



Proposed BMPs

2A: 2096356

1 of 10

RECEIVED

FEB 22 2010

COGCC

**EXPANSION OF THE MORRISON, HUBERT GU A #2
Supplemental STORM WATER MANAGEMENT PLAN (SWMP)**

Appendix NK 29 April 2009

1.0 SITE AND PROJECT INFORMATION

Project Name: Morrison, Hubert GU A #4; Well Pad Expansion

Project Location: The project is located on private lands located in Sec 17; T34N, R06W NUL La Plata County, Colorado N.M.P.M. Lat/Long: 37°13'03.46800" N 107°33'17.96400" W

Owner Name and Address: BP America Production Company
380 Airport Road
Durango, CO 81301

Facility Contact and Telephone Number: Dan Fauth
(970) 247-6800

Project Specifics

a. Description of the Construction Activity: Construction of a well pad for a natural gas well on a 260' x 195' level well pad.

b. Sequence of Major Construction Activities:

- . Well Pad Expansion
- . Well Drilling and Completion
- . Interim Pad Reclamation

c. Estimated Total Area of Site disturbance ~1.16 Acres

d_a. Estimated Runoff Coefficient, Before and After

Resource:	Before:	After:
Irrigated Grasslands	0.35	0.35/0.75
Existing Well Pad	0.75	0.75

d_b. Existing Soil Data:

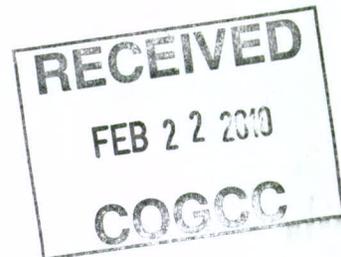
Soil:	Area:	Erosion:
Bayfield Silty Clay Loam	Entire Pad	High

e. Description of Existing Vegetation and Estimate of Percent Aerial Cover:

Irrigated Grasslands ~100%
Reclaimed Grasslands ~60%

f. Description of Potential Pollution Sources:

- 1) Diesel fuel and gasoline for equipment and vehicles;
- 2) Lubricating oil
- 3) Drilling mud (bentonite -based viscous fluid);
- 4) Casing cement.



- g. Description of Anticipated Non-storm water Discharges: None Anticipated
- h. Name of Receiving Water and Type of Outfalls: Unknown Intermittent Stream via overland flow

2.0 SITE MAPS

The attached maps (Exhibit B) illustrate the approximate location of the well pad. Construction activities and areas of cut and fill and soil disturbance are limited to the area surveyed for the location. The maps illustrate the features required by the CDPS General Permit for field wide construction activities on fee lands under the field wide permit. There are no point-source outfall structures; runoff enters the receiving watersheds and water bodies by overland flow.

3.0 BEST MANAGEMENT PRACTICES FOR STORMWATER POLLUTION PREVENTION

The Best Management Practices (BMP) to be employed during the construction of this well site and pipeline project are outlined in the field wide Storm Water Management Plan. Specific BMPs to be implemented during the proposed project are described in Exhibit A.

4.0 INSPECTION AND MAINTENANCE

Inspections of the project site and maintenance of BMPs installed shall be conducted in accordance with the CDPHE CDPS permit and the field wide plan.

5.0 TERMINATION

At this time no formal permit termination is necessary as the PHASE II rule under the CDPHE is covered under a field wide permit. Upon final stabilization of the site covered under this supplemental plan, the plan and its associated inspections should be kept for at least three years following the date of final stabilization.

RECEIVED
FEB 22 2010
COGCC

EXHIBIT A
Implementation Responsibility Transfer Log

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

By signing below, I certify under penalty of law that I understand and am responsible for the maintenance and implementation of the terms and conditions of the general Colorado Discharge Pollutant System (CDPS) permit and measures identified by the above site specific Storm Water Management Plan (SWMP) that may authorize the storm water discharges associated with my activities from the construction site identified in Section 6.0 of this site specific SWMP.

Site Responsibilities:

Name and Title (type or print): _____

Signature: _____

Date: _____

RECEIVED
FEB 22 2010
COGCC

EXHIBIT B
Detailed BMPs & BMP Alterations Log

BMPs

Identified Implementation Locations:

1. **Drilling Pad Construction (See attached Figure 1)**

BMPs: 2, 14, 24 & 40

- Implement wattles where shown on maps.
- Establish sub-base to route surface water as sheet flow off the south edge of location to natural grade.
- Construct a diversion dike/berm on east side of well pad to divert irrigation run on back to existing irrigation ditch.
- Spread spoil pile to act as a dike/berm to route runoff around well pad.
- Establish base lift gravel to accommodate level drilling operations and stabilize pad surface.

2. **Drilling and Completion Operations**

BMPs: Spill and Contaminated Soil Management

- Fuel, Mud Products, drill cutting spoils, Trailer Septic Tanks, etc. that may contribute to storm water run-off shall be maintained within the graveled well pad area and contained in proper containers and/or sheltered from exposure.
- Any equipment maintenance shall be avoided during drilling and completion—in the event maintenance must occur, it shall be conducted within the graveled pad area, fluids shall be captured within spill proof containers, and absorbent mats shall be utilized beneath maintenance operations.
- Contaminated soil should be collected and disposed of at an appropriate soil farm or similar facility.

3. **Interim Pad Reclaim (See attached Figure 2)**

BMPs: 2, 24, & 34

- Reclaim north and east fill/cut slopes to 3:1 or less.
- Trench and bury remaining drill cuttings when material is 95-100% dry.
- Spread top-soil over fill slopes & blend to existing grade areas where sloping meets pre-disturbance grade.
- Implement wattles where shown on maps.
- Repair or replace existing drilling pad wattles if necessary.
- Construct diversion ditches around well pad to route stormwater back to existing irrigation ditches.

5. **Re-seeding & BMP Removal**

- Re-seed as soon as possible following reclamation of pad-provided season and weather permits and cover with 2 tons/acre of weed free straw mulch. Tackify or crimp the mulch to the exposed soil surfaces.
 - Cut/Fill Slopes, access foreslopes, & Top-Soil Storage Area.
- Seed mix should implement an annual cover or triticale.
- Upon 70% Re-Vegetation across site, remove wattles and any other temporary erosion and sediment control BMP.

RECEIVED
FEB 22 2010
COGCC

EXHIBIT C
Maps

**STORM WATER CONTROL MAP-DRILL PAD LAYOUT
CLEARING AND GRADING
Figure 1**



NOTES:

1. TOPO LINES: 4-7 ft. PROJECTION: NAD83 (CONUS)
2. This map is informational in nature, not accurate by surveying standards, and is presented without representations or warranties by Prymors Environmental Consulting, Inc.



Sec. 17; T. 34N, R. 6W.
N.M.P.M.
(La Plata County, CO.)

LEGEND	
	Limit of Disturbance
	Sediment Control Log (Wattle)
	Diversion Dike/Berm
	Offsite Water Flow Pattern
	Onsite Water Flow Pattern
	Proposed Well Pad Access

29 April 2009

RECEIVED
FEB 22 2010
COGCC

STORM WATER CONTROL MAP- INTERIM RECLAIM

Figure 2



NOTES:

1. TOPO LINES: 6-7 ft. PROJECTION: NAD27 (COWS)
2. This map is informational in nature, not accurate by surveying standards, and is presented without representations or warranties by Pryor Environmental Consulting, Inc.



Sec. 16; T 34N, R6W.
N.M.P.M.
(La Plata County, CO.)

LEGEND	
	Limit of Disturbance
	Permanent Seeding & Mulching (2 tons/acre of weed free straw mulch)
	Diversion Ditch
	Onsite Water Flow Pattern
	Offsite Water Flow Pattern
	Proposed Well Pad Access

29 April 2009

RECEIVED
FEB 22 2010
COGCC