

**CONSTRUCTION OF THE Boone Gu#2 Location  
Supplemental STORM WATER MANAGEMENT PLAN (SWMP)**

March 21, 2011

**1.0 SITE AND PROJECT INFORMATION**

Project Name: Boone GU #2 Well Pad construction

Project Location: The project is located on private lands located in Sec 19;  
T34N, R19W SUL La Plata County, Colorado N.M.P.M.  
GU #2: 37°10'20.650" N 107°32'19.960" 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 gravel pad and associated access road for a natural gas well on a 260' x 195' level well pad.

b. Sequence of Major Construction Activities:

- . Well Pad Construction
- . 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

	<b>Resource:</b>	<b>Before:</b>	<b>After</b>
	Grassland	0.40	0.40/0.75

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

Soil:	Area:	Erosion:
Bayfield Silti Clay Loam	100% of Pad	High

e. Description of Existing Vegetation and Estimate of Percent Aerial Cover:  
Grassland~75-80%

- 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: Irrigation ditche and intermittent drainage via overland flow

## **2.0 SITE MAPS**

The attached maps (Exhibit C) 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 project are outlined in the field wide Storm Water Management Plan. Specific BMPs to be implemented during the proposed project are described in Exhibit B.

## **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.

**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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Site Responsibilities:

Name and Title (type or print): \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**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 structural best management practices (i.e. wattles) where shown on maps prior to ground disturbing activities.
- Establish sub-base to route surface water as sheet flow off the north end of location.
- Establish base lift gravel to accommodate level drilling operations and stabilize pad surface.
- Store Top soil as shown here on. Retain with SCL as indicated.

#### 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

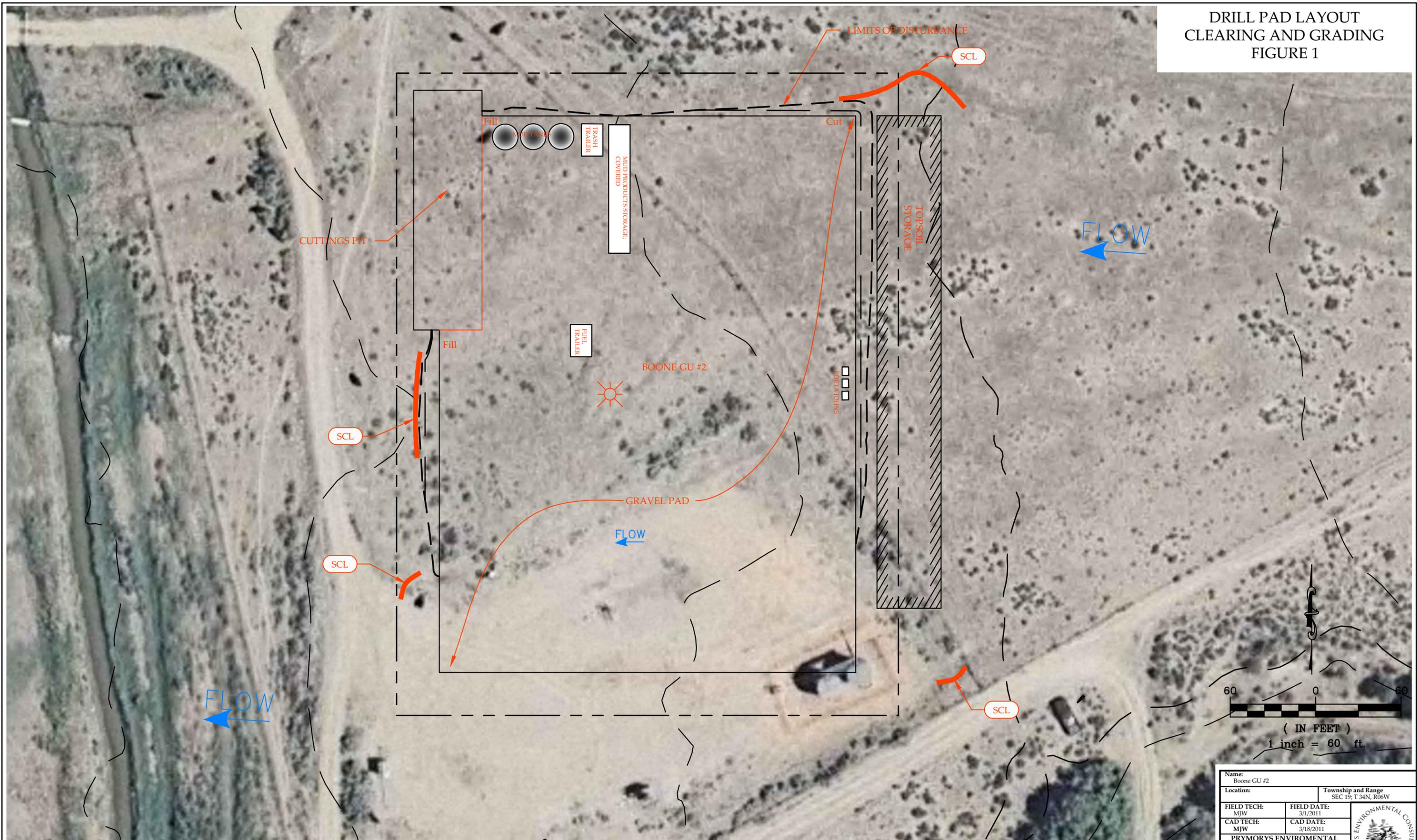
- Reclaim north, west, and east cut/fill slopes to 3:1 or less.
- Trench and bury remaining drill cuttings when material is 95-100% dry.
- Spread top-soil over fill slopes & blend to existing grade areas where sloping meets pre-disturbance grade.
- Repair, replace, or install pad wattles if necessary or as shown.

#### 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. Swale at southwest corner shall be mulched with a bonded fiber matrix.
  - Cut/Fill Slopes & Top-Soil Storage Area.
- Seed mix should implement an annual cover or triticale.
  - Seed Mixture = G-P
- Upon 70% Re-Vegetation across site, remove wattles and any other temporary erosion and sediment control BMP.

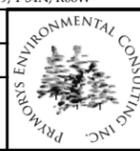
**EXHIBIT C**  
Maps

DRILL PAD LAYOUT  
CLEARING AND GRADING  
FIGURE 1

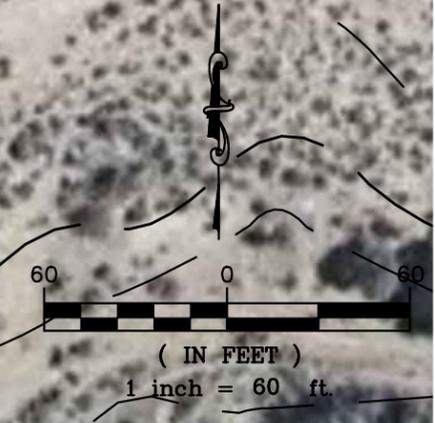
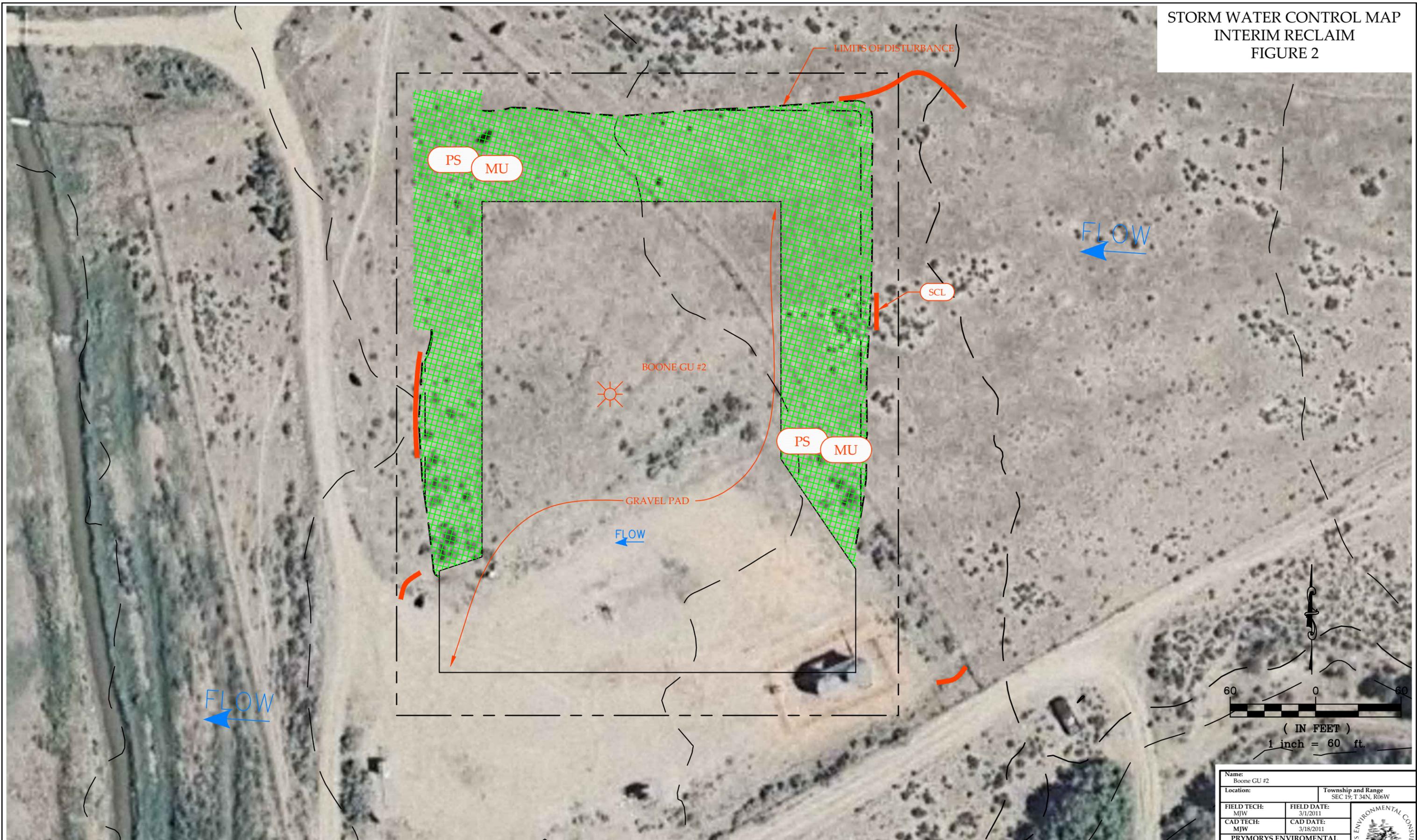


Legend  
 Limits of Disturbance  
 FLOW Flow Direction  
 Top Soil Storage  
 SCL Sediment Control Log  
 Diversion Ditch  
 SF Silt Fence

Name: Boone GU #2	
Location:	Township and Range SEC 19; T 34N, R06W
FIELD TECH: MJW	FIELD DATE: 3/1/2011
CAD TECH: MJW	CAD DATE: 3/18/2011
PRYMORYS ENVIRONMENTAL CONSULTING INC. PO BOX 4470 DURANGO, CO 81302	



STORM WATER CONTROL MAP  
 INTERIM RECLAIM  
 FIGURE 2



Name: Boone GU #2	
Location:	Township and Range SEC 19; T 34N, R06W
FIELD TECH: MJW	FIELD DATE: 3/1/2011
CAD TECH: MJW	CAD DATE: 3/18/2011
PRYMORYS ENVIRONMENTAL CONSULTING INC. PO BOX 4470 DURANGO, CO 81302	

Legend Limits of Disturbance FLOW Flow Direction Top Soil Storage SCL Sediment Control Log MU PS Permanent Seeding and Mulching 2 tons per acre