

**BLUEBELL FIRE, EVERGREEN, CO.**

**June 5<sup>th</sup>, 2013**



## **HISTORY**

On June 3<sup>rd</sup>, 2013 the Bluebell fire was started off of Bluebell Rd in Evergreen, CO. The fire was started by a lodge pole pine falling down and onto a power line on private property. The fire burned for roughly 47 hours before the Evergreen fire department called it completely out at 1:00PM on June 5<sup>th</sup>, 2013.

Once the fire was out and access to the burn area was reestablished, members of Evergreen Metro District performed a set of water samples at the mouth of Buffalo Creek drainage before it enters the main stem of Bear Creek (site BufCR #1) 39° 38'09.36"N, 105° 20'51.34"W and at a culvert on Buffalo Park Rd and Broce Ranch Rd. (site Broce Ranch #2) 39° 36'33.48"N, 105° 22'41.47"W. These samples were analyzed at the Evergreen Metro District Wastewater treatment plant and at the Evergreen Metro District Water Treatment plant laboratories.

Evergreen Metro staff walked the burn area to photograph and to get a true lay of the land in order to determine potential erosion and run off scenarios. During EMD personnel's site visit IREA, the power company who owns the power line that started the fire was also on site performing an investigation. IREA measured the width of the fire at its origin to be 150 feet across. It was determined that there were 2 hot spots within the burn area of less than 15 acres of very steep terrain.

A second site visit was made on June 12<sup>th</sup>, 2013 to meet with Mike Kortendick, who took us around the property. It was determined at this time that the sampling sites that were already established would be sufficient for our purposes, with the exception of taking a sample during a heavy rain event closer to the burn area to establish a baseline of chemistry within the fire area.

## **PURPOSE**

The purpose of this investigation is to study the effects a fire and the efforts of fighting a fire might have on Evergreen Metro District's water source. The parameters which will be studied are pH, alkalinity, hardness, Total Inorganic nitrogen (Ammonia+ Nitrate+ Nitrite), Total phosphorous, turbidity (NTU), and water hardness.

## PROCEDURES

Sample collecting was performed by EMD staff, all samples were collected in a 1 liter plastic bottle and iced to be kept at or below 2.0°C. The laboratory methods used were all state approved standard methods used in Reg. 85 for DMR reporting per state NPDES permits.

## RESULTS

**TABLE 1**

PARAMETERS											
Site	Date	pH	NH4 ug/L	NO2 ug/L	NO3 ug/L	TIN ug/L	TP ug/L	Alkalinity Ug/L	T.O.C. ug/L	NTU	Hardness Ug/L
#1	6-6-13	8.0	32.7	6	60.5	99.2	0	45000	10200	1.13	62000

Sampling site Location (mouth of Buffalo Creek): 39° 38'09.36"N, 105° 20'51.34"W

**TABLE 2**

PARAMETERS											
Site	Date	pH	NH4 ug/L	NO2 ug/L	NO3 ug/L	TIN ug/L	TP ug/L	Alkalinity Ug/L	T.O.C. ug/L	NTU	Hardness Ug/L
#2	6-6-13	N/A	29.2	10	57.9	97.1	20	N/A	11700	N/A	N/A

Sampling site Location (Broce Ranch): 39° 36'33.48"N, 105° 22'41.47"W.



## FIGURE 1

Sampling site Location (mouth of Buffalo Creek #1): 39° 38'09.36"N, 105° 20'51.34"W





## FIGURE 2

Sampling site Location (Broce Ranch #2): 39° 36'33.48"N, 105° 22'41.47"W.

