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Proposed Bmps

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APPENDIX LF 14 October 2008  
CONSTRUCTION OF THE SU 32-9, 6-2 #2 WELL PAD  
SUPPLEMENTAL STORM WATER MANAGEMENT PLAN (SWMP)  
for small construction activities on private land

1.0 SITE AND PROJECT INFORMATION

Ignacio-Blanco  
CDPHE Field Wide Permit #: COR-038395  
  
Location: SU 32-9, 6-2 #2 Well Pad, Access, and Pipeline  
  
Project Location: The project is located on private lands  
Sec. 6; T32N, R09W SUL, La Plata County, Colorado  
37.05160°N -107.87313°E,  
  
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 wells on a 300' x 195' level well pad. Installation of 2143.5 feet of pipeline within a 40 ft wide ROW. Construction of approx. 1127.5 feet of access road within a 30 foot ROW.

b. Sequence of Major Construction Activities:  
. Access and Pipeline Construction  
. Drilling Pad Construction  
. Well Drilling and Completion  
. Interim Pad Reclamation

c. Estimated Total Area of Site disturbance 3.31 acres

d<sub>a</sub>. Estimated Runoff Coefficient, Before and After

Resource:	Before:	After:
Level Pad Area	0.65	0.65
Grassland (Poor)	0.40	0.35/0.60

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

Soil:	Area:	Erosion:
Sedillo gravelly loam	Entire Area	Slight

e. Description of Existing Vegetation and Estimate of Percent of Ground Cover: Agricultural grassland (poor) —cover ~50-60%.

- |    |  |   |
|----|--|---|
| 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:          | Animas River 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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## BMPs

### Identified Implementation Locations:

**1. Drilling Pad Construction (See Fig 1)**

BMPs: 2, 14, 24 & 40

- Implement wattles where shown on map.
- Salvage viable top-soil and spoil as much as possible, store on eastern edge of pad. Maintain top-soil separate from fill spoils for use in reclamation.
- Establish sub-base to route surface water to the south—daylight to natural grade.
- Establish base lift gravel to accommodate level drilling operations and stabilize pad surface.

**2. Pipeline ROW Clearing & Grading, Installation, and ROW Restoration (See Fig. 3&4)**

BMPs: 2, 9, 24 & 40

- Implement wattles as shown Figure 3
- Maintain wattles as shown on Fig 3
- Implement non-erosive road base material for the access surface.
- No equipment maintenance shall occur on-site.
- No storage of materials that could contribute to storm water run-off shall be stored at the site
- Contaminated soils from leaks or spills on equipment shall be removed and disposed of at a soil farm or other appropriate facility.
- Remove fluids from bore pits and backfill.
- Backfill trench-way—leave crown over trench to counteract subsidence

**3. Access Road Construction (See Fig 6)**

BMPs: 2, 9, 24 & 40

- Implement non-erosive road base material for the access surface.

**4. Drilling and Completion Operations/Pipeline Construction (See attached Figure 1)**

BMPs:

- Fuel, Mud Products, 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 and pipeline construction—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.

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

BMPs: 2, 24, & 34

- Reclaim north, east, and west slopes to 3:1 or less.
- Spread stored top-soil over fill slopes & blend to existing grade areas where sloping meets pre-disturbance grade.
- Repair or replace drilling pad wattles if necessary.

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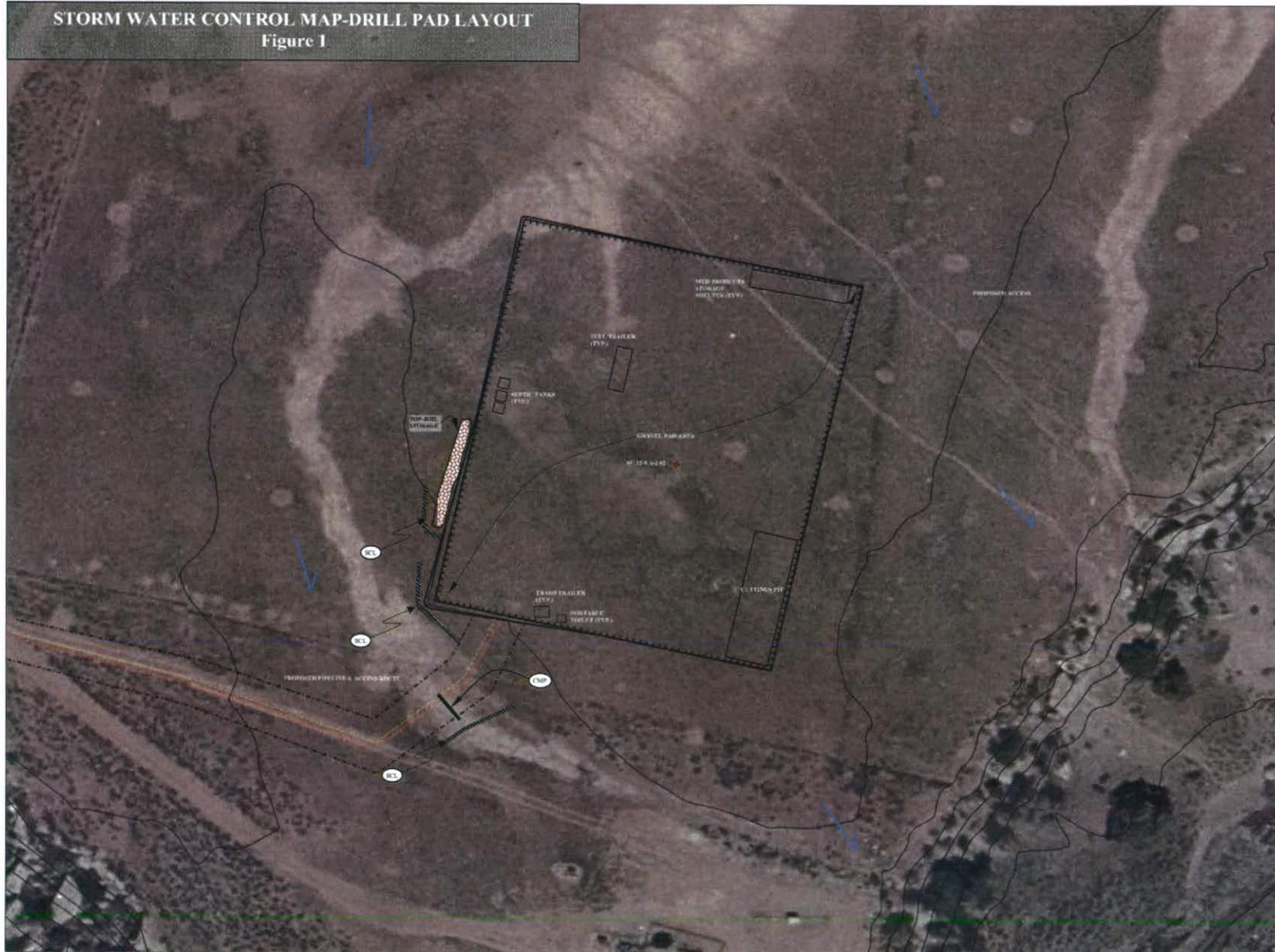
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**6. Re-seeding & BMP Removal**

- 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.
  - PL ROW outside of driveways/accesses, 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.

**STORM WATER CONTROL MAP-DRILL PAD LAYOUT**  
**Figure 1**



**NOTES:**  
 1. TOPO LINES 4-7 B. PROJECTION: NAD83 (COMMON)  
 2. This map is informational in nature, not accurate by surveying standards, and is presented without representation or warranty by Primors Environmental Consulting, Inc.



Sec. 6, T. 32N, R09W  
 N.M.P.M.  
 (La Plata County, CO.)

LEGEND	
	Well Pad Limit of Disturbance
	Sediment Control Log (Wattle)
	Generalized Water Flow Patterns
	Top Soil Storage
	Proposed Access Road
	Proposed Pipeline Route

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



**NOTES:**

1. TOPO LINES 4-7 ft. PRODUCTION NAD27 (CONUS)
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LEGEND	
	Well Pad Limit of Disturbance
	Sediment Control Log (Wattle)
	Mulching—2 tons/ac. Straw
	Permanent Seeding
	Generalized Water Flow Pattern
	Proposed Access Road
	Proposed Pipeline Route

12 August 2008  
 Drawn By JH



STORM WATER CONTROL MAP-PL SOUTHERN SECTION CLEARING AND GRADING

Figure 3



NOTES:

1. TOPO LINES & T.B. PRECISION: NAD83 (CONUS)
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LEGEND	
	Well Pad Limit of Disturbance
	Sediment Control Log (Wattle)
	Proposed Bore Pit
	Generalized Water Flow Pattern
	Proposed Pipeline Route
	Pipeline ROW Boundaries

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Drawn By JH



STORM WATER CONTROL MAP-PL NORTHERN SECTION CLEARING AND GRADING

Figure 4



NOTES:

1. TOPO LINES 4.7' R. PROJECTION NAD83 (CONUS)
2. This map is informational in nature, not accurate by surveying standards, and is presented without representation or warranty by Pryor's Environmental Consulting, Inc.



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LEGEND	
	Well Pad Limit of Disturbance
	Sediment Control Log (Wattle)
	Proposed Bore Pit
	Proposed Bore Pit
	Generalized Water Flow Pattern
	Proposed Pipeline Route
	Pipeline ROW Boundaries

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**STORM WATER CONTROL MAP-PL ROW RESTORATION**  
**Figure 5**



**NOTES:**

1. TOPO LINES 4-7 B. PRODUCTION NAD27 (COWS)
2. This map is informational in nature, not accurate by surveying standards, and is presented without representations or warranties by Primory Environmental Consulting, Inc.



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LEGEND	
	Well Pad Limit of Disturbance
	Mulching—2 tons/ac. Straw
	Permanent Seeding
	Generalized Water Flow Pattern
	Proposed Pipeline Route
	Pipeline ROW Boundaries

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**STORM WATER CONTROL MAP-ACCESS ROW CONSTRUCTION**  
**Figure 6**



**NOTES:**

1. TOPOLINES 4-7.8. PROJECTION: NAD83 (CONUS)
2. This map is informational in nature, not accurate by surveying standards, and is presented without representations or warranties by Pryor's Environmental Consulting, Inc.



Sec. 6, T. 32N, R. 09W  
 N.M.P.M.  
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**LEGEND**

- Well Pad Limit of Disturbance
- Generalized Water Flow Pattern
- Proposed Access Road
- Access Road ROW Limits

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