)

S6. Reporting and Recordkeeping Requirements

- S6.A.1. Discharge Monitoring Reports – Revised (DMRs for certain inactive sites)
- S6.A.4. Discharge Monitoring Reports – Revised (Changed to 30 days)
- S6.E.2. Noncompliance Notification – Revised (Changed to 24 hours)
- S6.E.3. Noncompliance Notification – Revised (Added S3 to last sentence)

S7. Water Management

- S7.A. Lined Impoundment Required – Revised (added S7.A.5 – allows other functionally equivalent approved impoundments, structures or techniques)
- S7.D. Mined Pit Pond – Revised
- S7.E.3. Use of Chemical Treatment Additives/Soil Stabilization Polymers – Revised

S9. Stormwater Pollution Prevention Plan

- S9.A.2 General Requirements – Revised
- S9.A.4 Modifications - Revised
- S9.A.4.c. General Requirements. Modifications – Deleted
- S9.A.6. Stormwater BMPs – Revised
- S9.B.3.i. Source Control BMPs – Added (New BMP added)

S10. Stormwater Inspections

- S10.A.2 Wet Season Inspection – Revised (typo corrected)

S11. Spill Control Plan

- S11. Introductory paragraph – Revised (public access to plans)

S12. Solid Waste Disposal

- S12.B. Leachate – Revised (leachate shall not cause or contribute to violations of standards)

G10. Toxic Pollutants

- G10. Revised (made consistent with G19 in Industrial NPDES Permit Shell)

G17. Permit Transfer

- G17. Revised (made consistent with 40 CFR)

Appendix B - Definitions

- Active Site – Revised
- Current EPA-Approved 303(d) list – Revised

Ecology - Deleted
General Permit - Deleted
gpm (gallons per minute) – Added
Inactive Site – Revised
LC₅₀ – Revised
New Facility – Revised
Operational BMPs - Deleted
Pollutant – Revised
Receiving water – Added
Representative Sampling – Revised
TMDL or Total Daily Maximum Load – Added
Type 2 Stormwater – Revised

Appendix D – Effluent Limitations for Discharges to Impaired Waterbodies – Deleted

Appendix E – Compliance Schedule for Existing Facilities – Deleted

Written comments were submitted by the following interested parties:

- Comments 1-19: Richard A. Smith/Waste Action Project
- Comments 20-26: Bruce Wishart/People for Puget Sound
- Comments 27-36: Brent Foster/Columbia Riverkeeper and the Northwest Environmental Defense Center
- Comments 37-39: Heather Kibbey/Pierce County Public Works and Utilities - Water Programs
- Comment 40: Bill Angel/Whatcom County Health Department – Environmental Health
- Comments 41-46: Jana McDonald/CPM Development Corporation
- Comments 47-49: Ken Johnson/Weyerhaeuser Company
- Comments 50-56: Neil Alongi, P.E. and Alistaire Clary, P.E./Maul Foster & Alongi, Inc.
- Comments 57-61: Heath Packard, Sue Danver, Gretchen Starke, Becky Stanley/Audubon Washington, Black Hills Audubon Society, Vancouver Audubon Society, Cascade Chapter of the Sierra Club
- Comments 62-63: Val Alexander/Coyote Ridge Ranch, Friends of Clark County and East Fork Rural Association
- Comments 64-68: Richard Dyrland/Friends of the East Fork and Fish First
- Comment 69: Stan Olsen/Kitsap County Department of Public Works - Surface & Stormwater Management
- Comments 70-75: Sue Joerger/Puget Soundkeeper Alliance
- Comments 76-83: Tom Cook
- Comments 84-87: Bruce Chattin/Washington Concrete and Aggregate Association
- Comment 88: Douglas D. Navetski/King County Department of Transportation
- Comments 89-96: Scott Rose
- Comment 97: Carolyn Pickett

Ecology's Responses to Written Comments:

Comment 1.

Sampling for total suspended solids is too infrequent at quarterly, particularly since numeric effluent limitations are set for this parameter. How can quarterly monitoring provide sufficient data to determine whether a permittee is reliably or consistently meeting the TSS effluent limitations? Sampling for TSS should be no less frequent than monthly.

Response: TSS monitoring is only required for process water which is not as variable as stormwater. Considering the nature of processing operations (gravel washing, etc), and the related AKART requirements, significant variability in TSS concentrations is not expected from month to month. Where variation exists, the permittee is required to obtain representative samples for all parameters including TSS. The quarterly sampling frequency for TSS is deemed to be adequate to determine if the limitation is being met and exceeds the minimum sampling frequency (once per year) established in federal regulation. No change to the permit.

Comment 2.

The frequency of sampling for turbidity, set at "2 Times a Month," is inadequate.

First, turbidity is the parameter that has been most problematic for permittees and more sampling data is warranted to determine whether turbidity effluent limitations are consistently attained. Second, the wording of this requirement is vague and leaves room for sampling gamesmanship. Although S2.A.3. requires at least 24 hours between these samples, permit requirements are inadequate to ensure that there will be "representative sampling," especially given the considerations for stormwater discharges discussed in the definition of "representative sampling." This definition states, in relevant part, "the intensity of a storm event and the number of dry days preceding a storm can have dramatic effects on the characteristics of a stormwater discharge. Frequency of sampling must be sufficiently frequent to represent this variability." What in the permit requires sufficient frequency for representative sampling?

Response: Ecology believes the turbidity sampling frequency is adequate, and no change will be made. However, the definition of *representative sampling* will be revised as follows:

Stormwater sampling should occur within 24 hours of the initial discharge from a significant precipitation event (e.g. 0.25 inch/24 hr. precipitation event). *Process water or mine dewatering water* sampling should be timed to occur when the facility is operating at full capacity.

Comment 3.

Please explain how the numeric effluent limitations for turbidity ensure compliance with water quality standards given that, according to the fact sheet, there is no mixing zone under this permit. If there is a mixing zone(s) under this permit, explain how Ecology has satisfied the substantive and procedural requirements of WAC 173-201A-100 in granting such mixing zone(s).

Response: It is difficult to establish a water quality based effluent limitation in a general permit because a significant amount of site specific information (background conditions, dilution factor, etc.) is required to do it precisely. In an effort to prevent violations of the turbidity standard

within the context of a general permit, Ecology has established an enforceable “end of pipe” effluent limitation that applied a set of conservative assumptions about receiving water characteristics (dilution factors and background conditions) and developed a 50 NTU effluent limitation that is presumed to comply with the state’s turbidity standard.

Only those facilities with a dilution factor of less than 10 have the potential to violate the “5 NTU over background” turbidity standard, and in the ten years this permit has been in effect, many of these facilities have been addressed with additional upstream and downstream turbidity monitoring to ensure that the discharges do not cause or contribute to a violation of the “5 NTU over background” turbidity standard. In situations where it is determined that a discharge is causing or contributing to a violation of the turbidity criteria in WAC 173-201A, Ecology will continue to take appropriate enforcement action to bring the discharge into compliance.

Ecology has determined that the development of an effluent limitation, based on the assumption of available dilution in the receiving water is different than granting a mixing zone, and therefore does not trigger the substantive and procedural requirements of WAC 173-201A-100.

Comment 4.

Condition S3.A.4. and Appendix E – S3.A.4. states that the Appendix E compliance schedule is for “existing facilities that violate the effluent limitation for pH.” Appendix E at para. 1 tends to indicate that the compliance schedule may be for more than that. This needs clarification.

It is also unclear as to whether entry into the compliance schedule relieves the permittee of liability for violating the underlying pH (or other) numeric effluent limitation. We urge that it should not. The permit should make this clear by including language such as “compliance with the requirements of this compliance schedule do not excuse violations of the underlying effluent limitations or in any way relieve the permittee of any liability for such violations.”

If the compliance schedule is to relieve a permittee of liability for violation of the underlying effluent limitations, it is likely that Waste Action Project and/or other environmental organizations will appeal this permit.

If the compliance schedule is intended to relieve a permittee of liability for violation of the underlying effluent limitations, there is a backsliding problem. The current permit includes numeric effluent limitations comparable to those in this draft, but no compliance schedule. The compliance schedule cannot be a means to make the permit requirements less stringent, such as by relieving permittees of an obligation to already have complied with numeric effluent limitations, without running afoul of the anti-backsliding provision of the Clean Water Act.

It is unclear from the compliance schedule provisions whether a permittee that completes the four year schedule can re-enter the compliance schedule if it has another violation occur after the end of the four year schedule. The permit should clarify that this would not be allowed.

The requirement to comply “four years after the violation” is also unclear. That this refers to “four years after the violation that initiates the compliance schedule” should be made explicit.

If a permittee is currently able to meet effluent limitations and continues to do so through the first several years of the permit term, and then violates an effluent limitation, no compliance schedule should be allowed. To allow a compliance schedule in this circumstance would constitute backsliding impermissible under the Clean Water Act. In addition, in this

circumstance, the compliance schedule may exceed the term of the permit, contrary to WAC 173-201A-160(4)(c) and other regulations applicable to compliance schedules.

The compliance schedule is inconsistent with applicable regulations because it does not contemplate Ecology selection or approval of additional BMPs. WAC 173-201A-160(3)(b) is applicable and, in relevant part, states, "If a discharger is applying all best management practices appropriate or required by the department and a violation of water quality criteria occurs, the discharger shall modify existing practices or apply further water pollution control measures, selected or approved by the department, to achieve compliance with water quality criteria. Best management practices established in permits, orders, rules, or directives of the department shall be reviewed and modified, as appropriate, so as to achieve compliance with water quality criteria."

The compliance schedule is inconsistent with applicable regulations because it is a blanket compliance schedule and it does not contemplate case-by-case determinations by Ecology about whether to allow the compliance schedule to particular permittees. WAC 173-201A-160(4)(a) is applicable and, in relevant part, states, "Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the department."

The compliance schedule constitutes an impermissible self-regulatory scheme and fails to establish meaningful interim effluent limitations as required. WAC 173-201A-160(4)(b) states that "For the period of time during which compliance with water quality criteria is deferred, interim effluent limitations shall be formally established, based on the best professional judgment of the department. Interim effluent limitations may be numeric or nonnumeric (e.g., construction of necessary facilities by a specified date as contained in an ecology order or permit)." The draft compliance schedule includes only the vaguest substantive requirement.

This vague substantive requirement, at Appendix E, section 2.a., is required for an unclear amount of time. What does "one year after the violation, and annually for three years" mean? Compliance is not required until four years after "the violation" – what is required in the fourth year?

State law requires that Ecology make an AKART determination under this permit.

With this compliance schedule's vague Appendix E, section 2.a. requirement, Ecology makes no AKART determination.

The compliance schedule is inconsistent with WAC 173-226-180(3) because it includes no interim requirements.

The compliance schedule is inconsistent with WAC 173-226-180(4) because it does not require that "either before or up to fourteen days following each interim date and the final date of compliance, the permittee shall provide the department with written notice of the permittee's compliance or noncompliance with each interim or final requirement."

Schedules of compliance for stormwater discharges are impermissible at this point under 33 U.S.C. § 1342(p)(4)(A), which limits such schedules to three years for industrial stormwater discharges. More than three years have already passed since existing permittees under the current permit were required to meet the effluent limitations. See Puget Soundkeeper Alliance, et al v. Ecology, PCHB 02-162, -163, and -164, Order Granting Partial Summary Judgment (June 6, 2003).

Why is the compliance schedule in an appendix rather than in the body of the permit itself? This is a potentially confusing departure from standard Ecology permit writing practice.

Response: Ecology has decided to delete the compliance schedule language from the general permit. Compliance schedules will be addressed using administrative orders, on a case by case basis, per WAC 173-201A(4)(a).

Comment 5.

Condition S4.A.4.

Ecology's grant of a "Request to Reduce Frequency of Turbidity Monitoring in Surface Water Discharges" would constitute a major permit modification for which public participation procedures must be followed under 40 C.F.R. § 122.62. The permit is inconsistent with this requirement because it contemplates no public notice, participation, or right to appeal the granting of such a request.

As discussed above, the "2 Times a Month" frequency for turbidity sampling will generate inadequate data to support a "likelihood of continued compliance" with the turbidity effluent limitation.

Response: The requirements for the monitoring reduction and the decision criteria are clearly defined in the permit therefore, Ecology does not agree that a reduction in turbidity monitoring, as set forth in Condition S4.A.4, constitutes a major permit modification. Therefore, no changes will be made to this condition.

Comment 6

Condition S4.C.

The permit should set out conditions in which a receiving water study is automatically required, such as when numeric effluent limitations are violated with some stated frequency or consistency. As written, this provision is an unnecessary declaration of Ecology's regulatory authority to issue an order. If "receiving water study" is to be defined in the permit, the definition should be much more substantial and detailed than the one given.

Response: Ecology has determined that the receiving water study language is unnecessary since General Condition G13 allows Ecology to establish additional monitoring requirements by administrative order or permit modification.

Comment 7

Condition S4.D.

What is the justification for excusing inactive sites from discharge monitoring?

The definition of "inactive site" includes sites with raw material or finished material stockpiles from which a permittee may add or withdraw raw materials or finished products for transportation off site. This type of active management of raw material or finished product stockpiles seems likely to generate significant pollutants for which monitoring should be required. How can a site with such active management of stockpiles be considered as an "inactive site"?

Furthermore, to become classified as an “inactive site” under Condition S1.F., a permittee need only submit a form. Such change in classification should require Ecology review and approval if it is to result in suspension of monitoring requirements. In addition, the permit should specify that a permittee’s failure to properly report its operating status to Ecology is a permit violation. In other words, the permit should be explicit that a permittee must keep Ecology accurately informed as to its operating status as it changes.

Waste Action Project and/or other environmental organizations are likely to appeal this permit if these issues are not properly addressed in the final permit.

Response: The justification for excusing inactive sites is based upon the inability of permittees to conduct stormwater sampling at sites that are inactive and unstaffed during stormwater discharge events. However, Ecology agrees that those facilities that have staff present on-site “adding to or withdrawing raw materials or finished products from stockpiles for transportation offsite for processing, use or sale,” have the ability to obtain stormwater samples if stormwater discharges to surface water during normal working hours when staff are working on-site. The permit will be amended to require stormwater sampling in these instances, but these facilities may retain their status as a “non-operating aggregate site” for permit fee calculation purposes per Chapter 172-224-030 WAC.

In response to the suggestion that “the permit should specify that a permittee’s failure to properly report its operating status to Ecology is a permit violation,” some clarifying language will be added to S1.F.

Comment 8

Condition S4.F.

Waste Action Project suggests the following language for the last clause of the second paragraph of S4.F.: “unless otherwise specified in this permit or approved in writing by the Department of Ecology; provided that such otherwise approved analytical method is the equivalent of that found in the guidance cited in this section, or will result in more accurate and representative analytical results, or will have a lower detection limit.”

Response: Due to recent clarification from EPA on the standard permit language the suggested language cannot be added because, if the analyte has an “approved” method in 40 CFR Part 136, then approval of an alternative method would have to go through the Alternative Test Procedure (ATP) approval process (40 CFR Part 136.4 and 136.5). For state issued permits, this would mean that the ATP request, if made by the permit holder, would have to go to the state agency first, then to EPA Region 10, then to EPA HQ, and then back down the same lines. If the analyte does not have an “approved” method in 40 CFR Part 136, then Ecology could approve whatever methods deemed appropriate.

In addition, the “analytical methods” language has been revised as follows:

“Sampling and analytical methods used to meet the water and *wastewater* monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.”

Comment 9

Condition S5.

To ensure that permittees perform representative monitoring consistent with permit requirements, and to avoid an impermissible self-regulatory scheme, all monitoring plans should be submitted to Ecology as they are initially developed and as they may be modified. What is the reason for not requiring this? Experience with the Industrial Stormwater General Permit indicates that permittees are far less likely to comply with SWPPP and monitoring plan requirements if these are not required to be submitted to Ecology.

Response: The permit will not be revised to require monitoring plan submittal. The main reasons for not requiring plans to be submitted are 1) Plans are available on-site and are reviewed during compliance inspections, 2) The permit has a mechanism to require permittees to submit their plans to Ecology on a case-by-case basis, and 3) since Ecology does not have the resources or space to track monitoring plans for all 900+ facilities, it makes more sense to focus Ecology's plan review resources on facilities that are determined to be "high risk" as a result of DMR data, complaints, inspections, etc.

Comment 10**Condition S7.D.**

The language "fully comply with surface water quality standards" is vague. Waste Action Project suggests that this be replaced with the following: "not cause or contribute to violation of surface water quality standards at the point of discharge."

Response: The following revision will be made: "When reclamation is complete, discharges to the pit shall not cause or contribute to a violation of Surface Water Quality Standards (Chapter 173-201A WAC)."

Comment 11**Condition S7.G.**

To clarify that this condition requires prevention of stormwater contamination, not merely an effort to cover and/or contain, Waste Action Project suggests the following language for the first sentence: "Stormwater contamination by the following materials shall be prevented by covering and/or containment."

Response: Ecology believes there is no substantive difference between the current and proposed language, so no change will be made.

Comment 12**Condition S8.A.**

The permit should require preparation and submission of reports concerning impoundment inspections and any repairs. This would result in an increase in the rate of compliance with this condition.

Response: Ecology is not aware of a significant rate of non-compliance with this permit condition and the present language is believed to be effective as written. Additional reporting requirements related to impoundment lining inspections are not warranted at this time; no change to this section.

Comment 13

Condition S9.A.

All SWPPPs and SWPPP updates, including plans incorporated by reference under S9.A.5., should be submitted to Ecology for review and approval, and so they will be available to the public. As written, this condition results in an impermissible self-regulatory scheme in which Ecology delegates its responsibility to make AKART determinations to permittees. This is especially so as, under S9.A.6., permittees opting for the “demonstration approach” need only document the “functional equivalency” of the selected BMPs in the SWPPP. How does ensure that AKART is required and implemented?

In addition, as SWPPP provisions are fully incorporated as enforceable requirements of the permit that must be fully implemented, failure to require their submission is contrary to the public information requirements of the Clean Water Act. See 33 U.S.C. § 1342(j) requiring that “a copy of ... each permit issued under this section shall be available to the public.”

Furthermore, a SWPPP modification constitutes a permit modification for which public participation requirements must be followed under 40 C.F.R. § 122.62. The permit is inconsistent with this regulation because it contemplates no review and no process when a SWPPP is modified.

Condition S9.A.4.c. provides for inclusion of a BMP schedule to implement additional or enhanced BMPs, allowing specified time periods for implementation of noncapital and capital BMPs in a manner that could be used by permittees to escape liability for failing to implement BMPs that the permit otherwise requires immediately, as in S9.B.3., for example. This condition should clarify that developing and meeting a BMP schedule does not relieve a permittee of responsibility or liability for fully complying with all other permit requirements, including requirements for SWPPP contents in S9.B. and SWPPP implementation requirements in S9.A.

What is the basis for the presumption in the last paragraph of S9.A.6.? How will it operate in practice? Does Ecology contend that this permit is subject to the requirements of ESSB 6415? The presumption of compliance with S2. and S3. discharge limitations on the basis of selection of the “presumptive approach” is contrary to the requirement of the Clean Water Act that permits ensure compliance with permit conditions necessary to meet both technology and water quality standards. This language is unnecessary, highly offensive, and repugnant to fundamental NPDES standards.

Waste Action Project and/or other environmental organizations are likely to appeal this permit if these issues are not satisfactorily addressed.

Response: The permit will not be revised to require SWPPP submittal and approval by Ecology. This decision is based on the following: 1) Plans are available on-site and are reviewed during compliance inspections, 2) The permit has a mechanism to require permittees to submit their plans to Ecology, and 3) since Ecology does not have the resources to track SWPPPs for all 900+ facilities, it makes more sense to focus Ecology’s plan review resources on facilities that are determined to be “high risk” based on DMR data, complaints, inspections, etc. In addition, the SWPPP is not the primary tool for demonstrating compliance. Rather, compliance is demonstrated through water quality monitoring and reporting requirements which are used to assess compliance with numerical effluent limitations.

In response to the comments regarding public availability of plans, the permit will include provisions similar to EPA’s Multi-Sector General Permit for Industrial Activities, which requires the permittee to provide a copy of the SWPPP to the public when requested in writing to do so.

Ecology does not agree that a SWPPP modification constitutes a permit modification for which public participation requirements must be followed under 40 C.F.R. § 122.62. No change will be made.

Regarding the comment on Condition S9.A.4.c., the specific timeframes for implementing BMPs should be addressed on a case-by-case basis and have been deleted from the permit.

Considering that the permit requires compliance with numerical effluent limitations, Ecology has decided that the “demonstration” vs. “presumptive” approach language in S9 is not appropriate for this general permit and it will be deleted and replaced with the following:

Stormwater *BMPs* shall be based on:

- a. Stormwater Management Manual for Western Washington, for sites west of the crest of the Cascade Mountains; or
- b. Stormwater Management Manual for Eastern Washington, for sites east of the crest of the Cascade Mountains; or
- c. Other equivalent stormwater management guidance documents approved by Ecology; or
- d. Documentation in the *SWPPP* that the *BMPs* selected provides an equivalent level of pollution prevention, compared to the applicable *Stormwater Management Manual*, including:
 - i. The technical basis for the selection of all stormwater *BMPs* (scientific, technical studies, and/or modeling) which support the performance claims for the *BMPs* being selected; and
 - ii. An assessment of how the selected *BMP* will satisfy *AKART* requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

Ecology disagrees that this condition includes an “impermissible self-regulatory scheme”. The *AKART* requirements are not being delegated to permittees, since the permit will require *SWPPPs* and *BMPs* to be based on Ecology’s Stormwater Management Manuals, or other approved manuals or *BMPs* that provide the same degree of water quality protection and meet *AKART* requirements.

Comment 14

Condition S10.E.

To ensure that inspections are performed as required, inspection reports should be submitted to Ecology on a regular basis. Experience with the Industrial Stormwater General Permit indicates that permittees are far less likely to comply with this type of requirement if these are not required to be submitted to Ecology.

Response: Ecology does not agree that the Industrial Stormwater General Permit *SWPPP* compliance rate is indicative of a compliance problem with inspections required under the Sand

and Gravel General Permit. The permit will continue to require inspection reports to be kept on site so that they can be reviewed during inspections.

Comment 15

Condition S11.

Compliance with the contents of spill control plans should be explicitly required and spill plans should be submitted to Ecology. Experience with the Industrial Stormwater General Permit indicates that permittees are far less likely to comply with planning requirements if this type of document is not required to be submitted to Ecology.

Response: Ecology believes the current permit language regarding compliance with Condition S11, Spill Control Plan, is clearly stated as a permit requirement. Failure to comply with this or any other permit condition can result in permit revocation (G7) or criminal or civil penalties (G19). The permit will continue to require Spill Control Plans to be kept on site so that they can be reviewed during inspections. Also, the permit will be revised to require permittees to provide a copy of the all required plans to the public when requested in writing to do so.

Comment 16

Condition S12.B.

The first sentence of this condition should be changed to prohibit discharges of leachate that cause or contribute to violations of standards.

Response: This sentence will be revised to prohibit discharges of leachate that cause or contribute to violations of standards.

Comment 17

Condition G4.B.

Application for an administrative order only 30 days before a planned date of bypass provides an inadequate amount of time for Ecology evaluation and meaningful public comment. This should be changed to require no less than 90 days notice.

Response: This condition is standard language for NPDES permits and the 30 day timeframe is believed to be reasonable and consistent with state and federal law. No change to the permit.

Comment 18

Appendix B

The definition of "Current EPA-approved 303(d) list" is unclear. It should state

"... in effect at the date of the *permittee's* first application for coverage"

Response: This definition will be revised in accordance with the comment. Also, the definition has been revised to reflect the effective date of the permit.

Comment 19

Appendix B

The definition of “Pollutant” is nonsensical – a “pollutant” is not a “discharge.” This definition should be changed to mirror that at 40 C.F.R. § 122.2.

Response: Ecology agrees with the comment. The definition will be revised according to the suggestion.

Comment 20

General

We endorse the comments submitted by Smith and Lowney, p.l.l.c. on behalf of Waste Action Project. We offer the following additional comments to amplify or expand on the concerns identified in their comment letter.

Response: Comment acknowledged.

Comment 21

S1

We support the language in S1, which deals with permit coverage. In this section the Department clarifies that, in 303(d) listed waters, permittees must either meet TMDL requirements or, in their absence, applicable water quality standards at the end of the pipe. While this is required under the Clean Water Act, the previous version of the permit was less clear on this point and left the impression a mixing zone would be available.

Response: Comment acknowledged.

Comment 22

S3.A.4.

Having said that, we share concerns raised by Smith and Lowney / WAP regarding the compliance schedule for pH in S3.A.4. This section needs clarification and there needs to be recognition of WAC requirements for case-by-case determinations with regard to compliance schedules. As that letter indicates, in no case can the schedule extend beyond three years.

Response: Ecology has decided to delete the compliance schedule language from the general permit. Compliance schedules will be addressed using administrative orders, on a case by case basis, per WAC 173-201A(4)(a).

Comment 23

S.2

We also agree that sampling requirements in section S.2 of the permit, both for TSS and turbidity, are too infrequent. We support monthly TSS sampling and urge that you insure “representative sampling” for Turbidity. We too view the S.4.A.4 reduction in turbidity monitoring provision as a permit modification which would require public notice and involvement.

Response: TSS monitoring is only required for process water which is not as variable as stormwater. Considering the nature of processing operations (gravel washing, etc), and the related AKART requirements, significant variability in TSS concentrations is not expected from month to month. Where variation exists, the permittee is required to obtain representative samples for all parameters including TSS. The quarterly sampling frequency for TSS is deemed

to be adequate to determine if the limitation is being met and exceeds the minimum sampling frequency (once per year) established in federal regulation. No change to the permit regarding TSS monitoring.

The definition of representative sampling will be revised as follows:

Stormwater sampling should occur within 24 hours of the initial discharge from a significant precipitation event (e.g. 0.25 inch/24 hr. precipitation event). *Process water or mine dewatering water* sampling should be timed to occur when the facility is operating at full capacity.

Ecology does not agree that a reduction in turbidity monitoring, as set forth in Condition S4.A.4, constitutes a major permit modification, and therefore no additional changes will be made to this condition.

Comment 24

S5.

Generally, there is too much discretion in how sampling is conducted. We too feel that monitoring plans should be submitted to Ecology for review and approval under S5. These plans should be available for public review.

Response: The permit will not be revised to require monitoring plan submittal and approval by Ecology. This decision is based on the following: 1) Plans are available on-site and are reviewed during compliance inspections, 2) The permit has a mechanism to require permittees to submit their plans to Ecology on a case-by-case basis, and 3) since Ecology does not have the resources or space to track SWPPPs for all 900+ facilities, it makes more sense to focus Ecology's plan review resources on facilities that are determined to be "high risk" as a result of DMR data, complaints, inspections, etc.

In response to the comments regarding public availability of plans, the permit will require permittees to provide a copy of all required plans to the public when requested in writing to do so.

Comment 25

S.9.A.

Similarly, we feel that all SWPPP's and modifications of SWPPP's should be submitted to the Department for review and approval under S.9.A. At a minimum, these documents should be on file for public review. These plans represent core substantive requirements under the permit and the Department has an obligation to review them to determine if they comply with AKART requirements. In order for the public to have confidence in the permit, these plans should be available for public review.

Response: The permit will not be revised to require SWPPP submittal and approval by Ecology. This decision is based on the following: 1) Plans are available on-site and are reviewed during compliance inspections, 2) The permit has a mechanism to require permittees to submit their plans to Ecology, and 3) to ensure that AKART requirements are applied to all discharges, the permit will require SWPPPs and BMPs to be based on Ecology's Stormwater Management Manuals, or other equivalent manuals or BMPs, 4) since Ecology does not have the resources or space to track SWPPPs for all 900+ facilities, it makes more sense to focus

Ecology's plan review resources on facilities that are determined to be "high risk" as a result of DMR data, complaints, inspections, etc. In addition, the SWPPP is not the primary tool for demonstrating compliance. Rather, compliance is demonstrated through water quality monitoring and reporting requirements which are used to assess compliance with numerical effluent limitations.

In response to the comments regarding public availability of plans, the permit will include provisions similar to EPA's Multi-Sector General Permit for Industrial Activities, which requires the permittee to provide a copy of the SWPPP to the public when requested in writing to do so.

Ecology does not agree that a SWPPP modification constitutes a permit modification for which public participation requirements must be followed under 40 C.F.R. § 122.62. No change will be made.

Comment 26

S.9.B

The problem [*raised in Comment 25*] is compounded by the fact that the permit allows for alternative BMP's under the "demonstration approach" allowed in S.9A.6. We are skeptical that the Department will have adequate resources to review these determinations and make sure that the technical basis for the determination is sound. It is also important that the public be notified when a facility takes the demonstration approach and have an opportunity to review any studies or supporting documents which suggest that this approach is equivalent to BMP's already approved by the Department. As mentioned in the Smith and Lowney letter, these concerns are more than simply policy issues, they raise significant legal questions.

Response: Considering that the permit requires compliance with numerical effluent limitations, Ecology has decided that the "demonstration" vs. "presumptive" approach language is not appropriate for this general permit. It will be replaced with the following:

Stormwater *BMPs* shall be based on:

- a. Stormwater Management Manual for Western Washington, for sites west of the crest of the Cascade Mountains; or
- b. Stormwater Management Manual for Eastern Washington, for sites east of the crest of the Cascade Mountains; or
- c. Other equivalent stormwater management guidance documents approved by Ecology; or
- d. Documentation in the *SWPPP* that the *BMPs* selected provides an equivalent level of pollution prevention, compared to the applicable *Stormwater Management Manual*, including:
 - i. The technical basis for the selection of all stormwater *BMPs* (scientific, technical studies, and/or modeling) which support the performance claims for the *BMPs* being selected; and

- ii. An assessment of how the selected *BMP* will satisfy *AKART* requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

Comment 27

General

CRK opposes the proposed permit since it fails to ensure compliance with the federal Clean Water Act (CWA) and the laws of the State of Washington. CRK agrees with and shares the concerns about this permit raised by the Waste Action Project and will try not to un-necessarily repeat the issues they have raised here.

Response: Comment acknowledged.

Comment 28

Special Condition S2

Turbidity

State water quality standards for turbidity state:

Turbidity shall not exceed 5 NTU over background turbidity when the background turbidity is 50 NTU or less, or have more than a 10 percent increase in turbidity when the background turbidity is more than 50 NTU. **WAC 173-201A-030 (1)(c)(vi)**

The draft permit's turbidity limit, however, was 50 NTU. The permit fact sheet explains that:

Allowing a dilution factor of 10 and a background level of 0 NTU in the receiving water, a water quality-based limit of 50 NTU was assigned in the previous permit. The data collected during this permit cycle indicates that 93% of samples reported under the permit were less than or equal to the 50 NTU limit. Based on this data, 50 NTU has been determined to be economically achievable by dischargers covered by this permit and therefore constitutes a valid technology-based limitation (AKART, BCT). The proposed permit sets a turbidity limit of 50 NTU which will meet water quality standards in most discharge situations. (emphasis added)

This reasoning fails to excuse the failure of the permit to require compliance with the applicable turbidity standard that clearly depends on the background turbidity of the receiving waters. While we realize that creates a complication in the general permit situation, numerous studies show that water with levels of 50 NTU and below will adversely affect salmonids and other aquatic species. A document recently prepared by Oregon DEQ contains information that strongly supports that discharges with an NTU of 50 will have significant adverse effects on a host of beneficial uses.

The fact that Ecology admits that the 50 NTU standard itself will only meet water quality standards in "most" but not all situations further supports the need for a more protective turbidity standard.

Question 1- On what basis did Ecology use a dilution factor of 10 to reach the 50 NTU limit when the draft permit does not allow any mixing zone?

Response: It is difficult to establish a water quality based effluent limitation in a general permit because a significant amount of site specific information (background conditions, dilution factor, etc.) is required to do it precisely. In an effort to prevent violations of the turbidity standard within the context of a general permit, Ecology has used Best Professional Judgment (BPJ) and applied a conservative dilution factor of 10 which resulted in the 50 NTU “end of pipe” effluent limitation. The permit prohibits violations of water quality standards. If Ecology discovers a violation or potential violation of water quality standards, in-stream turbidity monitoring may be required to assess compliance with WAC 173-201A-030(1)(c)(vi).

Question 2- How does the draft permit comply with WAC 173-201A-030 (1)(c)(vi) and related turbidity provisions?

Response: In response to the comment regarding compliance with WAC 173-201A-030 (1)(c)(vi) and related turbidity provisions, Ecology interprets the turbidity criteria to be an ambient “in-water” parameter, applied to various classes of surface waters in the State of Washington, and not directly applied to point source discharges. In an individual permit situation, a site specific numeric limit could be developed for turbidity based upon receiving water information, dilution factor, background conditions, etc.; however, this is not applicable to a statewide general permit which is intended to address discharges to a wide variety of receiving waters. It is assumed that, in a vast majority of situations, a 50 NTU discharge will not cause or contribute to a violation of water quality standards in the receiving waterbody. Where Ecology has site specific information that a discharge is causing or contributing to a violation of the turbidity standard in the receiving water, the violation will be addressed in accordance with the enforcement provisions set forth in the permit and regulations.

Comment 29

Special Condition S2

CRK is also concerned of the permit's failure to require any monitoring of the turbidity of groundwater discharges from the regulated facilities. As the fact sheet acknowledges the MCL for turbidity in drinking water is 1 NTU and the fact that violations of even the 50 NTU standard have occurred at facilities currently covered by this permit, there is certainly a reasonable potential for the groundwater discharges to adversely affect groundwater which must be protected for its most sensitive use which is drinking water. This is only further supported by studies showing that in alluvial soils mine waste water discharged into groundwater caused significant NTU increases in wells that were over 1 mile from the point of the mine.

Question 3- Please explain in light of the draft permit's lack of effluent limits or monitoring requirements for the turbidity of water discharged into groundwater how such discharges could ensure protection of drinking water as a groundwater use in areas surrounding mining sites that could be covered by this permit.

Response: Although the Dept of Health does have a 1 NTU criterion for drinking water, there is no criterion for turbidity in WAC 173-200 (Ground Water Quality Standards). Ecology disagrees that violations of the surface water discharge limit of 50 NTU indicate a reasonable potential for groundwater discharges to adversely affect drinking water supplies. The distance turbidity could travel is site specific and there are many potential causes of turbidity in a well, such as substandard well completions. In addition, compliance with the State Environmental Policy Act (SEPA) is required for all new facilities and most facilities need to complete an Environmental Impact Statement (EIS). Through these processes, pre-mining groundwater quality conditions would be documented and a hydrogeologic study would predict potential impacts to ground

water. The current permit has a mechanism to require additional monitoring, including groundwater monitoring, when Ecology has site specific information that warrants additional monitoring. For these reasons, Ecology has determined that “blanket” ground water turbidity monitoring requirements should not be required at all facilities covered under the general permit.

Question 4- What data does Ecology have regarding the likely NTU levels in groundwater that could occur as a result of the lack of any turbidity limit on ground water discharges? Does Ecology acknowledge that in some areas high turbidity groundwater discharges from mine operations could cause ground water to exceed allowed drinking water standards in the vicinity of the ground water discharges? If not, please explain the basis for this belief.

Given the lack of Ecology resources to enforce the draft permit that the permit allows for Ecology to require groundwater monitoring in certain situations provides little assurance that such monitoring would be effectively required.

Response: The Ecology does not have any independent data on likely NTU levels, but has reviewed a paper entitled The Direct and Cumulative Effects of Gravel Mining on Ground Water within Thurston County, Washington (Robert Mead, 1995). Based on that paper, Ecology acknowledges that there is a theoretical possibility for a ground water discharge from a mine operation to raise ground water turbidity above the Dept of Health drinking water standard of 1 NTU, but that risk does not warrant a “blanket” groundwater turbidity monitoring requirement for all facilities covered under the permit; rather Ecology will deal with high risk sites on a case by case basis.

The following excerpt from Mead’s 1995 paper is the basis for Ecology’s determination:

The most complete data available on the movement of low levels of turbidity through aquifer materials is from collector wells, called Ranney Collectors. These systems draw in water through horizontal screened pipes placed beneath rivers or lakes. Surface water infiltrates into the screened pipes, flows into a central connector, and is pumped into the water system (Mikels, 1992). The horizontal screened pipes are jacked into place so that they will not disturb the sediments below the surface water body. The studies cited involved collection pipes located from 8 - 21 feet below the river bottom.

Comparing the river and collector turbidity data shows that relatively low levels of turbidity are greatly reduced by passage through a short distance of aquifer materials. The remaining turbidity in the collector samples is probably the finer clay fraction.

In response to local complaints, the Oregon Department of Environmental Quality studied well turbidity in the vicinity of a gravel extraction and washing operation near Milton-Freewater, Oregon (Mathiot, 1978). The aquifer below this site consists of unconsolidated alluvial fan gravels of very high permeability.

This DEQ study found a turbidity plume that extended more than a mile to the north (downgradient) of the gravel operation. The average turbidity of the water being discharged from the washing operation into the pond at the site was 2,737 nephelometric turbidity units (NTU). Nearly all wells sampled within the first 6,000 feet of the turbidity plume were measured at 5 NTU or more. Many wells within the first 3,000 feet of the plume had turbidity levels of 10 NTU or more. Nearly all wells outside the plume had turbidities of 2 NTU or less.

This data shows again that only a small percentage of the initial turbidity is transmitted through aquifer materials. However, if the initial turbidity levels are high enough, significant amounts of turbidity can be carried over a mile through very highly permeable aquifer materials. This should not automatically be taken to mean that a 6,000 foot buffer zone around gravel mining operations is necessarily warranted. The actual distance that turbidity would travel would depend on local factors, which should be evaluated in a geohydrologic report before the start of mining operations.

Simple gravel excavation probably will not produce turbidity levels that would be detectable off the mine site. Because of the higher turbidity loads they generate, gravel washing operations are more likely to produce turbidities that can migrate significant distances. The distance turbidity will be transported in ground water will vary between different sites depending on the type and size of the particles causing the turbidity, the pore sizes of the aquifer media, the ground water flow velocity, and the ionic strength of the ground water.

System	Mean Turbidity (NTU)	Standard Deviation (NTU)	River Source	River Turbidity (NTU)
Boardman, OR1	0.04	0.02	Columbia	0.9 - 13
Fort Benton, MT1	0.05	<0.01	Missouri	1.5 - 34
Kalama, WA1	0.30	0.03	Kalama	1.0 - 4.0
Port Angeles, WA1	0.11	0.04	Elwha	0.6 - 35
Sonoma County, CA1 Collectors 1 & 2	0.12	0.04	Russian	1.1 - 20
Collectors 3, 4, & 5	0.05	0.02	Russian	1.1 - 20
Kennewick, WA2	0.13	0.04	Columbia	2.1 - 8.6
Kalama, WA2	0.31	0.03	Kalama	0.9 - 4.6

There are many causes, other than gravel mining, that can increase turbidity in ground water (Table 3). Sandhu and others (1977) studied samples from 98 water sources in South Carolina and found that iron and colloidal material were chiefly responsible for turbidity in 19 percent of the water sources. The U.S. Geological Survey, in its aquifer characterization study of northern Thurston County (Dion and others, 1994) found iron levels exceeded the state maximum levels (MCL) in 16 percent of the wells sampled and that manganese exceeded the MCLs in 30 percent of the wells sampled.

Source	Cause	Reference
poor well development	fine sediments are washed from the aquifer by well pumping	Driscoll, 1986
changes in well pumping rates	turbulent flow disturbs sediments	Trela, 1986
corrosion of distribution pipes	colloidal and particulate iron	Sandhu and others, 1978
artificial ground water recharge (stormwater)	turbid surface waters are discharged into ground water	Behnke, 1969 Nightingale and Bianchi, 1977
sulfur turbidity	chlorination of waters containing hydrogen sulfide	Lyn and Taylor, 1992
turbid surface waters	turbid surface waters entering ground water during floods periods	U.S. E.P.A., 1992
changes in chemical conditions (Eh-pH)	dissolved Fe, Mn, and other substances form colloidal suspensions	Trela, 1986
high organic matter content	water source located near a marsh or swamp	Driscoll, 1986

Because of the many potential causes of turbidity in ground water, it may be difficult to determine the cause in a specific case. If sufficient pre-mine monitoring data is available, it may be possible to show whether the turbidity was a pre-existing condition unrelated to mining. If there are monitoring wells at the mine site that were sampled at the appropriate time, they might show the amount of turbidity generated by mining. Tracers, such as fluorescein dye, can be used in some cases to determine flow rates and directions. Each of these methods has some limitations. Often pre-mining sampling data is not available. Often monitoring wells are not present or were not sampled when the alleged turbidity was being generated. It is difficult to use tracers over long distances and introducing chemical tracers into a drinking water supply may be a controversial technique.

Another way to determine whether a particular gravel mine may be the cause of a turbidity problem is to look at the distance from the mine to the well of concern and the timing of the turbidity problem. If these factors and the approximate ground water velocity are known, it may be possible to determine whether turbidity related to the mine is a potential cause of the problem. Similarly, turbidity problems in wells located up-gradient from the mining operation in most cases can not be a result of the mining activity.

Noble (1987) applied this method to show that a gravel pit in northern Lewis County was not the source of turbidity in a near-by well. The well was located 600 feet away from the edge of the gravel pit, hydrologically connected by sands and gravels of high permeability. The owners of the well complained of high turbidity 24 hours after flood waters from the Skookumchuck River had entered the gravel pit. The neighbors asserted that the pit was the source of the turbidity in their well, and requested that the pit operators install a berm to remedy the situation. Noble calculated that the ground water flow speed in that area was in the range of 1.3 - 13 feet per day, which is a typical range for ground waters in this area. It would be necessary to have a flow rate of 600 feet per day for the gravel pit to have been the source of the observed turbidity. Noble proposed as an alternate explanation that the rapidly rising water table caused by the flooding mobilized clay and silt in the aquifer in the immediate vicinity of the well.

Comment 30

Section S4

Total Dissolved Solids

The proposed permit would no longer set an effluent limitations for TDS at asphalt batch plants based on the fact that “most” facilities no longer use wet scrubbers.

Question 5- How many facilities do continue to use wet scrubbers and how would this general permit assure compliance with applicable TDS standards at these facilities?

Response: Ecology does not track the number of facilities that use wet scrubbers, but an asphalt industry estimate is that there may be 2 or 3 facilities statewide that still use wet scrubbers. Due to air pollution control requirements, a wet scrubber is generally not considered Best Available Control Technology, so new installations typically now use a baghouse technology, which produces no process water; and therefore have no risk of causing TDS contamination in groundwater. The minimal TDS risk posed by asphalt plants is further demonstrated by the previous permit cycle, during which no facilities discharged TDS concentrations greater than the 500 mg/l ground water quality standard. Ecology believes this provides assurance that asphalt plants will not cause or contribute to violations of the TDS standard. However, Ecology has determined that asphalt plant process water may contain other constituents in concentrations that pose a risk to ground water quality, including PAH compounds, which are not adequately addressed under this general permit. Therefore, beginning 18 months after the effective date of this general permit, the discharge of asphalt plant process wastewater will no longer be authorized under this general permit.

Comment 31

Special Condition S2

pH

CRK supports the pH limits in the proposed permits which now comply with applicable pH standards in so far as the discharges are only allowed into freshwater.

Question 6- If the proposed permit could be used to allow discharges into marine waters the permit should be revised to reflect the applicable pH standard for marine waters which is between 7.0 and 8.5.

Response: Because of the high buffering capacity (ability of a waterbody to resist changes in pH) of marine waters, “end of pipe” compliance with the proposed effluent limits of 6.5 to 8.5 will assure compliance with the 7.0 to 8.5 pH standard for marine waters. No change to the pH limit for discharges to marine waters.

Comment 32

Special Condition S2

CRK opposes dropping the pH requirement for construction sand and gravel mines since it continues to provide an incentive for actions to maintain protective pH levels.

Response: The activities associated with sand and gravel mines do not modify the pH of stormwater, so it has been determined that this monitoring requirement is not warranted and

should be dropped. This decision is also supported by the discharge monitoring data which indicates that over 98% of the pH values for discharges to surface water were in compliance with the applicable limit. It should be noted that sand and gravel mines that also produce concrete will continue to monitor pH.

Comment 33

Special Conditions S3 & S4

Oil and grease and Total petroleum hydrocarbons

CRK believes that given the nature of activities associated with industrial mining the draft permit should include permit limits and monitoring requirements for oil and grease and total petroleum hydrocarbons. The logic in the fact sheet suggested that since monitoring data showed low levels of oil and grease in monitored effluent there was no need to include permit monitoring and effluent limits for these parameters. However, the greatest benefit of including monitoring requirements and effluent limits for substances that could and regularly are accidentally introduced into storm water or process waste water is that they serve as an incentive to avoid the introduction of such substances into waste water. The fact sheet admits that “Traditionally diesel fuel was used, and is still used, at some facilities” FS at 6. The idea that these facilities where it is still used would not have to monitor and meet effluent limits for oil and grease would clearly not ensure protection of the beneficial uses. By removing monitoring and effluent limitations Ecology would be missing an important opportunity to ensure the continued low levels of such pollutants in the discharges covered by this permit.

Response: Ecology agrees that petroleum products are a pollutant of concern and there are many activities in this industry group that could result in petroleum contamination of surface water and ground water. The permit requires the permittee to implement source control best management practices (BMPs) in any fueling of vehicles, provide coverage for any storage of petroleum products, and to implement measures to prevent spills, including employee training. In addition, the permit requires prompt cleanup of any spills and will be revised to require daily visual monitoring for oil sheen, rather than monthly. Although visual monitoring for the presence of oil sheen does not result in a lab analysis for these substances, it places the emphasis on the active process of observing, responding to, and preventing petroleum contamination. No change to the permit.

Comment 34

Special Condition S2

Temperature

The State temperature standard for class AA waters states:

Temperature shall not exceed 16.0°C (freshwater) or 13.0°C (marine water) due to human activities. When natural conditions exceed 16.0°C (freshwater) and 13.0°C (marine water), no temperature increases will be allowed which will raise the receiving water temperature by greater than 0.3°C. **WAC 173-201A-030 (1)(c)(iv).**

The draft permit fails to ensure compliance with this state temperature standard (and related standards for different class waters) and protection of beneficial uses since it lacks any effluent limit for heated discharges into surface water.

Response: Condition S3 includes the following narrative effluent limitation: “Discharges shall not cause or contribute to a violation of: Ground Water Quality Standards (Chapter 173-200 WAC), Surface Water Quality Standards (Chapter 173-201A WAC) or Sediment Management Standards (Chapter 173-204 WAC).” This limitation prohibits discharges that cause or contribute to temperature violations in receiving waters.

Question 7- What are the maximum effluent temperatures that have been reported to Ecology from facilities covered by the current general sand and gravel permit? Is there a reasonable potential that any of these discharges could cause or contribute to a violation of water quality standards for temperature? Has Ecology prepared a Reasonable Potential Analysis for temperature in relation to the discharges that would be covered by the draft permit? If not why not?

Response: The maximum effluent temperature reported ranged from 5°C (41°F) to 29.7°C (84°F). The mean was 16.6°C (61.9°F). Ecology did not collect data on the background temperature/natural conditions of the receiving water; and did not collect data on the flow/volume of the effluent or receiving water. Without this information, it is not possible to determine if the discharges have a reasonable potential to cause or contribute to a violation of temperature standards.

Question 8- Are the maximum observed temperatures consistent with the protection of beneficial uses such as salmon spawning? If no on what grounds can Ecology assert that the proposed permit would protect such uses?

Response: The maximum temperatures reported were collected “end of pipe” rather than in the receiving water, with no site specific information on the receiving water characteristics (temperature, flow, presence of spawning habitat, etc) or discharge volume (flow) or duration of discharge. Therefore, the maximum temperatures reported cannot be used to determine if the receiving water temperatures were raised, or whether or not discharges caused temperature increases that harmed beneficial uses such as salmon spawning.

Question 9- What form is the temperature data Ecology has on the current dischargers covered by this permit, who has this data and whom should CRK contact regarding receiving a copy of this data?

The draft permit should be revised to include a temperature limit for discharges to surface waters and ground waters as well if a reasonable potential analysis supports that such a limit is warranted. The absence of any BMPs to address temperature, such as shading over holding ponds, etc. makes the need for numeric permit limits more apparent.

That Ecology may perform additional studies regarding the effect of temperature from the discharges this permit would cover is irrelevant to Ecology’s duty to ensure that the discharges this permit is intended to cover do not exceed applicable temperature standards.

Response: The temperature data is stored in Ecology’s WPLCS database which can be imported into an Excel spreadsheet and made available for public review. To obtain a copy of the temperature data, please contact the Water Quality Program Public Disclosure Coordinator, Leslie Koziara, at lkoz461@ecy.wa.gov (email), 360-407-6091 (phone), or 360-407-6426 (fax).

Ecology disagrees that the permit must include temperature limit at this time. Ecology believes that most discharges at time of low stream flow are of low volume and therefore have a low

potential to cause water quality violations. Furthermore, the data collected during the previous permit cycle does not demonstrate that discharges have caused or contributed to violations of temperature standards. Ecology has determined that the permit will continue to require discharge temperature monitoring. However, the monitoring will also include an estimate of discharge volume (flow) so that the impact on receiving water temperature can be addressed if necessary.

Comment 35

Special Condition S4

Sulfides, chlorides, nitrates and alkalinity

The draft permit fact sheet acknowledges that some facilities that would be covered under the draft permit discharge high concentrations of these pollutants. The draft permit, however, appears to use TDS as a proxy for the regulation and control of discharges of these pollutants. CRK is uncomfortable with such an approach since it is unclear the extent to which these pollutants are necessarily linked with high TDS levels.

Question 10- What scientific evidence supports the correlation between levels of these pollutants with TDS levels. To the extent waste water was allowed to settle in a holding pond could concentrations of these pollutants remain present at elevated levels despite a reduction of TDS levels in the water due to settling?

Response: Chloride and sulfate, along with other salts (carbonate, bicarbonate, calcium, potassium, nitrate, nitrite, etc), when dissolved in water, are all individual constituents of Total Dissolved Solids (TDS). As such, the concentration of chlorides and sulfates are included in the gross measurement of all dissolved solids present in a sample, and collectively make up "Total Dissolved Solids."

Settling alone does not reduce, or otherwise affect, the concentration of TDS in wastewater. So it would be expected that wastewater with high concentrations of TDS, if treated only with settling BMPs, would still contain high levels of TDS when discharged. However, Ecology is aware that pH adjustment BMPs (e.g. using HCl or CO₂ sparging) can, under some conditions, increase the concentration of dissolved solids (TDS); and conversely, treatment methods that raise pH upward (e.g. using CaCO₃) can cause solids to precipitate out of solution, where they can be removed using traditional settling BMPs.

Comment 36

Special Condition S2

Anti-degradation Policy WAC 173-201A-070.

For the same reasons that the failure to provide effluent limits and monitoring requirements fails ensure water quality standards as explained above, the proposed permit fails to ensure that the draft permit will not degrade beneficial and existing uses. This is contrary to the requirements of WAC 173-201A-070.

Question 11- How can Ecology make an anti-degradation determination without information about either the critical conditions under which the approved discharges may occur, site-specific information about what the effects of discharges with 50 NTU turbidity levels would be, or the effect of heated waste water discharges that are not limited in any way in the draft permit?

Response: Based on a combination of regulatory experience, site inspections, data review, and best professional judgment (BPJ), Ecology has determined that discharges authorized by this General Permit will not significantly degrade the water quality of receiving waters or result in a loss of beneficial uses. Based on Special Condition S3 includes the following narrative effluent limitation: "Discharges shall not cause or contribute to a violation of: Ground Water Quality Standards (Chapter 173-200 WAC), Surface Water Quality Standards (Chapter 173-201A WAC) or Sediment Management Standards (Chapter 173-204 WAC)." This limitation prohibits discharges that cause or contribute to turbidity and temperature violations in receiving waters. Additional safeguards include the permit conditions that can address site specific conditions that are not adequately addressed by the general permit; these include the ability of Ecology to require additional monitoring (G13), issue penalties for violating permit conditions (G19), and revoke permit coverage (G7).

Comment 37

Special Condition S2

Narrowing the permit effluent pH limits for discharge to surface waters to 6.5 - 8.5 from the previous 6.0 - 9.0 is problematic, and although you are not changing the groundwater discharge limit for pH, that limit range is also a current problem. The reason that range causes us concern is ALGAE. If you have still or slow moving water, plus sunlight, you have algae, and growing, metabolizing algae will alter the pH of water in which they grow, and the pH will differ depending on what time of day (or night) you sample.

One of the unintended consequences of your current and proposed monitoring program is the requirement to sample what are essentially puddles (8' X 8' or less is what we find as we approach dry season each year) in gravel pits, and these almost always contain algal growth. We note on our reports that algae were present, but this offers no protection from violation if the pH exceeds limitations. The same problem occurs as flows to surface waters diminish to mere trickles before they stop entirely during the dry season. Algae will grow in the pond or channel, and alter the pH. Please also recall that rainwater is at least mildly acidic to begin with, may not be buffered by the rock or soils present, and when you are dealing with volumes of water that are less than a child's wading pool, just how much impact can this exert on groundwater? Are treating with algicides, or responding with heavy equipment to maintain a facility merely for the reason of algal growth better for the environment? We are obviously looking for some sensible relief from this requirement, which will also benefit Ecology by resulting in reduced time spent on enforcement actions for something that is trivial.

Response: Since the industrial activities associated with sand and gravel mining do not typically have the potential to modify the pH of stormwater, the pH limitations and monitoring requirements for stormwater discharges from Construction Sand and Gravel (SIC 1442) facilities are being dropped. However, since process water discharges are included in EPA's Federal Effluent Limitation Guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436), the limitations and monitoring requirements for process water discharges must be retained.

Comment 38

Special Condition S1 and S3

In regard to changes to S.1 and S.3 dealing with discharges in waterbodies having a TMDL, we would emphasize that some TMDL parameters might be seasonal, and that limits under a

wasteload allocation should be adjusted to a seasonal basis, and not year round, as deemed appropriate.

Response: Comment acknowledged.

Comment 39

Special Condition S1 and S3

We would also encourage Ecology to regularly offer training to commercial and industrial customers on how to sample their discharges. This would help them stay in compliance with State and local regulations.

Response: Since sampling has been a permit requirement since 1994, most facilities are in full compliance with the sampling requirements. Therefore, Ecology believes the demand for this type of training is relatively low. However, Ecology will continue to assess training needs and available resources and offer appropriate training on an as-needed basis. Ecology inspectors also provide on-site technical assistance regarding sampling and other permit requirements when appropriate. Also, in December 2002, Ecology published a stormwater sampling guide for industrial facilities that is generally applicable to the Sand and Gravel General Permit: [How to Do Stormwater Sampling – A Guide for Industrial Facilities](http://www.ecy.wa.gov/pubs/0210071.pdf); this document can be download from <http://www.ecy.wa.gov/pubs/0210071.pdf>

Comment 40

Special Condition S12

Current Solid Waste Handling Standards WAC 173-350 require that facilities that landfill inert wastes such as concrete and asphalt, glass, stainless steel, masonry brick, etc. in quantities greater than 250 cubic yards must apply to the local health jurisdiction for an Inert Solid Waste Landfill Permit, or for a Solid Waste Permit Deferral to another air, water or environmental permit issued to the facility, which provides an equivalent or superior level of environmental protection.

Perhaps water quality permits issued to sand and gravel mining operations should be constructed to readily meet the requirements the Inert Waste Landfill Permit deferral under the WAC 173-350 sections –040, –410 and –710 (8), if:

- 1) Reclamation of the excavated area is required, and
- 2) Inert solid wastes are part of the reclamation plan

I realize that this may be outside of the current purview of the Water Quality Permit system. I would be curious to know how the DNR Mine Reclamation Permit and the Ecology Water Quality Permit for S&G operations work together.

Response: Under the current permit, Condition S.12 requires that all solid waste materials be disposed of in compliance with all applicable local, state and federal regulations. This includes compliance with WAC 173-350 sections –040, –410 and –710 (8). No change to the permit is required.

Comment 41

Special Condition S2

Frequency of pH testing for SIC 1442

Ecology has previously stated that the 10 years worth of data does not warrant a continuation of pH monitoring for this SIC code. This data shows that pH is not a contributing pollutant to the waters of the State. Our company has spent upwards of 1(one) million dollars in containment and recovery processes throughout our facilities. However, the Federal requirements mandate a minimum of 1 test annually. Yet, Ecology is reluctant to make any reduction in this testing. CPM believes that if Ecology was willing to go to no monitoring then it is certainly reasonable to explore a reduction in the monitoring.

ACTION REQUESTED: Adopt the Federal requirement (1/year) or allow requests for reduction in testing frequency similar to the one already in place for Turbidity. It should be available for all 1442 facilities regardless of other site activities.

Response: Since the industrial activities associated with sand and gravel mining do not typically have the potential to modify the pH of stormwater, the pH limitations and monitoring requirements for stormwater discharges from Construction Sand and Gravel (SIC 1442) facilities are being dropped. Since process water discharges are included in EPA's Federal Effluent Limitation Guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436), the limitations and monitoring requirements for process water discharges must be retained. However, the data collected during the previous permit cycle indicates a high level of compliance with the limit, therefore the pH monitoring frequency will be reduced to once per quarter which is adequate to detect any pH problems that may be seasonal.

Comment 42

Special Condition S1, S2 and S3

Temperature

Temperature as a pollutant of concern from this General Permit is not supported by available information. The Columbia River TMDL report dismisses the temperature contribution from most General Permits due to the minimal impacts when compared to the temperature loads of large individual permits and the impacts of dams. Under the Columbia River TMDL, facilities can continue to be covered under the general permits and discharge as authorized by them. It does recommend that temperature continue to be monitored to keep track of the loadings allowed to the river via group allocations. Additionally, other studies have been done over the past 5 years (several along the Yakima River) that support no net impacts from this industry.

Consequently, at certain temperatures, permittees would be required to impound, redirect or artificially cool these waters. All of these alternatives would require some type of capital improvements and to what benefit? There has been no discussion as to what sort of technology should be used to achieve these expectations and no Best Management Practices have been set forth for the industry.

ACTION REQUESTED: Additional temperature requirements for impaired water bodies should be dropped.

Response: Although the temperature data collected by permittees during the previous permit cycle shows that some discharges were significantly warmer than the current water quality criteria for temperature, the data is not conclusive on the thermal impact of these temperatures on receiving water temperatures because there was no information collected on the discharge volume (flow) or of the receiving water flow or temperature. Ecology has decided that this permit will not require existing dischargers to temperature-impaired waterbodies to meet water quality standards for temperature “end of pipe,” rather the permit will ensure that water quality monitoring at the facility is adequate to characterize the thermal impact of the discharge on receiving water temperature. Based on site specific information, Ecology will determine if additional permitting requirements (BMPs, monitoring, etc.) should be applied on a case by case basis.

Comment 43

Special Condition S2

Additional Monitoring for TDS – TDS Pollution Prevention Schedule

Ecology made the determination that TDS over 500 mg/l is an industry problem, despite industry protests on flawed data, old data, acquisitions, and plant closures. Industry does not agree, based on the historical data, that there is a problem. Additionally, reviewing the data on a quarterly basis, Ecology failed to initiate any Groundwater Impact Studies in the last permit cycle. The permit already had this provision in place.

Nonetheless, the permit needs to go further in providing the permittee options for the test. Permittees should have the option (not a requirement) for testing at an approved monitoring well. The permit assumes the point of compliance is at discharge, however, the permit assumes a discharge to ground is a discharge to groundwater and in some instances that assumption is clearly wrong. There are areas of the State that these discharges would have no impact on ground water.

In addition, the additional TDS monitoring is a disincentive for recycling water. The industry has spent considerable dollars in capital investments to implement recycling and pollution reduction. Unfortunately, these investments become jeopardized under this Draft permit. As more water is recycled, less water is discharged; however, the concentration of TDS can increase.

ACTION REQUESTED: The TDS Pollution Prevention Schedule (Appendix C) should be removed from the permit.

Response: Ecology has determined that the TDS Pollution Prevention Schedule set forth in the new permit is an efficient, effective and consistent way to address the high-TDS discharges that have been reported at a relatively small, but significant, number of concrete plants over the last 10 years. These requirements were written to specifically target only those facilities that report an exceedance of discharge that exceeds the ground water quality criterion of 500 mg/l TDS. The overwhelming majority of concrete plants in Washington State do not exceed 500 mg/l TDS and therefore will not be impacted by the TDS Pollution Prevention Schedule (Appendix C).

Ecology agrees with the suggestion to allow permittees the option of conducting ground water monitoring with an approved groundwater monitoring well (or wells) rather than sampling directly from unlined impoundments. Adding this option will allow facilities and permit managers to more accurately assess the impact of discharges on ground water quality. The permit will be revised to allow the option of sampling from approved ground water monitoring wells.

Comment 44

Special Condition S2

Quarterly Reporting Deadline

At several points during the draft permit discussion, it was stated that the data being reported is not exactly time sensitive. Additionally, the permit has always had the provision that permit exceedences be reported to the region permit manager immediately. Industry has requested that the reporting deadline be moved to 30 days following the end of each quarter and CPM supports this request. Precedence has been set by Ecology with the Industrial Storm Water Permit, which has a 45 day deadline from the end of each quarter. In our company organization, it can often be difficult to obtain signatures in a timely manner and depending on weather and testing dates; getting test results can push right up against the current 15 day deadline.

The permit also needs to be definitive and consistent regarding the deadline date and when it is mailed vs. when it arrives in a region office. There are Ecology regions that issue letters of non-compliance when the results are not in their office on the deadline date, regardless of the postmark. The postmark should be the date that is followed. Permittees have no control over the United States Postal Service.

Ecology has indicated that electronic reporting will be an alternative to the paper DMR's, however, not all permittees will have the ability, the equipment or the desire to report electronically.

ACTION REQUESTED: Extend the reporting deadline to 30 days following the end of each quarter.

Response: Since the permit requires non-compliances (including violations of discharge limitations) to be reported to Ecology immediately (Condition S6.E), the DMR deadline will be extended to 30 days following the end of each quarter.

Comment 45

Special Condition S2

Removal of Assumed Mixing Zone – reduction in pH limits to Surface water

ACTION REQUESTED: pH limit be left the same as Federal limits, which is 6.0-9.0 for surface waters.

Response: Ecology determined that it was appropriate to establish a water-quality based pH limitation that is consistent with the 6.5 to 8.5 pH standard for fresh waters. Federal law requires that when a water-quality based effluent limitation is more restrictive than the applicable technology based limitation (e.g. the federal technology-based limit of 6.0 – 9.0 pH), the more restrictive limitation shall be applied.

Comment 46

General

Peer Review

The permit or at the very least, Ecology should adopt an internal policy on peer review of additional requirements placed on permittees by permit managers. It is very apparent that there are permit managers throughout the region making decisions, requesting information, and requiring additional monitoring when there is no justification, other than the permit manager deems it necessary. With the addition of Appendices C, D, and E, it becomes more necessary to have qualified staff reviewing the requests of permit managers.

ACTION REQUESTED: Allow a permittee or permit manager to request a peer review prior to implementation of any additional requests or studies.

Response: Ecology Permit Managers meet on a regular basis to discuss permitting issues and attempt to coordinate efforts and implement the permit consistently across the state. Ecology will evaluate specific requests for peer review on a case-by-case basis. Also, site specific permitting decisions by Ecology, such as the addition of monitoring requirements, are typically “appealable” actions under RCW 43.21B.310.

Comment 47

Special Condition S2

Special Condition S2 *Monitoring Requirements and Effluent Limitations Matrix* – The proposed addition of Temperature as a pollutant of concern is not supported by available information and should be removed from this permit. Other Ecology NPDES permitting activities have recognized that stormwaters warmed through natural processes are of no regulatory interest.

Discussion – The Fact Sheet dismisses the significance of thermal impacts of process water, mine dewatering water, and stormwater from the activities regulated by this permit.

“Temperature increases and decreases ... are primarily a result of ambient air temperature and solar influences. Processing by the facilities covered under this permit does not typically transfer significant thermal energy. Temperature decreases (sic) have not been identified as a significant environmental concern...” (note: we assume Ecology meant to refer to temperature increases.) Page 11 of the Fact Sheet.

As a point of comparison, both the current Industrial Stormwater General Permit (issued September 2002) and the preliminary draft ISWGP (May 2004) exempt stormwaters from monitoring and point-of-discharge water quality criteria compliance requirements when discharging to 303(d) waterbodies listed for temperature (S3.D. in the current permit; S3.E. in the preliminary draft). These determinations reflect a practical realization that efforts to account for natural heating and cooling processes on stormwater is not a worthwhile effort.

Recommendation – Ecology should make rational permitting decisions based on a technical analysis. In this instance, the agency has determined this category of permittees does not have a significant effect on the temperature of receiving waters. This is consistent with decisions made in similar Ecology-issued stormwater permits. There is no reason to complicate this general permit and add cost and risk to permittees based on speculative concerns. (Note: see comment #2 for other consequences of this proposed permitting choice.) Finally, if there are

specific sand and gravel operations which do utilize heat in the processing activity, and this heat is transferred to the process water discharge, Ecology could choose to develop an individual NPDES permit.

Response: Ecology has determined that the permit will not require dischargers to temperature-impaired waterbodies to meet water quality standards for temperature “end of pipe,” but must comply with applicable TMDL wasteload allocations for temperature. For all surface water discharges, the temperature monitoring requirements initiated in 1999 will be continued in the general permit. Also, in order to estimate thermal loading on receiving waters, the permit will also require permittees to monitor and report the surface water discharge volume (flow) when temperatures are recorded. Ecology will determine if additional permitting requirements (BMPs, monitoring, individual permits, etc.) are necessary to address discharges that are causing or contributing to violations of temperature standards on a case by case basis.

Comment 48

Special Condition S2

S3.A.3. *Discharges to Surface Water – Effluent Limitations and Appendix D* – Ecology’s unwise decision to add effluent limitations for Temperature to this permit might well create awkward and untenable requirements for permittees discharging into waterbodies on the 303(d) list for temperature. The proposed effluent limitation for Turbidity is not an effluent discharge limit at all, but rather a receiving water assessment study.

Discussion – The structure of this condition will require a Sand and Gravel permittee discharging into a Temperature-impaired water body to 1) routinely assess the temperature of discharges (during July – September) and, 2) if above the water quality criteria, to cool those waters to below criteria before discharge. Ecology should further consider the expectations being placed on permittees. It seems that very routine monitoring of any discharge must occur to understand mid-summer water temperatures (and probably more importantly, diurnal fluctuations.) At specified thresholds the permittee would need to either artificially cool those waters, or impound or redirect waters to portable tanks, until those waters cool to below WQ criteria when they could be discharged. What is the technology the agency expects could be employed to cool these waters? Should this technology or portable tankage be positioned on a standby basis in anticipation of water discharges rising above temperature WQ criteria? While the planning effort to accommodate routine process water discharges might be possible, sudden and intense summer thunderstorms would present a different challenge.

Permittees discharging into a waterbody 303(d)-listed for Turbidity/Fine Sediment will be faced with an odd and ill-defined requirement. First, the proposed effluent limitation requiring an upstream and downstream assessment of turbidity in the receiving water is not, by definition, an “effluent limitation.” Second, the agency has not demonstrated a relationship between turbidity (typically related to suspended colloidal material) and fine sediment (typically settleable solids). There is no numeric water quality criterion for “fine sediments.” Third, critical details on the methodology to conduct this receiving water study and to make confident regulatory determinations on the results are not specified. For example, how far upstream and downstream of the discharge point should sampling occur? Should the mixing zone boundaries specified in WAC 173-201A be considered the default? Does Ecology intend that grab samples be collected, or some composite sampling approach which reflects a longer-term assessment? Would the results of a single sampling event be used to make the regulatory determination of a water quality standards violation (proposed S3.A.b.)?

Recommendation – Consistent with comment #1, Temperature should be dropped as a pollutant of concern worthy of an effluent limitation in this permit. Waterbodies listed only for “fine sediment” on 303(d) should not impose effluent limitation and monitoring requirements on permittees discharging “turbidity.” Ecology should abandon the requirement for receiving water studies of turbidity impacts. The technology-based effluent limit of 50 NTU should be presumed to also result in compliance with the applicable water quality criteria. If a receiving water study simply must be retained, it should be a one-time only requirement which provides the permittee an opportunity to articulate a site-specific monitoring plan (See comment #3)

Response: Ecology has determined that the permit will not require dischargers to temperature-impaired waterbodies to meet water quality standards for temperature “end of pipe.” However, these discharges must comply with applicable TMDL waste load allocations for temperature and several other parameters. The revised permit language is:

New facilities and existing facilities shall comply with TMDL wasteload allocations (for turbidity, fine sediment, pH and/or temperature) developed from a TMDL which was completed prior to the date permit coverage is issued.

The temperature monitoring requirements initiated in 1999 will be continued in the revised permit. Also, in order to estimate thermal loading on receiving waters, the permit will also require permittees to monitor and report the surface water discharge volume (flow) when temperatures are recorded. Ecology will determine if additional permitting requirements (BMPs, monitoring, individual permit, etc.) are necessary to address discharges that are causing or contributing to violations of temperature standards on a case by case basis.

BMPs and design principles that may be used to reduce the temperature of discharges include, but are not limited to:

1. Shading settling ponds to intercept sunlight on the pond surface. The shade would need to be ventilated to prevent greenhouse effect.
2. Replace large, shallow ponds with ponds that are deeper with a smaller surface area for the same storage volume.
3. Reducing the detention time in ponds would also reduce temperatures.
4. Aeration of the pond would increase the rate of heat loss through evaporation, and cool the pond temperature.
5. Where possible, discharges to surface water during the summer months could be prevented by storing, reusing, recycling the water to the extent practicable; or by land applying, sprinkling or infiltrating the water on-site.

Ecology has determined that if turbidity monitoring indicates that the discharge turbidity does not cause or contribute to a violation of the applicable turbidity criteria, it can be reasoned that the discharge will not cause further impairment for “fine sediment.” Therefore, new facilities that discharge to a 303(d) listed waterbody that is impaired for turbidity or fine sediment must conduct turbidity monitoring in accordance with an Ecology-approved turbidity monitoring plan that includes receiving water monitoring to demonstrate compliance with the applicable turbidity standard (WAC 173-201A-030). The location of monitoring points will be evaluated on a case by case basis.

It is agreed that discharges of 50 NTU or less should be presumed to also result in compliance with the applicable turbidity criterion. However, when Ecology determines that a particular site may be causing or contributing to a violation of the turbidity standard, a one time receiving water may be required to establish a site-specific monitoring plan. If a receiving water study is necessary, it will be addressed on a case-by-case basis in accordance with General Condition G13.

Comment 49

Special Condition S5

S5.A. – Monitoring Plan Requirements – The requirement to prepare and comply with a monitoring plan should be extended to include monitoring requirements prescribed in Special Conditions S3.

Discussion – As drafted this section only applies to the monitoring requirements of Special Conditions S2, S4, and S5. Special Condition S3 could require a permittee to conduct a receiving water assessment. The methods to complete such a study should be articulated in a monitoring plan.

Recommendation – Amend S5.A. to include any monitoring required by S3.

Response: Ecology agrees with the recommendation. Special Condition S5.A will be revised to include S3.

Comment 50

Special Condition S9

Presumptive Approach

The Draft Permit says that “Unless there is site-specific information to indicate otherwise, Permittees which choose the presumptive approach are presumed to be in compliance with the discharge limitations in S2 and S3” (see page 25 of Draft Permit). It is not clear what this statement means. If there is a presumption of compliance with the discharge limits, is there no longer a requirement to monitor?

Response: Considering that the permit requires compliance with numerical effluent limitations, Ecology has decided that the “demonstration” vs. “presumptive” approach language in S9 is not appropriate for this general permit and it will be replaced with the following:

Stormwater *BMPs* shall be based on:

- a. Stormwater Management Manual for Western Washington, for sites west of the crest of the Cascade Mountains; or
- b. Stormwater Management Manual for Eastern Washington, for sites east of the crest of the Cascade Mountains; or
- c. Other equivalent stormwater management guidance documents approved by Ecology; or

- d. Documentation in the *SWPPP* that the *BMPs* selected provides an equivalent level of pollution prevention, compared to the applicable *Stormwater Management Manual*, including:
 - i. The technical basis for the selection of all stormwater *BMPs* (scientific, technical studies, and/or modeling) which support the performance claims for the *BMPs* being selected; and
 - ii. An assessment of how the selected *BMP* will satisfy *AKART* requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

Comment 51

Special Condition S3/Fact Sheet

Surface Water Quality Standards (Chapter 173-201A WAC)

It would be useful to explain on page 16 of the Fact Sheet that WAC Section 173-201A has been modified, and that although the new Water Quality Standards have been adopted by the legislature (and in fact, the Washington State Legislature web site (www.leg.wa.gov/WAC/) contains the new Water Quality Standards), they are not effective until EPA approves them. Ecology should explain that the Permit is based on the current (old) Surface Water Quality Standards. The new Water Quality Standards are briefly mentioned on page 18 of the Fact Sheet under the discussion of temperature standards, but should be addressed more completely under the *Surface Water Quality-based Effluent Limitations* Section on page 16 of the Fact Sheet. What affect will the new Surface Water Quality Standards have on the Permit if the EPA approves the new Water Quality Standards during the effective term of the new Permit? Specifically, will the effluent limitations for discharges to 303(d)-listed streams (listed in Appendix D, page 49 of the Draft Permit) change if the new Water Quality Standards are approved by the EPA?

Response: The revised water quality standards, if approved during the life of this general permit, would not have an immediate effect on the permit conditions, except for the narrative effluent limitations listed in the first paragraph in Special Condition S3, "Discharges shall not cause or contribute to a violation of:... Surface Water Quality Standards (Chapter 173-201A WAC)...". For this condition, the new standards... would become applicable upon approval by EPA.

Appendix D (Effluent Limitations for Discharges to Impaired Waterbodies) has been deleted from the permit to address changes to Special Condition S3.A.

Comment 52

Special Condition S3/Fact Sheet

Surface Water Quality Standards for Temperature

On page 18 of the Fact Sheet, it is not clear that the referenced water quality standards for temperature apply to the receiving waters and not discharges to those waters. This section of the Fact Sheet should be revised to explain that the criteria listed are for the receiving water. It should be clarified that to ensure compliance with the water quality criteria, a permittee would

have to measure the increase in water temperature that was caused by the discharge and apply the formula provided in the water quality criteria (no increase greater than $28^{\circ}\text{C} / (T_{\text{background}} + 7)$ if background is less than 18°C ; or no increase greater than 0.3°C if background is greater than 18°C).

Response: The temperature criterion listed in the fact sheet applies to the receiving water rather than the discharge. In addition, Ecology has decided that the permit will be revised so that discharges to waterbodies that are 303(d)-listed for temperature are not automatically assigned an end of pipe temperature limitation that is equal to the applicable water quality criterion. Discharges that are determined to be contributing to violations of temperature standards in the receiving water will be addressed on a case by case basis.

Comment 53

Special Condition S3/Fact Sheet

Mixing Zone

Ecology should adopt a minimum mixing zone based on flow, width, and/or depth of the receiving water (similar to the maximum mixing zone size specified under WAC 173-201A-100(7)). This would provide permittees some guidance as to where to monitor the affect that their discharge has on the temperature of the receiving water.

Response: Ecology has determined that in order to authorize a mixing zone, the procedural requirements in Chapter 173-201A-100(4) and (10) would need to be met. These site-specific requirements are not readily implemented within a general permit.

Comment 54

Special Condition S7

Chemical Treatment Additives

Page 21 of the Draft Permit states that chemical treatment/stabilization shall 1) Be consistent with Ecology's Stormwater Management Manuals, or 2) Be consistent with other methods approved by Ecology's Stormwater Technical Review Committee or Chemical Technology Review Committee, or 3) Use chemical treatment additives with low toxicity to aquatic organisms, with an LC50 equal to or greater than 100 mg/l.

There is no guidance on additive usage in the Stormwater Management Manual for Western Washington. Ecology's website for Emerging Stormwater Treatment Technologies (which includes information from the Stormwater Technical Review Committee and the Chemical Technology Review Committee) contains only information on chitosan-enhanced sand filtration.

Therefore, the first two criteria mentioned above are not applicable at this time.

The third criteria is problematic because it does not ensure that chemical additives will be dosed at concentrations less than the LC50, and therefore doesn't ensure that the dosing rates will be low enough to prevent significant mortality to invertebrate and fish species. For example, an additive with an LC50 of 100 mg/l that was dosed at a concentration of 200 mg/l (twice the LC50 concentration) could cause significant mortality. Alternatively, a chemical with an LC50 concentration of 10 mg/l that was dosed at a concentration of 1 mg/l (10 percent of the LC50) would have a much lower likelihood of causing mortality.

A better alternative to the third criteria would be to limit the dosing rate of additives to less than 50 percent of the LC50 concentration. This method has previously been proposed to Ecology and approved on a site-specific basis.

Response: Ecology has determined that the criteria for chemical treatment in S7.E.1&2 are appropriate and, for the reasons described below, changes to this language will not be made.

S7.E.1. Ecology's Stormwater Management Manuals have guidance on chemical treatment for construction sites; since this guidance is also applicable to facilities that are covered under the Sand and Gravel permit, it is appropriate to reference it in the permit:

- Western WA Stormwater Management Manual, Vol.II, Chapter 4, page 4-106, BMP C250 Construction Stormwater Chemical Treatment;
- Western WA Stormwater Management Manual, Vol.II, Chapter 4, Appendix II-B (Page B-1) Background Information on Chemical Treatment;
- Eastern WA Stormwater Management Manual, Chapter 7, Appendix 7C (Page 7C-1) Background Information on Chemical Treatment.

S7.E.2. Ecology's Stormwater Technical Review Committee has issued a designation document which conditionally approves the use of Chitosan Enhanced Sand Filtration. The committee is also working with applicants on the review and approval of 1) Electro-coagulation technology for flow-through water treatment, 2) Gel-Floc (Chitosan) Enhanced Biofiltration for flow-through stormwater treatment, and 3) Earthguard, an emulsified polymer for preventing soil erosion. Within the life of the general permit it is likely that other chemical treatment or soil stabilization technologies will be reviewed and approved. By referencing the Technical Review Committee process in the permit, several new technologies will be available to permittees.

Ecology agrees with the suggested revision to S7.E.3. The following language will be used:

3. Use chemical treatment additives at a dosing rate of less than 50% of the LC_{50} concentration.

In addition, the definition of LC_{50} has been revised to ensure that the toxicity test used is appropriate for the type of receiving water that will be discharged to. The revised definition is:

LC_{50} means the concentration of test material estimated to cause 50% mortality of the test organisms. The aquatic toxicity tests should use appropriate test organisms based the receiving water condition, in accordance with the table below:

Treatment Chemical Toxicity Test Choices for Different Discharge Circumstances

receiving water condition	toxicity test	method
salmonid or other fish passage	Rainbow Trout 96-hour Acute	EPA method 2019.0
	Fathead Minnow 96-hour Acute	EPA method 2000.0
juvenile salmonid or other fish rearing or habitat	Rainbow Trout 7-day Survival & Growth	USEPA-NERL SOP
	Fathead Minnow 7-day Survival & Growth	EPA method 1000.0
	Daphnid 48-hour Acute	EPA method 2002.0 or 2021.0
salmonid or other fish spawning	Rainbow Trout Embryo	EPS 1/RM/28
	Fathead Minnow Embryo-Larval Survival & Teratogenicity	EPA method 1001.0
lake	<i>Ceriodaphnia dubia</i> Survival and Reproduction	EPA method 1002.0
	alternate - <i>Mysidopsis bahia</i> 7-day Survival & Growth	EPA method 1006.0
marine water	Topsmelt 7-day Survival & Growth	EPA/600/R-95-136
	<i>Mysidopsis bahia</i> 7-day Survival & Growth	EPA method 1006.0
sensitive marine habitat	Bivalve Embryo-Larval Survival & Development	EPA/600/R-95-136

Comment 55

Definitions

Definition of Process Water

In the definition of Process Water (page 44 of the Draft Permit), it is not clear whether water in a sedimentation pond that previously received process water, but currently only receives stormwater would still be considered Process Water. This question has come up in legal cases involving one of our clients. It would be helpful if Ecology could clarify the definition of process water.

Response: The definition of process water is taken directly from 40 CFR Part 436. Ecology has decided that it would be inappropriate to make a blanket statement in this general permit to clarify the unique site-specific scenario described in the comment. The water quality considerations for a pond that has been converted from a process water pond to a stormwater pond would depend on several factors including the type of industrial process involved (e.g. gravel washing vs. concrete production), and whether or not the pond was properly cleaned out to remove any significant “process related” contaminants after the process water discharge was eliminated.

Comment 56

Definitions

Definition of Mine Dewatering Water

The definition of Mine Dewatering Water (page 43 of the Draft Permit) could be interpreted to mean that any pond within a mine that discharges water out of the mine should be considered Mine Dewatering Water (even if the discharge is only from a stormwater overflow out of the pond). Is this a correct interpretation of the definition?

Response: No, this definition does not apply to “any pond within a mine that discharges water out of the mine,” it does, however, include discharges from open pit excavations that were created from “wet-pit mining,” which typically involves the use of a dragline or hydraulic excavator to remove gravel from below the water table. For example, overflow from a wet-pit mine that is caused by stormwater (direct rainfall) should be considered mine dewatering water.

Comment 57

General

We concur with the comments provided by two other individuals.

1. We support Mr. Tom Cook's comments concerning the insufficient protection of the groundwater from the potential contaminants running off of stockpiled recycled asphalt. We support all of Mr. Cook's recommendations.
2. We support all comments from Mr. Richard A. Smith of Smith and Lowney, p.l.l.c.

Response: Ecology acknowledges your support for the comments made by Messrs. Cook and Smith.

Comment 58

Special Condition S2

Condition S2—Monitoring Requirements and Effluent Limitations Matrix

A.3—Turbidity

Turbidity is aggravated by storm runoff and this should be captured in the turbidity sampling as best as possible.

In addition to the established monthly turbidity sampling the revised permit should require turbidity sampling during and/or immediately after any "heavy rainfall" defined appropriately by the Department of Ecology's experts. This sample could be one of the samples for the monthly requirements or would be in addition to the monthly requirement if the required samples for the month had already been taken.

Response: The definition of representative sampling will be revised as follows:

Stormwater sampling should occur within 24 hours of the initial discharge from a significant precipitation event (e.g. 0.25 inch/24 hr. precipitation event). *Process water or mine dewatering water* sampling should be timed to occur when the facility is operating at full capacity.

Comment 59

Special Condition S2

A.4 Temperature

The undersigned requests that Ecology require (or at least recommend) gravel mines to install recording thermographs which would provide continuous temperature monitoring. The data should be sent to Ecology for temperature monitoring, analysis and compliance evaluation. These instruments cost a nominal \$100 and require new batteries perhaps once a year.

Some gravel mines have the potential of lowering stream and/or wetlands close to their mining operations. This lowering of waters could raise temperatures and threaten cold water-dependent species. Therefore, BHAS believes that temperature measurements are important and should be more frequent than weekly. Maximum temperatures from the daytime are

important because nighttime temperatures lower the 24-hour average and do not reflect the impact of elevated water temperatures that occur during the day that can be detrimental to said species.

The undersigned question whether recording temperatures only in July, August, and September is adequate. This year, Thurston County experienced near 100-degree (Fahrenheit) temperatures in May or June. The undersigned believe May and June should also be included in temperature testing.

A recording thermograph would simplify temperature recording and be more accurate as well. As Ecology researches temperature during the term of this new permit please consider utilizing thermographs.

Response: Ecology acknowledges the benefits of using recording thermographs to provide continuous monitoring of in-stream temperatures. However, Ecology has decided that a blanket “continuous monitoring” requirement is not appropriate for all facilities under the general permit at this time. This type of monitoring is complex and would require considerable expertise to set up a site specific study that is conclusive about the effect of a discharge on in-stream temperature. Ecology will revise the temperature monitoring requirements in the permit to require temperature and discharge volume (flow), so that it can be determined if the discharges have a reasonable potential to cause or contribute to a violation of temperature standards. Additional in-stream monitoring with recording thermographs may be required to characterize the thermal impacts from certain sites under permit on a case by case basis.

Comment 60

Special Condition S4

S4 – Additional Monitoring Requirements

A. Discharges to Surface Water

#3. Oil Sheen Monitoring

Since monitoring for oil is visual and requires no additional staff or monitory resources, this monitoring should be **continuous** not reported once a month as drafted in the permit. The permittee should report any oil sheen observed and what corrective actions were taken.

Response: Since the permit requires 1) implementation of Source Control BMPs to prevent stormwater contamination, and 2) compliance with a Spill Control Plan (Special Condition S11) to prevent, control, contain, and clean up spills or unplanned discharges of oil and petroleum products, Ecology has determined that continuous monitoring for oil sheen is not appropriate. In wastewater permits, continuous means “uninterrupted” – this is possible with pH and other parameters that can be monitoring continuously with automated sampling equipment – but it is not feasible with visual monitoring. However, the permit will be revised to require daily visual monitoring for oil sheen, when water is present at active sites.

Comment 61

General

Evaluation

The environmental community has reservations regarding the amount of resources Ecology allocates to the monitoring, education and enforcement of the 900+ facilities covered by this General Permit.

The undersigned recommend that the Department of Ecology evaluate the efficacy of this general permit approach June 2005 and recommend increased staff in its 2005 - 2007 supplemental budget if needed.

For accountability purposes, and to improve the effectiveness of this approach, Ecology should document, infractions, corrective actions, and should quantify the number of improvements to water quality that result from enforcement and monitoring related to this general permit.

Response: Ecology acknowledges the concerns about the level of resources allocated to implement this general permit, and the impact of limited resources on the efficacy of the permit.

Ecology presently documents enforcement activity related to this general permit. However, it would be very difficult, costly and time-consuming to quantify the water quality benefits that result from permit enforcement and monitoring, and despite the value of this type of research, it is unlikely that Ecology will have the resources to do it in the immediate future.

Comment 62

General

I appreciate your taking the time to call to let me know you had not received the letters I referred to in my fax. I talked with Dick Dyrland and he said he did fax a letter in. I concur with his comments which have much more technical information than I could include. I also have read the Audubon Society comments and concur with them. I would like to add, in case you have not received Scott Rose's comments, that I would like to see the monitoring done by DOE for temperature, solvents, turbidity on a regular and unannounced site visits. These could be paid for by permitting fees. The gravel company that has caused the most problems in this area have been dishonest and irresponsible in much of their operation and environmental issues.

Response: Ecology acknowledges your concurrence with the written comments submitted by Dick Dyrland and the Audubon Society. Ecology will continue to perform compliance inspections at permitted facilities which, at the discretion of inspection staff, may include unannounced site visits and various forms of evidence collection, including water quality sampling for selected parameters.

Comment 63

General

You have received comments from Scott Rose and several others on the regulations for permitting for gravel mining. I have read Scott's comments and wish to add my name to his concerns. We have seen tremendous damage to water quality and fish runs with gravel mining in the East Fork Lewis River. I don't believe self-monitoring is adequate and hope that you will take his suggestions very seriously.

Response: Ecology acknowledges your agreement with the written comments submitted by Scott Rose, and appreciates your concerns about the East Fork Lewis River.

In general, the self-monitoring requirements in this permit are working. In Washington State, and in the rest of the United States, self-monitoring and reporting is the cornerstone of the NPDES Program. Ecology has several tools available to prevent or minimize problems with self-monitoring. Compliance inspections are routinely performed by Ecology staff and typically include a thorough inspection of BMPs and treatment facilities. These inspections allow staff to

determine whether the facility is capable of producing an effluent that will meet the effluent limits. Additionally, Ecology may also conduct periodic sampling of a permittee discharge to determine if the results differ significantly from those reported by the permittee.

Instances of falsification of monitoring reports are considered to be very serious and companies and/or persons involved are dealt with to the maximum extent allowed by law. Any person who is found guilty of willfully violating the self-monitoring and reporting requirements, or any other terms and conditions of the permit, are subject to criminal penalties, including fines of up to ten-thousand dollars per day for each offense or by imprisonment in the discretion of the court. The threat of these enforcement actions are deterrent enough to protect the integrity of the self monitoring system. Therefore self-monitoring will continue under the revised general permit.

Comment 64

Special Condition S2

The “NTU” level for measuring allowable discharge limits is set too high. Our own measurements indicate that a cap of “40” NTU would serve the objectives much better. We have observed a number of discharge sites, particularly where “T&E” fish species are involved, and a “50” NTU cap allows too much material through that is lethal to stream macro-vertebrates, fish egg survival, and habitat in general. It also opens operators up to federal “Clean Water Act” lawsuits.

Response: Ecology agrees that discharges that raise the ambient receiving water to 50 NTU could have potential to damage aquatic life and stream health, depending on several factors, including the duration of the turbid discharge, receiving water characteristics, and the life stage and sensitivity of organisms present. However, discharges from permitted facilities of 50 NTU “end of pipe,” very rarely would be in sufficient volume or flow that would raise the ambient turbidity of the waterbody to 50 NTU. Ecology’s experience is that a 50 NTU discharge under this permit typically will not raise ambient turbidity of the receiving surface waterbody greater than 5 NTU over background turbidity, and therefore will not harm aquatic life or result in the loss of beneficial uses. Also, the 50 NTU limit is maximum limit to assure that control is in place. To consistently meet a 50 NTU limit, a facility must be discharging about 25 NTU as a long term average.

Comment 65

Special Condition S2

Water temperature monitoring is still weak, discharge from operating and abandoned gravel pits have been shown in WA to contribute to sustained lethal levels of temperature.

Response: Ecology would be interested in obtaining information which demonstrates that a gravel pit covered under this General Permit has contributed to sustained lethal levels of temperature. The “end of pipe” temperature data reported during the previous permit cycle was not conclusive on the effect of gravel pits on stream temperatures. To move this monitoring program forward, Ecology has revised the permit to require permittee’s to monitor and report discharge (flow) volume, so that it can be determined if discharges have a reasonable potential to cause or contribute to a violation of water quality standards for temperature. Additional in-stream monitoring to characterize thermal loading may also be required at certain sites on a case by case basis.

Comment 66

Special Condition S2/S3/S4

The impact of mines on the interception and re-routing of subsurface and ground water flow needs to be listed and restrictions put in place. Based on USGS studies, most of the stream on the west side of the Cascade Mountains are depending on both the flow and cooling effect of sub-surface and ground water flow during the critical summer low flow period. Gravel mining in the Channel Migration Zone and river valley has a significant detrimental Impact on streams and new rules, restrictions, and potential remedies need to be built into the permit.

Response: The potential of gravel mines to intercept and re-route ground water flow is a “mine siting” issue which is outside the scope of Ecology’s wastewater permitting authority, but would be addressed during the State Environmental Policy Act (SEPA) process. Local governments must formally approve mine siting prior to receiving a Department of Natural Resources (DNR) reclamation permit. This approval process generally makes local jurisdictions the lead SEPA agency according to applicable rules. If groundwater impacts are identified as an issue that requires mitigation or monitoring, then it could be specified in the Shoreline or Conditional Use Permit issued by the local jurisdiction. Also, the DNR has the authority to require a hydrogeologic study where ground water impacts may occur.

Comment 67

Special Condition S1

We are greatly concerned about “portable” operations that aren’t really portable, but are moveable “permanent” operations that come and go at will. Their needs to be stronger control of what and how they do things in this permit. We do appreciate the initial progress you have made in addressing them.

Response: Comment acknowledged, but no additional change will be made to the permitting process for portable operations.

Comment 68

General

The lack of effective enforcement and reluctance to give citations and fines is a major problem. The most well designed permit language will mean little if we don’t start enforcing the rules. We have witnessed this lack of and reluctance to do anything about not only “first time offenders” but “chronic” offenders too. This needs to be changed or the whole process becomes an unintended mockery and deception of the public.

Response: Comment acknowledged.

Comment 69

Special Condition S2/Fact Sheet

On page 9 The Sand and Gravel Fact Sheet states the proposed permit will drop pH monitoring requirements for Construction Sand and Gravel (SIC 1442) because the mining and processing activities do not typically modify pH. On page 21 the fact sheet clarifies this as only surface water monitoring requirements. Kitsap County Public Works requests Ecology also consider dropping pH monitoring for discharge to groundwater. The same argument can be applied, that is, sand and gravel mining and processing do not modify groundwater pH.

As stated on the first page of the Fact Sheet, the purpose of the general permit is to provide “protection of ground water, surface water, and sediment in waters of the state by limiting the discharge of pollutants in process water, mine dewatering water, and stormwater.” In a typical Sand and Gravel mining operation, stormwater will pick up soil before it reaches a low area on the mine floor. This stormwater will take on the pH of soil suspended in the water. In Western Washington this will often be a low pH soil (acid soil) and the resulting stormwater will be below pH 6.5. As the water seeps into the ground, the suspended soil is filtered from the water before it reaches groundwater. Because the soil is filtered out of the water, neither groundwater turbidity or groundwater pH is impacted by the acid soil. As long as a mining operation does not use strong acids in its operation or create a strong acid in its operation (acid mine drainage is not created from typical Western Washington soils), the mining operation will not change the pH of the groundwater.

Another low pH situation can occur at Sand and Gravel Pits and other operations, such as quarry operations, which would justify dropping the stormwater pH-monitoring requirement. This situation can occur in pond discharges when stagnant conditions similar to those found in wetlands occur. Under these conditions, pH may drop below 6.5 as a result of the decay of organic material (i.e., CO₂ production).

Our last concern deals with best management practices (BMPS) if the monitoring requirement and effluent limits are kept in the permit. Treatment of stormwater with calcium carbonate could cause the pH to swing above a pH of 8.5. In order to keep the pH at 8.3 and below, all the carbonate has to be converted to bicarbonate. This may be difficult given the low conductivity of stormwater.

Although the draft permit does not contain language indicating the pH-monitoring requirement for Sand and Gravel operations will be dropped, we encourage Ecology do so for both discharges to surface and groundwater. In cases where quarry operations are similar to Sand and Gravel operations, we also encourage Ecology to drop the pH monitoring requirements.

Response: Since the industrial activities associated with sand and gravel mining do not typically have the potential to modify the pH of stormwater, the pH monitoring requirements for stormwater discharges from Construction Sand and Gravel (SIC 1442) facilities are being dropped; this applies to both surface and groundwater discharges. However, since process water discharges are included in EPA’s Federal Effluent Limitation Guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436), the limitations and monitoring requirements for process water (gravel wash water, etc.) and mine dewatering discharges from Construction Sand and Gravel operations (SIC 1442) must be retained; but the sampling frequency will be dropped to once per quarter.

Comment 70

Special Condition S2

Monitoring Requirements and Effluent Limitations Matrix

PSA recommends that the frequency of TSS monitoring be expanded to 2 times a month to be consistent with turbidity monitoring. Quarterly monitoring will not provided sufficient data to determine implementation of the requirements of the permit.

Response: TSS monitoring is only required for process water which is not as variable as stormwater. Considering the nature of processing operations (gravel washing, etc), and the

related AKART requirements, significant variability in TSS concentrations is not expected from month to month. Where variation exists, the permittee is required to obtain representative samples for all parameters including TSS. The quarterly sampling frequency for TSS is deemed to be adequate to determine if the limitation is being met and exceeds the minimum sampling frequency (once per year) established in federal regulation. No change to the permit.

Comment 71

Special Condition S2

Monitoring Requirements and Effluent Limitations Matrix

Why are the turbidity limitations in excess of water quality standards, given that there is no mixing zone granted in the permit?

Response: It is difficult to establish a water quality based effluent limitation in a general permit because a significant amount of site specific information (background conditions, dilution factor, etc.) is required to do it precisely. In an effort to prevent violations of the turbidity standard within the context of a general permit, Ecology has used Best Professional Judgment (BPJ) and applied a conservative dilution factor of 10 which resulted in the 50 NTU “end of pipe” effluent limitation.

Comment 72

Special Condition S3

Additional Discharge Limitations

PSA is concerned that the compliance schedule contemplated in S3.A.4 relieves permit holders from their liability for violating any effluent limitations. This point must be clarified in the permit. PSA is also concerned that the compliance schedule is a blanket schedule and not consistent with the state regulation that requires the Department of Ecology to make a decision to grant a schedule on a case-by-case basis. Finally, the compliance schedule is illegal. Permit holders have only three years to come into compliance for industrial stormwater discharges. This time period has already expired. PSA believes there are significant legal issues in this section that must be changed prior to the issuance of the final permit.

Response: Ecology has decided to delete the compliance schedule language from the general permit. Compliance schedules will be addressed using administrative orders, on a case by case basis, per WAC 173-201A(4)(a).

Comment 73

Special Condition S4

Additional Monitoring Requirements

S4.D exempts most permit holders from monitoring inactive sites. These sites are potentially significant sources of pollution, particularly if no one is required to monitor the site to make sure BMPs are in place and are working. PSA recommends that inactive sites be required to monitor discharges like active sites.

Response: The justification for excusing inactive sites is based upon the inability of permittees to conduct stormwater sampling at sites that are inactive and unstaffed during

stormwater discharge events. However, Ecology believes that those facilities that have staff present on-site “adding to withdrawing raw materials or finished products from stockpiles for transportation offsite for processing, use or sale,” have the ability to obtain stormwater samples if stormwater discharges occur during normal working hours when staff are working on-site. Permit will be amended to require stormwater sampling in these instances, but these facilities may retain their status as a “non-operating aggregate site” for permit fee calculation purposes per Chapter 172-224-030 WAC.

Comment 74

Special Condition S5/S9

Monitoring Plan/SWPPP

PSA recommends that this section be rewritten to require permit holders to submit copies of their monitoring plans to Ecology. This facilitates active Ecology and public review and is more likely to result in monitoring plans actually being written and implemented.

PSA recommends that this section be rewritten to require permit holders to submit copies of their SWPPPs to Ecology. This facilitates active Ecology and public review and is more likely to result in monitoring plans actually being written and implemented.

Response: The permit will not be revised to require monitoring plans to be submitted to Ecology. The main reasons for not requiring plans to be submitted are 1) Plans are available on-site and are reviewed during compliance inspections, 2) The permit has a mechanism to require permittees to submit their plans to Ecology or the public when requested in writing to do so, and 3) since Ecology does not have the resources or space to track monitoring plans for all 900+ facilities, it makes more sense to focus Ecology’s plan review resources on facilities that are determined to be “high risk” as a result of DMR data, complaints, inspections, etc. In addition, the SWPPP is not the primary tool for demonstrating compliance. Rather, compliance is demonstrated through water quality monitoring and reporting requirements which are used to assess compliance with numerical effluent limitations.

Comment 75

Also, PSA recommends that the presumptive approach be deleted from the permit in S9.A.6. Discharges from these permit holders must comply with water quality standards period. A presumptive approach does not guarantee that compliance will be achieved.

Response: Considering that the permit requires compliance with numerical effluent limitations, Ecology has decided that the “demonstration” vs. “presumptive” approach language in S9 is not appropriate for this general permit and it will be replaced with the following:

Stormwater *BMPs* shall be based on:

- a. Stormwater Management Manual for Western Washington, for sites west of the crest of the Cascade Mountains; or
- b. Stormwater Management Manual for Eastern Washington, for sites east of the crest of the Cascade Mountains; or

- c. Other equivalent stormwater management guidance documents approved by Ecology; or
- d. Documentation in the *SWPPP* that the *BMPs* selected provides an equivalent level of pollution prevention, compared to the applicable *Stormwater Management Manual*, including:
 - i. The technical basis for the selection of all stormwater *BMPs* (scientific, technical studies, and/or modeling) which support the performance claims for the *BMPs* being selected; and
 - ii. An assessment of how the selected *BMP* will satisfy *AKART* requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

Comment 76

Special Condition S1

Permit Coverage

A.3

Concern: Extreme to highly sensitive Designated Aquifer Recharge areas are not included as a characteristic for facilities that have SIC code 2951 activities. Discharges from the listed SIC code 2951 can generate some bad environmental impacts on water quality and quantity if not properly controlled.

Recommendation: List at least Extreme to Highly sensitive Designated Aquifer Recharge areas as a characteristic item G under S1.A.3.

Response: “Extreme to Highly Sensitive Designated Aquifer Recharge Areas” are not defined in Ecology’s *Guidance Document for the Establishment of Critical Aquifer Recharge Area Ordinances* ([Publication # 97-030](#)). It is also apparent that all Asphalt Plants (SIC Code 2951) would already be required to obtain permit coverage under S1.A.3a, b, c or d; so no change will be made to the permit.

Comment 77

Special Condition S2

Monitoring Requirements and Effluent Limitations Matrix

Concern: Oil sheen is a monitoring requirement but not reflected in the matrix. In addition, visual monitoring is only required monthly. Oil sheens can indicate a more serious problem with some of the more toxic constituents managed in a gravel mine.

Recommendation: Amend the current matrix to include oil sheen and require continuous visual monitoring. This is a small price to pay for significant pollution prevention protection.

Response: Since the permit requires 1) implementation of Source Control BMPs to prevent stormwater contamination, and 2) compliance with a Spill Control Plan (Special Condition S11) to prevent, control, contain, and clean up spills or unplanned discharges of oil and petroleum

products, Ecology has determined that continuous monitoring for oil sheen is not appropriate. In wastewater permits, continuous means “uninterrupted” – this is possible with pH and other parameters that can be monitoring continuously with automated sampling equipment – but it is not feasible with visual monitoring. However, the permit (S2 Matrix, and S4.D) will be revised to require daily visual monitoring for oil sheen when water is present at active sites.

Comment 78

Special Condition S.3.B

Discharge to Ground Water - Effluent Limitations

Concern: Other than item number one, which to me is not explicit enough, there is no effluent limitation from asphalt plants, storage of recycled asphalt, or type 3 stormwater from these activities to discharge to ground water. The type of toxic constituents included in asphalt, as well as, unknown toxic constituents that may be brought in on recycled asphalt depending on its source (i.e. old asphalt paving around chemical plants, recycled solvent plants, used oil recycling plants, etc.) may cause significant environmental impacts to ground water and surrounding drinking water.

Recommendation: Include a new item number four to read “The following operations are not allowed to discharge process waters, and type 3 stormwater to ground waters of the state:

SIC 2951, Asphalt batch plants, including recycled asphalt.”

Response: Ecology does not have the technical basis to prohibit discharges of Type 3 stormwater from asphalt plants to ground water unless the discharges will cause or contribute to a violation of the Ground Water Quality Standards (Chapter 173-200 WAC). Considering the permit’s emphasis on source control and pollution prevention, including the strict requirement to physically cover and contain all toxic materials or chemicals (e.g. contaminated asphalt), it is unlikely that a discharge of Type 3 stormwater to ground water will cause or contribute to a violation of Chapter 173-200 WAC. Additional groundwater protection is provided by the requirement to apply state of the art stormwater treatment Best Management Practices (e.g. oil/water separators, bioinfiltration swales, etc.) in order to achieve AKART and prevent violations of water quality standards. Where Ecology determines that a permitted facility is not following permit conditions (e.g. by not covering/containing toxic materials), or is causing or contributing to a violation of water quality standards, a range of enforcement actions can be issued to bring the facility into compliance.

Under the 1999-2004 general permit, asphalt plants were authorized to discharge process wastewater from asphalt plants (wet scrubber water). However, at most asphalt plants in Washington State, wet scrubbers have been replaced with baghouse technology to meet current air pollution control requirement. Since baghouses do not produce process wastewater, most asphalt process water sources have been eliminated. However, several asphalt plants in the state still use wet scrubbers and discharge the process wastewater to ground. Ecology has determined that asphalt process water (wet scrubber water) may contain toxic pollutants (particularly polynuclear aromatic hydrocarbons) at levels that can contaminate groundwater. Therefore, the general permit will be revised to prohibit the discharge of asphalt plant process wastewater to groundwater. This expands the existing prohibition on asphalt process wastewater discharges to surface water, which is required by 40 CFR Part 443, Paving and Roofing Materials Point Source Category, Asphalt Concrete Category. Process wastewater

(wet scrubber water) from asphalt plants must be managed to be “zero discharge” within 18 months of the effective date of the permit.

Comment 79

Special Condition S.4.E

Monitoring for Oil Sheen

Concern: See concern under S.2 Matrix

Recommendation: See recommendation under S.2 Matrix.

Response: See response to Comment #77.

Comment 80

Special Condition S.7.A

Lined Impoundment Required

Concern: I have a concern regarding recycled asphalt that is brought to asphalt plants located in gravel mines and the origin of the recycled asphalt is from small chemical plants, used oil or solvent recyclers, etc., that are getting rid of it due to the asphalt deteriorating over the years from chemical leaks and spills around tank farms, drum storage areas, etc. Toxic constituents accumulated over the years in the old eroded asphalt and then sent to and stored in gravel mines which are often located close to ground water or surface waters may pose a significant environmental threat if not properly managed.

Direct discharge of type 3 stormwater from recycled asphalt is allowed and depending on the level and type of chemical/toxic contamination may cause significant ground water and/or surface water contamination from stormwater leaching out chemical/toxic constituents from storage piles, swales and unlined impoundments.

Recommendation: Require type 3 stormwater from recycled asphalt be prohibited from direct discharge to ground and surface waters and that it be managed in a lined impoundment unless proof can be provided that the recycled asphalt is not contaminated with harmful toxic constituents. After treatment, assure that the level of contamination is acceptable to discharge.

Response: Ecology believes that the recommended revision is not necessary, because recycled asphalt that contains toxic material is adequately addressed in the following ways:

- The permit prevents contamination of Type 3 Stormwater by requiring physical coverage and containment of toxic materials and chemicals (S7.G) – this would include recycled asphalt that contains toxic material. Physical coverage typically involves placing a roof over the toxic material to prevent pollutants from being mobilized in stormwater. Containment typically involves storing the toxic material in a lined structure or impoundment to prevent the discharge or leakage of toxic pollutants into surface water or ground water.
- The Solid Waste Disposal requirements in Condition S12, address the proper handling and disposal of all solid waste material and prohibits the leachate from solid waste material from entering waters of the state without providing AKART (All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment), and prohibits discharges that could violate the ground water quality standards (Chapter 173-200 WAC).

Comment 81

Special Condition S.7.G.6

Physical Coverage of Toxic Materials

Concern: The “back slash” (/) is missing between asphalt concrete in the sentence.

Recommendation: Include back slash (/).

Response: The usage of the term “asphalt concrete” does not mean asphalt or concrete (i.e. asphalt/concrete); rather, it means “a concrete composition in which asphalt is used as a binder.” A back slash will not be added.

Comment 82

Special Condition S.7.1

Asphalt/Concrete Stormwater Control

Concern: Type 3 stormwater from contaminated recycled asphalt (see concerns under S.7.A) is allowed to be discharged into unlined ponds posing a possible serious threat to ground and surface water depending on the level and type of chemical/toxic contamination.

Recommendation: See recommendation under S.7.A.

Response: See response for Comment 80.

Comment 83

Special Condition S.9.B.3

Concern: There is no source control BMP for recycled asphalt (see concerns under S.7.A).

Recommendation: Include item #1 that states “storage of recycled asphalt.”

Response: Since Ecology’s stormwater management manuals do not contain a specific BMP for storage of recycled asphalt, it was determined that this BMP wouS9.B.3 will be revised to include source control BMP for “Storage or Transfer of Solid Raw Materials, By-Products or Finished Products.” This BMP is in the Western Washington Stormwater Management Manual, Vol. IV, p.2-60 (<http://www.ecy.wa.gov/biblio/9914.html>).

Comment 84

Ph monitoring of SIC Code 1442- Sand & Gravel

It has been stated by Ecology that the data shows “99% of the S&G industry has no potential to contribute to pH.” This is further validated by the fact that when pH is an issue in these SIC codes, the discussion turns to algae in ponds and not the activities of the industry. This is also confirmed by 10 years worth of monitoring reports by this industry. Originally, you indicated this requirement would be dropped based on the evidence gathered and the recognition of no potential to pollute. It was also considered that even quarries should also be exempted from these requirements. However, based on further review, it is apparent that may not be possible as pH is a listed as a Federal effluent and cannot be exempted. It was further discussed to reduce this monitoring to comply with federal guidelines of one time per year as suggested and

allowable by these same Federal guidelines. The current proposed draft of the permit for pH monitoring requirements remains the same and differs from earlier versions that eliminated this requirement.

Recommendation: Our solution to Ecology remains the same: Change the requirement for pH monitoring of SIC codes 1442 and related industries to reflect the evidence gathered and as allowable per Federal effluent Guidelines to once per year.

Response: Since the industrial activities associated with basic sand and gravel mining operations (without concrete production) do not have the potential to modify the pH of stormwater, the pH limitations and monitoring requirements for stormwater discharges from Construction Sand and Gravel (SIC 1442) facilities are being dropped. Since process water discharges are included in EPA's Federal Effluent Limitation Guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436), the limitations and monitoring requirements for process water discharges must be retained. However, the data collected during the previous permit cycle indicates a high level of compliance with the limit, therefore the pH monitoring frequency will be reduced to once per quarter. Quarterly monitoring was selected over annual monitoring to ensure that seasonal pH problems would be detected and corrected.

Comment 85

Reporting Time Periods:

Proposed by Ecology, we agreed to support extending the timeline for when monitoring reports were to be received by Ecology from the current 15 days to 30. The precedent for this suggested change is the newly proposed (May 2004) Industrial Storm Water General Permits have included a 45 day timeline. The basis now for timelines isn't how short they should be, but rather what is considered reasonable as demonstrated by these new permits. Additional arguments offered by our working group included:

- Current permit says "received by," so the timeline when reports are mailed is even shorter than 15 days. The permittee is then also liable for delays in mail delivery.
- The suggestion of 30 days provides much needed relief from delays caused by independent labs in getting results to the permittee.
- In the event repeat sampling is required, it is very difficult to comply with such a short time period.
- We discussed the ability to consider "postmarked by," but apparently that would be problematic for Ecology to be able to accommodate new procedures, retain envelopes etc.
- Depending on regional inspectors, if the report is a single day late; the permittee receives a Notice of Violation. This shows up as a blemish on the history of the permittee and may have been the result of slow mail delivery or other factors outside of their control. This only serves to produce misleading non compliance reports even though the actual results are in compliance.
- The timeline has absolutely no consequence on the quality of pollution prevention, discharge reporting or reduces the overall conditions of compliance for the permit. This information is not time sensitive and will remain the same. The Department has the ability to make this change and it should be an easy "non issue" change for the Department to make.

We recognize that the Department is anticipating improvement with the usage of electronic

reception of monitoring reports. This may help, but does not address the delays that affect the ability to timely submit the report, not the actual timeline itself. The Department must also acknowledge that not all operators are electronically orientated and some do not even use computers in their daily business or have email. This may be a larger pool than the Department recognizes.

The Department has now allowed the creation of inconsistency that should not exist within the context of what conditions general Industry permits should require. The reporting requirement should be consistent among all general permits and not subject to outside arbitration to make one permit more adversely impacted or lenient than other general permits.

Recommendation: Our proposed solution remains to extend the deadline for the receiving of monitoring reports to no shorter than 30 days or be consistent with conditions contained in other General permits.

Response: The permit will be revised to allow 30 days to submit Discharge Monitoring Reports. As with the previous permit, the failure to comply with non-compliance notification (e.g. reporting discharge violations per S6.E.) will still be considered a permit violation and may be subject to formal enforcement.

Comment 86

TDS: We as a stakeholder group have objected to this additional requirement from the beginning. We believe the data Ecology is making these determinations on is not reliably credible. Ecology has stated that the "industry has a problem with exceedances." I continue to submit the industry does NOT have a problem, but rather a company has submitted data that results in the majority of occurrences. The Department does not recognize this in their data. To the benefit of the company, it has through acquisitions, taken on the challenges of smaller companies that have not had the same resources to properly mitigate these discharges and the same commitment to compliance. It will be to the credit of this company and to the satisfaction of Ecology that many of these discharges will be eliminated and our industry will continue to enhance pollution prevention. In those instances where exceedances have occurred, changes have been or will be made to reduce these discharges through improved BMP treatments.

Ecology did determine through this data Asphalt plants do not have the potential to create TDS discharges and has exempted these facilities from TDS groundwater discharge monitoring requirements. This is appreciated and is a acknowledgement of the correct use of the data received and analyzed by the Department. As we stated earlier regarding Ph monitoring for SIC code 1442 Sand and Gravel; we request the Department to use this same sound judgment in eliminating this condition.

Response: Ecology has determined that the TDS Pollution Prevention Schedule set forth in the new permit is an efficient, effective and consistent way to address the high-TDS discharges that have been reported at a relatively small, but significant, number of concrete plants over the last 10 years. These requirements were written to specifically target only those facilities that exceed the ground water quality criterion of 500 mg/l TDS. The overwhelming majority of concrete plants in Washington State do not exceed 500 mg/l TDS and therefore will not be impacted by the new requirements.

Comment 87

Temperature Monitoring:

As others from private industry and county government have-voiced concerns with this issue, we would like to take this opportunity to support those concerns.

Special Condition S2 Monitoring Requirements and Effluent Limitations Matrix — The proposed addition of Temperature as a pollutant of concern is not supported by available information and should be removed. Other Ecology NPDES permitted activities have recognized that storm waters warmed through natural processes and not as a result of industry handling or activity are of no regulatory interest.

This is supported by the Fact Sheet as it dismisses the significance of thermal impacts of process water, mine dewatering water, and storm water from industry activities...

“Temperature increases and decreases ... are primarily a result of ambient air temperature and solar influences. Processing by the facilities covered under this permit does not typically transfer significant thermal energy. Temperature decreases (sic) have not been identified as a significant environmental concern...”

As a point of comparison and inconsistencies among other similar general permits, both the current Industrial Storm water General Permit and the preliminary draft ISWGP exempt storm waters from monitoring and point-of-discharge water quality criteria compliance requirements when discharging to 303(d) water bodies listed for temperature (53.D. in the current permit; 53.E. in the preliminary draft). These determinations reflect a practical realization that efforts to account for natural heating and cooling processes on storm water is not a worthwhile effort and should be uniformly applied to other similar occurrences.

Recommendation — it is important that Ecology apply consistent rational and recognize their own Fact Sheet determinations when making permitting decisions based on a technical analysis. In this instance, the agency has determined this category of permittees does NOT have a significant effect on the temperature of receiving waters. This is consistent with other decisions Ecology has already made in other storm water permits. Given these determinations and the approach used in other permits of like occurrences, there is no reason to arbitrarily burden this general permit with additional cost and risk to permittees for no environmental benefit. Finally, if there are specific sand and gravel operations which do utilize heat in the processing activity, and this heat is transferred to the process water discharge, Ecology could choose an alternative method of providing BMP's or other mitigations when those conditions actually apply. Lowest common denominator regulatory approaches do little to advance uniformly applied environmental protection.

Response: Although the temperature data collected by permittees during the previous permit cycle shows that some discharges were significantly warmer than the current water quality criteria for temperature, the data is not conclusive on the thermal impact of these temperatures on receiving water temperatures because there was no information collected on the discharge volume (flow) or of the receiving water flow or temperature. Ecology has decided that this permit will not require dischargers to temperature-impaired waterbodies to meet water quality standards for temperature “end of pipe,” rather the permit will ensure that water quality monitoring at the facility is adequate to characterize the thermal impact of the discharge on receiving water temperature. Based on site specific information, Ecology will determine if

additional permitting requirements (BMPs, monitoring, etc.) should be applied on a case by case basis.

Comment 88

Discharges to Surface Water — Effluent Limitations and Appendix D — Ecology's decision to add effluent limitations for Temperature to this permit may create difficult requirements for permittees discharging into water bodies on the 303(d) list for temperature. The proposed effluent limitation for Turbidity is not an effluent discharge limit at all, but rather generates an additional receiving water assessment study.

This condition will require a Sand and Gravel permittee discharging into a Temperature impaired water body to:

- Routinely assess the temperature of discharges (during July — September) and,
- If above the water quality criteria, to cool those waters to below criteria before discharge. At specific limits the permittee would need to either artificially cool those waters, or impound or redirect waters to portable tanks, until those waters cool to below WQ criteria when they could be discharged. What known, reasonable, and available technology is Ecology suggesting be implemented to cool these waters?

Where temperature is a potential issue, Ecology should actively work with the permittee to practically implement reasonable measure to affect temperature reduction.

Recommendation — Temperature should be reevaluated as a pollutant of concern worthy of an effluent limitation as Presented in this permit. Water bodies listed only for “sediment fines” on 303(d) should not impose effluent limitation and monitoring requirements on permittees discharging “turbidity.” Ecology should abandon the requirement for receiving water studies of turbidity impacts. The technology-based effluent limit of 50 NTU should be presumed to also result in compliance with the applicable water quality criteria. If a receiving water study simply must be retained, it should be a one-time only requirement which provides the permittee an opportunity to articulate a site-specific monitoring plan.

Response: Ecology has determined that the permit will not require dischargers to temperature-impaired waterbodies to meet water quality standards for temperature “end of pipe.” However, these discharges must comply with applicable TMDL waste load allocations for temperature and several other parameters. The revised permit language is:

New and existing permittees shall comply with TMDL wasteload allocations (for turbidity, fine sediment, pH and/or temperature) completed prior to the date permit coverage is issued.

The temperature monitoring requirements initiated in 1999 will be continued in the revised permit. Also, in order to estimate thermal loading on receiving waters, the permit will also require permittees to monitor and report the surface water discharge volume (flow) when temperatures are recorded. Ecology will determine if additional permitting requirements (BMPs, monitoring, individual permit, etc.) are necessary to address discharges that are causing or contributing to violations of temperature standards on a case by case basis.

BMPs and design principles that may be used to reduce the temperature of discharges include, but are not limited to:

1. Shading settling ponds to intercept sunlight on the pond surface. The shade would need to be ventilated to prevent greenhouse effect.
2. Replace large, shallow ponds with ponds that are deeper with a smaller surface area for the same storage volume.
3. Reducing the detention time in ponds would also reduce temperatures.
4. Aeration of the pond would increase the rate of heat loss through evaporation, and cool the pond temperature.
5. Where possible, discharges to surface water during the summer months could be prevented by storing, reusing, recycling the water to the extent practicable; or by land applying, sprinkling or infiltrating the water on-site.

Ecology has determined that if turbidity monitoring indicates that the discharge turbidity does not cause or contribute to a violation of the applicable turbidity criteria, it can be reasoned that the discharge will not cause further impairment for "fine sediment." Therefore, the permit language regarding turbidity and fine sediment effluent limits for discharges to impaired waterbodies will be retained.

It is agreed that discharges of 50 NTU or less should be presumed to also result in compliance with the applicable turbidity criterion. However, when Ecology determines that a particular site may be causing or contributing to a violation of the turbidity standard, a one time receiving water study would be required to establish a site-specific monitoring plan. If a receiving water study is necessary, it will be addressed on a case-by-case basis in accordance with General Condition G13.

Comment 88

Monitoring

Thank you for the opportunity to comment on the 2004 Sand and Gravel Permit. Our primary concern with this permit is the issue surrounding the changes in pH ranges that have been established in the new permit conditions. All but one of King County Road Division's Sand & Gravel permits is for Construction Sand and Gravel (SIC 1442) and the fact sheet for the Sand & Gravel General Permit states that the proposed permit is dropping the pH monitoring requirements for this category, but only for only surface water. The reason given for dropping the pH monitoring requirements for surface water is that the mining and processing activities associated with this category does not modify pH, this should also apply to discharges to ground water.

We have rarely seen exceedences of pH in our sampling program but the ones we have seen have been groundwater discharges. When field investigations have been conducted to determine the cause of the exceedance, the contributing factor, has primarily been related to organic matter. This has occurred in discharges where standing water mixes with organic debris, such as leaves, twigs, pine needles, etc. and create conditions similar to those found in wetlands. Under these conditions pH may drop below 6.5 as a result of the decay of organic material.

Another situation we have encountered is that the stormwater will take on the pH of soil suspended in the water. This has resulted in readings that have been in the 6.0 to 6.5 range due to acid soils, which are common in western Washington. It is improbable that these waters will have a deleterious effect on the groundwater. When the water infiltrates to ground, the water will change to the pH of the surrounding soils. As long as the operations do not introduce acids to the process water with or have acidic water in the mine dewatering water, pH should not be an issue for Sand and Gravel operations.

Although the draft permit does not contain language indicating the pH-monitoring requirement for Sand and Gravel operations will be dropped, we encourage Ecology do so for both discharges to surface and groundwater. In cases where quarry operations are similar to Sand and Gravel operation we also encourage Ecology to drop the pH monitoring requirements.

Response: Since the industrial activities associated with sand and gravel mining do not typically have the potential to modify the pH of stormwater, the pH limitations and monitoring requirements for stormwater discharges from Construction Sand and Gravel (SIC 1442) facilities are being dropped. However, since process water and mine dewatering discharges are included in EPA's Federal Effluent Limitation Guidelines for the Mineral Mining and Processing Point Source Category (40 CFR Part 436), the limitations and monitoring requirements for process water and mine dewatering discharges must be retained.

Since hard-rock quarry operations are conducted on a wide variety of geologic settings (e.g. basalt, granite, limestone, etc.), some of which may include areas where pH modifying materials are encountered, the pH monitoring requirements for other SIC codes will remain the same as the previous permit

Comment 89

Condition S2, S3, S4, S5

My greatest concern is that the DOE continues to basically allow self-monitoring of this activity. For you to say in the fact sheet that the DOE has been to most sites at least once during a calendar year seems to indicate that staff levels are insufficient to truly monitor these sites during weather/environmental events when problems will be encountered. Site inspections should be unannounced and occur during storm/flood events and periods during the summer when temperature conditions and pathogenic organisms such as giardia, coliforms, and blue-green algae are likely to be present. These concerns are particularly worrisome when extraction activities expose aquifers and create large manmade ponds. When a facility exist adjacent to a 303(d) listed body of water, it is imperative that very close DOE scrutiny is warranted. The sand and gravel industry should be assessed the necessary fees to assure that DOE personnel can and will, randomly and unannounced, at appropriate times, perform site inspections and collect samples. Self-monitoring rarely is effective or at least less than desirable. If facilities are adjacent to 303(d) water bodies or in close proximity to wells that have existing established beneficial use specific permits are needed, not simply a general permit.. Ground water degradation may also impact agricultural beneficial uses. I have included two references that require attention. The first is a report by the California Regional Water Quality Control Board, Central Valley Region (Order No. R5-2003-01 16) entitled "Waste Discharge Requirements for Teichert aggregates, Perkins Plant, Sacramento County" and the second "EPA Announcement of the Drinking Water Contaminant Candidate List (Federal Register/Vol. 63, No. 40/ Monday, March 2, 1998/Notices). These references yield some important facts about degradation of water that are overlooked in the fact sheet you present. In fact it appears that the fact sheet was generated by the stake holders. I hope that this is not the case.

It is important to realize that the water quality parameters you are suggesting to be monitored for are wholly lacking and make it easy to miss issues that clearly are important and have been seriously neglected in the past. Why you now feel it is okay not to test for PH at sic 1442 (Construction sand and gravel facilities) fails to be adequately explained nor takes into consideration that these types of operations clearly impact ground water and surface water. pH levels less than 6 can occur and impact aluminum manganese and iron availability. It seems that most of the decisions used to formulate this draft comes from industry supplied data. This is unwise and as stated earlier, the DOE should have more of a hands-on role other than accepting information that may be manipulated or at least used to lessen regulatory burdens put in place to protect the people of the state's surface and ground water.

Response: In general, the self-monitoring requirements in this permit are working. In Washington State, and in the rest of the United States, self-monitoring and reporting is the cornerstone of the NPDES Program. Ecology has several tools available to prevent or minimize problems with self-monitoring. Compliance inspections are routinely performed by Ecology staff and typically include a thorough inspection of BMPs and treatment facilities. These inspections allow staff to determine whether the facility is capable of producing an effluent that will meet the effluent limits. Additionally, Ecology may also conduct periodic sampling of a permittee discharge to determine if the results differ significantly from those reported by the permittee.

Instances of falsification of monitoring reports are considered to be very serious and companies and/or persons involved are dealt with to the maximum extent allowed by law. Any person who is found guilty of willfully violating the self-monitoring and reporting requirements, or any other terms and conditions of the permit, are subject to criminal penalties, including fines of up to ten-thousand dollars per day for each offense or by imprisonment in the discretion of the court. The threat of these types of enforcement actions is deterrent enough to protect the integrity of the self monitoring system. Therefore self-monitoring will continue under the revised general permit.

Ecology disagrees that facilities that discharge to 303(d) listed waterbodies, or are located in close proximity to wells, should not be covered by a general permit. Ecology agrees that there are certain sites that have a higher degree of environmental risk than others, but does not believe that all discharges to 303(d) listed waterbodies or discharges close to wells should automatically be excluded from the general permit. Instead Ecology has chosen to address high risk facilities on a case-by-case basis so that the unique characteristics of the facility and receiving water can be evaluated to determine if water quality is being impacted by the facility. This response may be increased inspections, or the issuance of an individual permit, or administrative order to require additional monitoring.

Ecology does not agree that the water quality parameters being monitored for are "wholly lacking," and the fact sheet provides the technical basis for the selection of pollutant parameters to be monitored. It is agreed that the rationale for dropping pH monitoring for stormwater from sand and gravel mines (SIC 1442) should be made more clear. The rationale for this change is based on the understanding that sand and gravel mining does not alter the pH of stormwater (unlike concrete production); the pH of stormwater from a gravel mine reflects the pre-existing pH of the native soils and clays that may be suspended in the stormwater. Despite the fact that many naturally occurring forest soils in Washington State are mildly acidic (pH 5.0-6.0), discharge monitoring data which indicates that over 99% of stormwater discharges from sand and gravel mines have a pH above 6. Ecology has determined that gravel mines covered under the general permit have an extremely low probability of lowering the pH of groundwater and impacting the availability of aluminum, manganese and iron.

Comment 90

Condition S2, S3, S4, S5

Removing pH monitoring for sic. 1442 category facilities does not consider that exposed aquifers are open doors to the people's ground water and that changes in storm water, settling agents, imported materials, construction debris, and agricultural byproducts can be found in extraction derived gravel pit ponds. pH is a simple test that may indicate water quality change. It is not expensive, nor difficult to test for. There is no reason to eliminate this water quality parameter.

Response: The rationale for this change is based on the understanding that sand and gravel mining does not alter the pH of stormwater (unlike concrete production); the pH of stormwater from a gravel mine reflects the pre-existing pH of the native soils and clays that may be suspended in stormwater runoff. Despite the fact that many naturally occurring forest soils in Washington State are mildly acidic (pH 5.0-6.0), discharge monitoring data which indicates that over 99% of stormwater discharges from sand and gravel mines have a pH above 6. Ecology has determined that stormwater discharges from gravel mines covered under this general permit have an extremely low probability of lowering the pH of groundwater and impacting the availability of aluminum, manganese and iron.

Comment 91

Condition S2, S3, S4, S5

Testing for organic chemicals (total petroleum hydrocarbon) is an important monitoring parameter. To simply say that permittees must look for a surface sheen is insufficient. If we relied totally on the Bonneville Dam authorities to monitor for organic spills from their facility, the present problems there would not be made public until long after corrective actions are impractical. I believe that in certain situations a similar "no response" attitude may occur at operations covered under this proposed General Permit. As stated earlier, self-monitoring rarely works.

Response: The general permit that was in effect from 1994-1999 required sampling and laboratory analysis for oil and grease and total petroleum hydrocarbons (TPH). The data from this monitoring period suggest that ongoing sampling for these parameters is not necessary. Therefore the 1999-2004 general permit did not include oil and grease and TPH sampling, but it did emphasize best management practices to prevent oil and grease, and TPH from becoming part of any wastewater discharge. The permit also requires visual monitoring for the presence of oil sheen.

Comment 92

Condition S6

Reporting incidents of environmental concern should not be 'as required'. Specific timeframes are warranted. Noncompliance notification--perhaps twenty-four hours, notification of spill overflow--immediately are examples of more specific response demands and also allow the DOE to use your regulatory authority when serious reporting deficiencies are occurring.

Response: The proposed permit does require incidents of noncompliance to be reported to Ecology immediately. The specific requirements are:

In the event the Permittee is unable to comply with any of the permit terms, conditions or discharge limits, due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, correct the problem and, if applicable, repeat sampling and analysis of any violation immediately;
2. Immediately notify Ecology of the failure to comply; and
3. Submit a detailed written report to Ecology within 30 days, five days for upsets and bypasses, unless requested earlier by Ecology. The report shall describe the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the re-sampling, and any other pertinent information. Data from re-sampling shall not be substituted for ongoing permit monitoring required under Special Condition S2 and S4 and shall not be reported on the DMR.

No change to the permit.

Comment 93

Condition S2, S3, S4, S5

Since a more detailed list of water quality parameters, such as the supplied "waste discharge requirement for Teichert aggregate, Perkins Plant, Sacramento County" have not been collected or made available. The people of the state do not know when or if water quality degradation is occurring. Baseline/background testing should be made a requirement so that it can be determined whether degradation is occurring. Testing as was done at the Sacramento facility is warranted when particularly significant bodies of water may be impacted.

Response: It appears that the waste discharge requirements for Teichert Aggregates are related to a very site specific Administrative Order, rather than standard General Permit conditions. Ecology does not agree that water quality testing performed to meet the specific objectives of an Administrative Order should be applied uniformly to all facilities under a general permit. This type of groundwater characterization is currently an option under the proposed permit (Condition G13) and where sites are suspected of degrading groundwater, such an Order would be appropriate, depending on the characteristics of the facility and the local hydrogeology. No change to the permit.

Comment 94

Fact Sheet

Your assertion that inert material--waste--is inconsequential is wrong. Fines, silts, and clay can impact spawning beds and adjacent wetlands particularly during storm water events and river avulsion. Since many of the states gravel/sand extraction activities are adjacent rivers, it is wrong to conclude this is insignificant. Further, to conclude that fines settle to the bottom of ponds and creating a seal that is always beneficial does not take into consideration that this action may influence ground water flow and negatively affect wetlands or even in-stream flow.

Response: The Fact Sheet does not assert that inert materials such as fines, silts, clays, etc are inconsequential; it simply states that when a mined pit pond is used as a settling basin for treating stormwater and process water, the pond is not held to the turbidity and TSS limits that

are applied to other “receiving” surface waters (rivers, wetlands, etc.). If a DNR approved reclamation plan calls for sealing the pit or providing substrate for aquatic plants and authorizes mined pit ponds to be used for settling solids, the pond does not need to meet the numeric effluent limitations for turbidity and TSS. Ecology recognizes that sedimentation or “sealing” of mined pits is not always beneficial and can have undesirable impacts to hydrology and water quality. Discharges of sediment related to storm events or river avulsion that cause or contribute to violations of the surface water quality standards are not authorized by the permit and are subject to enforcement action.

Comment 95

Human health issues are a concern because it is common for aquifers to be exposed during extraction. These exposed areas allow organisms and surface contaminants to enter the water. (Please refer to included EPA Drinking Water Contaminant Candidate List). It should be realized that some chemicals--both organic and inorganic--move freely in ground water and surface water and exposing aquifers simply encourages quality degradation.

Response: Ecology acknowledges the risks associated with mine pits that expose the aquifer. These risks include petroleum contamination from vehicle and heavy equipment use. Permit conditions that require oil and grease visual monitoring, source control BMPs, and Spill Prevention Plans minimize the risk of petroleum contamination. Since gravel mining does not typically add other types of chemicals and pathogens to stormwater or process wastewater, it is highly unlikely that discharges would include the other drinking water contaminants on this list. No change to the permit.

Comment 96

Condition S5

Monitoring should not be so permittee-oriented. To say “the permittee must identify how many samples are necessary” may not yield adequate information to assure antidegradation compliance.

Response: Monitoring plans are reviewed by Ecology during inspections to ensure that sampling is conducted in accordance with the permit.

Comment 97

The Comments are due to having been placed in direct contact with the effluent discharge coming from Spokane Rock Products asphalt & Rock & gravel activity

The potential for destruction of the Carnhope Aquifer from incompetent practices and Self monitoring processes allowed

1. Sending in monitoring reports to Marc at DOE Water Quality monitoring is Fox in Hen House Techniques Shall Not be allowed Since it is the “Job of DOE” to monitor then they (the DOE employee should be monitoring not merely “Pushing the paper sent in by The “Companies” getting permits.
2. Because a mere tsp of oil Can foul water quality and the Carnhope Water aquifer edge sits under the Basalt Rock and movement of oil pockets in Basalt and water flows in thru

the Basalt and over the Basalt rock – now being systematically Coated with residue from equipment improperly sited and installed in a very sensitive location.

The recharge of this aquifer is in potential danger of pollution

1. Blasting of Basalt rock-

Which we don't know what harm is happening 70 to 74 feet blow – surface shallower at Edge –

2. While the spraying, spurting and wind blowing the oil residue in the air (SCAPCA) when it lands on the surrounding areas water recharge is impacted
3. "Self monitoring shall not be allowed"
4. "Hiring the Environmental Company Shall not become a "self monitoring program."

Companies that violate and repeatedly are sources of violations which stem from air pollution><Water pollution is not being protected — Long term

Permits being allowed are relying on information biased by "Companies desirous of attaining their goal – even at the expense of the environment and the inhabitants flora, fauna, humans surrounding the sites—

In this 8th and Havana Site their activity was in direct violation of Grandfathered rules and Federal laws regarding a Gravel quarry upon its being closed—

The land site was to remain a natural site for perpetuity and merely made sanitarily (clean up waste and litter) not rearrange the landscape! We should not be subjected to further abuse as a learning process for incompetent company—

Regrettably unethical persons were involved and have placed many environmental agency staff persons in a position of catering to the Foxes in the hen house—manipulating "Words and Phrases" and using "mitigation" tactics instead of Designation of Significance

The use of the permitting Process

DNR-	individually are
DOE-	set up in order to
EPA-	Protect various areas
SCAPCA-	of Environment
	Water shed
	Water quality
	Trees
	environmental
	Protection air quality
Clean Safe air>	is relied on by every living thing/
Clean Safe Water>	creature

To perform a service to the Public of protection doesn't require polluter industry or industry destruction under the guise of economic development—especially those who "parasite" on tax payer projects/pork Barrel activities designed to benefit the few at the expense of many!

When the 5 year period of a permit is over – no mitigation permit shall be provided a non complying company—

When a year has passed and the Company has been in non-compliance- the company shall lose its permit and be denied the right to renewal or updating permits --- note:

The Scapca requirements for permit Was 400 Ton per hour a day – and in this area and the test cannot and was not performed because equipment was not correct at beginning

The facility did not comply

There is a danger to the recharge system at this site – Basalt rock amounting to 400 ton per hrs per day would cause potential for danger to the Carnhope aquifer that is the (edge of this aquifer) under the site to be removed – or polluted by the incompetent persons – desirous only of using the old Lumberman tactic – if you see a tree cut it down.”

The actions taken here are remove trees/ Water recharge systems pile rock - Blast rock - dump asphalt and Concrete up and dump air polluting dust piles over it and then comes a sign pronouncing the site for a residential structure on un-compacted Soil surrounded by Boulders to Create the illusion of safe from erosion and on goes the blasting which impacts the foundation and air is destroyed

With the toxic asphalt fumes the product known as second from the bottom Bunker oil the bottom grade—a known Contaminate To Water and air—

Water quality doesn't just rely on holding ponds—it relies on recharge from rain snow which has to flow over “many things which while we may want to lay all the requirements for protection on Scapca – who have obviously a chink in their armor having “Conflict of interest” advisory Board members and Staff who “PR” using excuses for activities saying “they hired an Environmental Company” or “mitigation actions” were the option when the public they and DOE, DNR, DOE are hired by Tax \$\$ to ‘protect’ the quality of life and water/air/environment are required to do their job not allow avoidance methods

The fine process was to discourage pollution and abuse of their permits-----

The “fine” if appropriately assessed would have

1. Created funds for the agency to pay to do proper testing and remove the Fox from hen house monitoring system/ \$10,000 per day per fine NOV -Not mitigated fine schedule.
2. The Company being fined would do the work correctly – or the revocation of the permit would remove the problem from
 - a. Water quality
 - b. Air pollution
 - c. The air & water would be truly protected

It is apparent that the text of the Permits – is an endeavor to strengthen the wording however-

The need to require the Staff person to do the testing is not listed—

1. Take away the Fox in hen house approach
2. Do not Create advisory Boards which are merely set up to appear to be protecting the public.
3. Stop passing the “Buck” to air Pollution or using the “holding pond” process as a way to divest the “Water protection” person from really protecting the recharge and Water quality from unscrupulous or incompetent employees – actions—Causing oils to accumulate across the community – which who knows how it will impact the water? Or When?

The edge of the aquifer of Carnhope would be shallow end and this could expand the pollution problem – not being really attended to –

Especially when the “holding pond” is located in such a location and the so called over-flow is allowable – tactic of mitigation – is an unconscionable way to allow abuse of the recharge system—

“Water, H₂O - + the natural minerals”- not additives of pollution is a prized possession and the people of the Carnhope Water District have always enjoyed this safe necessary life giving solvent

The area never was so desperate for safe Water or Clean air as since this “Permittee” Was provided “open season” on the environment—it is necessary to ensure that the people involved in Constructing the Permits regulations and permit options – provide the people with enforcement by each agency involved not a mere pass the Buck to “Air quality” or only Water over flow” and one person remarked “We pay for salaried persons to do this and we “You and I” are doing their jobs and then they mitigate with the knowledge—instead of imposing removal of a permit which should never been allowed!

I intend to study this permit information and will make further directly related Comment – however due to the deadline date this has to be sent in Now!

Thank you for your Kind attention – I’m enclosing another Email provided me at the same time as the on about this permit re write –

Note: I’ve seen this process in action

Saw the residents of this Particular area stand up to be heard and the results—

It is my firm prayer and belief in innate goodness that when you read this and understand not all people are ignorant of the method of handling the public or public input – the remarks will be incorporated not as “Response but nothing Changes the permit process”

This permit process is explicit the permits Can be revoked

Don’t hang it on “if fee’s aren’t paid or if fines aren’t paid—this is another method of divesting the people of the protection of each agency and placing “the permittee in a position of “holding out a cash Cow” as a way to prevent removal of the permit—

When a Group of business's who rely on "tax payer \$\$ for employment such as sand gravel, cement asphalt then they are not really so powerful that our laws can be ignored by them – or the agency personnel would find it necessary To Comfort "The polluters" with mitigation!

Support Scapca

Doesn't mean allow the Scapca program to become an in house method for violating the laws of protecting air quality –

2 years + ago –

The staff persons in the health department were asked for a permit to place an asphalt facility in the midst of a residential neighborhood once the Carnhope aquifer

The People presented the facts –

However many were unaware that the head person of Rock Products – was sitting on the Scapca Advisory Board—

With the pressure placed on the "permitting personnel at the health dept and lacking the appropriate input from Scapca, and over the public presentations the environmental quality of life for many people has been sacrificed—

Air pollution

Potential Water quality pollution

And in July 2004 a recent television presentation about Rock products on Krem TV news showed Scapca Public Information officer Lisa Woodward saying "Rock products" has employed an "environmental" Company.

It is interesting that upon further research the name Woodward Connected with a Randy and Shawn Woodard in Deer Park – and a Lisa and Shawn Woodard on a street in Spokane

Upon further research it was discovered

Lisa Woodard is married to Shawn Woodard...Is Randy Woodard a relative of the Scapca Public Information officer?

The name of superintendent at Rock products is Randy Woodard.

Is this the Randy and Shawn Woodard who have a residence listed in Deer Park.

Are we really being provided the protection from air pollution by Scapca or – is Scapca an organization only designed to facilitate the attack on the individual burning wood at home fireplace, or other individuals less able to sit on advisory boards, or pay attorneys fees—

for "name law firms" known for their Connection to other activities designed to ignore environmental or public best interests requirements of "laws."

When I as an Independent Advocate, asked for help—for people on the east end of Spokane County – it was to enforce the laws not for all of you to "place the fox in the hen house" in

charge of making excuses for the air polluters- or for the hiding behind “presumed environmental Companies” being employed by the tax!

Be it resolved:

The requirements for Air pollution monitors shall be installed – Not requires a \$10,000.00 a day for each violation that means there is “money “ if the appropriate action were taken

To Call in the fines and put this to purchasing pollution monitoring equipment instead of letting the Fox hire the “pollution – environmental Company to provide them a service that shows “an appearance “ of Caring about the air and water quality”!

The improprieties of this “Scapca” investigation and the clip Board approach to requiring air quality be protected while publishing a news letter “Air” to present a picture to the public of dealing with the violators – has reached the epitome of Hypocrisy!

The staff persons generally speaking are chosen for their ability to communicate/or present a view of assisting people—

However when a company is shown to have NOV over & over 50 times – phone in – complaints- and The view of Scapca’s approach to other Companies “a settlement on rendering facility at the expense of public who are now “still smelling burning flesh” at night – which can be smelled in AM by travelers in area!

The impact on the environment got last in the wheeling/ dealing activity –

The Rock Products shall not be another group who will sacrifice the neighbor hood –

Scapca has the law enforcement power—

The EPA laws are explicit when a “designation of non-significance” Can be seen to have been incorrect the People being abused do not have to “negotiate a mitigation” The Scapca shall recent the Permits and since it is obvious

Response: In general, the self-monitoring requirements in this permit are working. In Washington State, and in the rest of the United States, self-monitoring and reporting is the cornerstone of the NPDES Program. Ecology has several tools available to prevent or minimize problems with self-monitoring. Compliance inspections are routinely performed by Ecology staff and typically include a thorough inspection of BMPs and treatment facilities. These inspections allow staff to determine whether the facility is capable of producing an effluent that will meet the effluent limits. Additionally, Ecology may also conduct periodic sampling of a permittee discharge to determine if the results differ significantly from those reported by the permittee.

Instances of falsification of monitoring reports are considered to be very serious and companies and/or persons involved are dealt with to the maximum extent allowed by law. Any person who is found guilty of willfully violating the self-monitoring and reporting requirements, or any other terms and conditions of the permit, are subject to criminal penalties, including fines of up to ten-thousand dollars per day for each offense or by imprisonment in the discretion of the court. The threat of these enforcement actions are deterrent enough to protect the integrity of the self-monitoring system. Therefore self-monitoring will continue under the revised general permit.

The references to SCAPCA, mitigation and air pollution issues are not applicable to this wastewater discharge general permit – the permit only regulates the discharge of stormwater, process wastewater, and mine dewatering water (all these terms are defined in the permit) to waters of the state. The alleged area-wide contamination of the aquifer from airborne contaminants from the asphalt plant is a serious issue, but it is outside of the scope of this general permit; the permit does not authorize the discharge of airborne emissions into waters of the state. No additional change to the permit will be made.