STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Water Quality Control Division

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET TO PERMIT NUMBER COG500000
GENERAL PERMIT FOR DISCHARGES FROM SAND AND GRAVEL MINING AND PROCESSING
(AND OTHER NONMETALLIC MINERALS EXCEPT FUEL)

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I. TYPE OF PERMIT

Master General, NPDES, Surface Water, Sixth Renewal, Statewide.

II. FACT SHEET DESCRIPTION

This fact sheet addresses the following statutory and regulatory requirements:

- A permit "rationale" as required by Colorado Discharge Permit System Regulations, 5-CCR-61.5(2)
- A "preliminary analysis" as required by Colorado Water Quality Control Act, C.R.S. 25-8-502(3)(b)

- A "statement of basis and purpose" as required by the federal Discharge Permit Regulations, 40 CFR 124.7, to "describe the derivation of permit conditions and the reasons"
- A "fact sheet" as required by the federal Discharge Permit Regulations 40 CFR 124.8 and 124.56 to "briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. describe the reason" for permit terms and conditions
- A "statement of basis and purpose" as required by SB 13-073 and incorporated into Colorado Water Quality Control Act, C.R.S. 25-8-503.5, "explaining the need for the proposed requirements" and to "present evidence supporting the need for the proposed requirements, including information regarding pollutant potential and available controls, incidents of environmental damage, and permit violations"

III. NEED FOR PERMIT REQUIREMENTS

This section includes factors explaining the need for the proposed requirements and presents evidence supporting the need for the proposed requirements, including information regarding pollutant potential and available controls, incidents of environmental damage, and permit violations. The Division has also included some background information to provide context for the statutory and regulatory direction as to how permit terms and conditions are established.

A. Pollutant potential

Sand and Gravel

The Development Document for Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Industry Point Source Category (EPA 440/1-76/059b, July 1979) provides the supporting data and rationale for development of the ELGs and standards of performance for this point source category (i.e., 40 CFR Part 436). For the facilities that are eligible to discharge under the final permit, the major waste water pollutant parameters identified in the development document include total suspended solids, dissolved solids, iron, zinc, fluoride and pH. Note that a number of additional pollutant parameters were studied, including metals, temperature, asbestos, and radium 226, but were not found to be significant at the time the development document was published.

Further, EPA documented the pollutants that are typically associated with sand and gravel mining operations in the federal register with the issue of the 1995 MSGP (60 Federal Register 189, p. 50919. September 29, 1995). For most activities, such as site preparation, mineral extraction, mineral processing, and reclamation, typical pollutants included dust, total suspended solids, total dissolved solids, and turbidity. EPA also identified the potential for pollution from oil and fuel, and other toxic contaminants, such as metals, benzene, trichloroethane, tetrachloroethylene, polyaromatic hydrocarbons, and solvents from equipment and vehicle maintenance, as well as nitrogen and phosphorus from any fertilizer used in reclamation activities. In 2006, EPA issued an industrial stormwater factsheet series and identified the pollutants that may be present in stormwater discharges from sand and gravel operations and Best Management Practices (BMPs) to control these pollutants (US Environmental Protection Agency. EPA-833-F-06-025, Dec. 2006). The pollutants identified in the 1995 FR were also identified in the 2006 fact sheet.

With respect to selenium, numerous peer-reviewed articles on the environmental impacts of high selenium levels on aquatic life have been published. Many of these studies are cited in the January, 2011 TMDL. (*See, i.e.*, *Ohlendorf, et.al.,* 1986, 1988). These studies, and the potential impacts to aquatic species from selenium, were considered as part of the development process for the TMDL. Currently EPA is reviewing the Aquatic Life criterion for selenium. 79 FR 27601-27604. Once finalized, EPA's revised water quality criterion for selenium will provide recommendations to states and tribes authorized to establish water quality standards under the Clean Water Act.

Asphalt Batch Plants

EPA documented the pollutants typically associated with stormwater discharges from asphalt paving manufacturing facilities, which includes asphalt batch plants, in the federal register with the issue of the 1995 MSGP (60 Federal

Register 189, p. 50861 and 50862. September 29, 1995). For material storage and handling activities, typical pollutants included total suspended solids, oil and grease, pH and chemical oxygen demand (COD).

In addition, the 2006 industrial factsheet series issued by EPA for Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers (US Environmental Protection Agency. EPA-833-F-06-019, Dec. 2006) identifies the pollutants that may be present in stormwater discharges from these industrial activities, which includes asphalt batch plants. This factsheet expands the list of pollutants identified in the 1995 FR to also include total dissolved solids (TDS), biochemical oxygen demand (BOD), benzene, methylene blue active substances (MBAS), and metals.

Concrete Batch Plants

EPA documented the pollutants that are typically associated with concrete mixing operations in the federal register with the issue of the 1995 MSGP (60 Federal Register 189, p. 50869 and 50870. September 29, 1995). For concrete mixing activities, typical pollutants included TSS, pH, COD, lead, iron and zinc. At facilities that also conduct equipment/vehicle fueling and maintenance, additional potential pollutants included oil and grease, BOD, lead, aluminum, arsenic, cadmium, chromium, and benzene.

In 2006, EPA issued an industrial stormwater factsheet series and identified the pollutants that may be present in stormwater discharges from concrete manufacturing operations and BMPs to control these pollutants (US Environmental Protection Agency. EPA-833-F-06-020, Dec. 2006). The pollutants identified in the 2006 factsheet included TSS, pH, COD, lead, iron, zinc, oil and grease, BOD.

B. Compliance History

The Division reviewed indicators of permit compliance for general permits COG500000 and COR340000 as part of the renewal process. The Division reviewed Discharge Monitoring Report (DMR) data for general permit COG500000, and obtained input from Division inspectors who conduct field-based assessments of compliance for both COG500000 and COR340000 general permits.

DMR data

The Division reviewed DMR data for approximately 160 facilities authorized under COG500000 from 2008 through 2013. Overall, facilities reported "no discharge" conditions approximately 70% of the time, and failed to submit DMRs approximately 6% of the time. The Division observed that sampling data accuracy was hindered by incorrect data entry or unit conversions in a number of instances.

All facilities were required to monitor or sample for discharge flow, total suspended solids, oil and grease, and pH. The Division made the following observations for these parameters:

- Flow: 65% of the reported flows were less than one million gallons per day; an additional 32% were between one and ten million gallons per day.
- Total suspended solids: The data revealed that there was a 1.9% exceedance rate of the 30 day average effluent limitation.
- Oil and grease: Many facilities entered observations incorrectly and were unclear on the need for sampling; however, of the samples analyzed, none displayed exceedances of the daily maximum effluent limitation.
- pH: a total of 0.5% of the samples values fell outside of the limitation range.

Facilities discharging to the Colorado River Basin were required to monitor for total dissolved solids (TDS) – the mean 30 day average was 1,742 mg/l, with concentrations ranging from zero to 13,160 mg/l. This wide range indicates that TDS discharge concentrations are site specific and vary depending on current site activity.

A total of 19 facilities were required to sample for total recoverable iron – 0.5% of the samples exceeded the 30 day average limitation. One facility sampled for manganese – the 30 day average data displayed a wide range from 5-915 µg/l.

Ten facilities were required to sample for phosphorus, but all facilities either did not submit data or observed "no discharge" conditions during all monitoring periods. Two facilities were required to sample for sulfate – twenty total samples were analyzed, and concentrations ranged from 240-551 mg/l.

While no selenium limitations were applied in the permit certifications, a total of 54 facilities were required to sample for selenium. A total of 444 samples were analyzed, the mean 30 day average concentration was 6.2 µg/l, and the median concentration was 1.0 µg/l. The data indicates a 30% exceedance rate of the 30 day average chronic water quality standard of 4.6 µg/l.

Field-based Compliance Assessments

Input from Division inspectors who conduct field-based compliance assessments for the general permits indicate that some existing permit conditions are not sufficiently clear to enable a compliance determination in the field. Examples include variable monitoring frequency (weekly vs. 2 days/month), continuous vs. instantaneous flow measurement, applicability of monitoring to stormwater discharges, etc. The Division clarified these requirements in this renewal.

Input also indicated that other agency requirements (e.g., Division of Reclamation, Mining and Safety and Mine Safety and Health Administration) and site topography/grading practices may benefit permittees with respect to permit compliance. For example, safety berm requirements can serve as an effective perimeter berm BMP; facility grading that directs stormwater to the mine pit can minimize the need for erosion/sediment control BMPs. However, Division inspectors commonly observed deficiencies during field-based compliance assessments, which include:

- DMR forms not sent to the Division; or DMR information not reported appropriately (units not reported in correct columns; oil and grease not reported properly);
- Non-detects results not averaged appropriately; units not reported correctly; or conversion from laboratory report units to permit required units not done correctly;
- Flow measured as instantaneous instead of continuous.
- Stormwater Management Plan (SWMP) deficiencies;
- Comprehensive inspections deficient or not conducted;
- Annual reports deficient and not signed by appropriate personnel;
- Inadequate secondary containment (lack of good housekeeping);
- Equipment leaks, drip, spills (lack of spill response BMPs);
- Installation details for BMPs implemented in field not included in SWMP;
- Access road BMP deficiencies, including vehicle tracking.

The Division used this information to structure some of the changes and clarifications made to the permit, as discussed in Part III.C and Part V of this Fact Sheet.

C. Basis for Determining Permit Terms and Conditions

The Division develops permit terms and conditions as directed through federal and state statutes and implementing regulations as summarized below.

Congress created the National Pollutant Discharge Elimination System (NPDES) permit program through enactment of the Federal Water Pollution Control Act (FWPCA) Amendments of 1972. This followed a period of previous water quality legislation where Congress had authorized states to develop water quality standards that were intended to limit discharges of pollutants based on the individual characteristics of waterbodies. The FWPCA Amendments of 1972 introduced the NPDES program including the requirement to include technology-based requirements to address a concern about a lack of progress in water quality protection and a lack of enforceability in previous legislation.

The FWPCA Amendments contained four important principles related to the NPDES program as summarized by EPA:

1. The discharge of pollutants to navigable waters is not a right.
2. A discharge permit is required to use public resources for waste disposal and limits the amount of pollutants that may be discharged.
3. Wastewater must be treated with the best treatment technology economically achievable, regardless of the condition of the receiving water.
4. Effluent limits must be based on treatment technology performance, but more stringent limits may be imposed if the technology-based limits do not prevent violations of water quality standards in the receiving water.

The NPDES permit was created by Congress as the implementation tool for restriction of the quantity, rate, and concentration of pollutants that the point sources may discharge into water. The Division, as the delegated authority for development and issuance of NPDES permit for the state of Colorado, is obligated to develop and issue NDPES permits in a manner that meets both state and federal statutory and regulatory requirements.

Routine review is an integral aspect of the NPDES program. Congress's expectation is that permits remain current in their ability to incorporate advancements in science and technology, law, and be reflective of current industrial operations resulting in a discharge of pollutants to waters. The Division must renew general permits once every 5 years, and must include such conditions in the renewal permit that are necessary to implement statutory and regulatory provisions. This comprehensive permit renewal results from the Division's review of the sand and gravel stormwater and process water permits, which identified differences in the existing permits relative to EPA's MSGP, other state permits, case law, and statutory and regulatory direction provided.

EPA summarizes the major steps for development and issuance of NPDES permits, as required by 40 CFR §124, as follows:

1. Receive application from permittee.
2. Review application for completeness and accuracy.
3. Request additional information as necessary.
4. Develop technology-based effluent limits using application data and other sources.
5. Develop water quality-based effluent limits using application data and other sources.
6. Compare water quality-based effluent limits with technology-based effluent limits and choose the more stringent of the two as the effluent limits for the permit.
7. Develop monitoring requirements for each pollutant.
8. Develop special conditions.
9. Develop standard conditions.
10. Consider variances and other applicable regulations.
11. Prepare the fact sheet, summarizing the principal facts and the significant factual legal, methodological and policy questions considered in preparing the draft permit including public notice of the draft permit, and other supporting documentation.
12. Complete the review and issuance process.
13. Issue the final permit.
14. Ensure permit requirements are implemented.

During the development of this permit, the Division received a number of comments suggesting that the Division perform a cost-benefit analysis to justify the changes in terms and conditions, specifically monitoring and recordkeeping requirements and effluent limitations. Neither the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations (5 CCR 61) nor the federal Clean Water Act, and federal discharge permit regulations (40 CFR 122, 124, etc), require a formal monetized cost benefit analyses for development of permit terms and conditions, where every dollar spent on pollution control, monitoring, and recordkeeping must return at least a dollar in enhanced water quality. Rather, the Division develops permit terms and conditions as directed through federal and state statutes and implementing regulations with key thresholds for decision making as

summarized below.

All NPDES permits are required to contain technology-based limitations. [*see* 40 CFR §§122.44(a)(1) and 125.3. CWA sections 301(b)(1)(A) for (BPT); 301(b)(2)(A) for (BAT); and 301(b)(2)(E) for (BCT).] The Division developed technology based effluent limits consistent with the federal requirements cited above, and state requirements such as those contained in 5 CCR 1002-62. The Division also found in this case that more stringent limits must be imposed for some discharges, specifically those discharging to impaired waterbodies consistent with the assumptions and requirements of TMDLs. Additional information regarding the derivation and establishment of effluent limits is contained in this fact sheet.

All NPDES permits are required to contain monitoring requirements. Federal and state permitting regulations require that at a minimum permits specify monitoring requirements for each pollutant limited in the permit, and for industrial stormwater permits, specify on-site inspection requirements. Permits must specify monitoring equipment, methods, intervals, and frequencies sufficient to yield data which are representative of the monitoring activity and must specify the content of records to be maintained, and records retention requirements. The state discharge permit regulations establish a threshold of "reasonableness" in directing the derivation of monitoring and recordkeeping requirements. For development of this permit the Division determined the monitoring and records logically needed to meet the threshold of representative of the monitoring activity, demonstrate that the monitoring was adequately performed, document the conditions surrounding the event and what was observed, and document findings and actions taken, while not including superfluous requirements.

IV. SCOPE OF THE GENERAL PERMIT

Two CDPS general permits currently exist (see table below) related to sand and gravel or other non-metallic mineral mining and processing facilities (except fuel), hereafter referred to as 'sand and gravel facilities' in this fact sheet. The COG500000 general permit authorized both process water and stormwater discharges; the COR340000 general permit authorizes stormwater-only discharges. Together these general permits provide coverage for discharges from approximately 660 sand and gravel facilities across the state. Both permits were administratively extended to provide ongoing permit coverage until the renewal was complete. This renewal master general permit is necessary to provide continued coverage for these existing discharges, and for new discharges from sand and gravel facilities.

Permit name and number	Effective date	Expiration date
Sand & Gravel Mining and Processing (And Other Nonmetallic Minerals, Except Fuel) (COG500000)	July 1, 2008	June 30, 2013
Stormwater Discharges Associated with Sand & Gravel Mining and Processing (And Other Nonmetallic Minerals, Except Fuel) (COR340000)	October 1, 2007	September 30, 2012

This renewal master general permit (permit) combines the two general permits referenced above. The Division determined that combining the two existing general permits will result in a more comprehensive permitting approach; consistency of permit requirements; clearly defined termination requirements; and a more efficient renewal process.

A. Standard Industrial Classification (SIC) codes and Descriptions of Covered Discharges

This permit authorizes the discharge of **process water** and **stormwater runoff** to surface waters of the state, from active and inactive eligible facilities engaged in mining and processing of sand and gravel (and other nonmetallic minerals, except fuel). Such facilities are generally described by Standard Industrial Classification (SIC) Code Major Group 14.

This permit also authorizes the discharge of **stormwater runoff** to surface waters of the state from the following non-mining activities that are located **at** sand and gravel facilities: asphalt batch plants (SIC code 2951), concrete batch plants (SIC Code 3273), and asphalt and concrete recycling industrial activities.

The public notice version of the permit did not authorize the non-mining discharges described above, opting to authorize them through alternate permits and focus the renewal permit solely on mining activities. However, after considering the stakeholder comments received on this proposed approach during the public notice period, and further weighing the associated advantages and disadvantages of authorizing discharges from the non-mining activities, the division ultimately decided to include coverage for stormwater discharges from asphalt batch plants (SIC code 2951); stormwater discharges from concrete batch plants (SIC code 3273); and stormwater discharges from asphalt and concrete recycling activities in final permit COG500000 (see response to Comment ID COG50-2.2 and COG50-5.3).

Note that the term 'asphalt batch plant' (2951 SIC code) as used in the renewal permit documents refers to the manufacturing plant that combines aggregate and an asphalt binder to produce asphalt concrete. Asphalt concrete is known by many different names, such as hot mix asphalt, plant mix, bituminous mix, bituminous concrete, etc. The division is using the term 'asphalt batch plant' instead of 'asphalt concrete batch plant' to avoid any confusion with concrete batch plants (3273 SIC code), and for consistency with other CDPS permits.

The final permit clarifies the types of discharges that are eligible for permit coverage, as follows:

1. **Process water** discharges from facilities that produce the following commodities.

- Dimension stone (SIC code 1411)
- Crushed stone (SIC code 1422, 1423, 1429)
- Construction sand and gravel (SIC code 1442)
- Industrial sand (SIC code 1446)
- Kaolin and Ball Clay (SIC code 1455)
- Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified (SIC code 1459)
- Graphite (SIC code 1499)

This list includes all commodities identified in the applicable federal Effluent Limitation Guideline [40 CFR Part 436 (Mineral Mining and Processing Point Source Category)] for which a facility discharge is allowed. The list also includes facilities that produce Dimension stone, Kaolin and Ball Clay, and Clay, Ceramic, and Refractory Minerals, as the Division has permitted discharges from such facilities in the past. The list does not include those subparts that require 'no discharge' of process generated wastewater, as discussed in the Limitations on Coverage section of this fact sheet. APPENDIX A of this fact sheet provides a description of each SIC code identified above.

The following process water discharges from the facilities identified in this section are eligible for permit coverage.

a. mine dewatering, which includes:
   i. any water, including *groundwater, seepage, and stormwater* (precipitation and surface runoff), that is impounded or that collects in the mine pit (surface or underground workings) and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator;
   ii. additionally, for construction sand and gravel facilities and industrial sand facilities only, wet pit* overflow caused solely by direct rainfall and/or groundwater seepage.
b. process generated wastewater, which includes any wastewater used in slurry transport of mined materials, air emissions control, and processing exclusive to mining (40 CFR Part 436);
c. water used in sand and gravel processing (e.g., sorting, screening, crushing, and classifying);
d. stormwater runoff that becomes comingled with the above listed wastewaters before the discharge point.

* The division also provided a definition for "wet pit", consistent with the development document for the federal ELG (40 CFR 436), as a non-navigable water (frequently from a flooded dry pit) from which raw

material is extracted using dragline or barge-mounted dredging equipment (hydraulic dredge), both above and below the water table.

2. **Stormwater** discharges from the areas identified below, at active and inactive SIC code Major Group 14 facilities, including those from asphalt and concrete batch plants (SIC codes 2951 and 3273), and from asphalt and concrete recycling activities. Note that the final permit does not include stormwater discharges from refuse sites; sites used for the application or disposal of process waste waters; and sites used for residual treatment, storage, or disposal as stormwater discharges from these activities are not included in the eligibility scope of the permit. For example, sand and gravel facilities that have a concurrent or post-mine land use as a landfill must obtain CDPS stormwater discharge permit coverage separate from this permit.

    a. industrial plant yards;
    b. immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
    c. material handling sites, including those used for asphalt and concrete recycling activities, asphalt batch plants, and concrete batch plants;
    d. sites used for storage and maintenance of material handling equipment;
    e. shipping and receiving areas;
    f. manufacturing buildings, including asphalt batch plants and concrete batch plants;
    g. storage areas and stockpiles of raw material, intermediate products, byproducts, finished products or waste products (including topsoil, overburden, and materials associated with asphalt and concrete recycling activities, asphalt batch plants, and concrete batch plants);
    h. areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater;
    i. all disturbed areas (other than those subject to the process water discharge provisions above), including mine pit out slopes; and,
    j. stormwater run-on that commingles with stormwater discharges associated with sand and gravel mining and processing.

3. **Allowable non-stormwater discharges** as described in this part, provided that appropriate control measures are implemented to minimize erosion and sediment transport resulting from such discharges, and the non-stormwater component(s) of the discharge and the control measure(s) used are identified in the Stormwater Management Plan (SWMP). Note that in the final permit, the division clarified that 'uncontaminated condensate' as an allowable non-stormwater discharge refers to *external atmospheric condensation* only.

    a. Uncontaminated condensate (external atmospheric condensation, only) from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids;
    b. Landscape (including reclamation activities) watering provided all pesticides, herbicides, and fertilizer have been applied in accordance with the approved labeling;
    c. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blow down or drains); and

B. Summary of Major Changes from Last Permit Versions

With respect to process water discharges eligible for coverage under the renewal permit, the Division made changes to the permit to clarify and update effluent limitations and other terms and conditions, consistent with regulatory

requirements and direction, and Division practice. This fact sheet addresses these changes, and an updated evaluation of parameters has been added.

With respect to stormwater discharges eligible for coverage under this renewal permit, the Division's approach was consistent with that taken for general permit COR900000 (Stormwater Discharges Associated with Non-Extractive Industrial Activity). Specifically, the Division evaluated the effluent limitations, and terms and conditions contained in EPA's 2008 and 2015 MSGPs related to sand and gravel industrial activities, and the associated basis for each provided in the Fact Sheets. The Fact Sheets for the MSGPs provide detailed background and basis for the organization, scope and content of those permits; these documents are available on EPA's website. In this fact sheet, the Division has documented where terms and conditions in this permit are consistent with the MSGPs.

Pre-Public Notice stakeholder meeting

As part of the renewal of the existing general permits, the Division conducted a stakeholder process that included a Pre-Public Notice Meeting on February 28, 2014. The purpose of the stakeholder meeting was to increase awareness of the renewal process for the general permit, discuss the substantive areas of review, and obtain input for developing draft permit conditions. The Division considered the stakeholder input received during the meeting, and written input received after the meeting.

The division considered the stakeholder input in developing draft permit conditions, and balanced these comments with regulatory and environmental obligations. Major stakeholder input that was submitted is detailed below:

1. Within the stakeholder process, the Division sought guidance on whether the former COG500000 and COR340000 permits should be combined into one permit that authorizes both stormwater and process water discharges. Permittees responded positively to this proposal, so long as the Division made the difference in permit requirements for stormwater and process water discharges very clear. The Division consequently has combined the two permits, and has clearly labeled throughout the permit sections that apply only to stormwater or only to process water discharges. The Division also provided a general overview at the beginning of the permit, which specifies which sections apply to only one type of discharge.

2. Stakeholders expressed concern regarding requiring benchmark sampling for stormwater discharge only facilities due to burden and the capacity of Practice Based Effluent Limitations to minimize pollutants of concern from discharging from the site. As noted further within this Fact Sheet, the Division has determined that benchmark sampling will not be required for stormwater discharges from SIC code Major Group 14 activities, and instead visual monitoring will be required, as further described below.

3. The Division also addresses within this Fact Sheet stakeholder concerns regarding unstaffed and remote sites. The Division acknowledges the burden in sampling at inactive and unstaffed sites (whether they are remote or not), and therefore did not require visual monitoring at such facilities. However, some level of monitoring must be maintained to continue to ensure a low pollutant potential, and therefore an increased inspection frequency is included in the permit for these sites.

4. An issue of high input within the industry was the implementation of the selenium TMDL for the Gunnison River and tributaries, as well as selenium monitoring on impaired segments. Implementation for these situations is further addressed within this fact sheet, which takes into account the input of the permittees as well as the assumptions and requirements of the established TMDL. Intake credits are also discussed in response to stakeholder comments regarding this topic.

Summary of Major Changes from the Last Permit Versions that were contained in the Draft Permit

This fact sheet provides a description of the major and significant changes from the existing sand and gravel stormwater discharge permit (COR340000) and process water discharge permit (COG500000). A summary of the major changes from the previous permits are provided below; Part V of this fact sheet provides further detail, including additional basis for the changes, where warranted.

General

- The Division added a new section entitled **Allowable Non-Stormwater Discharges** to the renewal permit to identify all allowable non-stormwater discharges, including those not specific to this sector. The Division added this section to clarify the scope of the renewal permit.

- The renewal permit clarifies the administrative aspects of permit coverage (i.e., Application Requirements, Permit Certification Procedures, Alternative permits, Permit Expiration and Continuation, Transfer of permit coverage, Modifying an existing permit, and Permit Termination Procedures), and includes clear direction for permittees to change permit coverage from one that authorizes both process water and stormwater, to stormwater-only permit coverage.

- The Division added a new section entitled **Permit Compliance** to the renewal permit to clarify conditions that constitute a violation of the permit (e.g., failure to comply with the terms and conditions of the permit; failure to perform corrective actions, etc.). This section also clarifies that correcting a permit violation does not remove the original violation.

Process water

- Discharges from facilities that produce Phosphate rock (SIC code 1475) are no longer eligible for coverage under this permit.
- Process water discharges from asphalt batch plants are no longer eligible for coverage under this permit.
- Process water discharges from concrete batch plants, including wash water discharges from associated trucks and drums are no longer eligible for coverage under this permit.
- Flow limitations were added to the effluent limitations tables.
- Effluent limits for selenium were derived for discharges to the Gunnison River and tributaries, consistent with the assumptions and requirements of the TMDL.

Stormwater

Many of the provisions applicable to stormwater in the renewal permit are consistent with CDPS general permit COR900000. Changes the division made to the final permit resulting from public comments are provided following the original list.

- The Division modified the self-inspection requirements in the renewal permit. Most significant among the changes are inspection frequency (i.e., quarterly inspections); inspection scope (i.e., one inspection must be conducted during a run-off event); modified inspection frequency for inactive and unstaffed facilities (6 per year); and corrective action requirements.
- The Stormwater Discharge Effluent Limitations contained in this permit are located in a section separate from the Stormwater Management Plan (SWMP), thereby differentiating effluent limitations from other terms and conditions of the permit.
- The Division modified the practice-based effluent limitations required by this permit from those required under permits COG500000 and COR340000. Most significant among the changes are including the term "minimize" within the practice-based effluent limitations, and adding several new practice-based effluent limitations.
- The Division added a new section (Water Quality Based Effluent Limitations) that addresses water quality-based effluent limitations (WQBELs) applicable to stormwater discharges.
- The Division consolidated and clarified monitoring requirements for stormwater discharges in the General Monitoring Requirements - Stormwater Only section of the renewal permit.

- The Division added a new section (Specific Monitoring Requirements - Stormwater Only), that addresses requirements for Visual Monitoring, and Water Quality Standards monitoring requirements as applicable to the facility.
- The Division added a new section (Corrective Actions) that identifies permittee responsibilities with respect to resolving specific facility conditions.

Summary of Major Changes from the Draft Permit to the Final Permit

The division solicited input on the draft permit conditions, specifically for situations where reviewers found that the information presented in the draft permit, upon which the Division relied to make draft decisions, was incomplete; and on the specific permit language. The final permit contains permit conditions based on the best information available to inform decisions for Colorado, and incorporates additional information received on these topics during public notice, as appropriate.

The final permit contains the following new or modified provisions. Please see the Division Response to Public Comments for a discussion of these changes.

- The division added flexibility to the self-inspection requirements in the permit by adding an exception to the annual runoff event inspection for Completed and Finally Stabilized Areas.
- The division added coverage for stormwater discharges from asphalt batch plants (SIC code 2951), stormwater discharges from concrete batch plants (SIC code 3273), and stormwater discharges from asphalt and concrete recycling activities in final permit COG500000.
- The division modified the Specific Monitoring Requirements - Stormwater Only section, to add Benchmark Monitoring requirements for Asphalt Batch Plants and Concrete Batch Plants, as applicable to the facility, and added Sector-Specific Requirements for Asphalt Batch Plants and Concrete Batch Plants at Parts I.O and I.P, respectively.
- The division added definitions to the permit (Appendix C) to clarify the meaning of 'inactive' for this permit, which broadens the applicability of the monitoring exceptions for inactive and unstaffed sites, and to clarify the terms wet pit, asphalt batch plant, and asphalt concrete as used in this permit.
- The division added new monitoring exceptions for Completed and Finally Stabilized Areas.
- The division added a new provision that allows the division to revoke any monitoring exception.
- The division added requirements regarding EPA's Net-DMR submittal.

C. Limitations on Coverage

This section of the fact sheet identifies those discharges from sand and gravel facilities that are specifically excluded from permit coverage. Permittees may seek individual or alternate general permit coverage for such discharges, as appropriate and available.

After public notice, the division added a limitation of coverage for discharges from placer mining activities (SIC Major Group 10) to clarify that the scope the permit, like the previous permit, does not authorize discharges from placer mining activities. The division further clarified the requirement to obtain permit coverage under the Construction stormwater permit (general permit COR030000) in this fact sheet (see below). In addition, the division removed the limitation for process water discharges from 'major' facilities, as determined by the NPDES Permit Rating Work Sheet. The following list of limitations incorporates these changes. Please see the Division Response to Public Comments for a discussion of these changes.

- Stormwater discharges associated with construction activity that disturbs one acre or more are excluded from coverage. Consistent with Division practice, construction activity **does not** include land disturbance resulting from the act of mining, such as removal of topsoil and overburden to expose mineable minerals, or the

extraction, removal or recovery of minerals. Construction activity does include construction of facilities necessary to conduct mining activities, including but not limited to haul roads, pads, structures, etc.

The Division considered including these construction activities (those that exceed one-acre of disturbance) as an industrial activity authorized under this renewal permit. However, the Division determined that because an ELG has been promulgated by EPA for the construction and development category (Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category, 40 CFR Part 450), it was more appropriate to interpret the ELG during renewal of the CDPS stormwater construction permit (COR030000). In addition, the Division finds it most efficient, for general permits, to have a specific type of discharge authorized in just one general permit rather than multiple general permits. For these reasons, the Division decided against providing coverage for construction activities in this renewal permit. Therefore, stormwater discharges from construction of haul road, pad, structure, etc. at sand and gravel facilities, that exceeds the one-acre threshold and that do not commingle with process water from the facility (see discussion on **Commingled discharges** below), must be covered by a separate stormwater construction permit certification.

- Commingled discharges: The division considers stormwater runoff (from industrial or construction activities) that combines with process water (such as water in the mine pit), to be process water. Such discharges are subject to the process water provisions in the permit, and the stormwater provisions do not apply. This approach also applies to stormwater runoff from construction activities at the facility that exceed the one-acre threshold; specifically, if run-off from such activities commingles with facility process water, the commingled discharge is subject to the process water provisions in the permit, and the activity does not require separate construction stormwater permit coverage.

- Discharges to outstanding waters are excluded because the Division requires such discharges to be authorized by an individual permit to fulfill the antidegradation requirements of Regulation 31-The Basic Standards and Methodologies for Surface Water.

- Discharges solely to ground water are excluded water if such discharges are subject to direct regulation by implementing agencies under Section 25-8-202(7) of the Water Quality Control Act or Senate Bill 181. At mining facilities, discharges solely to ground water fall under the jurisdiction of the Division of Reclamation, Mining and Safety. This exclusion does not apply to point source discharges of pollutants to groundwater in direct hydrologic connection to surface waters and for which the Division determines the surface waters requirements of Regulation 61 apply, such as for some discharges to groundwater in alluvial areas.

- Discharges currently covered by another permit or a Division Low Risk Guidance Document are excluded. As stated in the Low Risk Policy, the Division does not intend to provide general permit coverage for discharges covered by a Low Risk Guidance Document.

- Discharges with chemical additions (including release agents) are not authorized unless expressly approved by the Division, and the Division provides notification of such approval to the permittee. A release agent is a substance used to aid in the separation of the desired material from the substrate, and must be disclosed. Part I.A.3 of the permit provides the process and information required to request Division approval of a specific chemical. If authorized, all chemicals must be used and stored in accordance with the manufacturers' recommendations and in accordance with any applicable state or federal regulation. On a case-by-case basis, the Division may determine that some discharges with chemical addition require individual permit coverage, such as if the specific chemical proposed contains constituents of concern that requires a more extensive reasonable potential analysis, or if dilution is required to meet applicable water quality standards in the receiving water.

- Process water discharges from the facilities listed below are excluded from coverage due to the potential toxicity and wide variety of pollutants, the minimal operations in Colorado, or Federal ELGs that require no discharge of process water from these facilities:

Facility types that require no discharge of process water	40 CFR 436 Subpart	SIC Code
Gypsum facilities that do not employ wet air emissions control scrubbers	E	1499
Asphaltic mineral facilities	F	1499
Asbestos and wollastonite facilities	G	1499
Barite facilities that do not employ wet processes or flotation processes	J	1479
Flourspar facilities that do not employ heavy media separation or flotation processes	K	1479
Saline from brine lake facilities	L	2899
Borax facilities	M	1474
Potash facilities	N	1474
Sodium sulfate facilities	O	1474
Phosphate Rock	R	1475
Frasch sulfur facilities	S	1479
Bentonite facilities	V	1459
Magnesite facilities	W	1459
Diatomite facilities	X	1499
Jade facilities	Y	1499
Novaculite facilities	Z	1499
Tripoli facilities	AF	1499
Asphalt batch plants	40 CFR 443	2951
Concrete batch plants, including associated truck and drum wash out	---	3273

V. BASIS FOR MAJOR CHANGES FROM LAST PERMIT VERSIONS

A. General

1. **Termination criteria**

The permit identifies the process by which the permittee can inactivate permit coverage, and the mandatory termination conditions for sand and gravel facilities that have a Division of Reclamation, Mining and Safety (DRMS) financial and performance warranty, and those that do not.

Termination of permit coverage requires that 'all permitted process water discharges authorized by this permit … have ceased'. This requirement applies specifically to the discharge authorized by the Water Quality Control Division. While this discharge remains, the permit certification cannot be terminated.

In some cases, the post-mining land-use for the sand and gravel pit is identified as a pond (such as for livestock watering, recreation purposes, etc.), and occasionally, the pond will discharge due to localized hydrology, etc. In such cases, when the post-mining land-use is achieved, the Division does not require continued permit coverage for discharges from the pond, for the following reasons.

- The post-mining land-use pond no longer meets the definition of a 'mine' – As provided in the effluent limitation guidelines found at 40 CFR Part 436 (Mineral Mining and Processing Point Source Category),

the term 'mine' means an area of land, surface or underground, actively mined for the production of [commodity] from natural deposits.

- The pond discharge does not meet the definition of 'mine dewatering' – As provided in the effluent limitation guidelines found at 40 CFR Part 436, 'mine dewatering' includes any water, including groundwater and stormwater, that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator.

Because the post-mining land-use pond is no longer a mine, and therefore, the pond discharge is not mine dewatering, the Division determined that continued permit coverage for any discharge from the pond is not required. Note that termination is contingent on the permittee demonstrating to the Division that DRMS approved the applicable financial and performance warranty release, or alternatively, that the facility meets the final stabilization criteria established in the permit. This termination approach is a long-standing Division practice for sand and gravel facilities with a post-mining land-use as described above. The Division added the specific termination criteria in the permit and the associated discussion in the fact sheet to facilitate public comment and improve transparency and certainty.

2. **Electronic reporting of data**

The final permit includes requirements regarding EPA's Net-DMR submittal, and dates when permittees must start reporting data electronically. Prior to December 21, 2016, the permittee may elect to electronically submit DMRs instead of mailing paper DMRs by using the EPA's Net-DMR service. Starting on December 21, 2016, the permittee must electronically report DMRs by using the EPA's Net-DMR service unless a waiver is granted in compliance with 40 CFR 127.

B. Process water

This section provides the basis for major changes to the process water provisions from the previous permit versions. The discussion of process water effluent limitations is at Section VI of this fact sheet. Note that after public notice, the division made the following changes to the final permit:

- removed the limitation for process water discharges from 'major' facilities, and such facilities are now eligible for coverage under the final permit, and
- removed the discussion regarding facilities that produce asphalt emulsion from the fact sheet, as it is unlikely that this manufacturing industrial activity occurs at mining facilities in Colorado.

The following list incorporates changes to the final permit resulting from the division's review of comments received during the public notice period. Please see the Division Response to Public Comments for a discussion of these changes.

1. **Process water discharges from Dimension stone; Kaolin and Ball Clay; and Clay, Ceramic, and Refractory Minerals**

The Division clarified the types of facilities that are eligible for coverage under the permit, and specifically identified the following commodities: Dimension stone (SIC code 1411); Kaolin and Ball Clay (SIC code 1455); and Clay, Ceramic, and Refractory Minerals (SIC code 1459 - except bentonite) as eligible. The Division highlighted these specific commodities as Division records indicate that discharges from such facilities have been previously permitted -- such facilities are not prohibited from discharging by an applicable federal ELG, and the pollutants of concern are similar to other facilities eligible for coverage under the permit.

2. **Process water discharges from Graphite mining facilities**

The Division clarified the types of discharges from graphite facilities that are eligible for coverage under the permit. In accordance with the Federal ELG for graphite facilities, "Only that volume of water resulting from precipitation that exceeds the maximum safe surge capacity of a process waste water impoundment may be

discharged from that impoundment. The height difference between the maximum safe surge capacity level and the normal operating level must be greater than the inches of rain representing the 10-year, 24-hour rainfall event as established by the National Climatic Center, National Oceanic and Atmospheric Administration for the locality in which such impoundment is located."

3. **Discharges from facilities that produce Phosphate rock (SIC code 1475) excluded from coverage**

The Division removed from the types of facilities eligible for coverage under the permit, facilities that produce Phosphate rock (SIC code 1475). The Division determined that the pollutants of concern associated with Phosphate rock are different from other facilities eligible for coverage under the permit (based on the Toxic Pollutant Potential factor for the NPDES Permit Rating Work Sheet), and review of Division and DRMS records indicates that facilities that produce Phosphate rock are not currently permitted. Any new facilities that produce Phosphate rock and require discharge permit coverage must apply for an individual permit or an alternative general permit, as applicable.

4. **Process water discharges from asphalt batch plants excluded from coverage**

The Division determined, based on review of the applicable federal ELG (40 CFR 443) and associated Development Document, that the required level of technology-based control (BPT/BAT/NSPS) for discharges from facilities that produce asphalt concrete is '**no discharge of process wastewater pollutants to navigable waters'**. Therefore, the Division excluded process water discharges from asphalt batch plants from coverage under this permit.

5. **Process water discharges from concrete batch plants (including truck wash water /drum wash out) excluded from coverage**

The Division determined that the pollutants of concern associated with truck wash water and process water discharges from concrete batch plants are different and potentially more toxic than those for other facilities eligible for coverage under the permit. Therefore, the Division excluded process water discharges from concrete batch plants from coverage this permit.

6. **Flow limitation**

The Division added a flow limitation in the permit, as required by 5 CCR 1002-61.8(2)(i). The chronic flow limit will be equal to the maximum monthly average flow rate provided in the permit application. As required by 5 CCR 1002-62.5(7), the flow-measuring device must indicate values within ten percent of the actual flow being measured. The division is also requiring reporting for total quarterly flow in cases where needed to support a loading analysis.

7. **Standardized monitoring frequency**

The final permit provides coverage for process water discharges from both 'minor' and 'major' facilities, determined using the NPDES Permit Rating Work Sheet. Therefore, the final permit contains monitoring frequencies for both major and minor facilities, consistent with Water Quality Control Division Policy WQP-20 (Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities).

8. **Separate monitoring parameter line for selenium**

The Division added a separate line for selenium in the effluent limitations tables in Part I.C.1 of the permit (selenium was included in the 'Other Pollutants of Concern' line in the previous permit). This change was made for clarity, and to clearly identify the regulatory basis for selenium monitoring.

C. Stormwater

1. **Control measures**

The Division uses the term "control measure" instead of "Best Management Practice (BMP)" throughout this permit. This term has a broader range of meaning than BMP, as it includes both BMPs and "other methods", and

as such, better describes the range of pollutant reduction practices a permittee may implement. The Division does not typically mandate specific control measures a permittee must implement to control pollutant sources at their facility. The permittee has the flexibility to select appropriate control measure that when implemented, enable the permittee to meet all applicable permit effluent limitations for stormwater discharges from their facility.

In this part of the permit, the Division uses and defines the term "**minimize**" to provide the permittee with a clear expectation for the level of performance of control measures implemented to achieve effluent limits that require the permittee to "minimize" pollutants. The Fact Sheet for EPA's MSGPs provides significant discussion about both terms with respect to the levels of technology-based control required by this permit.

This permit requires that **installation and implementation specifications** be retained with the Stormwater Management Plan for each control measure used by the permittee to meet the effluent limitations contained in the permit. The Division finds that this necessary to ensure the permittee recognizes, selects, and implements control measures that are appropriate for specific pollutant sources. The Division's expectation for maintenance of control measures is that the permittee conduct this action "immediately, in most cases". The intent of this permit condition is that the permittee correct control measures as they are discovered, and that interim control measures are implemented while the primary control measure is corrected.

2. **Stormwater Discharge Effluent Limitations**

This permit identifies all stormwater effluent limitations required by the permit (practice-based effluent limits and water quality-based effluent limitations), and clearly states that all discharges authorized under the permit shall attain these effluent limitations. This permit does not contain any numeric effluent limits based on effluent limitation guidelines (ELGs) for stormwater, as they are not applicable to the discharges eligible for coverage under this permit. The effluent limitations contained in this permit are located in a section separate from the SWMP, thereby differentiating effluent limitations from other terms and conditions of the permit.

The practice-based effluent limits (PBELs) are technology-based effluent limits - technology-based effluent limits are required for all CDPS permits. The PBELs correspond to the required levels of technology-based control (BPT, BCT, BAT) for various discharges under the Colorado Water Quality Control Act. For this permit, the technology-based effluent limits for stormwater discharges (i.e., the PBELs) are based on Best Professional Judgment (BPJ) decision-making.

The renewal permit includes water quality-based effluent limits as necessary to meet applicable water quality standards and supplement the technology-based effluent limits. The Division determined that it was appropriate to include the BPJ based technology-based effluent limits and the water quality-based effluent limits on the same basis EPA used in development of EPA's MSGPs.

a. **Practice-based Effluent Limitations**

The Division modified the practice-based effluent limitations required by this permit. Most significant among the changes are including the term "**minimize**" within the practice-based effluent limitations, and adding four new practice-based effluent limitations, as described below.

i. *Minimize Exposure*

Minimizing exposure prevents pollutants from coming into contact with precipitation and can reduce the need for control measures to treat or otherwise reduce pollutants in stormwater runoff. As such, this is one of the most important control options.

ii. *Management of Runoff*

Managing runoff (diverting, infiltrating, reusing, containing, or treating stormwater runoff) prevents stormwater contact with exposed materials or pollutant sources, and like minimizing exposure, can reduce the need for control measures to treat or otherwise reduce pollutants in stormwater runoff.

iii. *Waste, Garbage and Floatable Debris*

In addition to other stormwater pollutants, the permittee must minimize the discharge of waste, garbage, and floatable debris, pollutants associated with most if not all industrial activities, so that these pollutants are not ultimately discharged to receiving waters. Trash and floating debris in waterways have become significant pollutants, especially near areas where a large volume of trash can be generated in a concentrated area. Trash can cause physical impairments in water bodies to aquatic species and birds, is also visual pollution, and detracts from the aesthetic qualities of receiving waters.

iv. *Salt Storage Piles or Piles Containing Salt*

Salt storage piles are prevalent across the country. The permit requires that permittees adequately control salt piles to prevent aquatic effects resulting from stormwater runoff from such piles. Preventing exposure of piles to stormwater or run-on also eliminates the economic loss from materials being dissolved and washed away.

b. **Water Quality-Based Effluent Limitations**

The renewal permit includes a new section that addresses water quality-based effluent limitations (WQBELs) applicable to stormwater discharges. The permit allows the Division to conduct a reasonable potential analysis that allows one of three outcomes to be determined: 1) a finding of reasonable potential, which for a new (proposed) discharge would need to be based on information other than monitoring from the proposed facility, such as monitoring information for similar sites/discharges, published scientific information, or information in the application, 2) a monitor-only reasonable potential decision, which indicates that the Division expects the pollutant to be present in the discharge, but does not have certainty that levels will cause or contribute to an exceedance of a water quality standard, or 3) a finding of no reasonable potential and no monitoring, indicating that the Division either does not expect the pollutant to be present or if expected to be present it is at levels significantly below the applicable water quality standard.

i. *Water Quality Standards*

a) Consistent with EPA's MSGPs and general permit COR900000, the Division included the requirement that 'stormwater discharges authorized under the renewal permit must be controlled as necessary to meet applicable water quality standards'. Generally, this means attaining the water quality standards in the receiving water, but may be end-of-pipe due to site-specific circumstances such as for new discharges to impaired waters. This statement replaces the statement in the preceding sand and gravel stormwater permit that 'stormwater discharges from the industrial activity shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any water quality standard, including narrative standards for water quality'. This requirement applies to all stormwater discharges; additional requirements apply to discharges to Water Quality Impaired Waters and Waters Designated as Critical Habitat for Threatened and Endangered Species, as described below.

b) The Division expects that compliance with the other conditions in the renewal permit will control discharges as necessary to meet applicable water quality standards. However consistent with EPA's MSGPs and general permit COR900000, the Division included a provision in the permit that allows a site-specific water quality-based effluent limitation to be included in the certification as necessary to comply with water quality standards. The Division also included a provision in the permit that allows site-specific terms and conditions to be included in the certification to determine whether compliance with the other terms and conditions of the permit will control the discharge as necessary to meet applicable water quality standards.

c) The type of information that the Division anticipates may become available substantiating the need for a site specific water quality-based effluent limitation includes, but is not limited to, in-stream water quality data, discharge monitoring data and information regarding corrective

actions. Any site-specific water quality-based effluent limitation will be derived from and comply with the associated water quality standard.

d) The type of additional terms and conditions the Division anticipates could be appropriate to determine if compliance with the other terms and conditions of the permit will control the discharge as necessary to meet applicable water quality standards includes, but is not limited to in stream monitoring, site-specific discharge water quality standards monitoring, site-specific benchmarks, and source characterization studies.

ii. *Additional Requirements for Discharges to Water Quality Impaired Waters*

a) **Existing** Discharge to an Impaired Water **with** an EPA Approved or Established TMDL.

Consistent with EPA's MSGPs and general permit COR900000, the Division will implement a new review process for existing discharges to impaired waters with an approved or established TMDL. Where an operator indicates on its application that the discharge is to one of these waters, the Division will determine whether the pollutant is of concern for the discharge and review the applicable TMDL to determine whether the TMDL includes requirements that apply to the individual discharger or to its industrial sector. The Division will determine whether additional requirements are necessary to comply with the wasteload allocation or alternatively, whether an individual permit application is necessary. Where the discharge is authorized under the general permit, the Division may include water quality standards monitoring to verify that the discharge will be controlled as necessary to be consistent with the assumptions and requirements of the TMDL through compliance with the other terms and conditions of the general permit.

The Division utilizes this process for new discharges to impaired waters, and intends to extend this process to existing discharges to impaired waters in this category under this renewal permit. The Division included a specific section regarding water quality standards monitoring in the permit.

Stormwater discharges to stream segments subject to the selenium TMDL – The EPA approved a selenium TMDL for the Gunnison River and Tributaries, Uncompahgre River and Tributaries, in February 2011. This TMDL identifies that selenium contributions to sand and gravel discharges occur when selenium-laden groundwater intercepts sand and gravel pits and is discharged as process water. Therefore, for the 12 segments subject to the TMDL identified above and for this permit term, the Division will not require permittees to sample stormwater-only discharges for selenium, for such discharges from the facility through outfalls not associated with the mining pit (e.g., through sheet flow, diverted stormwater, detained stormwater, etc.).

b) **Existing** Discharge to Impaired Waters **without** an EPA Approved or Established TMDL.

The Division will implement a new review process for existing discharges to impaired waters without an approved TMDL.

Where an operator indicates on its application that the discharge is to an impaired waters where a TMDL has not yet been established, the Division will determine whether a pollutant has been identified as a constituent of concern in an impairment listing, and if this constituent it is a concern for the proposed discharge covered by the permit. If so, the Division may include water quality standards monitoring to provide information to support development of the TMDL and to determine if the discharge, once a TMDL is issued, will be controlled as necessary to be consistent with the assumptions and requirements of the TMDL through compliance with the other terms and conditions of this permit.

The Division utilizes this process for new discharges to impaired waters, and intends to extend this process to existing discharges to impaired waters in this category under this renewal permit. The Division included a specific section regarding water quality standards monitoring in the permit.

c) **New** Discharge to an Impaired Water.

The Division considered emulating the conditions included in EPA's MSGPs and determined that an alternate approach was more appropriate for this permit and consistent with permitting practices conducted by the Division in Colorado. EPA's MSGPs substantively addresses requirements for new discharges to impaired waters under limitations on coverage and does not include additional water quality-based effluent limits to further control those discharges. In EPA's MSGPs, EPA included language from the permit regulations that prohibit issuance of a permit to new discharges to impaired waters in certain circumstances, as a permit condition under limitations on coverage. The Division has had a longstanding practice of meeting the subject regulatory prohibition through two practices: 1) assigning water quality-based effluent limits at the point of discharge (end of pipe) to new discharges to impaired waters, which does not allow a discharge to cause or contribute to a violation of a water quality standard, and 2) denying permit applications in cases where the Division has determined (and the applicant has been unable to substantiate otherwise) that the discharge without additional treatment or controls, would not be controlled as necessary to meet to meet permit terms and conditions, specifically water quality-based effluent limits.

The Division intends to continue that process with this renewal permit, and has included a narrative water quality-based effluent limitation in the permit, which will be included in permit certifications authorizing new discharges to impaired waters, including naming the relevant water quality standards. The Division determined that it was appropriate to include a narrative water quality-based effluent limitation in the permit as an additional protection to ensure compliance with water quality standards and make it clear to the permittee that water quality standards must be met at the point of discharge (end of pipe).

In addition, where an operator indicates on its application that the discharge is to an impaired water, the division will determine whether a pollutant (including selenium) is of concern for the discharge. If so, the Division may include water quality standards monitoring to provide information to support development of the TMDL and to determine if the discharge, once a TMDL is issued, will be controlled as necessary to be consistent with the assumptions and requirements of the TMDL through compliance with the other terms and conditions of this permit.

iii. *Additional Requirements for Discharges to Waters Designated as Critical Habitat for Threatened and Endangered Species.*

The Division, EPA, and USFWS entered into a Memorandum of Agreement (MOA) "regarding enhanced coordination in implementing Colorado's mixing zone rule and the Service's August 11, 2003 biological opinion on this matter" in October 2005 (The Mixing MOA). The Mixing MOA evolved from an Endangered Species Act (ESA) Section 7 consultation that was conducted as part of EPA's approval of Colorado's water quality standards mixing zone provisions. In development of the Mixing MOA, the parties were primarily focused on ensuring no more than minor detrimental effects from larger, continuous point source discharges during critical low flow conditions.

Since execution of the Mixing MOA and consistent with options included in the Mixing MOA, the Division's has issued permits for larger, continuous discharges that have required the discharges to meet water quality standards at the point of discharge (end of pipe) based on critical low flow conditions. The Division has also required a large continuous discharge to occur from a diffuser to ensure instantaneous

mixing. The Mixing MOA also includes an option for passive mixing in situations where the permittee can demonstrate that such mixing will be protective of the listed species.

The Division has determined that additional information is needed to determine whether compliance with the other conditions of this permit will control the discharges as necessary to eliminate or minimize the potential for no more than minor detrimental effects to listed species in regards to receiving water mixing. The Division has included a provision in the permit that requires water quality-based monitoring for discharges to waters designated as critical habitat for threatened and endangered species. The Division has also included a provision that allows additional terms and conditions to be included in the certification, and the types of additional terms and conditions the Division anticipates could be appropriate includes, but is not limited to studies to determine whether instantaneous mixing occurs due to the location of the discharge and flow in the receiving water at the time of discharge, and studies to determine whether passive mixing is protective of listed species.

iv. *Additional Requirements for New or Increased Discharges to Reviewable Waters*

Consistent with EPA's MSGPs and general permit COR900000, the Division expects that compliance with the other conditions of the permit will control discharges as necessary to comply with the applicable antidegradation requirements. However, the Division included a provision in the permit that allows additional terms and conditions to be included in the certification as necessary to comply with antidegradation requirements. Types of information that may become available warranting site-specific conditions includes but is not limited to information on new or increased discharges, including information provided consistent with Part I.I and Part II (Change in Discharge) of the renewal permit.

3. **General Monitoring Requirements – Stormwater Only**

The Division consolidated and clarified stormwater monitoring requirements for the permittee in this section of the renewal permit. Applicable monitoring requirements in the renewal permit apply to each outfall authorized by the permit, except as otherwise exempt from monitoring as a "substantially identical outfall." Outfalls are locations where stormwater exits the facility property, including pipes, ditches, swales, sheet flow and other structures that transport stormwater (EPA 832-B-09-003 (Industrial Stormwater Monitoring and Sampling Guide – March 2009 [Final Draft]), or where the discharge enters a surface water within the facility permit boundary.

To be considered substantially identical, outfalls must have generally similar industrial activities, control measures, and exposed materials that may significantly contribute pollutants to stormwater. When a permittee believes its facility has two or more outfalls that qualify as substantially identical, the permittee may monitor one of these outfalls and report that the quantitative data also apply to the other substantially identical outfalls. The Division encourages permittees to use the "substantially identical outfall' provision in the permit as it can significantly reduce the monitoring recordkeeping and reporting burden.

In addition to the monitoring exception included the draft permit (i.e., Monitoring Exceptions for Inactive and Unstaffed Sites), the final permit contains an additional monitoring exception (Monitoring Exceptions for Completed and Finally Stabilized Areas) for mine sites, or areas of the mine site, where the pollutant potential and potential for control measure failure is significantly reduced. Please see the Division Response to Public Comments for a discussion of these changes.

4. **Specific Monitoring Requirements – Stormwater Only**

The Division added a new section that addresses requirements for Visual Monitoring and Water Quality Standards monitoring requirements, as applicable to the facility. Consistent with EPA's MSGPs and COR900000, the Division added the requirement for the permittee to conduct quarterly visual examinations of stormwater discharges for the presence of obvious indicators of stormwater pollution. These assessments of stormwater discharges are an inexpensive and valuable part of the stormwater management and planning process. Permittee responsibilities with respect to documentation of results and corrective actions are provided.

The final permit authorizes stormwater discharges from asphalt batch plants (SIC code 2951) and concrete batch plants (SIC code 3273). Therefore, the division also added the associated benchmark sampling requirements for these industrial activities, consistent with CDPS general permit COR900000, and described below.

a. Stormwater benchmark sampling

Sand and gravel industrial activities
The renewal permit does not include benchmark sampling requirements for stormwater discharges from sand and gravel facilities (SIC code major group 14 activities). This is different from the Division's approach in the COR900000 general permit (Stormwater Discharges Associated with Non-Extractive Industrial Activity), which was to adopt the benchmark parameter and concentrations required in EPA's MSGPs – for sand and gravel facilities, EPA's benchmark parameters are Nitrate plus Nitrite Nitrogen and Total Suspended Solids (TSS).

The Division deviated from the benchmark approach for this renewal permit for several reasons. First, because this permit addresses only one sector, and the sector requires monitoring and reporting for just two benchmarks, the Division had more time to evaluate the basis for the benchmarks, and weigh the pros and cons of adopting the benchmarks versus determining an equivalent alternative to the benchmark approach. Secondly, as provided in the 1995 Federal Register (Federal Register / Vol. 60, No. 189 / Friday, September 29, 1995), the benchmarks for this sector are Nitrate plus Nitrite Nitrogen and TSS, which are based on stormwater discharge monitoring data reported to EPA by the Sand and Gravel sector.

The benchmark concentration for Nitrate plus Nitrite Nitrogen is 0.68 mg/l, and is based on data from the National Urban Runoff Program. The Division was concerned that since the source of the nitrogen is likely fertilizer used in reclamation efforts, that permittees could find themselves performing corrective action for exceeding the benchmark value for a pollutant that may not be controlled with conventional control measures for this sector. Further, the permit requires that permittees apply fertilizer in accordance with the approved labeling, and the narrative WQBEL is applicable to all discharges from Sand and Gravel facilities, including those that use fertilizer. Therefore, the Division determined that it would not apply Nitrate plus Nitrite Nitrogen benchmark sampling for discharges from these facilities in the renewal permit.

The Division considered retaining the TSS benchmark sampling and reporting requirements and associated corrective action in the renewal permit; and looked at the cost and benefit of benchmark monitoring, and sampling and reporting for just one parameter, particularly one for which specific technology-based effluent limitations are addressed in the permit. The Division further considered that the Division of Reclamation, Mining and Safety provides some oversight of such facilities with respect to erosion and sediment control. In an effort to reduce the burden of sampling/reporting for one parameter, and because the Division determined that compliance with the technology-based effluent limitations (PBELs) and other terms and conditions of this permit (such as control measure requirements, visual monitoring, inspections, and documentation requirements) will adequately control stormwater discharges for TSS, the Division decided to not require TSS benchmark sampling for discharges from these facilities in the renewal permit.

Asphalt batch plant and concrete batch plant industrial activities
Because the final permit authorizes stormwater discharges from asphalt and concrete batch plants, the division included applicable benchmark monitoring requirements for these activities.

- Benchmark Monitoring: This renewal permit contains the requirement to conduct benchmark monitoring as an indicator of the performance of the measures undertaken to meet the stormwater effluent limitations contained in the permit. This approach (including specific benchmark parameters and concentrations) is consistent with the benchmark monitoring requirement in the CDPS non-extractive industrial stormwater general permit (permit COR900000) for asphalt and concrete batch plants. The benchmark concentrations are not effluent limits. Therefore, an

exceedance of the benchmark four-quarter average is not a violation of the permit, provided that no separate water quality exceedance resulted from the associated stormwater discharges.

- Benchmark Monitoring Schedule: The renewal permit requires that the permittee conduct benchmark monitoring quarterly for the first four (4) full quarters of permit coverage.

- Benchmark Monitoring Actions: Data not exceeding benchmarks: Benchmark monitoring frequency can be reduced if the permittee can demonstrate monitoring values below the benchmarks concentrations. If, after collecting 4 benchmark samples, the average of the monitoring values for any parameter does not exceed the benchmark, the permittee may submit a request to the division to reduce benchmark monitoring frequency to once-per-year, and rotate through the quarterly monitoring periods such that eight (8) samples are collected every five years. This monitoring framework allows samples to capture seasonal variations in stormwater discharges, yet relieves the permittee from quarterly sampling for the entire permit term, unless the benchmarks are exceeded (see below).

- Data exceeding benchmarks: The renewal permit specifies Corrective Actions (required permittee actions, documentation and timelines) when the averaged monitoring values for any parameter exceeds the benchmark. After corrective action is taken, the permittee is required to continue quarterly monitoring for 4 additional quarters, and calculate average monitoring values. If the data from the additional monitoring does not exceed the benchmarks, permittees may reduce benchmark monitoring frequency to once-per-year as previously described. If this data from the additional monitoring exceeds the benchmarks, the permittees must again perform Corrective Actions and continue quarterly sampling. This monitoring framework requires continued quarterly sampling only for those facilities that continue to exceed benchmarks in stormwater samples.

5. **Inspections**

The Division modified the self-inspection requirements in the renewal permit. Most significant among the changes are inspection frequency (i.e., quarterly inspections); inspection scope (i.e., one inspection must be conducted during a run-off event); and corrective action requirements. This permit specifically addresses an increased inspection frequency (6 per year) for inactive and unstaffed facilities that do not meet the condition of no exposure, as such facilities continue to be sources of pollutants for stormwater runoff.

The Division made changes to this section of the permit largely based on its observations during compliance inspections of permitted sand and gravel facilities. Such observations include non-compliant field conditions the permittee did not identify and correct. Unlike the public notice version of general permit COR900000, this permit requires quarterly not monthly inspections, although in some instances, more frequent inspection (e.g., monthly) may be appropriate for areas of the facility with significant activities and materials exposed to stormwater.

The Division believes that the requirement for more frequent facility inspections (i.e., quarterly inspections) and documented corrective actions is a useful means for permittees to evaluate the effectiveness of implemented control measures, and correct any deficiencies. The Division also added the requirement to conduct one of the quarterly inspections during a run-off event, consistent with general permit COR900000. The Division determined that the run-off event inspection is a particularly useful tool for assessing control measure performance, and has received anecdotal information from permittees/stakeholders authorized under general permit COR900000 substantiating this determination.

As in general permit COR900000, this permit allows an exception to the quarterly inspection frequency for inactive and unstaffed facilities, but only if a condition of no exposure is first established at the facility and documented in the facility SWMP. If this is the case, such facilities are required to conduct two facility inspections annually, in the spring and fall. This twice yearly inspection frequency is intended to ensure that

there are no industrial materials or activities exposed to stormwater, i.e., to maintain the condition of no exposure. Facilities that are both inactive and unstaffed, when the facility no longer has industrial activities or materials exposed to stormwater, could alternatively submit a No Exposure Certification permitting under 5 CCR 1002-61.3(2)(h), terminating permit coverage. However, the Division realizes that some facilities plan to recommence industrial activity in the future and therefore may wish to keep active permit coverage.

The permit also includes an increased frequency requirement (6 per year) for those facilities that are inactive and unstaffed, but that cannot establish a condition of no exposure. The Division recognizes that some facilities, such as those meeting the conditions of "temporary cessation" in accordance with DRMS requirements, continue to be sources of pollutants as these facilities are not reclaimed, and may not be able to qualify for a condition of no exposure. Because the discharge of pollutants does not cease when pollutants sources at such facilities remain exposed to stormwater, oversight of facility conditions by the permittee is necessary.

The increased inspection frequency provides an alternative approach to requiring that permittees conduct quarterly visual monitoring for such facilities, as in general permit COR900000. The Division recognizes the burden associated with obtaining visual samples of stormwater at remote facilities that are not staffed, and developed the increased inspection frequency option accordingly. This is the Division's best effort to balance having requirements adequate to address the pollutant source, while reducing the burden to the extent possible since the facilities are not staffed to support active mining operations.

In response to comments received during the public notice period, the division added an additional exception to the inspection requirements in the final permit, specifically for the runoff event inspection at Completed and Finally Stabilized Areas (see response to Comment ID COG50-5.11).

6. **Corrective Actions**

This new section identifies permittee responsibilities with respect to resolving specific facility conditions. The corrective action process is critical to fixing conditions occurring during the permit term that are indicative of permit violations. Conditions fall into two categories: those the permittee must eliminate, and those that require the permittee to review and modify control measures. Permittee responsibilities with respect to corrective action reports and deadlines, control measure modification and substantially identical outfalls are addressed. In the final permit, the 24-hour and 5-day reporting requirements are condensed into one 5-day reporting requirement.

7. **SWMP requirements**

This permit locates all technology-based effluent limitations (i.e., practice-based effluent limitations and federal ELGs), and water-quality based effluent limitations in sections separate from the requirement to develop and implement a SWMP.

As such, the requirement to prepare a SWMP and the documentation requirements set forth in the SWMP are not effluent limitations themselves, but terms and conditions of the permit, because the permittee is documenting information on how it intends to comply with the effluent limitations of the permit. This difference allows the permittee to modify, at any time and as required by the terms and conditions of the permit, the control measures used to meet these effluent limitations. The Fact Sheets for EPA's MSGPs provides significant discussion regarding the effluent limitation vs. the requirement to develop a SWMP, as required by this permit.

The final permit allows **180 days** from the certification effective date, for an existing permittee to modify the SWMP to meet the final permit requirement. Please see the Division Response to Public Comments for a discussion of this change.

a. General SWMP Requirements

i. SWMP requirement: The Division added the requirement that the permittee must modify the SWMP to reflect current site conditions. The Division expects that the permittee use the SWMP as a tool to plan and implement stormwater management at the facility. The requirement that permittees update the facility SWMPs to reflect current site condition formalizes this expectation.

ii. Signatory Requirements: The Division added the requirement that the permittee must sign and certify all SWMPs, which applies to the original SWMP prepared for the facility, and each time the permittee modifies a SWMP. This requirement ensures that the individual or a position with responsibility for the overall operation of the regulated facility or activity, or a duly authorized representative of that person consistent with 5 CCR 1002-61.4(1)(f), is aware of and approves changes to the SWMP.

iii. Permit Retention: The Division added the requirement that the permittee must maintain a copy of this renewal permit and the permit certification issued to the permittee with the SWMP. The Division determined that it is appropriate to require the permittee to retain a copy of this permit and the permit certification with the SWMP to allow the facility's personnel ready access to both. The Division notes that an electronic copy easily available to facility personnel is also acceptable.

b. Specific SWMP Requirements

The Division modified the Specific SWMP Requirements to require that permittees maintain additional documentation with the SWMP. These documentation requirements include:

i. Facility Map. The Division added a requirement to the renewal permit that requires permittees to identify the locations and sources of run-on to the facility from adjacent property that contains significant quantities of pollutants.

ii. Facility Inventory and Assessment of Pollutant Sources. The Division added the requirement to maintain, and update as data is available, an assessment of potential pollutant sources that describes the potential of a pollutant to be present in stormwater discharges for each facility activity, equipment and material identified by the permittee.

iii. Additional Control Measure Requirements. The Division added the requirement to document, and maintain with the SWMP, the schedules, procedures, and evaluation results for the following subset of practice-based effluent limitations.

- Good Housekeeping;
- Maintenance;
- Spill Prevention and Response Procedures;
- Employee Training; and,
- Non-Stormwater Discharges.

The stormwater provisions in existing permits COR340000 and COG500000 require such procedures and practices – this permit additionally requires that the permittee document these procedures and practices in the SWMP. Documentation may be electronic as long as all other requirements of the permit are met.

iv. Inspection Procedures and Documentation. The Division added the requirement to document, and maintain with the SWMP, inspection procedures and other documentation related to inspections.

v. Monitoring Procedures and Documentation. The Division added the requirement to document, and maintain with the SWMP, monitoring procedures and other documentation related to monitoring.

8. **Reporting and Recordkeeping**

Permittees required to sample stormwater, other than visual monitoring, must summarize monitoring results for each calendar quarter and submit the results to the division on a quarterly basis (by the 28th day of the following month).

These changes are consistent with the existing reporting convention for monitoring results in Division permits. The Division enters all industrial stormwater facility data into EPA's database of record, which is called the "Integrated Compliance Information System" (ICIS), and is a secure system for National Pollutant Discharge Elimination System (NPDES) that is only available to EPA and state users. The public can access information in ICIS by using the "Enforcement and Compliance History Online" (ECHO), or Envirofacts.

The final permit includes requirements regarding EPA's Net-DMR submittal, and dates when permittees must start reporting data electronically. Prior to December 21, 2016, the permittee may elect to electronically submit DMRs instead of mailing paper DMRs by using the EPA's Net-DMR service. Starting on December 21, 2016, the permittee must electronically report DMRs by using the EPA's Net-DMR service unless a waiver is granted in compliance with 40 CFR 127.

To ensure that permittees know how to report information on the DMR form, this permit contains data reporting conventions, to include reporting "No Discharge" on the DMR if no discharge occurs within the reporting period; "General Permit Exemption" for each parameter for the period the site meets the monitoring exception.

The Division modified the required content of the Annual Report. Specifically, only a summary of inspection dates need to be reported; however, all correct action documentation (including that for inspections) and the status of any outstanding corrective action(s) must be submitted with the annual report. As such, the annual reporting requirements are less than that required by the previous permits, unless the facility has corrective actions to document.

VI. DISCUSSION OF PROCESS WATER EFFLUENT LIMITATIONS

A. Regulatory Basis for Limitations

1. **Technology Based Limitations**

a. Federal Effluent Limitation Guidelines – The federal guidelines that apply to discharges from sand and gravel facilities are found under 40 CFR Part 436 (Mineral Mining And Processing Point Source Category). These limitations will typically apply, unless the Division applies a more stringent limitation or an alternate limitation (as is the case with pH, as discussed in the Parameter Evaluation section of the fact sheet).

b. Regulation 62: Regulations for Effluent Limitations – Regulation 62 includes effluent limitations that apply to all discharges of wastewater to State waters. This regulation is applicable to the discharges from sand and gravel facilities certified under the COG500000 permit, and is the basis for the oil and grease and total suspended solids (TSS) effluent limitations where federal Effluent Limitation Guidelines do not apply to the discharge.

2. **Numeric Water Quality Standards**

For sand and gravel facilities, applicable water quality standards exist for pH, metals, and organic parameters, and may be applied as daily maximum (acute), 30-day average (chronic) limits, or two-year rolling averages. Most acute and chronic water quality standards will apply at the point of discharge (end-of-pipe), with case-by-case exceptions for select parameters, which are detailed below.

While effluent limitations for metals and other parameters are not automatically included in certifications under this general permit, they may be added on a case-by-case basis based on discharge- or receiving water-specific considerations.

3. **Narrative Water Quality Standards**

Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.

a. Agricultural Use Protection (SAR, EC, and TDS) – Section 31.13(2) of the Basic Standards and Methodologies for Surface Waters (Regulation No. 31) also includes specific narrative provisions for the protection of agriculture as follows;

> *Agriculture. These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock*.

For the protection of irrigated crops, the Division initiated a workgroup in 2007 to address concerns about the impacts of industrial discharges on the quality of downstream water and its suitability for use in irrigating crops. As a result of the workgroup, the Division determined that additional discharge controls were necessary in certain situations to protect the beneficial uses of downstream crop irrigation. This culminated in Water Quality Policy (WQP) #24, entitled *Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops* (hereafter the Ag Policy), March 10, 2008.

The evaluation of the suitability (i.e., quality) of irrigation water is complex and involves interactions of plant tolerances, soil types, and agricultural management practices. Irrigation water has two properties – salinity and sodicity – that can have concurrent impacts on the irrigated crop beneficial use. The Division has thus determined that two parameters, specifically electrical conductivity (EC) and sodium absorption ratio (SAR), are the best parameters to regulate in discharge permits to control levels of salts to minimize both the loss of irrigated crop yield and the sodium hazard.

Electrical Conductivity (EC or Specific Conductivity): Crops have varying sensitivity to electrical conductivity. Studies have established the maximum conductivity in the water that will result in a 'no reduction' of crop yield. Thus, an EC value based on a 'no reduction' of crop yield is implemented in permits as the maximum conductivity based on the most sensitive crop usually grown in the area.

Common crop *EC* thresholds reproduced from the Ag Policy are summarized in the table below. Note that this is not an exhaustive list and *EC* values for additional crops are listed in tables in appendixes to the Ag Policy.

Maximum EC_w That Will Not Reduce The 100% Yield of Selected Irrigated Crops	
Common Colorado Crops	***Irrigation Water Electrical Conductivity (EC_w)***
Beans	0.7
Onion	0.8

Maximum EC_w That Will Not Reduce The 100% Yield of Selected Irrigated Crops	
Common Colorado Crops	***Irrigation Water Electrical Conductivity (EC_w)***
Corn (grain)	1.1
Potato	1.1
Peaches	1.7
Corn (silage)	1.2
Alfalfa	1.3
Orchard grass	1.5
Grapes	1.5
Wheat	4.0
Sugarbeet	4.7
Barley	5.3

The permit writer will determine if EC must be limited and/or monitored in the discharge to protect downstream crop irrigation. ***For new discharges, this may include an EC limitation in the permit, if warranted. For existing discharges, a 'report' only requirement is anticipated during this permit term to characterize EC in discharges from this industry.***

Sodium Adsorption Ratio (SAR): This value is a representation of the relative proportion of sodium cations to calcium and magnesium cations (also known as the "sodium hazard"). The equation for SAR follows:

$$SAR = \frac{Na^{+}}{\sqrt{\frac{Ca^{++} + Mg^{++}}{2}}}$$

The SAR standard used to establish a SAR permit limit, is calculated using the SAR/EC equation of SAR = (7.1* EC)-2.48), reproduced herein from the Ag Policy. A permit limitation for SAR is based on this calculation using an EC value from the established crop grown in the area. For example,

CORN GRAIN IRRIGATED CROP	
EC for Corn (grain) = 1.1	***SAR = (7.1 * 1.1) - 2.48 = 5.3***

Note that to retain a 'no reduction in infiltration' per the Ag policy, SAR permit limitations are capped at 9. Please see the Ag policy for a full discussion of EC and SAR for irrigated crops.

Since sand and gravel process water discharges covered under this permit are typically from shallow mining operations (e.g. alluvial pit dewatering), or from processing related to materials extracted from shallow deposits (crushing, sorting, screening, etc.), SAR values in the soil profile can be used to estimate the concentrations of SAR in the effluent. The Division reviewed statewide NRCS SSURGO Soils profiles in areas where the majority of process water discharges occur. The result of this analysis indicates that, for the vast majority of sites, there is no reasonable potential for SAR to cause or contribute to an exceedance of the standard. ***Thus, monitoring for SAR will not typically be required***. Note however, that for facilities located in high SAR soil locations, or facilities where SAR is expected in concentrations that may cause or contribute to an exceedance of the standard, a limitation or reporting for SAR may be implemented on a case-by-case basis. An individual permit may be requested for detailed mixing zone (dilution) considerations, if warranted.

Total Dissolved Solids (TDS) - The Division's practice has been to include a TDS limitation of 3,500 mg/l where discharges are to surface waters that are used for livestock (range cattle) watering. This practice is based on EPA's "Blue Book" (Water Quality Criteria 1972 ("Blue Book"). U.S. Environmental Protection Agency. Wash., D.C.: U.S. Government Printing Office, #R3-73-003, 3/73. The "Blue Book" was developed by a Committee on Water Quality Criteria formed through the National Academy of Sciences. The Colorado State University (CSU) Cooperative Extension also uses the "Blue Book" values as recommendations for livestock watering (Livestock Drinking Water Quality, CSU Cooperative Extension, October 1993, Reviewed March 1999).

b. Whole Effluent Toxicity - The Division has established the use of Whole Effluent Toxicity (WET) testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is used as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Regulation 31, Section 31.11 (1).

The requirements for WET testing are implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010).

4. **Water Quality Regulations, Policies, and Guidance Documents**

a. Antidegradation – As required by Section 31.8 of The Basic Standards and Methodologies for Surface Water, an antidegradation (AD) review is required for discharges to "reviewable waters", except in cases where the regulated activity will result in only temporary or short term changes in water quality, or where the ratio of the low flow to the facility flow is 100:1 or more. Discharges permitted under this general permit are not normally temporary or short-term, thus, these discharges are not exempted from an AD review. Based on the information and data in the application, the permit writer will assess the ratio of the chronic low flow of the receiving stream to the facility design flow to determine if antidegradation applies.

The AD review is applicable only to water-quality based effluent limitations, not technology-based effluent limitations. For discharges eligible under this general permit, an antidegradation (AD) limit will be calculated as 15% of the Water Quality Standard, and the resulting effluent limitation will be identified as a site-specific limitation in the certification.

The permittee would then have the choice of this AD limit, or of a non-impact limitation (NIL). The NIL is either the limitation contained as of September 2000, or may be determined by the use of an implicit limitation if a previous limit did not exist. The implicit limit is determined as the maximum effluent concentration in the years prior to September 2000 (later data may be substituted on a case-by-case basis if data is unavailable from this time period). Alternately, if effluent data are not available, the division will include monitoring requirements in the permit so that data can be collected in order to make such a determination of an implicit limit. An individual permit will be required where the permittee requests consideration of dilution and ambient water quality.

In addition, the permittee may elect to perform an alternatives analysis. As this may be subject to public notice requirements, an individual permit will be required. See Regulation 31.8(3)(d) and the Division's Antidegradation Guidance document for more information regarding an alternatives analysis.

AD limitations will not be calculated for facilities discharging to segments that are impaired for a pollutant of concern. For these facilities, the water quality standard will be applied, as there is no new or increased impact to the assimilative capacity of the previously impaired stream segment.

b. Discharges to Threatened and Endangered (T&E) Species Designated Waters – Discharges to T&E waters are subject to the Memorandum of Agreement between the Division and the U.S. Fish and Wildlife Service. In summary, a discharge to a T&E water must achieve one of three options: 1) The permit contains end of pipe limitations based on the water quality standards; 2) the permittee installs a diffuser, and is then granted a portion of the assimilative capacity of the receiving stream; or 3) the discharge is relocated to a segment that is not designated as T&E habitat.

   For facilities discharging to T&E species designated water, all WQBELs must be met at the point of discharge (end-of-pipe) and therefore, the first option is met. End-of-pipe limitations will satisfy the MOA, and no further consideration is needed.

c. Antibacksliding – As the receiving waters are either designated Use-Protected, or the Division has performed an antidegradation evaluation in accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.

d. Implementation of Total Maximum Daily Loads (TMDLs) – When reissuing the renewal certifications and for new permit applications under this revised general permit, the Division will assess whether or not any permitted facility discharges to segments for which a TMDL has been completed and approved. As required under the Clean Water Act Section 303(d), TMDLs are submitted, through the normal public notification process, to EPA Region VIII for their review and approval.

   At the present time, at least twelve sand and gravel facilities in the Gunnison and Uncompahgre Basins with effective permit certifications are subject to a waste load allocation (WLA) in the February 2011 selenium TMDL for the Gunnison River and Tributaries, Uncompahgre River and Tributaries. The Division will establish effluent limitations, consistent with the requirements and assumptions of the TMDL, and as consistent with the Reasonable Potential Analysis described in Part VI.A.4.i, below. Selenium limitations will be applied as necessary in the permit certifications issued to facilities assigned WLAs in the TMDL.

   As part of the renewal, the Division included a provision in the general permit that authorizes including additional effluent limits and other terms and conditions in a certification for discharges to segments for which a TMDL has been completed. The Division will apply a limitation in the certifications consistent with the assumptions and requirements of the TMDL.

e. Determination of Discharges to 303(d) Listed Waters— When reissuing the renewal certifications and for new permit applications under this revised general permit, the Division will assess whether or not any permitted facility discharges to segments, or may effect a downstream portion of a segment, on the 303(d) list of impaired waters. The Division has included a provision in the general permit that authorizes the inclusion of additional effluent limits and other terms and conditions in a certification for discharges to segments that are on the 303(d) list of impaired waters. The determination of whether compliance with numeric effluent limitations is required will be made on a case-by-case basis.

f. Colorado Mixing Zone Regulations – With the exception of facilities discharging to segments assigned TMDLs, the mixing zone regulations do not apply to discharges covered under this general permit, as nearly all effluent limitations are applicable at the point of discharge (end of pipe). The Division is not considering mixing zones for this general permit due to the time and resources required to conduct a thorough analysis of the receiving stream and associated assimilative capacity.

g. Total Phosphorus – If the discharge from a facility, certified under this permit, ultimately impacts a water body subject to a Phosphorus Control Regulation, such as WQCC Regulations 71 – 74, restrictions on the amount of total phosphorus discharged may be placed in the certification under this general permit. These control regulations may impose total phosphorus concentration limitations. No

phosphorus data have been submitted from these facilities in the previous permit term. Reporting requirements and/or limitations will be implemented for facilities discharging to the basins specified by these regulations.

h. Salinity Regulations – In compliance with the Colorado River Salinity Standards and the Colorado Discharge Permit System Regulations (Regulation 39), the permittee shall monitor for total dissolved solids on a quarterly basis when discharging to the Colorado River basin. Data submitted during the previous permit term did not include loading calculations, and also displayed a large range of concentrations both between sites and within sites over time, rendering it difficult to determine compliance with the salinity standards. Therefore, reporting for both concentration and load (lbs/day) will be required in the permit certification.

i. Reasonable Potential Analysis – Regulation 61, Section 61.8(2)(b)(i)(A) requires that permit limitations be placed upon any discharged pollutant that causes or contributes to, or that has the reasonable potential (RP) to cause or contribute to, an exceedance of water quality standards. The Division's RP analysis is based on the Division's procedural guidance Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, dated December 2013. This guidance document utilizes both quantitative and qualitative approaches to establish RP depending on the amount of available data.

A qualitative determination of RP may be made where ancillary and/or additional treatment technologies are employed to reduce the concentrations of certain pollutants. Because it may be anticipated that the limits for a parameter could not be met without treatment, and the treatment is not coincidental to the movement of water through the facility, limits may be included to assure that treatment is maintained. This is the case for pH, selenium and other metals, and organic compounds in discharges from sand and gravel facilities.

A qualitative RP determination may also be made where a state or federal ELG exists for a parameter. This is the case for iron and fluoride (40 CFR Part 436-Mineral Mining And Processing Point Source Category).

To conduct a quantitative RP analysis, a minimum of 10 effluent data points from the previous 5 years, should be used. The equations set out in the guidance for normal and lognormal distribution, where applicable, are used to calculate the maximum estimated pollutant concentration (MEPC). For data sets with non-detect values, and where at least 30% of the data set was greater than the detection level, MDLWIN software is used consistent with Division guidance to generate the mean and standard deviation, which are then used to establish the multipliers used to calculate the MEPC. If the MDLWIN program cannot be used the Division's guidance prescribes the use of best professional judgment.

For some parameters, recent effluent data or an appropriate number of data points may not be available, or collected data may be in the wrong form (dissolved vs total) and therefore may not be available for use in conducting an RP analysis. Thus, consistent with Division procedures, monitoring will be required to collect samples to support a RP analysis and subsequent decisions for a numeric limit. A compliance schedule may be added to the permit to require the request of an RP analysis once the appropriate data have been collected.

For other parameters, effluent data may be available to conduct a quantitative analysis, and therefore an RP analysis will be conducted to determine if there is RP for the effluent discharge to cause or contribute to exceedances of ambient water quality standards. The guidance specifies that if the MEPC exceeds the maximum allowable pollutant concentration (MAPC), limits must be established and where the MEPC is greater than half the MAPC (but less than the MAPC), monitoring must be established.

Where there is no RP, no concentration based effluent limit is included. However, the division has prescribed ongoing monitoring to inform future RP analyses and TMDL implementation.

j. Intake Credits – The Division included a discussion of intake credits in this fact sheet in response to questions and written input received during the pre-public notice stakeholder process. In response comments received on the draft permit, the Division took a second look at the potential applicability of intake credits under the general permit. In doing so, the Division re-reviewed all available EPA guidance, including the EPA Region 8 memo on Intake Credits and the Region 5 Great Lakes System (GLS) rule which both discuss the application of intake credits.

In general terms, an intake credit refers to the extent that the presence of a pollutant in intake waters should be considered when conducting a reasonable potential analysis and in the establishment of effluent limitations. Allowances for intake credits under the Clean Water Act were originally designed to apply in the context of cooling water intake structures or similar water uses where water from a surface water diversion was not chemically modified before it was discharged to the same stream. Intake credits may be available for other industrial processes, but are only allowed under very specific circumstances. Regulation 61 prohibits the Division from issuing intake credits if issuance would be inconsistent with federal law (Regulation 61.8(2)(d)(i)).

As a preliminary matter, the Division concludes that intake credits incorporated into the general permit on an industry-wide basis are not appropriate under state or federal law. This position is consistent with numerous court decisions that have held that the application of intake credits can only be analyzed in the context of a particular factual setting. *See American Iron & Steel Inst. v. EPA*,115 F.3d 979, 999 (D.C. Cir.1997), *citing NRDC v. EPA*, 859 F.2d 156, 204-205 (D.C. Cir. 1988); *Diamond Shamrock Corp. v. Costle*, 580 F.2d 670, 674 (D.C. Cir. 1978).

Intake credit availability differs based on the effluent limitation in the permit. Intake credit rules vary for technology-based effluent limits ("TBELs"), water quality based effluent limits ("WQBELs"), and WLAs assigned under a TMDL. The draft sand and gravel general permit contains TBELs, WQBELs, and WLA requirements. Any intake credits incorporated into the draft general permit must be consistent with EPA's requirements for TBELs, WQBELs, and WLAs.

Intake Credits for a TBEL - EPA allows intake credits for TBELS if a discharger demonstrates that the intake water is drawn from the same body of water into which the discharge of effluent is made. 40 CFR §122.45(g)(4). The application of intake credits for TBELs is not at issue for this permit.

Intake Credits for a WQBEL - National federal guidelines for intake credits for WQBELs have not been codified. EPA takes different approaches for WQBEL intake credits at a regional level. For many years, the Division relied upon a 1992 EPA Region 8 memo for guidance. EPA also adopted more official intake credit guidance for WQBEL in the Water Quality Guidance for the Great Lakes System (EPA Region V). 60 F.R. 15366. The Great Lakes System approach is not a legal requirement in Colorado since it only applies to EPA Region 7 states. However, the Division reviewed this approach as useful guidance to aid in its determination of whether intake credits could be applied. The Region VIII and Region V approaches are consistent, but the Great Lakes System rule is' much more comprehensive.

Under the 1992 EPA Region 8 memo approach, intake credits are only available if: 1) the industrial activity discharging water in no way modifies the intake water character; 2) the point of diversion is the same waterbody as the point of discharge; and 3) the time of the discharge does not create a water quality standard exceedance that would not occur otherwise.

Under the Great Lakes System approach, EPA developed procedures for considering intake pollutants in determining reasonable potential and for establishing WQBELs. EPA has allowed Great Lakes States to

determine that there is no reasonable potential for the discharge of an identified intake pollutant or pollutant parameter to cause or contribute to an excursion above a narrative or numeric water quality standard where a discharger specific demonstration is made in accordance with Procedure 5 of 40 C.F.R. §132 Appendix F. This demonstration must be made as part of a permit application, and must show that all five of the following conditions are satisfied:

1) The facility withdraws 100 percent of the intake water containing the pollutant from the same body of water into which the discharge is made
2) The facility does not contribute any additional mass of the identified intake pollutant to its wastewater
3) The facility does not alter the identified intake pollutant chemically or physically in a way that would cause adverse impacts to occur that would not occur if the pollutants were left in the stream;
4) The facility does not increase the identified intake pollutant concentration
5) The timing and location of the discharge would not cause adverse water quality impacts to occur that would otherwise not occur if the identified intake pollutant were left in the stream. 40 C.F.R. §132 Appendix F Procedure 5.D.3.

1) Same Body of Water requirement:

In order to be considered the same body of water under Procedure 5, the permitting authority must determine that a pollutant in the intake water would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This can be demonstrated by showing that 1) the background concentration of the pollutant in the receiving water and the intake and the receiving water are the same; 2) there is a direct hydrologic connection between the intake and discharge points; 3) and the water quality characteristics are similar in the intake and receiving waters. An intake pollutant from groundwater may be considered to be from the same body of water if the permitting authority determines that the pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. Importantly, a pollutant is not from the same body of water if the groundwater contains the pollutant partially or entirely due to human activity, such as industrial, commercial, or municipal operations, disposed actions, or treatment processes (40 C.F.R. §132, Appendix F, Procedure 5 D.2).

The Division concluded that there has not been a sufficient demonstration that all sand and gravel facilities covered under the permit can sufficiently demonstrate the "same body of water" requirements under the Great Lakes System approach. Some commenters have argued that alluvial groundwater flowing into sand and gravel should generally be considered the same "body of water" as a surface water stream, based in part on assumptions of Colorado water rights administration and Water Quality Control Commission standards for alluvial wells. While these arguments have been made in general terms, they do not include site-specific analyses about intake and receiving water quality, hydrologic connection, and discharge characteristics for each covered facility. It is problematic to make general conclusions about the characteristics of the intake and discharge locations of all sand and gravel operations in the State of Colorado in the context of a general permit. Each individual mining operation has unique hydrology, and water that collects in a gravel pit may come from various sources. Making this conclusion on a state-wide basis is also inconsistent with previous decisions in the federal case law cited above.

2) Contribution of Additional Mass of Identified Pollutants:

Under the Great Lakes System approach, EPA also allows states to consider intake pollutants in establishing effluent limits where reasonable potential exists. A permitting authority can establish limits based on a principle of "no net addition" (i.e., the limit would allow the mass and concentration of the pollutant to discharge up to the mass and concentration of the pollutant in the intake water. The

permitting authority may establish effluent limitations allowing the facility to discharge a mass and concentration of the pollutant that are no greater than the mass and concentration of the pollutant identified in the facility's intake water ("no net addition limitations"). This procedure allows the discharge to design and operate its treatment system to only remove the mass and concentration of the pollutant contributed by their operations. This determination can only be made if a permittee can also demonstrate that the intake water is from the "same body of water" as the receiving water.

As stated previously, Division concluded that there has not been a sufficient demonstration that all sand and gravel facilities covered under the permit can sufficiently demonstrate the "same body of water" requirements; therefore the Division cannot issue an intake credit based solely on an analysis of the contribution of pollutant mass. However, looking at this issue independently, the Division also cannot concluded that, that "no reasonable potential" exists if intake credits were granted on an industry-wide basis to all covered facilities. There is not sufficient information about the individual intake and receiving water quality, and the water quality characteristic of the effluent being discharged from covered facilities to conclude that no reasonable potential exists. Furthermore, there is not sufficient information to determine the mass and concentration of intake water bodies and receiving water bodies. Without this information, the Division cannot conclude that all sand and gravel facilities throughout the state do not contribute additional mass of pollutants, are not increasing intake pollutant concentrations, do not alter the intake pollutant in a way that would cause adverse impacts, and are not timing their discharge in a way that would cause adverse water quality impacts.

Intake Credits when a TMDL has been established – As a general rule, intake credits are generally not available for waterbodies where a TMDL has been established. The development of a TMDL process is the preferred mechanism for addressing the equitable division of the loading capacities in non-attainment waters (see 60 FR 15371). Discharge limitations in a WLA apply regardless of background water quality. Any application of intake credits to WLAs would need to occur through the TMDL process rather than a permitting process. Here, a TMDL has already been established on the Gunnison River and Tributaries, Uncompahgre River and Tributaries. The concept of intake credits was raised during the TMDL development process. Intake credits were not applied in the development of selenium TMDLs being implemented in this permit. Intake credits cannot be independently established along these stretches as part of the permitting process. The TMDL specifically identifies sand and gravel operators as a point-source contributor of selenium. (TMDL, p. 57-58). Water treatment at sand and gravel facilities typically consists of retention in settling ponds, and little, if any selenium removal is accomplished. (TMDL, p. 58).

B. Parameter Evaluation

1. **Total Suspended Solids (TSS)** – Limitations for TSS in the renewal permit are based on both the federal ELG (as applicable to discharges from specific mining commodities) and Regulation 62.

   - *Industrial Sand and Graphite Mining*: The federal ELG (40 CFR Part 436) is applied to discharges consistent with Regulation 62.

   - The Regulation 62 TSS limitations are applied to all other process water discharges authorized by the permit, for which a federal ELG for TSS does not exist.

These limitations are the same as those contained in the previous permit and are imposed upon the effective date of this permit.

2. **Oil and Grease** – Limitations for Oil and Grease in the renewal permit are based on Regulation 62.

This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

3. **pH** – This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards. This limitation is the same as that contained in the previous permit and is imposed upon the effective date of this permit.

4. **Selenium**

   a. *Discharges to stream segments subject to the selenium TMDL* – The EPA approved a selenium TMDL for the Gunnison River and Tributaries, Uncompahgre River and Tributaries, in February 2011. The TMDL affects non-attainment portions of 12 stream segments in these water sheds. Currently, sand and gravel facilities discharge to 4 segments included in this TMDL as follows;

      Lower Gunnison- COGULG01, COGULG02
      North Fork of the Gunnison- COGUNF03
      Uncompahgre River- COGUUN04b

      The Division will implement a waste load allocation (WLA) in the permit certifications for facilities discharging within the segments listed in the TMDL consistent with the requirements and assumptions of the TMDL. In addition, consistent with Regulation 61.8(2)(i), all pollutants limited in permits shall have limitations, standards or prohibitions expressed in terms of concentration and mass or concentration and flow. Therefore, for facilities that are subject to a mass-based WLA for selenium, the Division may also implement a concentration-based limitation for selenium in the permit certification, based on a quantitative reasonable potential (RP) analysis as described in Part VI.A.4.i.

      For existing sand and gravel dischargers, the mass-based WLA listed in the TMDL for each segment is noted as 'WLA Sand and Gravel' or 'WLA' depending on the segment. A separate allocation for each facility was not assigned in the TMDL. Rather, to allow flexibility in implementation, the WLA for all sand and gravel facilities on a given segment is listed collectively, as one allocation (lbs/day). Thus, where more than one sand and gravel discharger is present on a segment, implementation of limitations for specific dischargers may be based on, or adjusted from, the design flow of the facility at the time of the TMDL, and the presence or absence of other sand and gravel dischargers on the segment since the development of the TMDL. For new sand and gravel dischargers, loading allocations may be based on the collective allocation within the TMDL, the 'WLA Reserve,' where applicable, or the water quality standard will be applied end of pipe.

      For all facilities, concentration-based limitations may be based on mixing zone considerations, where consistent with the TMDL. The TMDL notes that in some months certain segments may be in attainment (assimilative capacity is available) of the standard. As a result, the concentration-based limitations in these months may incorporate dilution, where available, using the monthly low flows documented in the TMDL.

   b. *Discharges to 303(d) waters listed for selenium* – Consistent with Division practice, this permit establishes monitoring requirements for these pollutants until such time as the TMDL(s) is complete and waste load allocations have been determined.

      The Division will require sampling and reporting of selenium data for discharges to 303(d) listed waters impaired for selenium. At a minimum, the sampling and reporting will be a "monitor and report" requirement. The Division may determine whether compliance with numeric effluent limitations is also required, on a case-by-case basis.

5. **Site Specific Organics, Inorganics, and Metals** – The Division may make a case-by-case determination as to whether organics, inorganics, and metals are potential pollutants of concern that must be limited and/or monitored to protect the classified uses assigned to the receiving water. The case-by-case determination will be made based on the chemicals used in the treatment process, pollutants of concern for the industrial sector, the potential for characterization of the mine dewatering water to change due to locations of contaminant plumes (such as Leaking Underground Storage Tanks, Corrective Action sites, Voluntary Clean-Up sites, Superfund site, etc.), and data used to characterize the mine water.

   a. *Discharges to 303(d) waters listed for arsenic, iron and manganese*: The Division may require sampling and reporting of iron and manganese data for discharges authorized under this permit, as they have been identified as pollutants that dewatering activities can increase in pollutant concentration and loading due to their presence in the dewatering environment. The Division also considered requiring sampling and reporting of arsenic data for discharges to 303(d) waters listed for arsenic, since arsenic is also present in the dewatering environment, it can be affected by the discharge activity. Due to the uncertainty in the underlying standard and the limitation of 'current conditions' for facilities existing prior to June 2013, the Division decided not to impose this requirement for this permit term.

      The effluent data collected during the course of this permit term will be used to make a new reasonable potential determination at the time of permit renewal in accordance with Clean Water Policy 1, Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential."

      The limitations for organics, inorganics, and metals are based upon the water quality standards contained in Regulation 31 and the basin regulations (Regulations 32-38). Standards for metals in the basin regulations that are shown as Table Value Standards (TVS) must be derived from equations that depend on the receiving stream hardness or species of fish present. These equations can be found in the basin regulations (Regulations 32-38).

      The effluent data collected during the course of this permit term will be used to make a new reasonable potential determination at the time of permit renewal in accordance with Clean Water Policy 1, Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential."

6. **Electrical Conductivity (EC or Specific Conductivity)** - Consistent with the discussion at A.3.a of this section, reporting for this parameter will be included in the permit certification.

7. **Whole Effluent Toxicity (WET) Testing** – The Division anticipates that the majority of discharges from sand and gravel facilities will not require WET testing; however, some discharges covered under this general permit may exhibit whole effluent toxicity based on the potential pollutant concentrations in the discharge (e.g., chemical additive use, or treatment or production processes that add pollutants to the discharge). Therefore, WET monitoring requirements or limitations may be imposed in the permit certification, on a case-by-case basis.

   For most certifications covered by this permit, a mixing zone is not applicable, and the low flow is considered to be zero. Therefore, consistent with the Division WET policy [Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010)], chronic WET testing will generally be applied in the permit certification. The WET dilution series will be specified in the certification, and will be 0% effluent (control), 20%, 40%, 60%, 80%, and 100% (effluent) for facilities for which a mixing zone is not applicable.

However, on a site-specific basis, the Division may apply acute WET testing requirements in the permit certification, consistent with the Division WET policy referenced above, for facilities that demonstrate to the Division that they qualify for acute WET testing.

The permittee should read the WET testing section of Part I.D and Appendix B of the permit carefully, as this information has been updated in accordance with the Division's updated WET policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). These sections of the permit outline the test requirements and the required follow-up actions the permittee must take to resolve a toxicity incident. The permittee should also read the above mentioned policy, which is available on the Permit Section website. The permittee should be aware that some of the conditions outlined above may be subject to change if the facility experiences a change in discharge, as outlined in Part II.A.2. of the permit. Such changes shall be reported to the Division immediately.

C. Parameter Speciation

1. **Total / Total Recoverable Metals (EXCEPT Arsenic)**

For standards based upon the total and total recoverable methods of analysis, the limitations are based upon the same method as the standard.

2. **Dissolved Metals / Potentially Dissolved**

For metals with aquatic life-based dissolved standards, effluent limits and monitoring requirements are typically based upon the potentially dissolved method of analysis, as required under Regulation 31, Basic Standards and Methodologies for Surface Water. Thus, effluent limits and/or monitoring requirements for these metals will be prescribed as the "potentially dissolved" form.

3. **Dissolved Iron and Dissolved Manganese if WS based**

The dissolved iron and chronic manganese standards are drinking water-based standards. Thus, sample measurements for these two parameters must reflect the dissolved fraction of the metals.

4. **Fluoride if WS based**

The fluoride standard is a drinking water-based standard. Therefore, to conservatively protect drinking water uses, sample measurements for this parameter must reflect the total fluoride method.

VII. ADDITIONAL TERMS AND CONDITIONS

A. Monitoring

Effluent Monitoring – Effluent monitoring is required as shown in the general permit document. Refer to the permit certification for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities.

B. Reporting

Discharge Monitoring Report – Facilities authorized under this permit must submit Discharge Monitoring Reports (DMRs). The final permit includes the requirement for electronic submission of DMRs to the division. Prior to December 21, 2016, the permittee may elect to electronically submit DMRs instead of mailing paper DMRs by using the EPA's Net-DMR service. Starting on December 21, 2016, the permittee must electronically report DMRs by using the EPA's Net-DMR service unless a waiver is granted in compliance with 40 CFR 127.

For those facilities subject to a WLA and associated concentration based WQBEL in the permit certification, DMRs shall be submitted on a monthly basis to assure loading calculations are as accurate as possible. DMRs shall be submitted on a quarterly basis for all other facilities. These reports should contain the required summary of the test

results for all parameters and monitoring frequencies identified in the permit certification. See the permit, Part I.F, for details on such submission.

Many facilities statewide are required to submit monthly DMRs, though the practice for the sand and gravel industry has been quarterly submission to reduce the burden to the permittees. For sand and gravel facilities subject to a selenium WLA, the increased DMR burden (monthly) is necessary to incorporate monthly variations in dilution that are included in the TMDL, which may result in monthly effluent limitations.

The Division considered requiring monthly DMR submittal to improve the accuracy of salinity loading for facilities discharging to the Colorado River basin. However, the Division found that more accurate salinity loading information can be obtained by requiring permittees to report quarterly total flow as well as a TDS concentration.

Special Reports – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. Permittees are no longer required to submit these reports to the US Environmental Protection Agency Region VIII.

C. Spills

Spill requirements apply to materials spilled that result in their presence in the discharge authorized under this permit. Spills that may cause pollution of state waters that are not discharged through an outfall authorized under this general permit are not within the scope of this general permit and are required to be reported in accordance with the Colorado Water Quality Control Act 25-8-601(2), since the Division views these actions as not authorized under the scope of a discharge permit. Additional information regarding reporting of unauthorized spills is contained in the Divisions Guidance for Reporting Spills.

D. Signatory and Certification Requirements

Signatory and certification requirements for reports and submittals are discussed in Part I.F.4 of the permit.

E. Compliance Schedules

Existing dischargers may be granted compliance schedules for any new effluent limitations applicable to the discharge. Some items requiring a compliance schedule may require an individual permit.

F. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

1. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or
2. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that the Water Quality Control Commission, during their proceedings to adopt the basin regulations, considered economic reasonableness.

Furthermore, no new information has been presented regarding the classifications and standards. Therefore, the water quality standard-based effluent limitations of this permit are determined to be reasonably related to the

economic, environmental, public health and energy impacts to the public and affected persons and are in furtherance of the policies set forth in Sections 25-8-102 and 104. If a party that desires coverage under this general permit disagrees with this finding, pursuant to 61.11(b) (ii) of the Colorado Discharge Permit System Regulations, they should submit all pertinent information to the Division during the public notice period.

VIII. PUBLIC NOTICE COMMENTS – See Appendix B for Division Response to Public Comments document.

IX. REFERENCES

A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number COG500000.

B. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 31, 2013.

C. Classifications and Numeric Standards for Arkansas River Basin, Regulation No. 32, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective December 31, 2013.

D. Classifications and Numeric Standards for Upper Colorado River Basin and North Platte River (Planning Region 12), Regulation No. 33, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2013.

E. Classifications and Numeric Standards for Upper San Juan River and Dolores River Basins, Regulation No. 34, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2013.

F. Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins, Regulation No. 35, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2013.

G. Classifications and Numeric Standards for Rio Grande Basin, Regulation No. 36, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective December 31, 2013.

H. Classifications and Numeric Standards for Lower Colorado River Basin, Regulation No. 37, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2013.

I. Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation No. 38, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2013.

J. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective January 30, 2012.

K. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective July 30, 2012.

L. Colorado River Salinity Standards, Regulation No. 39, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective August 30, 1997.

M. Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2010.

N. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.

O. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.

P. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2013.

Q. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.

R. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.

S. Implementing Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing. Colorado Department of Public Health and Environment, Water Quality Control Division Policy Permits-1, September 30, 2010.

T. Code of Federal Regulations, 40 CFR Part 132, Water Quality Guidance for the Great Lakes System, Office of the Federal Register, Government Printing Office, effective July 24, 1975 and as amended.

U. Code of Federal Regulations, 40 CFR Part 443, Paving and Roofing Materials (Tars and Asphalt) Point Source Category, Office of the Federal Register, Government Printing Office, effective July 1, 2015.

V. Code of Federal Regulations 40 CFR Part 436, Mineral Mining And Processing Point Source Category Point Source Category, Office of the Federal Register, Government Printing Office, effective October 16, 1975 and as amended.

W. McKee, Jack and Harold Wolf, Water Quality Criteria ("California Book") Sacramento, State of California Water Resources Control Board, 2nd Ed. 1963

X. Environmental Protection Agency, Office of Wastewater Management, Water Permitting 101. Available at: https://www3.epa.gov/npdes/pubs/101pape.pdf. Last accessed October 10, 2016.

Y. Environmental Protection Agency. Final Water Quality Guidance for the Great Lakes System. 60 Fed. Reg. 15366, March 23, 1995.

Z. Environmental Protection Agency Region VIII. Intake Credits. Memo Ref: 8WM-WQ, March 2, 1992.

APPENDIX A – Description of Standard Industrial Classification (SIC) Code Major Group 14 facilities

Major group 14 includes establishments primarily engaged in mining or quarrying, developing mines, or exploring for nonmetallic minerals, except fuels.

Dimension Stone (SIC code 1411) - Establishments primarily engaged in mining or quarrying dimension stone. Also included are establishments engaged in producing rough blocks and slabs.

Crushed and Broken Limestone (SIC code 1422) - Establishments primarily engaged in mining or quarrying crushed and broken limestone, including related rocks, such as dolomite, cement rock, marl, travertine, and calcareous tufa.

Crushed and Broken Granite (SIC code 1423) - Establishments primarily engaged in mining or quarrying crushed and broken granite, including related rocks, such as gneiss, syenite, and diorite.

Crushed and Broken Stone, Not Elsewhere Classified (SIC code 1429) - Establishments primarily engaged in mining or quarrying crushed and broken stone, not elsewhere classified.

Construction Sand and Gravel (SIC code 1442) - Establishments primarily engaged in operating sand and gravel pits and dredges, and in washing, screening, or otherwise preparing sand and gravel for construction uses.

Industrial Sand (SIC code 1446) - Establishments primarily engaged in operating sand pits and dredges, and in washing, screening, and otherwise preparing sand for uses other than construction, such as glassmaking, molding, and abrasives.

Kaolin and Ball Clay (SIC code 1455) - Establishments primarily engaged in mining, milling, or otherwise preparing kaolin or ball clay, including china clay, paper clay, and slip clay.

Clay, Ceramic, and Refractory Minerals, Not Elsewhere Classified (SIC code 1459) - Establishments primarily engaged in mining, milling, or otherwise preparing clay, ceramic, or refractory minerals, not elsewhere classified.

Potash, Soda, and Borate Minerals (SIC code 1474) - Establishments primarily engaged in mining, milling, or otherwise preparing natural potassium, sodium, or boron compounds.

Phosphate Rock (SIC code 1475) - Establishments primarily engaged in mining, milling, drying, calcining, sintering, or otherwise preparing phosphate rock, including apatite.

Miscellaneous Nonmetallic Minerals, Except Fuels (including Graphite) (SIC code 1499) - Establishments primarily engaged in mining, quarrying, milling, or otherwise preparing nonmetallic minerals, except fuels. This industry includes the shaping of natural abrasive stones at the quarry.

APPENDIX B – See Division Response to Public Comments document for Appendix B.