STORMWATER MANAGEMENT PLAN

AREA 1
WATTENBERG FIELD, COLORADO

REVISED
MARCH 2007

Prepared for:

KERR-MCGEE ROCKY MOUNTAIN LLC
Evans, Colorado

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Prepared for:

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1.0 CERTIFICATION

Kerr-McGee Rocky Mountain LLC (Kerr-McGee) has prepared this Stormwater Management Plan (SWMP) for Area 1 of the Wattenberg Field, Colorado.

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

On June 30, 2005, the State of Colorado stormwater regulation went into effect to require Colorado Discharge Permit System (CDPS) permits from the Water Quality Control Division (WQCD) for stormwater discharges from construction activities associated with small construction activity for oil and gas sites that disturb between one and five acres. As part of that requirement, this Stormwater Management Plan (SWMP) 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 TEAM

The Sr. Superintendent Drilling for Kerr-McGee Rocky Mountain LLC (Kerr-McGee) is responsible for the implementation and revision of the SWMP. The Sr. Superintendent Drilling has the authority to dedicate the financial and human resources to implement the SWMP. The Sr. Superintendent Drilling with this responsibility is:

Mr. Fred Clausen – Sr. Superintendent Drilling, Evans, Colorado

Office: (970) 330-0614

The Sr. Superintendent Drilling will ensure that the SWMP is followed, will coordinate SWMP inspections, and will coordinate maintenance of stormwater records. The Area 1 Superintendent will provide support for the Sr. Superintendent Drilling with the implementation of the SWMP. The Area 1 Superintendent is:

Ms. Cindy Haefele - Area 1 Superintendent

Office: (970) 330-0614

Both the Sr. Superintendent Drilling and the Area 1 Superintendent manage the SWMP Team. Other foremen or designated personnel in Area 1 may also assist in stormwater inspections and maintenance of records. Overall, the SWMP 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 that leaves a pad area;
- Coordinating various stages of best management practices and implementation;
- Conducting inspections;
- Maintenance of all records; and
- Coordination of a preventive maintenance program and housekeeping measures.

4.0 SITE DESCRIPTION

4.1 Project Overview

Kerr-McGee currently owns or leases natural gas mineral rights in the Wattenberg Field area which includes Adams, Boulder, Broomfield, Denver, Larimer and Weld Counties, Colorado. Kerr-McGee has split the field into three project areas for operations management purposes. A map of the project area (Area 1 within the Wattenberg Field) is provided as Figure 1.

The development of natural gas wells is generally accomplished in three distinct work phases. The first phase is the Development (construction/drilling/completion), the second phase is the Production (operation/maintenance), and the third phase is the Abandonment with final reclamation. Each work phase is briefly discussed below.

4.1.1 Development (Construction/Drilling/Completion/Reclamation) – Active Site

Approximately ¾ to three acres of surface terrain is disturbed during the construction of a new pad. The Development phase includes the following activities: pad construction, well drilling, well completion, gas flowline installation, access road building, and pad area reclamation. Pad reclamation is accomplished by backfilling the reserve pit, contouring disturbed soils to conform to the surrounding terrain, replacing the stockpiled top soil, seeding of disturbed soil areas in order to reestablish coverage vegetation. The completion of a well (gas production) generally triggers a one-year time period in which the reclamation phase of work should be completed.

4.1.2 Production (Operation/Maintenance) – Completed Site

The production phase includes the operation and maintenance activities during natural gas production. The typical equipment on a pad during the production phase consists of a wellhead, a separation unit, from one to several 300-barrel capacity aboveground tanks for condensate, and a sump for storing produced water. Reclamation activities during this phase include maintenance of revegetated areas and maintenance of the erosion and sediment control structures. Natural gas wells in the field are projected to produce for approximately 20 to 30 years.

4.1.3 Abandonment and Final Reclamation

When the natural gas production of a well is exhausted it will be abandoned. Upon well abandonment each borehole will be plugged, capped, and all surface equipment will be removed. Subsurface pipelines will be removed to specified locations and plugged. The pad area will be reclaimed by contouring disturbed soils to conform to the surrounding terrain, by replacing the stockpiled top soil, by seeding of disturbed soil areas in order to reestablish cover vegetation, and by construction of erosion and sediment control structures as needed.

For the purposes of this SWMP and the stormwater construction general permit, only active and completed sites will be monitored. Once a completed site is revegetated and stable, it will be removed from this stormwater construction SWMP.

4.2 Site Maps and Pad Information

Most of the well pad sites are on private land. The pad information is provided on Table 1 and is discussed in the sections below. Appendix B contains site-specific information.

4.2.1 Area 1 Topographic Map

A topographic map of the area is provided as Figure 1.

4.2.2 Specific Well Site Pad Information/Map

Pad construction site boundaries, soil disturbance areas, wellhead locations on the pad, typical drill rig layout, chemical storage locations, and maps showing any other pertinent site specifics are attached in Appendix B. Example base maps of typical pad construction sites have been included as a reference. Site specific features may be hand-drawn.

4.3 Identification of Potential Pollutant Sources

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;
- Significant dust or particulate generating processes;
- On-site pad, waste disposal practices;
- On-site pad activities:
- Off-site soil tracking controls; and
- Significant spills or leaks of toxic or hazardous substances.

4.3.1 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, completion pipe (casing), and natural gas line pipe, which are not potential pollution sources.

4.3.2 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 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.

4.3.3 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.

4.3.4 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.

4.3.5 Off-site Soil 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 often graveled to prevent or minimize any off-site soil tracking from pad areas or access roads.

4.4 Receiving Waters

Drainages within Area 1 include: the South Platte River, Big Thompson River, St. Vrain Creek, Cache la Poudre River, and Boyd Lake. The drainage for each pad is entered on each site specific inspection form.

4.5 Runoff Coefficient

Runoff coefficients for pad locations within Area 1 vary from 0.10 to 0.30 and are not expected to significantly change. Pad areas range from flat rangeland to hilly areas.

5.0 BEST MANAGEMENT PRACTICES

5.1 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; produced water; and, crude oil/condensate. Material Safety Data Sheets (MSDS) for materials to be used or that are produced are filed at Kerr-McGee's Denver 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 remediated 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.

5.2 Sediment and Erosion Control

Sediment and erosion control will be accomplished through a combination of construction techniques, vegetation and re-vegetation, 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 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 A.

5.2.1 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:

- 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 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 dikes;
- Conveyance channels;
- Slope drains;
- Rock-lined ditch;
- Mulches; and
- Geotextiles.

5.2.2 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 fences;
- Bale dikes;
- Sediment traps;
- Sediment basins;
- Vehicle track pads; and
- Continuous berms.

5.2.3 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, 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 below. When used, water bars will generally begin and end in undisturbed ground at approximately a 2% slope.

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.

5.2.4 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.

5.2.5 Non-Structural Practices

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.

Pad sites can include a buffer zone of natural vegetation used as a non-structural BMP to inhibit sediment travel. Appendix B includes a typical pad site figure with the use of a buffer zone as a BMP.

5.2.6 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.

5.2.7 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 excavates 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 re-graded 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.

5.2.8 Streams and Sensitive Areas

The majority of Kerr-McGee's pads or access roads do not intrude or encroach on any wetland acreage. If a wetland is designated to be within a pad construction area, Kerr-McGee will obtain permits from Army Corp of Engineers, as appropriate.

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.

6.0 FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

6.1 Long-term Management

6.1.1 Reclamation

Unless otherwise directed by the landowner or a 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, unless the landowner wishes to return the land to agricultural production. 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.

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. 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.

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.

A special condition exists for pad sites within crop lands. According to the CDPHE Stormwater Fact Sheet dated February 3, 2006:

> *when portions of an oil and gas site are restored to crop land in accordance with the COGCC rules, and returned to the control of the farmer following interim reclamation, permit coverage is no longer required for those areas, and it is not necessary for the oil and gas site to either stabilize or reassign permit coverage for the area restored to crop land. Therefore, permit coverage may be inactivated for an oil and gas construction site even if stabilized unpaved surfaces exist and/or disturbed land that has been restored to crop land remains unvegetated as long as construction activities have been completed and all other disturbed areas revegetated in accordance with the definition of Finally Stabilized.*

When this condition exists for a pad site, inspections will be discontinued and the site will be removed from the stormwater construction permit program.

6.1.2 Post-Construction Structural Measures

Permanent water bars and trench plugs 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 structures will be completed as required by routine scheduled inspections and/or in response to other notifications.

6.1.3 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."

7.0 INSPECTION AND MAINTENANCE PROCEDURES

7.1 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 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 within seven days of discovery;

- 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. 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.

7.1.1 Good Housekeeping

In accordance with Best Management Practices that provide procedures to eliminate contamination; direct, divert, and contain stormwater; Kerr-McGee 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 or containers where there is no potential for stormwater contact. These areas include producing pads that typically consist of wellheads, separator units, dehydration units, and 300-barrel capacity aboveground stock tanks.

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.

7.1.2 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.

7.1.3 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 shall be buried, dumped, or purposely discharged to waters of the State. There are no other pollutant sources from areas other than construction areas.

7.2 Inspections

Inspections will be conducted to document the status of erosion and sediment control structures and re-vegetation 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 actions or modifications as documented on the inspection form will be implemented in a timely manner, and completed within seven 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.

A special condition exists for pad sites within crop lands, which is detailed under the Reclamation section of this plan. When pad sites are being returned to a farmer for agricultural usage, and all other disturbed areas have been stabilized or revegetated, the sites may be removed from the stormwater construction permit program.

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.

7.2.1 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 as the active phase and the inspection frequency is 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 Inspection and Maintenance form, which is site specific, will be inspected to ensure that they are in good condition and operating properly.

7.2.2 Monthly Inspection/Completed Site (Production Work Phase)

After final pad reclamation has been initiated and during the production phase of a pad, inspections will be conducted at least once a month. This inspection frequency will be continued until the pad area achieves or reaches final stabilization vegetation conditions, at which time inspections are discontinued.

7.2.3 Finally Stabilized

When a pad site has reached final stabilization, it will be removed from the stormwater construction inspection routine.

7.2.4 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.

7.2.5 Precipitation Event Inspections

Active 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 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 and completed pads. If a significant number of the 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 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
- A pad that has vegetation or erosion situations

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 pad erosion and water flow inspection procedure does not achieve the desired result, then all active and inactive pads will be inspected with in 24 hours after a precipitation or snowmelt event that causes surface erosion.

8.0 EMPLOYEE TRAINING

Kerr-McGee will inform and train employees who are involved with SWMP activities. Training will cover information and procedures contained in the SWMP 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 SWMP will also be covered. At a minimum, the following topics will be presented and discussed during SWMP training:

- Introduction to CDPS 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;
    - Inspections and maintenance, and

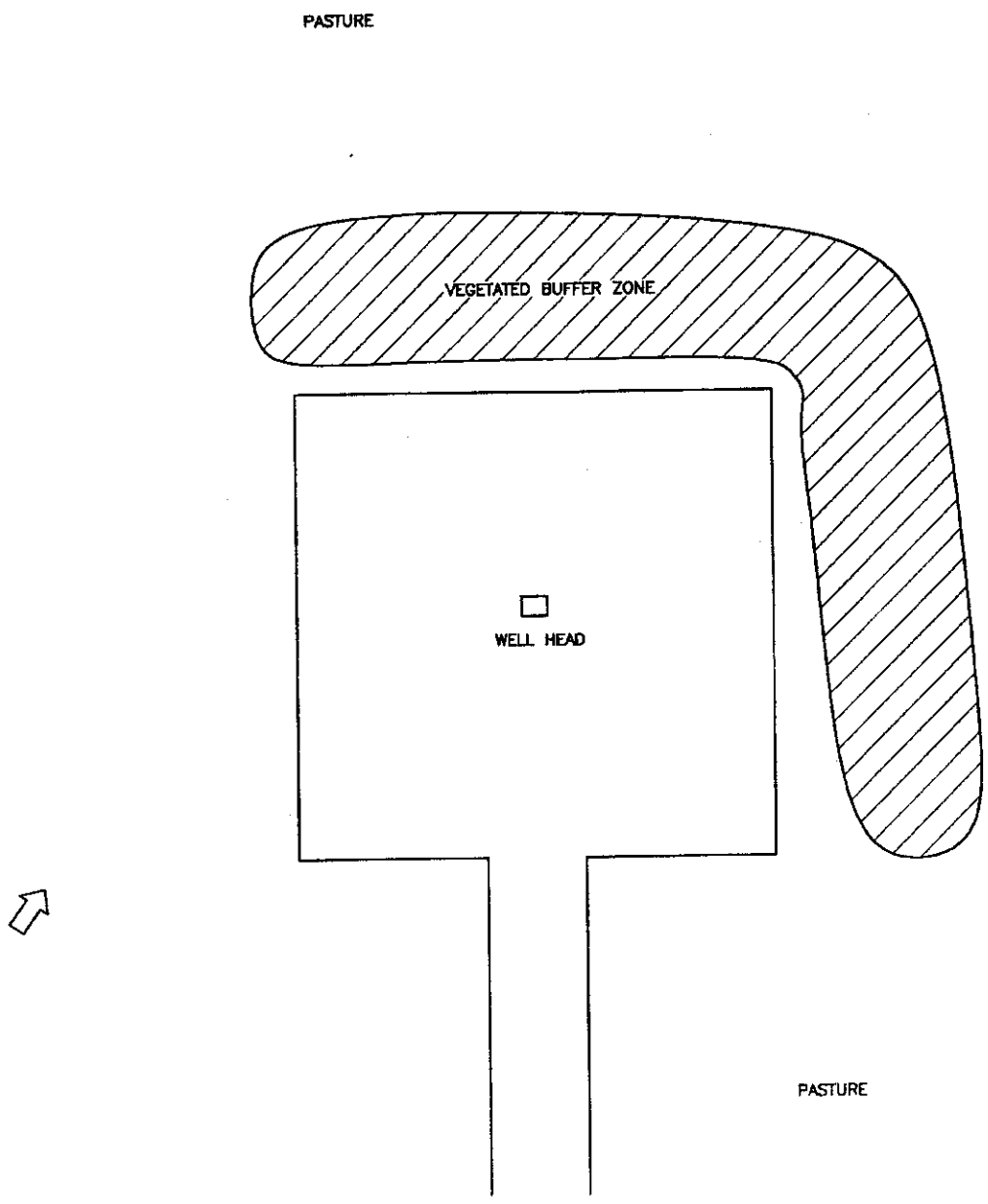
- Record keeping.

9.0 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 and Maintenance Form is located in Appendix B 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 kept on file. All stormwater related records will be filed and stored by Kerr-McGee for a minimum of three years.

10.0 SWMP REVIEW/CHANGES

Kerr-McGee 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.


PASTURE
VEGETATED BUFFER ZONE
WELL HEAD
PASTURE
NOT TO SCALE