

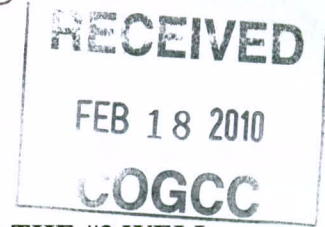


Proposed BMPs

1 of 10

2096278

2A



APPENDIX MX 19 Jan 2009

EXPANSION OF THE KLUSMAN RANCHES GU #1 FOR THE #3 WELL  
Supplemental STORM WATER MANAGEMENT PLAN (SWMP)  
for small construction activities on private lands (CDPHE)

1.0 SITE AND PROJECT INFORMATION

Project Name: Klusman Ranches GU #3; Well Pad Expansion

Project Location: The project is located on private lands located in Sec 11; T33N, R08W SUL La Plata County, Colorado N.M.P.M. Lat/Long: 37°06'53.496" N 107°40'57.180" 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:
  - . Drilling Pad Expansion
  - . Well Drilling and Completion
  - . Interim Pad Reclamation
- c. Estimated Total Area of Site disturbance: ~1.16 Acres
- d<sub>a</sub>. Estimated Runoff Coefficient, Before and After
- | Resource:      | Before: | After:    |
|----------------|---------|-----------|
| Level Pad Area | 0.35    | 0.75      |
| Grasslands     | 0.35    | 0.35/0.75 |

d<sub>b</sub>. Existing Soil Data:

Soil:	Area:	Erosion:
Arboles Clay	Entire Pad	Moderate

e. Description of Existing Vegetation and Estimate of Percent of Ground Cover: Level Pad Area ~0%  
Grasslands ~ 100%

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: Unnamed ephemeral drainage 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**

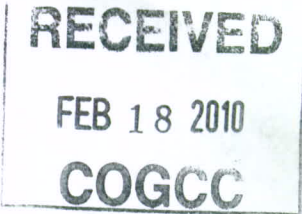
At this time no formal permit termination is necessary as the PHASE II rule under the CDPHE is covered under a field wide permit. Upon final stabilization of the site covered under this supplemental plan, the plan and its associated inspections should be kept for at least three years following the date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

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**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.

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**EXHIBIT B**  
Detailed BMPs & BMP Alterations Log

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## BMPs

### Identified Implementation Locations:

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

BMPs: 2, 14, 24 & 40

- Implement wattles where shown on map.
- Strip top-soil and store on existing pad as safety permits.
- Construct Diversion Ditch above west edge of cut slope to divert run-on irrigation flows.
- Establish sub-base to route surface water as sheet flow off of the southwest edge of pad to natural grade.
- Establish base lift gravel to accommodate level drilling operations and stabilize pad surface.

2. **Drilling and Completion Operations (See attached Figure 1)**

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 east and south fill slopes and west 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.
- Repair or replace drilling pad wattles if necessary.

4. **Re-seeding & BMP Removal (See attached Figure 2)**

- 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 & 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.

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**EXHIBIT C**  
Maps

**STORM WATER CONTROL MAP-DRILL PAD LAYOUT & PIPELINE  
CLEARING AND GRADING**

Figure 1



H= 1 ft  
BW = 4 ft  
SS = 2h 1v

**NOTES:**

1. TOPO LINES 6-7 ft. PROJECTION: NAD83 (CONUS)
2. This map is informational in nature, not accurate by surveying standards, and is provided without representation or warranty by Precision Environmental Consulting, Inc.



Sec. 11: T 33N, R8W,  
N.M.P.M.  
(La Plata County, CO.)

**LEGEND**

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

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Precision Environmental Consulting, Inc.  
10000 E. Highway 160, Suite 100, Fort Collins, CO 80525  
970.226.1100

**STORM WATER CONTROL MAP- INTERIM RECLAIM**  
Figure 2



**NOTES:**

1. TOPOLINES 4-7 R. PROJECTION: NAD83 (COORD)
2. This map is informational in nature, not accurate to surveying standards, and is presented without representations or warranties by Pryor's Environmental Consulting, Inc.

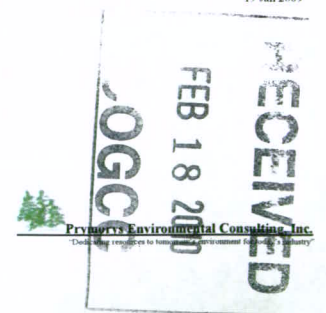


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**LEGEND**

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- Sediment Control Log (Wattle)
- Diversion Dike
- Mulching & Permanent Seeding
- Offsite Water Flow Pattern
- Onsite Water Flow Pattern
- Proposed Well Pad Access

19 Jan 2009



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Quality resources to sustain environmental quality.