

Item 1

Sensitive Area Determination

# Sensitive Area Determination Checklist

SG Interests I, Ltd.

Person(s) conducting inspection	Catherine Dickert	10/07/2010
Site Information		
Location:	McIntyre Flowback Pits #3 and #4	Time: 2:00 pm
Type of Facility:	Flowback pit with pad	
Environmental Conditions	Partly sunny, ground dry	
Temperature	≈65°F	

Has the proposed, new or existing location been designated as a sensitive area?

Yes X

No \_\_\_\_\_

## SURFACE WATER

- 1) Are there any surface water features or SWSAs adjacent to or within ¼ mile of the proposed/new facility?

Yes X

No \_\_\_\_\_

If yes, list type of surface water feature(s), i.e. rivers, creeks, streams, seeps, springs, wetlands: There is an unnamed intermittent drainage within 1,000' of the proposed pit (to the west).

- 2) Could a potential release from the facility reach surface water features?

Yes X

No \_\_\_\_\_

If yes, describe the pathway a release from the facility would likely follow to determine if the potential to impact surface water is high or low. The elevation of the proposed pit is higher than the elevation of the drainage to the west. It is possible that a release from the pit could travel downslope to the drainage (see hydrology map).

- 3) Is the potential to impact surface waters from a facility release high or low?

High \_\_\_\_\_

Low X

## GROUNDWATER

- 1) Will the proposed/new or existing facility have any pits that will contain hydrocarbons and chlorides or other E&P wastes?

Yes X

No \_\_\_\_\_

If yes, list the pit types(s): Lined multi-well frac water and flowback water storage pit.

- 2) Is the site of the proposed facility underlain by an unconfined aquifer or recharge zone?

Yes \_\_\_\_\_

No X

3) Is the hydraulic conductivity of the underlying soil or geologic material  $\leq 1.0 \times 10^{-7}$  cm/sec?

Yes \_\_\_\_\_

No X (Fughes loam Ksat value is moderately low or moderately high.)

4) Is the proposed facility located within 1/8 mile of domestic water well or 1/4 mile of a public water supply well which would use the same aquifer?

Yes \_\_\_\_\_

No X (Nearest domestic water wells are 8366' away from Pit #3 and 8,331' from Pit #4.)

5) Is the proposed facility located within a 100-year floodplain?

Yes \_\_\_\_\_

No X (See floodplain map.)

6) Is the depth to groundwater known?

Yes \_\_\_\_\_ (If yes, follow instructions provided in (a) of this section.)

No X (If no, follow instructions provided in (b) of this section.)

(a) If yes, could a potential release from the proposed facility reach groundwater?

Yes \_\_\_\_\_ If yes, explain:

No \_\_\_\_\_

(b) If no: (i) Evaluate surrounding soils, topography, and vegetation which may suggest the presence of shallow groundwater. Vegetation does not suggest shallow groundwater. Sagebrush is dominant.

(ii) Gather information from surrounding well data in order to determine a depth to groundwater, i.e. State Engineer's Office. SEO data (well applications, 10/05/2010) list nearby permitted domestic water wells from 6' depth (8,366' [1.5 miles] to southeast, permit #182846) to 350' depth (11,700' [2 1/4 miles] to southeast, permit #257953). These are the closest domestic use water wells permitted in the vicinity of the project. Most wells are further east along the Muddy Creek floodplain approximately 2 1/2 miles away.

Geotechnical borings did not discover groundwater or significantly moist soils at a depth of 44' from surface.

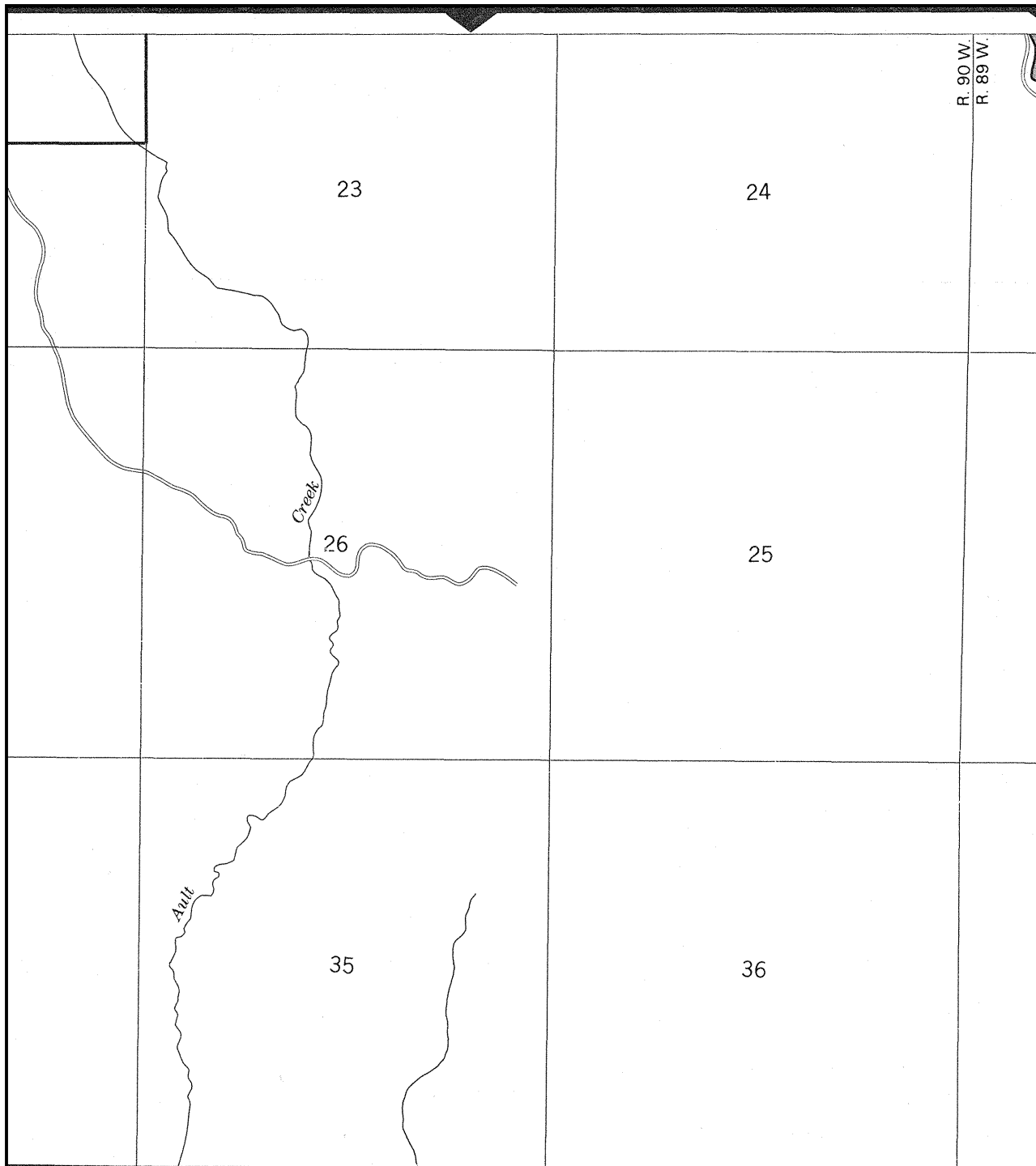
7) Is the potential to impact groundwater from the facility in the event of a release high or low?

High \_\_\_\_\_

Low X

**Additional Comments:** Site design, liner design, leak detection system, and secondary containment as described in attached application reduce possibility of ground or surface water contamination as a result of this project.

Signature Catherine Decker Date 11/24/10



855-8620.



APPROXIMATE SCALE IN FEET

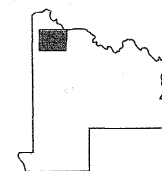
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NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
**FLOOD INSURANCE RATE MAP**

GUNNISON  
COUNTY,  
COLORADO  
(UNINCORPORATED AREAS)

**PANEL 125 OF 975**  
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

**COMMUNITY-PANEL NUMBER**

**080078 0125 B**

**EFFECTIVE DATE:**  
**SEPTEMBER 29, 1989**



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)