

## **SWMP ADMINISTRATOR**

The designated Merit SWMP administrator is Glenn Markgraf who is the District Manager with the company. Following provides contact information:

Mr. Glenn Markgraf  
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The SWMP administrators' responsibilities include but are not limited to the development, implementation, maintenance, and revision of the SWMP. Following provides areas of responsibility for the SWMP administrator:

- Authority who dedicates the necessary financial and human resources to implement the SWMP;
- Implements spill clean up procedures;
- Notifies local authorities and local residents in the event that a significant release of stormwater and sediment that leaves a pad area;
- Signatory authority;
- Coordinates various stages of plan development and implementation;
- Conducts and/or administers inspections;
- Coordinates employee training programs;
- Maintain all records;
- Ensure that all appropriate reports are submitted as necessary;
- Coordinate the implementation of the preventive maintenance program; and
- Oversees spill response and housekeeping measures.

## **IDENTIFICATION OF POTENTIAL POLLUTANT SOURCES**

In order to identify, evaluate, and assess potential sources of stormwater runoff pollutants that may be at a pad, the following activities and pollutant sources were evaluated:

- Loading and unloading operations;
- Outdoor storage activities;
- Significant dust or particulate generating processes;
- On-site pad, waste disposal practices;
- On-site pad activities;
- Off-site soil tracking controls
- SARA Title III Section 313 water priority chemicals; and

- Significant spills or leaks of toxic or hazardous substances.

#### Loading and unloading operations

The majority of loading and unloading activities occur during well drilling and well completion activities. Well drilling and completion surfactants, friction reducers, dilute hydrochloric acid, potassium chloride solutions, drilling mud, and other fluids are transported or unloaded directly into the well from trucks, on site tanks, and the reserve pit. Dry drilling mud components are contained in paper bags and are stacked on pallets, which are unloaded using a forklift or by hand. In the event of a spill, the SWMP material handling and spill prevention procedures will be followed. Other activities include unloading of drill pipe (casing), completion pipe, and natural gas line pipe, which are not potential pollution sources.

#### Outdoor storage activities

Outdoor storage activities were reviewed and inspected and there are no chemicals or stormwater pollutant sources stored at these pads.

#### Dust or particulate generating processes or activities

An evaluation of dust or particulate generating processes or sources was completed and one source was identified that may produce dust and particulates. Dust and/or particulates generated from vehicle traffic on access roads may produce fugitive emissions. Dust and particulate generation is at its' highest during dry and hot times of the year. If dust from vehicle traffic on access roads becomes significant, dust suppression procedures will be implemented that include road watering or the application of dust suppressants.

#### On-site waste disposal practices

All waste from materials imported to the construction site are removed for disposal/recycling to an appropriate licensed disposal/recycling facility. This also includes sanitary sewage facilities (typically portable). No waste-materials shall be buried, dumped, or discharged to waters of the State.

#### On-site pad activities

The most common substances that may be spilled on a pad area are: 1) fuel and lubricants used by vehicles and construction equipment; 2) frac fluids (surfactants, friction reducers, hydrochloric acid, and potassium chloride) used during well completion procedures; 3) production water from the well; and 4) produced crude oil and condensates.

### Off-site Soil Tracking Controls

Properly constructed and graveled roads and pads provide the best off-site tracking control. Merit's policy is to gravel the entry of access roads adjacent to paved county roads in order to prevent or minimize any off-site soil tracking from pad areas or access roads.

### SARA Title III Section 313 Water Priority Chemicals

No spills of water priority chemicals have occurred at any pad; consequently, no SARA Title III Section 313 water priority chemicals have been release or spilled.

### Significant spills or leaks of toxic or hazardous substances

No toxic or hazardous substances spills or leaks have occurred at any of the Merit pads.

### Waters of the State

All Wattenberg Field area drainages eventually empty into the South Platte River. The area drainage for each pad is entered on each pad inspection form.

### Runoff coefficients

Runoff coefficients for pad locations within the Wattenberg Field vary from 0.05 to 0.20 and are not expected to significantly change. Pad areas range from flat cropland to slightly hilly rangeland.

## **BEST MANAGEMENT PRACTICES**

### Material Handling and Spill Prevention

Merit is committed to operating the Wattenberg Field project in accordance with Section 112.7 of the Oil Pollution Prevention Regulations that are issued under the Federal Water Pollution Control Act (40 CFR Part 112). These regulations require the owners/operators of certain facilities and projects to prepare and implement a Spill Prevention Control and Countermeasure (SPCC) plan. Copies of Merit's SPCC and SWMP plans are kept on file at the Merit Evans Field Office.

The Merit SPCC plan contains information pertaining to the potential for oil (as defined in 40 CFR Part 112.2) to impact stormwater discharges. The plan also provides the quantities of oil that potentially could be discharged from a pad. The SPCC plan contains employee training information pertaining to spill prevention and response. Agencies to be contacted in the event of a release or spill are listed in the SPCC plan.

Hazardous materials and petroleum products used in construction of a pad include fuel and lubricants for construction equipment and vehicles; small quantities of paints and solvents; water or gel based frac fluids (surfactant, friction reducer, dilute hydrochloric acid, potassium chloride) used during well completion; produced water; and, crude oil/condensate. Material Safety Data Sheets (MSDS) for materials to be used or that are produced are listed in the Health and Safety Plan, which is filled at the Merit Evans Field Office.

Refueling and lubrication of vehicles and equipment will be conducted a minimum of 100 feet from flowing streams and wetlands. Any spills will be promptly cleaned and contaminated materials will be hauled off-site and disposed of/recycled properly. Quantities of fuel and lubricates will be limited to “as-needed” for the immediate operations underway.

### Sediment and Erosion Control

Sediment and Erosion control will be accomplished through a combination of construction techniques, vegetation and revegetation, and structural features. The book entitled “Field Manual on Sediment and Erosion Control Best Management Practices for Contractors and Inspectors” (Field Manual) by Jerald S. Fifield will be an indispensable component of Merit’s SWMP in order to accomplish the goals and requirements of the SWMP.

#### **Erosion Reduction and Control**

Construction of a pad requires the removal of vegetative cover and topsoil that increases peak flood flows, water velocity, and the volume of stormwater runoff. An increase in water runoff volume and velocity results in increased erosion. Erosion reduction and control will be accomplished by using the following erosion control methods: diversion and control of runoff water, vegetation planting and maintenance, and application and maintenance of mulches.

Runoff control procedures that will be used to mitigate and reduce the erosive and sediment transport forces of stormwater during and after construction of a pad will include but will not be limited to the following:

- Temporary slope drains;
- Vegetative buffer strips;
- Grass-lined channels;
- Diversion dikes;
- Conveyance channels;
- Rock-lined channels;
- Check dams; and
- Culverts

#### **Sediment Reduction and Control**

The control and reduction of sediment contained in stormwater runoff will be accomplished by the use of sediment containment systems. Sediment containment systems are hydraulic controls that allow the deposition of suspended particles by gravity. Some of the more

common systems are silt fences, sediment basins, sediment ponds, and sediment traps. Sediment controls that will be used are listed in the SWMP inspection section and include sediment containment systems, barriers, and check systems (e.g. silt fence, silt containment, etc.)

## Structural Practices

The following structural site management practices are expected to reduce, minimize and control erosion and sediment transport.

- In order to minimize disturbances associated with installation of pads, level and gently sloping terrain outside the project area will not be graded, except where necessary.
- Silt barriers (e.g. brush dams, rock filter dikes, silt fences, hay bales, or water bars) will be installed as needed on down-gradient portions of project areas.
- Side hill cuts (cut slopes) will be kept to a minimum to protect local resources while providing a safe and stable plane for the efficient and safe use of equipment.
- Where conditions warrant, erosion control structures such as berms, water bars, diversion or collection channels, terraces, or culverts will be constructed to divert water away from project areas. These control structures will also reduce soil erosion along and adjoining areas disturbed during construction.
- In areas that have steep slopes water bars or runoff diversions may be installed. Guidelines for the spacing of diversion structures are listed in Table 1 below. When used, water bars will generally begin and end in undisturbed ground at approximately a 2% slope.

Table 1	
Spacing for Erosion Control Structures (BLM Gold Book)	
Slope	Diversion Spacing (feet)
2%	200
2-4%	100
4-5%	75
5+%	50

- Culverts may be installed at a grade ranging from 2-5 percent. Inlet protection may include inlet aprons and rock armoring around the culvert perimeter while below grade inlet sumps may be installed to enhance sediment deposition. Outfall protection may include the use of a rock barrier to slow the discharge of runoff water. Culvert pipe or outfall protection will be extended to the toe of the slope on the discharge end.
- During the reclamation of a pad all cut and fill slopes in steep terrain will be graded and contoured to blend into the adjoining landscape. Natural drainage patterns will also be reestablished. When possible cut and fill slopes will be constructed so they are no steeper than a 1 to 3 ratio.

- Reclaimed pads may have a fence constructed around areas that have been seeded. These fences will be installed in order to keep livestock and vehicles off reseeded areas.

### **Implementation of Structural Practices**

The following sediment controls may be utilized at pad areas: vegetative filters, brush dams, rock filter dikes, silt fences, straw bale dikes, water bars, sediment traps, sediment basins, or equivalent sediment controls. These sediment controls structures will be installed so as to protect down slope surface waters, wetlands and roads from sediment flow due to runoff from a precipitation event.

All graded surfaces, walls, dams and structures, vegetation, erosion and sediment control measures and other protective devices identified in the pad plan will be maintained, repaired, and restored as necessary.

### **Pad Preparation**

Existing vegetation cover and topsoil will be removed only where necessary for the operation of equipment and construction of the pad. Trees and large shrubs that are not cleared from the pad area will be protected from damage during construction by avoiding them with equipment. For example, the blade of a bulldozer will maintain in a raised position except for areas designated.

Trees will be cut or trimmed only to facilitate clearing, grading, and safe installation of a pad. Trees outside the area of disturbance will not be cut, but may have overhanging limbs removed by cutting.

### **Excavation**

Excavated materials will be stored next to the pad in order to construct a flat pad. Topsoil will be stockpiled in one location and other soils will be stockpiled in a separate and different location. Excavation in especially sensitive areas may be conducted according to special techniques as specified by the landowner/agency representative.

Materials excavated will be utilized as backfill when practical. An exception may be excess rock generated by rock blasting excavating activities. In these areas, some select backfill materials may be required to protect the project area. Excess rock may be pushed into rock filter dikes, used in energy dissipation zones below culverts, constructed into rock check dams within grassed swales, or distributed over a portion of the project area.

All cut slopes made in steep rolling terrain during construction will be regraded and contoured to blend into the adjoining landscape and natural drainage patterns will be reestablished.

Temporary workspace areas will be restored to approximate pre-construction conditions.

## **Streams and Sensitive Areas**

None of the Merit pads or access roads intrude or encroach on any wetland acreage. During construction near perennial streams, lakes or wetlands, the utilization of sedimentation (detention) basins, silt fences, straw bales, or fabric filters may be considered in order to prevent suspended sediments from reaching down gradient watercourses, streams, lakes or wetlands.

Where appropriate water bars or sediment filters, such as staked straw bales or silt fences will be constructed adjacent to crossings to reduce potential sedimentation in streams or wetlands.

## **Other Controls**

All waste from materials imported to the construction site will be removed for disposal/recycling to an appropriate licensed disposal/recycling facility, including sanitary sewage facilities (typically portable). No wastes of imported materials shall be buried, dumped, or purposely discharged to waters of the State. There are no other pollutant sources from areas other than construction areas.

To prevent tracking of sediment (mud and rocks) onto paved public roads, the entry area of access roads will be graveled. Other means such as scoria or cattle guards may be utilized if appropriate.

## **Maintenance**

Maintenance of erosion and sediment control systems will be the responsibility of Merit. Maintenance will be performed on an as-needed basis based upon inspections conducted at the pad area. The "Preventive Maintenance" section should also be reviewed for further maintenance information.

## **Final Stabilization and Long-Term Stormwater Management**

### ***Reclamation***

Unless otherwise directed by the landowner or the jurisdictional authority, rocks, cut vegetation, and other surface material temporarily stockpiled during construction will be redistributed as backfill on the project area.

Disturbed areas will be seeded using seed mixes appropriate to the location. Local soil conservation authorities with the U.S. Natural Resources Conservation Service, surface owners and/or reclamation contractors familiar with the area may be consulted regarding the correct seed mix to be utilized. The majority of Merit's locations in the Wattenberg Field are in crop areas. The surface owner will take care of the specific crop seeding.

On terrain where drill seeding is appropriate, seed may be planted using a drill equipped with a depth regulator to ensure proper depth of planting. The seed mix will be evenly and uniformly planted over the disturbed area. Drilling will be used where topography

and soil conditions allow operation of equipment to meet the seeding requirements of the species being planted. Broadcast seeding will occur on steep terrain and on areas where the cut vegetation and rocks were redistributed over a right-of-way.

Seeding will be done when seasonal or weather conditions are most favorable according to schedules identified by the jurisdictional authority, reclamation contractor, or landowner. Whenever possible, seeding will be timed to take advantage of moisture, such as early spring or late fall, which will benefit from winter precipitation.

Seed mixes will be planted in the amount specified in pounds of pure live seed/acre. No primary or secondary noxious weeds shall be in the seed mix.

The reestablishment of vegetative cover as well as watershed stabilization measures will be scheduled during the working season and before the succeeding winter. Revegetation will be accomplished as soon as practical following the reclamation of a pad.

In general, the applicable portions of the project area will not be mulched during reclamation and revegetation. Mulch will only be applied at the request of the jurisdictional authority in areas where the cut vegetation and rocks are not redistributed over the disturbed area. The cut vegetation and rocks will act like mulch in the areas where they are applied. Where straw or hay mulch is requested, the mulch will be applied and crimped into the soil.

The need for fertilizers will be determined in conjunction with the jurisdictional authority. If fertilization is necessary, the rates of application will be based on site-specific requirements of the soil.

### ***Post-Construction Structural Measures***

Permanent water bars and trench plugs may be installed on steep slopes according to Table 1 and at wetland and stream crossing boundaries.

After restoration and reclamation work is complete, required repairs to vegetation and erosion and sediment control structures will be completed as required by routine scheduled inspections and/or in response to other notifications.

### ***Finally Stabilized***

According to stormwater regulations, “finally stabilized means that all disturbed areas have been either built on, paved, or a uniform vegetative cover has been established with a density of a least 70 percent of pre-disturbance levels and the vegetation cover is capable of providing erosion control equivalent to pre-existing conditions, or equivalent permanent, physical erosion reduction methods have been employed.”

## **STORMWATER DISCHARGE SAMPLING INFORMATION**

Sampling and testing of stormwater for specific parameters is not required at present. However, the Department of Environment may reserve the right to require sampling and testing on a case-by-case basis. Sampling and testing is generally required due to non-compliance with the SWMP or to measure the effectiveness of the Best Management Practices listed in the SWMP.

## **REPORTS**

No regular reporting is required.

## **SWMP SUBMITTAL UPON REQUEST**

Upon request Merit will submit a copy of the SWMP to the CDPHE, or any local agency in charge of approving sediment and erosion plans, grading plans or stormwater management plans.

## **PREVENTIVE MAINTENANCE**

Preventing stormwater from passing through pad areas where contamination may occur is a key element of preventative maintenance. Another key element of preventative maintenance is the routine inspection and repair of erosion and sediment control structures. Regular cleaning of diversion ditches to keep them free of debris and sediment will be practiced. Spillways and culvert systems will also be routinely cleaned and inspected. These maintenance procedures will help to insure that the stormwater does not leave intended channels.

The following preventive maintenance procedures will be implemented to reduce or eliminate potential stormwater contamination sources that may exist on a pad:

- Storage containers, fuel tanks, and equipment used during construction activities should be visually inspected routinely for obvious leaks. These inspections should be conducted by site and contractor personnel as they perform their routine duties;
- Storage containers will be properly labeled so an enclosed substance can be quickly identified. OSHA-approved labeling and sign systems will be followed for all secondary containers;
- Erosion damage to the earthen berms, outfalls, silt barriers, collection channel, containment ponds, and any erosion and sediment control will be repaired in a timely manner;
- Areas of stained soil will be inspected in order to identify the sources of the stain. Contaminated soil will be removed and properly disposed;
- Energy dissipating material, such as riprap, will be placed at the stormwater outfalls to prevent erosion damage. Although there may be a number of pads that may not currently have distinct outfalls, energy-dissipating material such as cobbles or gravel may be used to minimize erosion due to stormwater. Barrow ditches should be free from vegetation and debris which may cause impounding of stormwater; and

- Stormwater management structures will be cleared of debris and repaired when necessary; and surface runoff controls such as curbing, culverts, and ditches will be used to control runoff.

## **GOOD HOUSEKEEPING**

In accordance with Best Management Practices that provide procedures to eliminate contamination, direct, divert, and contain stormwater, the Merit Wattenberg Field project has implemented a number of housekeeping practices that will help prevent soil sediment, trash, and toxic or hazardous substances from entering navigable waters.

Housekeeping practices include regular cleaning, organization and maintenance of pad equipment and erosion and sediment control structures throughout the project. Areas where chemicals are stored and used at the project are stored in buildings where there is no potential for stormwater contact. These areas include producing pads that typically consist of wellheads, separator units, produced water tanks, and 300-barrel capacity above ground stock tanks.

### General Procedures

The following items will be addressed in order to maintain a clean and orderly pad during the development, production, and abandonment phases of work:

- Inspect pad areas routinely;
- Correct deficiencies noted during inspections;
- Clean and maintain stormwater management structures and components;
- Routine trash collection and disposal;
- Familiarize employees and contractors with spill clean-up equipment and storage locations;
- Familiarize employees and contractors with good housekeeping procedures and pad pollution prevention procedures.

### Material Storage

The following good housekeeping practices will be followed at the material storage areas:

- Storage containers will be stored away from direct traffic to prevent accidents. They will also have proper labels;
- Dumpsters and trash receptacles will be enclosed in order to prevent the dissemination of refuse;
- Storage areas will be kept free of refuse;
- Chemical substances used at pads will be properly labeled. Chemicals used at pads will have proper spill containment.
- Chemical substance containers will be clearly labeled and a MSDS will be on file.

## **SPILL PREVENTION AND RESPONSE PROCEDURES**

Merit is committed to operating in accordance with Section 112.7 of the Oil Pollution Prevention Regulations issued under the Federal Water Pollution Control Act (40 CFR Part 112). These regulations require the owners/operators of certain facilities to prepare and implement a Spill Prevention Control and Countermeasure plan (SPCC plan). Copies of the SPCC and SWMP plans are filed and maintained at the Evans Field Office.

The SPCC plan contains information addressing the potential for oil, as defined in 40 CFR Part 112.2, to impact storm water discharges and the quantities of oil that potentially could be discharged. The SPCC plan provides employee training pertaining to spill prevention and response.

Federal, State, and Local agencies to be contacted in the event of a release and spill cleanup are listed in Table 2. Spill cleanup contractors are listed in Table 3.

**TABLE 2**

**PUBLIC SAFETY OFFICIALS AND GOVERNMENT AGENCY NOTIFICATION**

**PUBLIC SAFETY NOTIFICATION**

Fire .....911  
Police.....911

**GOVERNMENT AGENCY NOTIFICATIONS - VERBAL**

National Response Center and Terrorist Hot Line.....1-800-424-8802  
(24 hr/day-7 days/week)  
Colorado Environmental Release and Incident Reporting.....1-877-518-5608  
(24 hr/day-7 days/week)  
Colorado Oil and Gas Conservation Commission.....(303) 894-2100  
(8:00 to 5:00)  
Colorado Department of Public Health and Environment..... (303) 692-3517  
Kathryn Dolan, Stormwater Program Coordinator (8:00-5:00)

**GOVERNMENT AGENCY NOTIFICATIONS - WRITTEN**

Report spills that have the potential to reach or have reached state waters to:

National Response Center and Terrorist Hot Line.....1-800-424-8802  
(24 hr/day-7 days/week)  
Colorado Environmental Release and Incident Reporting.....1-877-518-5608  
Colorado Oil and Gas Conservation Commission.....(303) 894-2100  
(8:00 to 5:00)

**TABLE 2**

**PUBLIC SAFETY OFFICIALS AND GOVERNMENT AGENCY NOTIFICATION  
(Continued)**

**GOVERNMENT AGENCY NOTIFICATIONS - WRITTEN**

U.S. Department of Transportation.....(202) 260-8500  
Office of Pipeline Safety  
Information Resource Manager  
Washington, DC 20590

U.S. Department of Transportation.....(303) 231-5701  
Office of Pipeline Safety Western Region  
12600 West Colfax Avenue, Suite A250  
Lakewood, CO 80215

**TABLE 3**

**SPILL CLEANUP CONTRACTORS**

<u>CONTRACTOR</u>	<u>PHONE #</u>	<u>SERVICE</u>
DJR Well Service, Inc.	(303) 659-8007	Backhoe service & spill cleanup
Holloway Enterprises	(970) 284-6251	Backhoe service & spill cleanup

## **EMPLOYEE TRAINING**

Merit will inform and train employees who are involved with SWMP activities. Training will cover information and procedures contained in the SWMP and will be on an annual basis. Personnel work responsibilities will be used to identify the appropriate attendees. Safety and environmental elements of the SWMP will also be covered. At a minimum, the following topics will be presented and discussed during SWMP training:

- SWMP Administrator
  
- Introduction to NPDES Stormwater Permit
  - Stormwater regulations;
  - Purpose of stormwater permit,
  - Requirements of stormwater permit.
  
- Components of the SWMP
  - Identification of potential pollutant sources;
  - Best management practices;
  - Preventative maintenance;
  - Good housekeeping;
  - Spill prevention and response procedures;
  - Inspections and maintenance, and
  - Record keeping
  
- Consistency with other plans

## **RECORD KEEPING**

The following record keeping procedures will be followed in order to provide accurate and complete documentation of events associated with the stormwater management program. A SWMP inspection form is located in the next section (Inspections) and will be used for all SWMP inspections. Routine inspections will include the 14-day, monthly, and after a precipitation event. Stormwater related inspection records, site maps, and diagrams will be also filled. All stormwater related records will be filled and stored by Merit for three years

## **INSPECTIONS**

Inspections will be conducted in order to document the status of pollution prevention and control measures, erosion and sediment control structures, and revegetation efforts. Inspection reports will document non-compliance conditions such as uncontrolled releases of mud, muddy water, or measurable quantities of sediment that are found off-site. Required action or modifications as documented on the inspection form will be implemented in a timely manner, but shall be completed within 7 calendar days after the inspection. Routine inspections will be conducted at pad areas during all phases of work and after a precipitation related event. All inspection

observations will be recorded on the SWMP inspection form that is located in this section. The inspection form provides a standardized format that will be completed during all inspections.

Personnel responsible for inspections shall be trained to evaluate stormwater management concerns, erosion and sediment control structures, and to evaluate pad and surrounding area vegetation.

#### 14-day inspection/Active Site (Development Work Phase)

The development work phase includes the construction, drilling, completion, and interim reclamation of the natural gas wells. This phase of work is classified by the EPA as the active phase and the inspection frequency is every 14 days. According to the Colorado Oil and Gas Conservation Commission (COGCC) regulations, the development phase generally is completed within one year after the production of natural gas. Inspection of active pads will be conducted at least every 14 days and after any precipitation or snowmelt event that causes surface erosion.

The pad perimeter, disturbed areas, and any stored materials that are exposed to precipitation will be inspected for evidence of, or the potential for pollutants that may enter the drainage system. Erosion and sediment control systems that are identified on the “SWMP pad and access road inspection form”, which is site specific, will be inspected to ensure that they are in good condition and operating properly.

#### Monthly inspection/Completed Site (Production Work Phase)

The production phase includes the operation and maintenance of producing wells. This phase of work is classified by the EPA as a completed site and the inspection frequency is monthly. The production phase time period is approximately 20 years. After final pad reclamation has been initiated and during the production phase of a pad, inspections will be conducted at least every month and after any precipitation or snowmelt event that causes surface erosion. This inspection frequency will be continued until the pad area achieves or reaches final stabilization vegetation conditions, at which time inspections are discontinued.

#### Finally Stabilized

After final pad area reclamation has been initiated, inspections will be conducted at least monthly and after any precipitation or snowmelt event that causes surface erosion. This inspection routine will be conducted until the pad area has achieved the status of “finally stabilized”.

#### Winter Conditions

Inspections will not be required at pads where snow cover exists over the entire site for an extended period as long as melting conditions do not exist.

**SWMP Inspection and Maintenance Form**

**Merit SWMP Pad and Access Road  
Inspection and maintenance Form**

Pad I.D.: \_\_\_\_\_

Date: \_\_\_\_\_ Inspector: \_\_\_\_\_ Signature: \_\_\_\_\_

Inspection Type:      14 day (Active)       Monthly (Completed)       Precipitation Event

Distance to Waters of State (Dry Swale, Stream Channel, River) \_\_\_\_\_

<b>Vegetation Checklist (Erosion Reduction Control)</b>				
Is the Vegetation Growth uniform and at least 70% of pre-disturbance Yes <input type="checkbox"/> No <input type="checkbox"/>				
Is the Vegetation Erosion Control Equivalent to Pre-existing Conditions Yes <input type="checkbox"/> No <input type="checkbox"/>				
Pad Area Revegetated? Yes <input type="checkbox"/> No <input type="checkbox"/>		Date		Seed Mixture
Vegetation Growth Yes <input type="checkbox"/> No <input type="checkbox"/>		Is Reseeding Needed Yes <input type="checkbox"/> No <input type="checkbox"/>		
Area Inspected		% Pre-Disturbance	Comments or Required Action	
Cut Slope Vegetation				
Fill Slope Vegetation				
Flat Area Vegetation				
Noxious Weeds Present Yes <input type="checkbox"/> No <input type="checkbox"/>		Type/Amount		
<b>SWMP Best Management Practice (BMP) Checklist</b>				
Type BMP				
<b>Erosion Control</b>	In Use	Required	Required Action or Maintenance	Date Completed
Check Dams				
Earth Berm				
Culvert				
• Inlet Protection				
• Outlet Protection				
Diversion Dike				
Conveyance Channel				
Slope Drain				
Rock Lined Ditch				
Mulches				
Rolled Products				
<b>Sediment Control</b>	In Use	Required		
Silt Fence				
Bale Dike				
Sediment Trap				
Sediment Basin				
Continuous Berm				
<b>Stockpile; Erosion Control</b> Yes <input type="checkbox"/> No <input type="checkbox"/>		Type:		
<b>Pad Area Observations</b>				
Type of Observation		Response	Comments or Required Action	
Was muddy water released off-site?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Was sediment transported off-site?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Off-site surface erosion?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Is stormwater in secondary containment area?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Any spills or leaks on site (chemicals, water, ASTs, etc.)?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Secondary containment for aboveground storage tanks?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Is pad graveled (off-site soil tracking control)?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Is access road graveled (off-site soil tracking control)?		Yes <input type="checkbox"/> No <input type="checkbox"/>		
Off-Site Soil Tracking? (mud on roads or pavement?)		Yes <input type="checkbox"/> No <input type="checkbox"/>		

Diagrams are attached to this page.

Merit Pad and Access Road Inspection Form

Site I.D. \_\_\_\_\_

Date \_\_\_\_\_



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Access Road Information

## Precipitation Event Inspections

Active and completed pad inspections will be conducted within 24 hours after a precipitation or snowmelt event that causes surface erosion. Surface erosion generally occurs when precipitation or snowmelt results in surface water flow. If the precipitation soaks in to the soil then no inspection is required. In order to determine if surface erosion or surface water flow resulted from a precipitation or snowmelt event, a selected few pads will be evaluated for surface erosion, off-site sediment transportation, and/or off-site release of muddy water. These selected pads may have a worst case surface erosion or sediment transportation scenario. If the selected pad and associated areas do not show any off-site surface erosion, off-site sediment release and transport, or off-site muddy water releases, all of the remaining active and completed pads will not be inspected. Inspection results of the preliminary pads will determine or trigger the inspection of all active and completed pads. If 50% of the preliminary pads show off-site surface erosion, off-site sediment transportation, or release of muddy water then all of the remaining pads will be inspected. A preliminary pad inspection will be positive if any one of the three categories (surface erosion, sediment transportation, or release of muddy water) is marked yes. Selection of a preliminary pad is based on the following criteria:

- A pad that has a cut or fill slope that has a steeper grade than 1:4
- A pad that has erosion and/or sediment control structures installed
- A pad that has vegetation or erosion situations

Selected preliminary pads are listed in the “SWMP Precipitation Event Preliminary Pad Inspection Form” that is located on the next page.

During the inspection of pad areas, associated access road should also be inspected. All culverts should be inspected to see if any inlet, outlet or other problems exist. Inlets or outlets to culverts may have to be cleaned in order to insure proper drainage.

If for any reason the above preliminary pad erosion and water flow inspection procedure does not achieve the desired result, then all active and inactive pads will be inspected within 24 hours after a precipitation or snowmelt event that causes surface erosion.



## SWMP Inspection Procedures

In order to properly conduct routine and precipitation event inspections, personnel conducting inspections shall use the SWMP pad and access road inspection form and have a copy of “Field Manual on Sediment and Erosion Control Best Management Practices for Contractors and Inspectors” (Field Manual) by Jerald S. Fifield.

Information entries on the SWMP pad and access road inspection form are generally easy to understand and fill out. However, the vegetation checklist and erosion and sediment control checklist contain entries that are more difficult, for this reason, the following procedures are provided in order to ensure standardized reporting. The following procedures should be followed in order to properly fill out the form:

Pad I. D.: The correct pad I. D. is entered in this area. If there are multiple wells on the Pad, then the pad I. D. is written in this space, e.g. Mills 1-E, Mills 2-E, etc.

Date: The date should be entered as day/month/year.

Inspector: The person conducting the inspection should print and sign their name in the designated space.

Inspection Type: Place and a check mark beside the appropriate space.

Distance to Waters of State: The distance in miles and the first stream or stream channel, or drainage area that stormwater discharges into should be entered in this space.

Vegetation Checklist (Erosion Reduction and Control):

- Is the vegetation growth on the soil disturbed areas at least 70% of the pre-disturbance levels?
- Is the vegetation erosion control equivalent to pre-existing conditions?
- Has the pad area been revegetated? The date and seed mixture used.
- Is there vegetation growth?
- Should the area be reseeded?

SWMP Best Management Practices:

Erosion Control:

Inspect the pad with respect to the erosion control structures listed under this section. If it is in use provide a response as to the condition of the structure. If an erosion control structure is needed, then mark the entry accordingly.

Sediment Control:

Inspect the pad with respect to the sediment control structures listed under this section. If it is in use provide a response as to the condition of the structure. If an erosion control structure is needed, then mark the entry accordingly.

Stockpile Erosion Control?

The following may be used to control stockpile erosion: track walking by a dozer, a silt fence, earth berm, a ditch, or other methods used to control sediment transportation.

### Pad Observations

The entries in this section are based on observations of pad, access road , and related area conditions.

There are nine types of observations in this section and a simple yes or no response is required.

### **CONSISTENCY WITH OTHER PLANS**

Merit currently has on file an SPCC plan. The SPCC plan contains information pertaining to the potential for oil, as defined in 40 CFR Part 112.2, to impact stormwater discharges, and the quantities of oil that potentially could be discharged. The SPCC plan provides employee procedures pertaining to spill prevention and response.

### **SWMP REVIEW/CHANGES**

Merit will amend the SWMP whenever there is a significant change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to water of the State, or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with pad activities.