

Mines Act Permit

Annual Reclamation Report Format Requirements Addendum

Shapefile (.shp) Submission Data Standards

The Ministry of Energy and Mines (MEM) has established an initiative to develop spatial data capabilities for permitting and tracking of mine activities. As part of this initiative, MEM is requesting that digital spatial files (shapefiles, .shp) be submitted with all 2015 annual reclamation reports. For the first phase of this initiative, MEM would like to receive spatial data for the following:

- permit boundaries
- disturbance areas
- reclaimed areas/ongoing reclamation

These three shapefiles should be submitted with the 2015 annual reclamation report for each mine, which is due by March 31, 2016. The information below provides guidance on how to construct the shapefiles with the attributes that MEM requires.

Permit boundary shapefiles should consist of the maximum disturbance area authorized by the mine's *Mines Act* permit. This area typically also includes management buffers (e.g., right-of-way for transmission lines and roads; buffers around mine components or riparian management zones). In contemporary permits, the maximum disturbance area (and associated figure) is included in the conditions of the permit; however, if this is not the case for your site, you may need to refer to the permit application and/or associated documents for the relevant details.

Disturbance area shapefiles should include all areas disturbed in the past or present due to any mining activities covered by the *Mines Act* permit. This includes areas cleared of vegetation and any roads that are currently active or have not yet been deactivated and reclaimed. For this exercise, MEM requests that the disturbance is classified by "Disturbance Type", where the type should match the categories tabulated in Table 1 of the Annual Reclamation Report (Summary of Areas Disturbed and Reclaimed to December 31, 2015).

Reclaimed area/ongoing reclamation shapefiles should correspond to areas reported in tables and maps provided in the annual reclamation report. To simplify reporting, MEM asks that you indicate the status of reclamation activities by using "none", "ongoing" or "complete". The reclaimed areas (i.e., where reclamation has been completed) should correspond to the total reported in Table 1 of the annual reclamation report (Summary of Areas Disturbed and Reclaimed to December 31, 2015). A second classifier, "Disturbance Type", should be included in the shapefile attribute table that corresponds to the type categories in Table 1. If you enter "ongoing", please include the date that reclamation activities began in the "Reclamation Date" field. If you enter "complete", please include the date that reclamation activities were completed in the "Reclamation Date" field. If you wish to include additional details, please do so in the comments field.

What is a Shapefile?

A shapefile is a simple format for storing the location and attribute information of geographic features. A shapefile can only store one type of geographic feature (e.g., points, lines, polygons), but a single shapefile can hold multiple shapes, with a corresponding record to contain the attributes for each shape.

Shapefiles submitted with 2015 Annual Reclamation Reports must follow the data standards below.

Geometry

The shapefile must be a **POLYGON** feature type.

Coordinate System Required

The Shapefile must be in BC Albers.

Naming Convention

Mine Permit, underscore, Year, underscore, Mine Name, underscore, Data Type (e.g., Permit Boundary, Reclaimed Area, Disturbance Area)

e.g., M-300_2015_GoldMine_Permit Boundary

Attribute Table Data Standards

Each shapefile's attribute table must conform to the standards below.

Permit Boundary Fields and Descriptions:

| Shapefile Field Description: | Shapefile Field Name: | Data Type: | Example: | Example Description: |
|------------------------------|-----------------------|------------|------------|----------------------|
| Mine Number | MINE_NO | Text – 10 | 000001 | |
| Mine Permit | PERMIT_NO | Text – 10 | M - 999 | |
| Mine Name | MINE_NM | Text – 50 | Gold Creek | |
| Mine Type | MINE_TYP | Text – 6 | M | Mineral |
| Year | YEAR | Text – 6 | 2015 | |

Disturbance Fields and Descriptions:

| Shapefile Field Description: | Shapefile Field Name: | Data Type: | Example: | Example Description: |
|-------------------------------|-----------------------|------------|------------|----------------------|
| Mine Number | MINE_NO | Text – 10 | 000001 | |
| Mine Permit | PERMIT_NO | Text – 10 | M - 999 | |
| Mine Name | MINE_NM | Text – 50 | Gold Creek | |
| Mine Type | MINE_TYP | Text – 6 | M | Mineral |
| Year | YEAR | Text – 6 | 2015 | |
| Disturbance Identifier | DSTB_ID | Text – 6 | 1 | |
| Disturbance Type | DSTB_TYPE | Text – 6 | Road | |
| Disturbance Date | DSTB_DATE | DATE | 06/01/2014 | June 1, 2014 |

Reclamation Fields and Descriptions:

| Shapefile Field Description: | Shapefile Field Name: | Data Type: | Example: | Example Description: |
|------------------------------------|-----------------------|------------|---|--|
| Mine Number | MINE_NO | Text – 10 | 000001 | |
| Mine Permit | PERMIT_NO | Text – 10 | M - 999 | |
| Mine Name | MINE_NM | Text – 50 | Gold Creek | |
| Mine Type | MINE_TYP | Text – 6 | M | Mineral |
| Year | YEAR | Text – 6 | 2015 | |
| Reclamation Area Identifier | RECL_ID | Text – 6 | 1 | |
| Reclamation Activity Status | RECL_ACT | Text - 10 | Ongoing | Reclamation activities are ongoing. |
| Disturbance Type | DSTB_TYPE | Text – 6 | Road | |
| Reclamation Date | RECL_DATE | Text – 6 | 2014 | Activities conducted in 1998, 2002, 2005, 2014 |
| Comments | COMMENTS | Text – 254 | Using same camp area in 2016, no need to reclaim this year. | |

Attribute Table Fields Data Standards:

The shapefile attribute table for the mining annual summary activities must use these codes:

| | | |
|------------------|-----------------------|---|
| MIN_TYPE | Mine Type | <i>Codes for Mine Type: P, M, C, S&G, Q</i> |
| MIN_DESC | Mine Type Description | Placer, Mineral, Coal, Sand and Gravel, Quarry |
| RECL_ACT | Status of Reclamation | None, Ongoing, Complete |
| DSTB_TYPE | Disturbance Type | <i>Codes for Disturbance Type:</i> WD - Waste Dumps TP - Tailings Pond PS - Plant Site RD - Roads ADMIN - Administration PIT - Pit SP - Stockpiles LI - Linear O - Other |

PLEASE NOTE: If you have modified the Table 1 Disturbance Type categories, you will need to include a description of the codes used if they differ from those provided above.