NOBLE ENERGY, INC.

FIELD WIDE STORMWATER POLLUTION PREVENTION PLAN FOR CONSTRUCTION ACTIVITIES

MARYS RIVER OIL AND GAS EXPLORATION PROJECT
Nevada

JULY 2013

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1625 Broadway, Suite 2200
Denver, CO 80202

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1.0 CERTIFICATION

Noble Energy, Inc. (NEI) has prepared this Field Wide Stormwater Pollution Prevention Plan for Construction Activities (SWPPP) for the Marys River Oil and Gas Exploration Project in Elko County, Nevada.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____ Date _____

Name _____

Title _____

2.0 INTRODUCTION

The Nevada Division of Environmental Protection (NDEP) , Bureau of Water Pollution Control issues a Construction Stormwater General Permit (NVR100000) for stormwater discharges from construction activities associated with small construction activity at oil and gas sites that have a disturbance equal to or greater than one acre. As part of that requirement, this Stormwater Pollution Prevention Plan (SWPPP) has been prepared to identify possible pollutant sources to stormwater and to set out Best Management Practices (BMPs) to reduce or eliminate possible water quality impacts.

3.0 SWMP ADMINISTRATOR

The SWPPP Administrator for Noble is responsible for the developing, implementing, maintaining, and revising the SWPPP. The SWPPP Administrator has the authority to dedicate the financial and human resources to implement the SWPPP. The SWPPP Administrator is:

Mr. Kevin Vorhaben - Nevada Asset Manager, Denver, CO

Office: (303) 228-4355

The SWPPP Administrator will ensure that the SWPPP is followed and delegates responsibility for coordination of the SWPPP inspections and maintenance of stormwater records to the Environmental Coordinator. The Environmental Coordinator will provide support for the SWPPP Administrator with the implementation of the SWPPP. The Environmental Coordinator is:

Mr. Lee Hinman – Senior Environmental Advisor, Denver, CO

Office: (720) 587-2117

Mobile: (720) 440-3593

Both the SWPPP Administrator and the Environmental Coordinator will manage the SWPPP Team. Other foremen or designated personnel may also assist in stormwater inspections and maintenance of records. Overall, the SWPPP Team is responsible for:

Implementing spill/upset clean up procedures;

Notification to local authorities and local residents in the event that a significant release of stormwater and sediment leaves a pad area;

Coordinating various stages of BMPs and implementation;

Conducting inspections;

Maintenance of all records; and

Coordination of a preventive maintenance program and housekeeping measures.

4.0 SITE DESCRIPTION

4.1 Nature of Construction Activity

Noble Energy Inc. (NEI) is one of the nation's leading independent energy companies engaged in the exploration, development, production, and marketing of crude oil and natural gas. NEI currently owns or leases oil and natural gas mineral rights in the Marys River project area in the Humboldt River Basin, Nevada. The area is in Elko County and lies within Townships 38 North and 39 North, and Ranges 60 East and 61 East. As part of the proposed project, NEI proposes to construct, drill and complete 20 wells on up to 20 well pads over two or more years. A map of the project area is provided as Map 1.

4.2 Sequence of Major Activities

The overall development of oil and natural gas pad sites is generally accomplished in three distinct work phases: construction, production and abandonment. The work completed and sequence of events for each phase is briefly discussed below.

Approximately six to seven acres of surface terrain is disturbed during the construction of a new pad site. The construction phase includes the following sequence of activities: pad construction, well drilling, well completion, access road building, and well pad reclamation.

The typical equipment on a pad site during the production phase consists of a wellhead, a separation unit, and aboveground tanks for storing oil and produced water. Oil and gas wells in the field are projected to produce for up to 20 years.

When the oil production of a well is exhausted it will be abandoned. Well abandonment includes plugging and capping the well and removal of all surface equipment. The pad area will be reclaimed by contouring disturbed soils and reseeding to conform to the surrounding terrain.

A new drill site includes pad construction, well drilling, well completion, access road building, and well pad reclamation. Pad reclamation is accomplished by backfilling the reserve pit (if applicable), contouring disturbed soils to conform to the surrounding terrain, replacing the stockpiled top soil, and seeding of disturbed soil areas in order to reestablish coverage vegetation.

For stormwater regulation purposes, construction sites have been divided into the following stormwater stages: Active, Completed, Interim Stabilization, and Final Stabilization.

Details regarding the stormwater stages are provided later in Section 8.2 of this plan.

4.3 Area Disturbed

The specific area disturbed at each individual pad site is listed in Noble's site-specific maps, which includes Stormwater Inspection Forms. A total of all current acreage disturbed under this permit will be kept annually with the SWPPP in Appendix B.

4.4 Soil Description

Topsoil varies within the Marys River Oil and Gas Exploration area. The cut and fill material used in construction will be composed of the soil on-site.

4.5 Receiving Waters

Receiving water bodies within the permitted area include various named and unnamed creeks and tributaries to the Humboldt River. Site-specific nearest water body information for each pad site is entered on the site-specific map. The majority of Noble's pads and access roads do not intrude or encroach on any wetland acreage. If a wetland is designated to be within a pad construction area, Noble will obtain permits from Army Corp of Engineers, as appropriate.

4.6 Discharge From Support Activities

There will be no additional construction beyond the activities described in Section 4.2.

5.0 SITE MAPS

The site-specific information required to be included in the SWPPP (Appendix B) will be included in the site maps. The site-specific information is updated during the course of the stormwater inspections. These reports are provided to the SWPPP Team on a regular basis, to document and maintain stormwater requirements.

Pad construction site boundaries; ground surface disturbances; areas of cut and fill; storage areas for building materials, equipment, soil or waste; locations of dedicated asphalt or concrete batch plants (if applicable); structural BMP locations; non-structural BMP locations (as applicable); locations of springs, streams, wetlands or other surface waters; wellhead locations; and other pertinent site specifics are shown on maps attached to the site-specific Inspection Reports (Appendix B). Site specific features may be hand-drawn and site maps are not necessarily drawn to scale.

6.0 STORMWATER MANAGEMENT CONTROLS

6.1 Identification of Potential Pollutant Sources

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

Disturbed and stored soils;

Vehicle tracking controls;

Management of contaminated soils;

Loading and unloading operations;

Outdoor storage activities;

Vehicle and equipment maintenance and fueling;

Dust or particulate generating processes or activities;

Routine maintenance activities;

On-site waste management practices;

Concrete truck washing;

Dedicated concrete and asphalt batch plants;

Non-industrial waste sources; and

Potential spills.

6.1.1 Disturbed and Stored Soils

Disturbed soil and excavated materials will be stored on or next to the pad. Topsoil and other soils will be stockpiled separately. Soil stockpiles will be located against cut slopes and/or will be contained within perimeter BMP's, such as earthen berms. Disturbed soil re-grading will be completed as soon as possible after drill rigs are removed from the pad site areas. During reclamation, all earth disturbing activities from construction will be re-graded and contoured to blend into the adjoining landscape.

Materials excavated will be utilized as backfill when practical. An exception may be excess rock generated by rock blasting excavation 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. Excavation in especially sensitive areas may be conducted according to special techniques as specified by the landowner/agency representative.

6.1.2 Vehicle Tracking Controls

Properly constructed and graveled roads and pads provide the best off-site tracking control. Access road entrances adjacent to paved county roads are graveled to prevent or minimize any off-site soil tracking from pad areas or access roads. In some instances, cattle guards and tire washing procedures are used to drop off caked mud before the vehicle exits the site area. When necessary, paved roads are swept near pad site access areas. In addition, minimizing site access, contractor education, and other sediment control BMPs will be utilized.

6.1.3 Management of Contaminated Soils

If contaminated soils are excavated at a NEI site, additional BMPs will be employed to ensure containment of any stormwater runoff. In addition, stockpiles of contaminated soil will be landfarmed or removed from the site and disposed of as soon as possible.

6.1.4 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, condensate, and other fluids are transported or unloaded directly into the well from trucks, on site tanks, and/or 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. Liquid drilling mud removal operations can include open-top trucks. Removal operations are supervised by NEI personnel to ensure proper care is taken to prevent spillage or leakage from the trucks. In the event of a spill, the SWPP material handling and spill prevention procedures will be followed according to NEI's standard operating procedures. Other activities include unloading of drill pipe, completion pipe (casing), and natural gas line pipe, which are not potential pollution sources.

6.1.5 Outdoor Storage Activities

The most common substances that are stored 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; and 3) production water from the well. A list of chemicals products typically used at a NEI pad site is included as Table 1.

6.1.6 Vehicle and Equipment Maintenance and Fueling

Routine maintenance will be limited to fueling and lubrication of equipment. Drip pans will be used during routine fueling and maintenance to contain spills or leaks. Any waste product from maintenance will be containerized and transported offsite for disposal or recycling. There will be no major equipment overhauls conducted onsite. Equipment will be transported offsite for major overhauls.

6.1.7 Dust or Particulate Generating Processes or Activities

Dust and/or particulates generated from vehicle traffic on graveled 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 graveled access roads becomes significant, dust suppression procedures will be implemented that include road watering or the application of dust suppressants.

6.1.8 Routine Maintenance Activities

Routine maintenance activities involving fertilizers, pesticides, detergents, and solvents are not completed at the Noble pad sites. Herbicides will be applied annually in some areas to control

noxious weeds. Herbicide application will always be conducted by certified and trained individuals, and with consideration for runoff potential to nearby surface waters.

6.1.9 On-site Waste Management Practices

All waste from materials imported to the construction site are removed for disposal/recycling to an appropriate licensed disposal/recycling facility. No waste materials will be buried, dumped, or discharged to waters of the state.

6.1.10 Concrete Truck Washing

Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment, is conducted at a few Noble sites. Pollutants arising from this operation would mainly include a water/concrete mixture, and concrete debris. No waste materials will be buried, dumped, or discharged to waters of the state.

6.1.11 Dedicated Concrete and Asphalt Batch Plants

No dedicated concrete or asphalt batch plants are located within the NEI Marys River Oil and Gas Exploration Project Area.

6.1.12 Non-Industrial Waste Sources

Cleanup of trash and discarded materials will be conducted at the end of each work day. Cleanup will consist of patrolling the roadway, access areas, and general work areas in order to pick up trash, debris, scrap, or other discarded materials.

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), which will be placed, anchored, and maintained with proper care.

No waste materials will be buried, dumped, or discharged to waters of the state.

6.1.13 Potential Spills

Spills or leaks will be handled by Noble personnel or contractors, according to the principals and practices outlined in NEI's Spill Prevention, Control and Countermeasure (SPCC) Plan for the Marys River Oil and Gas Exploration Project Area, Nevada. The SPCC Plan, while written more specifically for large tank sites, includes general procedures for handling and responding to any spill situation.

On a pad site, spills and leaks can occur from valves, loading and unloading procedures, removing excess water from production tanks, tank or reserve pit overflow, tank leaks or ruptures, separators, knockout tanks, heater treaters, flowlines or piping. Reserve pits, when necessary, are constructed to allow plenty of additional volume to avoid overflow situations. In addition, chemicals potentially stored on site are listed in Section 6.1.5 and in Table 1. Small chemical leaks or spills will also be handled as specified in the Noble SPCC Plan. Additional

materials handling is discussed in detail in Section 6.2.4 of this plan. Spills and leaks are documented by NEI and records are kept at the Denver office.

6.2 Best Management Practices (BMPs)

BMPS for sediment and erosion control will be accomplished through a combination of construction techniques, vegetation and re-vegetation, and structural features. The BMP Manual (Appendix D) or similar guidance will be referenced for assistance with controls or BMPs when needed. Typical configurations of structural controls discussed below and technical drawings are provided in Appendix D. BMP selection is guided by the selection criteria listed in Table 1. Structural and non-structural BMPs are discussed in the following sections, and are summarized in Table 2.

6.2.1 Structural Practices for Erosion and Sediment Control

Structural practices primarily include physical attributes of a pad site, access road designed to reduce erosion and control stormwater or sediment movement.

6.2.1.1 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. These methods include, but are not limited to the following:

Diversion and control of run-on water;

Diversion and control of runoff water;

Vegetation planting and maintenance;

Application and maintenance of mulches, blankets, tackifiers, tracking and contouring; and

Proper grading techniques

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

Check dams;

Earth berms;

Culvert protection;

Diversion ditches;

Slope drains;

Rock-lined ditch;

Mulches, with or without a tackifier

Geotextiles; and

Erosion Control Blanket/Turf Reinforcement Matting

Existing vegetation cover and topsoil are 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 be in a raised position except for designated areas.

6.2.1.2 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. Sediment controls that will be used to mitigate and control sediments generated from the erosive transport forces of stormwater during and after construction of a pad will include but will not be limited to the following:

Silt Fence

Straw Bale Dikes/ Traps

Straw Wattles

Sediment Traps/Basins

Vehicle Tracking Pads

Continuous Berms

Continuous Berms with Rock Filter; and

Slash Berms

6.2.1.3 Detailed 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.

To prevent tracking of sediment (mud and rocks) onto public roads, portions of access roads may be graveled, as appropriate. Other means such as track pads/angular rock or cattle guards may be utilized if appropriate.

Silt barriers (e.g. brush dams, rock filter dikes, silt fences, hay bales, containment berms, 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.

- 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 downgradient 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.

In areas that have steep slopes, water bars or runoff diversions may be installed. When used, water bars will generally begin and end in undisturbed ground at approximately a 2 percent slope.

Culverts may be installed at a grade ranging from 2 percent to 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.

Appendix D includes details on BMP installation and maintenance procedures.

6.2.1.4 Implementation of Structural Practices

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

Table 1 contains a summary list of structural BMPs.

6.2.2 Non-Structural Practices for Erosion and Sediment Control

Sediment and erosion control can be implemented via non-structural BMPs. Non-structural BMPs are BMPs that are not engineered as a stormwater barrier and are capable of limiting the amount of potential pollutants available to reach receiving water bodies. Non-structural BMPs can achieve the same effect as structural BMPs through filtration and the settling of sediment load within a perimeter.

NEI has implemented non-structural practices for stormwater management into their pad site development, including Program Oversight, Construction Site Planning and Management, and Materials Management.

Table 3 contains a summary list of Non-structural BMPs.

Construction site planning includes decisions regarding reserve pit placement, if necessary, planned stockpile placement, and waste storage area placement which take into account potential stormwater runoff issues. Pad sites can include a slope to the reserve pit or a buffer zone of natural vegetation used as a non-structural BMP to inhibit sediment travel offsite and minimize the footprint of the pad.

6.2.3 Phased BMP Implementation

The phases of construction or development and stormwater stages are linked to the implementation of structural and non-structural BMPs. For stormwater regulation purposes, construction sites have been divided into the following stormwater stages: Active, Interim Stabilization, and Final Stabilization. Details regarding the stormwater stages are provided later in Section 8.2 of this plan. Stormwater controls to be used for each phase are listed in Table 2.

Pre-construction and Active Construction

During pre-construction, drilling, workover rig activity, and other active construction processes, the focus will be primarily on containment type BMPs and run-on diversion BMPs. An example would be a continuous berm to contain stormwater pollutants on site, while diverting run-on stormwater around the site.

Interim Stabilization Sites

Construction activities have been completed and areas re-seeded. For completed sites and during interim stabilization, containment BMPs are possibly removed and reclamation types of BMPS are put in place, if needed, to mitigate the potential pollutants.

Final Stabilization Sites

Permanent stormwater BMPs, such as culverts and check dams, will remain in place after final stabilization, if applicable.

Depending upon the type of site, the site terrain, and the phase of construction, different stormwater BMPs will be utilized. Various BMP options are listed in Table 2, and design specifications are shown in the BMP Design Manual (Appendix D).

6.2.4 Material Handling and Spill Prevention

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; concrete; fertilizers; and produced water. Quantities of fuel and lubricates will be limited to "as-needed" for the immediate operations underway. Any leaks or spills will be promptly remediated and contaminated materials will be hauled off-site and disposed of/recycled properly.

Materials management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff. Remediation and reporting will be handled by NEI personnel.

Material Safety Data Sheets (MSDS) for materials to be used or that are produced are maintained on NEI's online company database and filed at NEI's Denver Office.

6.2.5 Dedicated Concrete or Asphalt Batch Plants

NEI does not have or subcontract any dedicated concrete or asphalt batch plants for its pad site development or construction. Stormwater at the NEI pad sites will not encounter concrete or asphalt batch plant activities.

6.2.6 Vehicle Tracking Control

NEI will employ BMPs to minimize vehicle tracking. Further discussion on this topic is under Section 6.1.2 of this SWMP.

6.2.7 Waste Management and Disposal, Including Concrete Washout

Waste disposal is further discussed in Sections 6.1.9 and 6.1.12 of this plan.

Concrete washout may occur at a few Noble sites, although it is not a part of regular operations. The permit authorizes the conditional discharge of concrete washout water to the ground.

Concrete washout areas will be installed prior to any concrete placement on site. Concrete washouts primarily include small excavations located near the point of concrete masonry placement, and will be construction using a bermed excavation with appropriate tracking and access control. Concrete washout areas are designed using a flat subsurface pit, and a berm surrounding the sides and back of the concrete washout. Excavated material will be used for the perimeter berm. Smaller, more temporary concrete washouts, can be constructed using a mobile

disposal unit, geotextile bags, or water tight vessels such as rigid children's pools, small dumpsters, or buckets.

Highly visible signs will be placed at the construction site entrance, washout area and elsewhere as necessary, to clearly indicate the location of the concrete washout area to operators of concrete trucks and pump rigs. Concrete washouts will be inspected to make sure appropriate access control, tracking, and containment is in place. Maintenance includes removal of excess materials and general structural integrity of the installation. Concrete washouts will be cleaned of excess water and solids when the capacity of the washout reaches no more than 50 percent.

A designated concrete washout station will be surrounded by perimeter controls to prevent contaminated stormwater from leaving the area. Waste concrete will be removed or disposed of off-site as needed. Concrete washout areas will remain in place until all concrete for the project is placed.

When concrete washout areas are removed, excavations will be filled with suitable compacted backfill and topsoil, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas will be roughened, seeded, mulched, and crimped.

6.2.8 Groundwater and Stormwater Dewatering

Construction dewatering may take place on a limited basis at NEI sites. For large construction projects with planned dewatering activity, NEI will apply for a separate dewatering permit from the state, as required. If dewatering takes place at a site, appropriate BMPs will be installed to ensure no runoff from this activity occurs.

7.0 FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

7.1 Reclamation

Upon completion of earth disturbing activities, the site will be restored to its original condition using rocks, cut vegetation, and other surface material temporarily stockpiled during construction and will be redistributed as backfill on the project area unless otherwise directed by the landowner or jurisdictional authority. All earth disturbing activities during construction will be re-graded and contoured to blend into the adjoining landscape, and natural drainage patterns will be reestablished. During reclamation, sediment BMPs will remain in use.

Preparation of the topsoil area, including all areas to be seeded will have native topsoil spread to a depth of at least 6-inches (loose depth). Topsoil will be added to cleared and grubbed areas.

Disturbed areas will be seeded using seed mixes appropriate to the location. Local soil conservation authorities with the BLM, 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.

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 and/or hydro 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 will 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. Re-vegetation will be accomplished as soon as practical following the reclamation of a pad.

Mulch will be laid down during re-vegetation as appropriate. The cut vegetation and rocks will act like mulch in the areas where they are applied. Where straw or hay mulch is applied, the mulch will be applied and crimped into the soil.

Crimp mulching uses hay or straw material that is machine crimped into the soil to provide stability. Crimp mulch may be used on its own as a temporary soil stabilization method, or in conjunction with seeding for final stabilization. Crimp mulch functions as a soil stabilizer by decreasing the velocity of sheet flow. Mulch may be hay or cereal grain straw. Mulch will likely be crimped into the soil using either a drill seeder or notched disk plow to the minimum depth of two inches and a maximum depth of four inches. To maximize effectiveness crimping equipment must run parallel to the contours of the land. Crimp mulch may not be appropriate for slopes that are equal to or greater than 3:1 or in areas with hard or rocky soil in which the crimper cannot penetrate. Maintenance items would include re-grading as necessary and reapplying as appropriate.

Crimp mulch will be used to protect seeded areas on all disturbed areas and steep slopes where the use of erosion control blankets is not specified. Erosion control blanketing and hydro mulches may be substituted for crimp mulch on steep slopes or other areas, and substitutions will be noted on the site map.

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

7.2 Post-Construction Structural Measures

Permanent water bars, culverts, trench plugs and/or other permanent structural measures may be installed on steep slopes and at wetland and stream crossing boundaries.

After restoration and reclamation work is complete, required repairs to vegetation and erosion and sediment control BMPs will be completed as required.

7.3 Finally Stabilized

"Final stabilization" means the time at which all soil-disturbing activities at the site have been completed, and a vegetative cover has been established with a density of at least 70 percent of the pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed. Final stabilization using vegetation must be accomplished using seeding mixtures or forbs, grasses, and shrubs that are adapted to the conditions of the site. Establishment of a vegetative cover capable of providing erosion control equivalent to pre-existing conditions at the site will be considered final stabilization.

8.0 INSPECTION AND MAINTENANCE PROCEDURES

8.1 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 sediments control structures. Regular cleaning of diversion ditches and other BMPs 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;

Drums 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 as soon as practical;

Areas of stained soil will be inspected in order to identify the sources of the staining. 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. 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.

8.1.1 Good Housekeeping

In accordance with BMPs that provide procedures to eliminate contamination, and direct, divert, and contain stormwater, NEI has implemented a number of housekeeping practices. These practices 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 or containers where there is no potential for stormwater contact or are contained within berms. These areas include producing pads that typically consist of wellheads, separator units, and produced water pits.

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; and

Familiarize employees and contractors with good housekeeping procedures and pad pollution prevention procedures.

8.1.2 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 and will have proper spill containment; and

Chemical substance containers will be clearly labeled with an MSDS kept on file.

8.1.3 Waste Removal

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 will be buried, dumped, or purposely discharged to waters of the state.

8.2 Inspections

Inspections will be conducted to document the status of erosion and sediment control structures and re-vegetation efforts. Inspection forms will document non-compliance conditions such as uncontrolled releases of mud, muddy water, or measurable quantities of sediment that are found off-site. Required actions or modifications as documented on the SWPPP Inspection Report will be implemented in a timely manner after the inspection. Routine inspections may be conducted at pad areas during all phases of work and after a precipitation-related event. All inspection observations will be recorded on the SWPPP Inspection Report. The form provides a standardized format that will be completed during all inspections, and includes a signature line for the inspector to ensure compliance with the regulations.

For stormwater regulation purposes, construction sites have been divided into stormwater inspection stages: Active, Interim Stabilization, and Final Stabilization. For the purposes of this SWMP, only Active, Completed, and Interim Stabilization sites will be inspected. Each of these stormwater inspection stages is discussed below. Once a site is finally stabilized, it will be removed from this stormwater construction permit program.

If for any reason NEI cannot comply with any condition specified in the permit the WYDEQ will be notified within 24 hours after becoming aware of the non-compliance. NEI will provide the WYDEQ, in writing, within five days the following:

- A description of the non-compliance event.
- The period of the non-compliance event, including exact dates and times, or if not identified, the anticipated time the non-compliance is expected to continue.
- Additional measures taken to reduce, eliminate, and prevent recurrences of the non-complying discharge or other cause of non-compliance.

A special condition exists for pad sites within crop lands, which is detailed in Section 7.1 of this plan. When pad sites are being returned to a farmer for agricultural usage, the sites may be removed from the stormwater construction permit program.

Personnel responsible for inspections will be trained to evaluate stormwater management concerns, erosion and sediment control structures, and to evaluate pad and surrounding area vegetation. Any sediment located offsite, if located, will be cleaned and returned to the site and BMP's will be reevaluated for effectiveness.

8.2.1 14-day Inspection/Active Stage

During construction, this phase of work is classified as the Active phase, according to stormwater regulations. The inspection frequency is every 14 days during the Active phase 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 site-specific SWPPP Inspection Report will be inspected to ensure that they are in good condition and operating properly.

8.2.2 Monthly Inspection/Interim Stage/Completed Stage

If a pad is not able to be re-seeded due to weather or seasonal conditions, but construction activities are completed, inspections will be conducted at least once a month. This phase is considered "Completed" according to stormwater regulations. The monthly inspection frequency will be continued until the pad area achieves or reaches final stabilization vegetation conditions, at which time inspections are discontinued.

Noble has defined Interim Stabilization as similar to the Completed stage listed above, with one distinct difference: the pad has been re-seeded. Inspections will be conducted at least once a month.

8.2.3 Final Stabilization Stage

When a pad site has reached final stabilization, it will be removed from the stormwater construction inspection routine. Final stabilization is defined in Section 7.3.

8.2.4 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. Snow cover, as well as snow melting conditions will be documented.

8.2.5 Precipitation Event Inspections

Active pad site inspections will be conducted within 24 hours after a precipitation event greater than or equal to 0.5". Surface erosion generally occurs when precipitation or snowmelt results in surface water flow. If the precipitation infiltrates, 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 pads will determine or trigger the inspection of all Active pads. A 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 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; and

A pad that has vegetation or erosion situations.

8.2.6 Temporarily Idle Sites

If no construction activities will occur following a storm event at a temporarily idle site, post-storm event inspections will be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The occurrence of any such delayed inspection will be documented. Routine inspections will still be conducted at least every 14 calendar days.

9.0 EMPLOYEE TRAINING

NEI will inform and train employees who are involved with SWPPP activities. Training will cover information and procedures contained in the SWPPP and will be conducted on an annual basis. Personnel work responsibilities will be used to identify the appropriate attendees. Safety and environmental elements of the SWPPP will also be covered. A Training Log (Appendix D) will be kept and updated on an annual basis.

The following topics may be presented and discussed during SWPPP training:

Introduction to WYDEQ Stormwater Permit;

Stormwater regulations;

Purpose of stormwater permit;

Requirements of stormwater permit;

Components of the SWPPP;

Identification of potential pollutant sources;

BMPs;

Preventative maintenance;

Good housekeeping;

Inspections and maintenance; and

Record keeping.

10.0 RECORD KEEPING

The following record keeping procedures will be implemented in order to provide accurate and complete documentation of events associated with the stormwater management program. A template SWPPP Inspection Report is located in Appendix B and will be used for all SWPPP inspections.

Records will be maintained in a Stormwater File at the Noble Denver office and will include the following documentation:

- A complete copy of the NDEP Construction Stormwater General Permit (NVR100000);

- Copies of all stormwater related inspection records, site maps, and diagrams will be kept on file or in the SWIM database;

- Site-specific records will be kept a minimum of three years from final stabilization.
- Spills and leaks documentation
- All revisions of the SWPPP must be kept in the Stormwater File for a minimum of three years.

11.0 SWPPP REVIEW/CHANGES

This Field-Wide SWPPP will be retained at NEI's Denver office. NEI will amend the SWPPP 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 SWPPP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with pad activities. The SWPPP is considered a "living document".