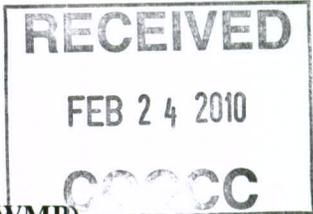




02585698

Proposed BMPs
2585687



**EXPANSION of the Mankins, Howard GU #3
Supplemental STORM WATER MANAGEMENT PLAN (SWMP)**

Appendix MC 17 April 2009 revised 22 October 2009

1.0 SITE AND PROJECT INFORMATION

Project Name: Mankins, Howard GU #4; Well Pad Construction

Project Location: The project is located on private lands located in Sec 10; T34N, R07W NUL La Plata County, Colorado N.M.P.M. Lat/Long: 37°13'53.76000" N 107°37'03.25199" 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:** Expansion of a well pad for a natural gas well on a 260' x 195' level well pad.

b. **Sequence of Major Construction Activities:**
. Drill Pad Construction
. Well Drilling and Completion
. Interim Pad and ROW Reclamation

c. **Estimated Total Area of Site disturbance** ~1.16 Acres

d. **Estimated Runoff Coefficient, Before and After**

| | | |
|-------------------|----------------|---------------|
| Resource: | Before: | After: |
| Existing Well Pad | 0.75 | 0.75 |
| Irrigated Pasture | 0.45 | 0.45/0.75 |

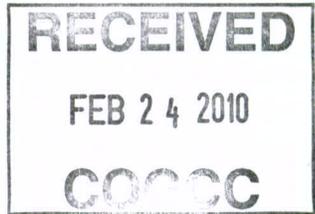
d. **Existing Soil Data:**

| Soil: | Area: | Erosion: |
|------------|------------|----------|
| Bodot Clay | Entire Pad | High |

e. **Description of Existing Vegetation and Estimate of Percent Aerial Cover:**
Irrigated Pasture~ 40%

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: Roadside borrow ditches

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

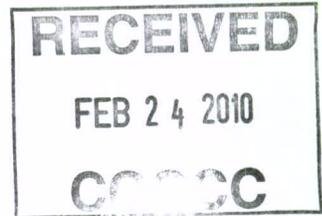
The Best Management Practices (BMP) to be employed during the construction of this well site and pipeline project are outlined in the field wide Storm Water Management Plan. Specific BMPs to be implemented during the proposed project are described in Exhibit A.

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.



BMPs

Identified Implementation Locations:

1. Drilling Pad Construction (See attached Figure 1)

BMPs: 2, 14, 24 & 40

- Implement wattles where shown on map.
- Establish sub-base to route surface water as sheet flow off the east edge of the location to natural grade.
- Construct diversion ditch from existing culvert and around the south end of pad and tie into irrigation ditch to the east.
- 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)

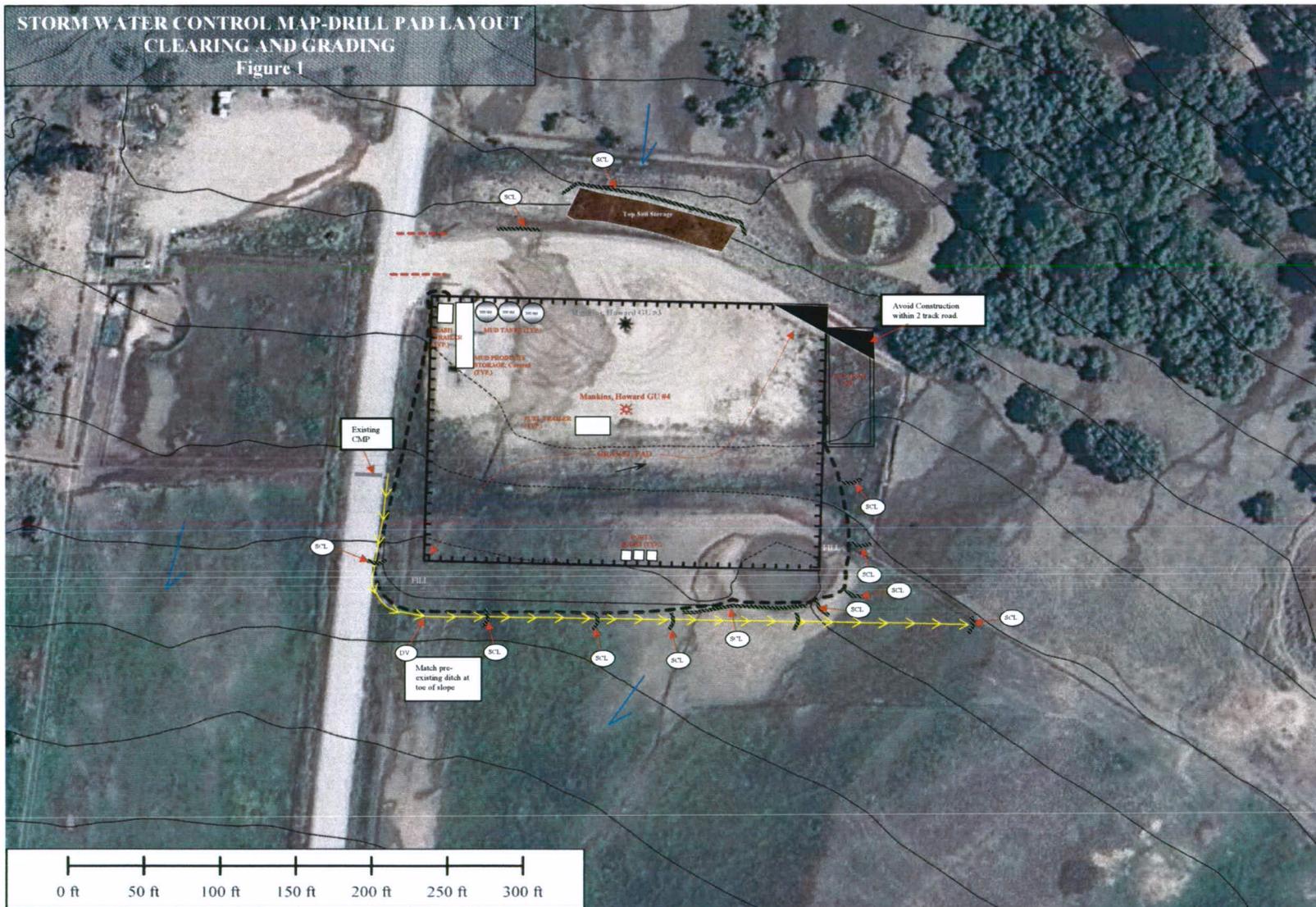
BMPs: 2, 24, & 34

- Reclaim south fill slope 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

- 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, Pipeline ROW, & 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.

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



NOTES:

1. TOPO LINES & 7.5' PROJECTION NAD83 (CONUS)
2. This map is informational in nature, not accurate by surveying standards, and is provided without representation or warranty by Prymor's Environmental Consulting, Inc.

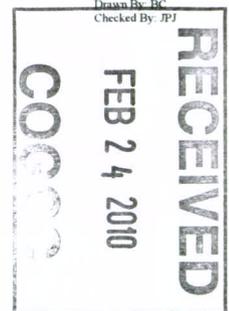


Sec. 10: T 34N, R7W
N M P M
(La Plata County, CO.)

LEGEND

- Limit of Disturbance
- Sediment Control Log (Wattle)
- Diversion Ditch
- On-site Water Flow Pattern
- Offsite Water Flow Pattern
- Existing Well Pad Access

17 April 2009
rev 22 Oct 2009
Drawn By: BC
Checked By: JPJ



STORM WATER CONTROL MAP-INTERIM RECLAIM

Figure 2



NOTES

1. TOPOLINES 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 Prymorvs Environmental Consulting, Inc.



Sec. 10, T. 34N, R. 7W.
N.M.P.M.
(La Plata County, CO)

LEGEND

- Limit of Disturbance
- Sediment Control Log (Wattle)
- Permanent Seeding & Mulching (2 tons/acre of weed free straw mulch)
- Onsite Water Flow Pattern
- Offsite Water Flow Pattern
- Existing Well Pad Access

17 April 2009
rev 22 Oct 2009
Drawn By: BC
Checked By: JPJ

