



Application for Permits to Mine in Alaska (APMA)- BLM Supplement E – Monitoring Plans

A Plan of Operations must include a monitoring plan as per 43 CFR 3809.401(b)(4), which is designed to:

- Demonstrate compliance with the Plan of Operations and other Federal or state laws and regulations.
- Provide early detection of problems that could lead to unnecessary and undue degradation (UUD).
- Supply information to assist in directing corrective actions.

Monitoring plans for placer mining in Alaska should generally include surface water quality, revegetation/reclamation progress, and settling pond freeboard. Prior to submitting your Plan of Operations, you may request BLM assistance in identifying relevant monitoring items. Other resource monitoring may be required as a condition of approval of your Plan after BLM review and processing.

The following list identifies the topics that must be included in the Monitoring Plan:

1. Proposed Monitoring Devices and Sampling Locations

The monitoring plan must describe what, where, and how samples or measurements will be collected. Collection of background levels should be included. Include a map that shows the location of monitoring points in relationship to the mining activity.

2. Sampling Process and Quality Control

Monitoring programs can include sampling by the operator, a consultant, or some combination of the two. Quality control and assurance procedures must be included in the monitoring plan to ensure that samples collected are representative of site conditions and accurate. The BLM may take check samples to verify the results provided by the operator or consultant.

3. Analytical Methods

The monitoring plans must describe how samples will be analyzed. This includes:

- Whether it will be a field measurement or a sample submitted for laboratory analysis.
- Whether the analysis will be done by mine staff or by an outside lab.

4. Reporting Procedures

The monitoring plan must describe how the results will be documented and reported to the BLM and other agencies, if appropriate.



5. Response Actions to Adverse Monitoring Results

Monitoring does not constitute mitigation. The monitoring plan must be tied to a mitigation or response action or corrective measure to reduce or prevent impacts if the monitoring results are adverse or unacceptable.

All monitoring plans must contain trigger levels that would require some action being taken to prevent the operation from causing UUD. Trigger levels may be linked to statutory requirements, such as a water quality standard for that particular site, as in the case of acceptable soil loss on a reclaimed slope. Response actions could vary from enhanced monitoring to remedial actions. Development of trigger levels and response actions is a site-specific consideration that depends on the resources present and the activity proposed by the Plan of Operations.

6. Reliance on other Federal or State Monitoring Programs

Another important aspect of monitoring plans is to avoid duplication with the monitoring requirements of state agencies or other Federal agencies. As a result, you are encouraged to incorporate other monitoring requirements into your Monitoring Plan.

7. Monitoring Plan Example

The following is a hypothetical description from a monitoring plan for a single water quality parameter to illustrate the monitoring concepts:

Monitoring at location A and B (see Map 1) will be completed on Some Creek. These locations are upstream (A) and downstream (B) of the mining activity. These locations will be sampled close in time daily by mine personnel or a contractor, generally in the morning. The sample will be collected at mid-depth and center of stream using a Hach 2100Q portable turbidimeter or equivalent device. Prior to sample collection the device will be calibrated using the device's calibration procedures. All calibration and sample results will be documented in a logbook and retained at the mine site, then transferred and submitted on a monthly basis to the BLM and the State. Monitoring results that includes determination of flow will be kept with the water quality results and reported as well. Any test results showing turbidity levels that exceed 5 NTU over the background levels coming into the mine site will be reported to BLM and the state within 24 hours. Operations will be suspended during the period of exceedance.

As shown in this simple example, the monitoring plan describes what is to be monitored, where and how it is monitored, and what is done when adverse results are reported. Whether the monitoring plan in the example is adequate to prevent the operator from causing UUD is determined during review of the Plan of Operations. Perhaps the stream should be sampled twice a day, or maybe only once a week.