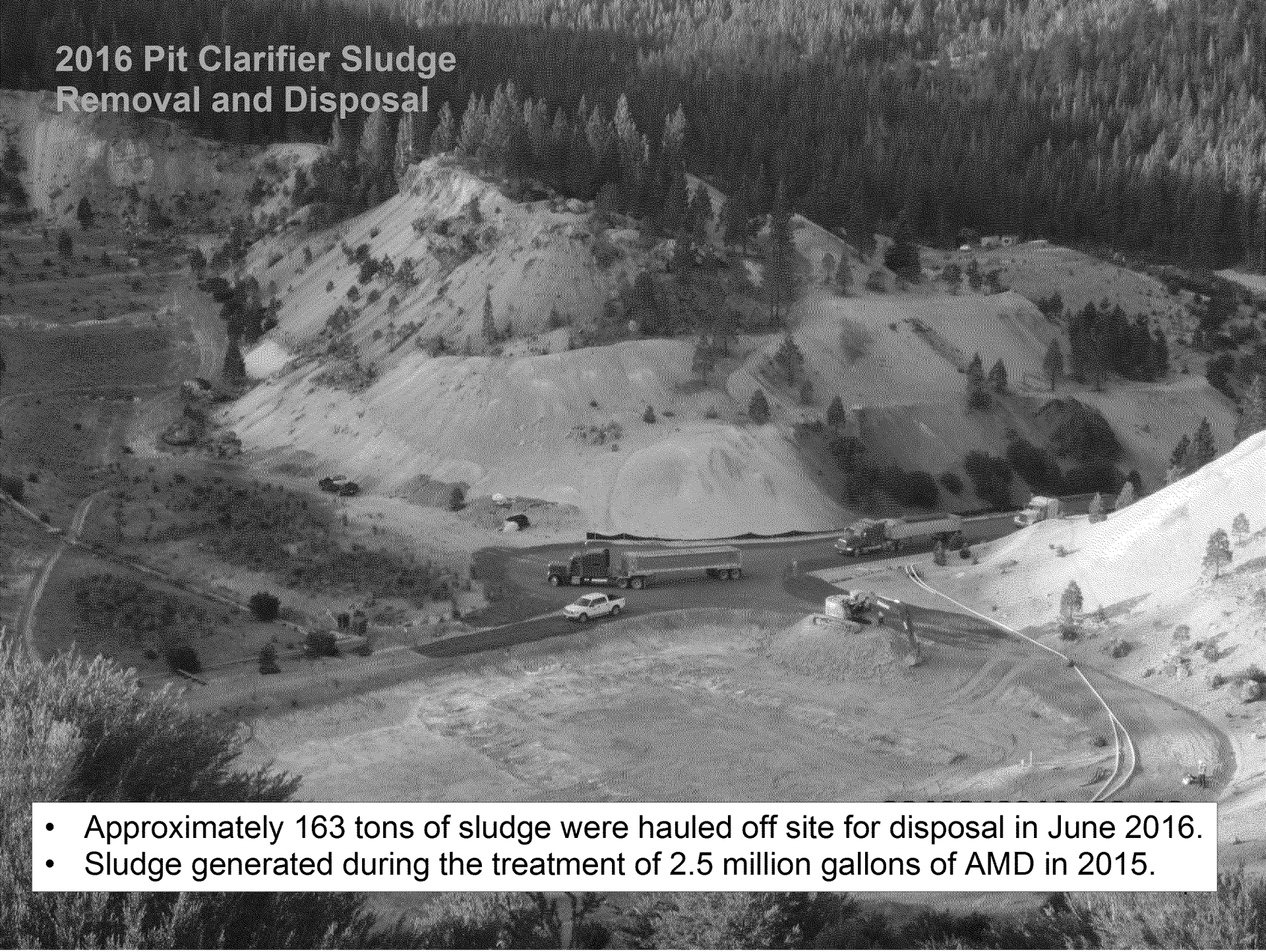
Leviathan Mine January 2017
Annual Technical Summary Meeting
Lahontan Water Board

Tasks in 2016:

- Summer Pond Water Treatment
- Flow and Stage Monitoring
- Maintenance

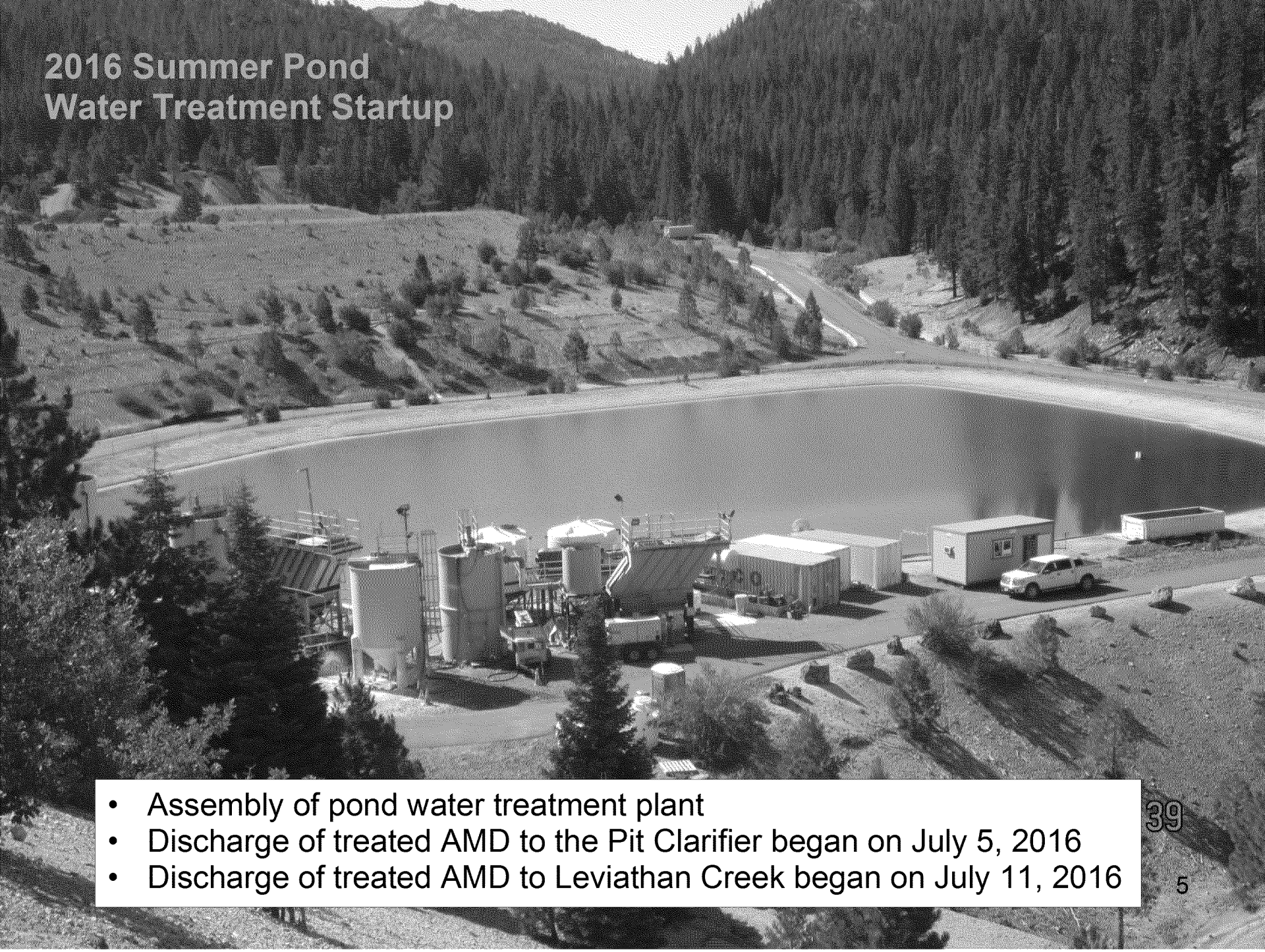
Lahontan Water Board
Pond Water Treatment Plant
Lime Slurry Tank
Utility Water Tanks
CL-2
FF-2
Influent Line
FF-1
R-2
R-1
Polymer Feed Line
Treated Effluent Line
to Pit Clarifier

2016 Pit Clarifier Sludge Removal and Disposal



- Approximately 163 tons of sludge were hauled off site for disposal in June 2016.
- Sludge generated during the treatment of 2.5 million gallons of AMD in 2015.

2016 Summer Pond Water Treatment Startup

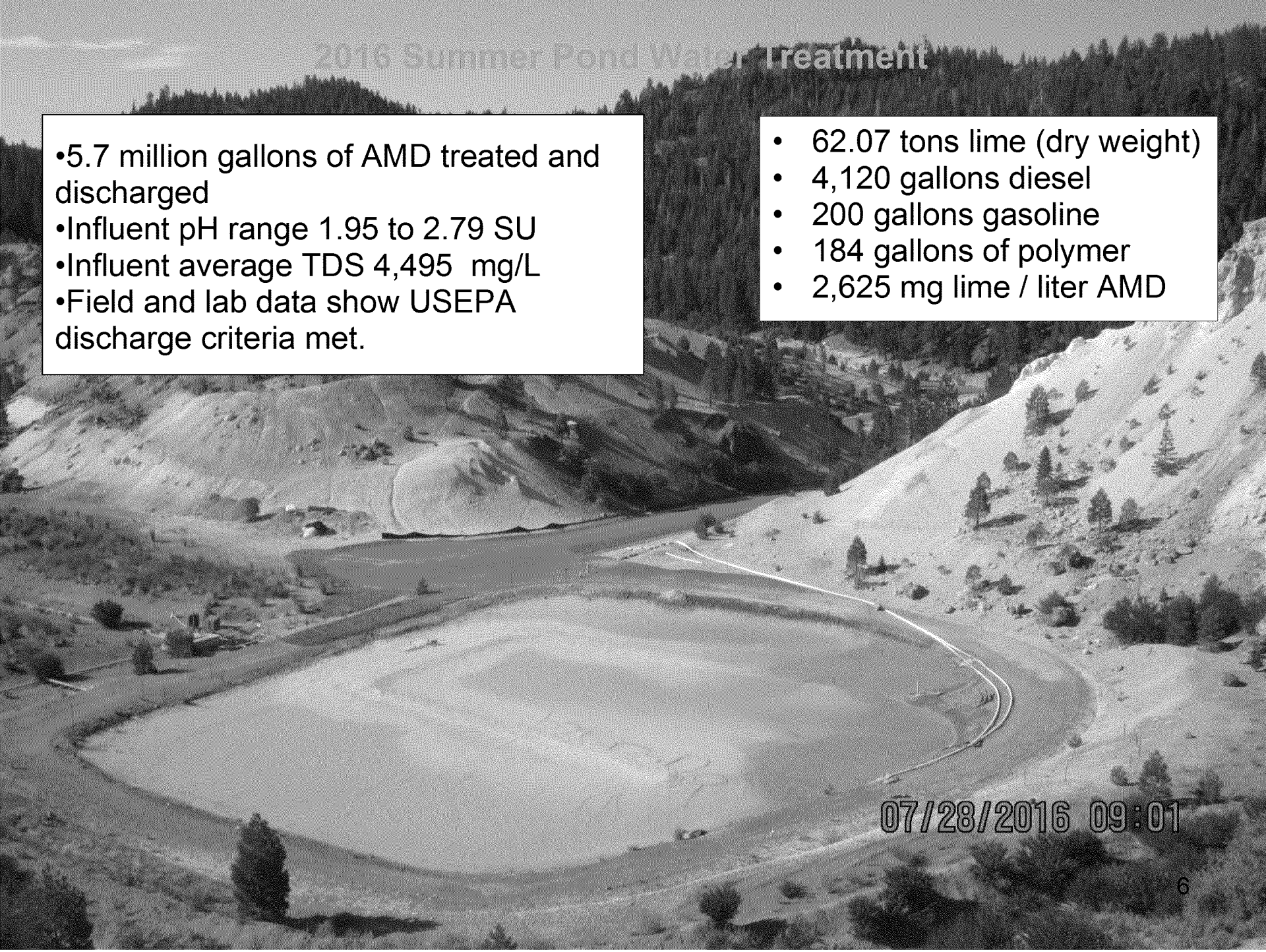


- Assembly of pond water treatment plant
- Discharge of treated AMD to the Pit Clarifier began on July 5, 2016
- Discharge of treated AMD to Leviathan Creek began on July 11, 2016

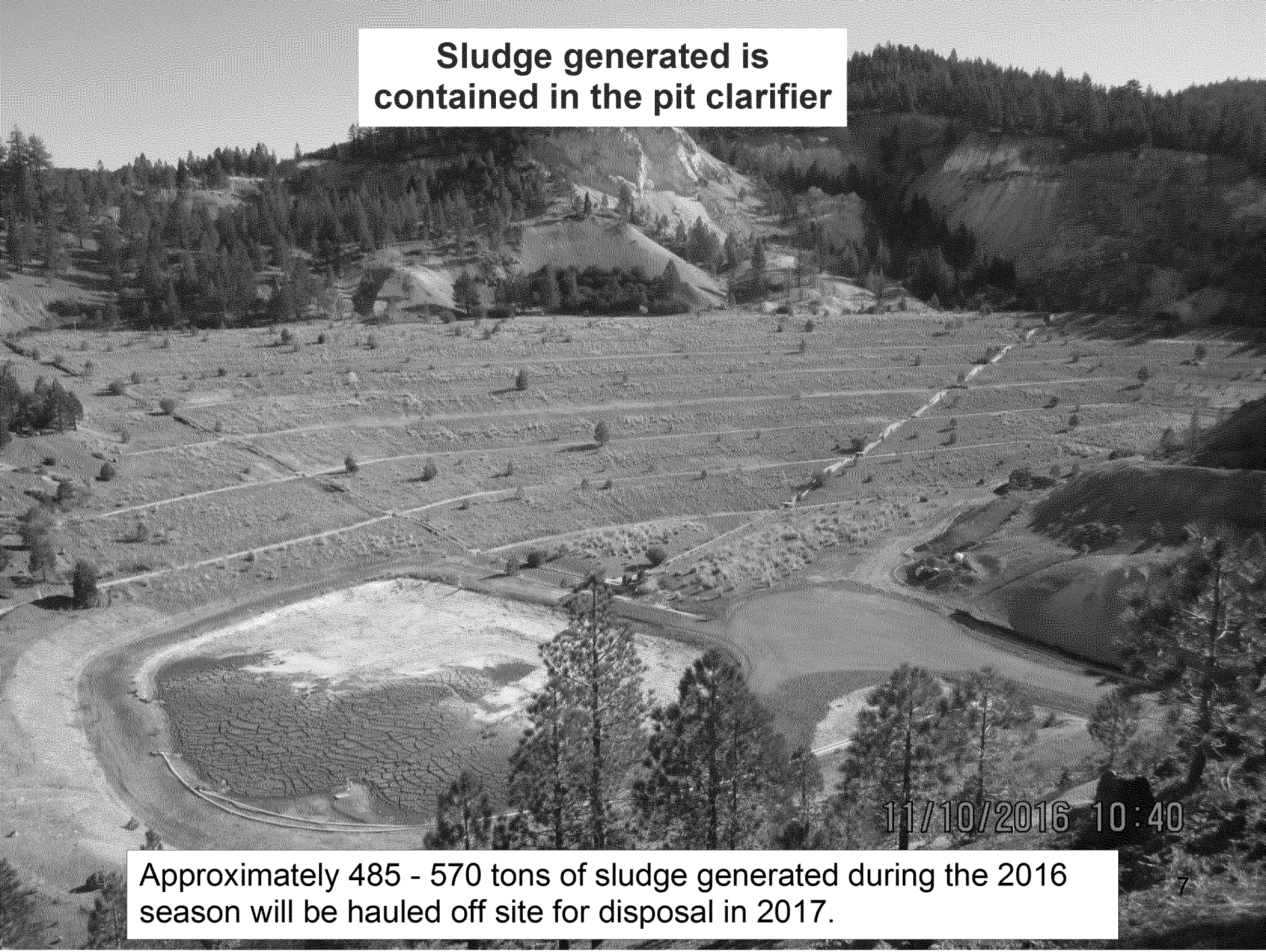
2016 Summer Pond Water Treatment

- 5.7 million gallons of AMD treated and discharged
- Influent pH range 1.95 to 2.79 SU
- Influent average TDS 4,495 mg/L
- Field and lab data show USEPA discharge criteria met.

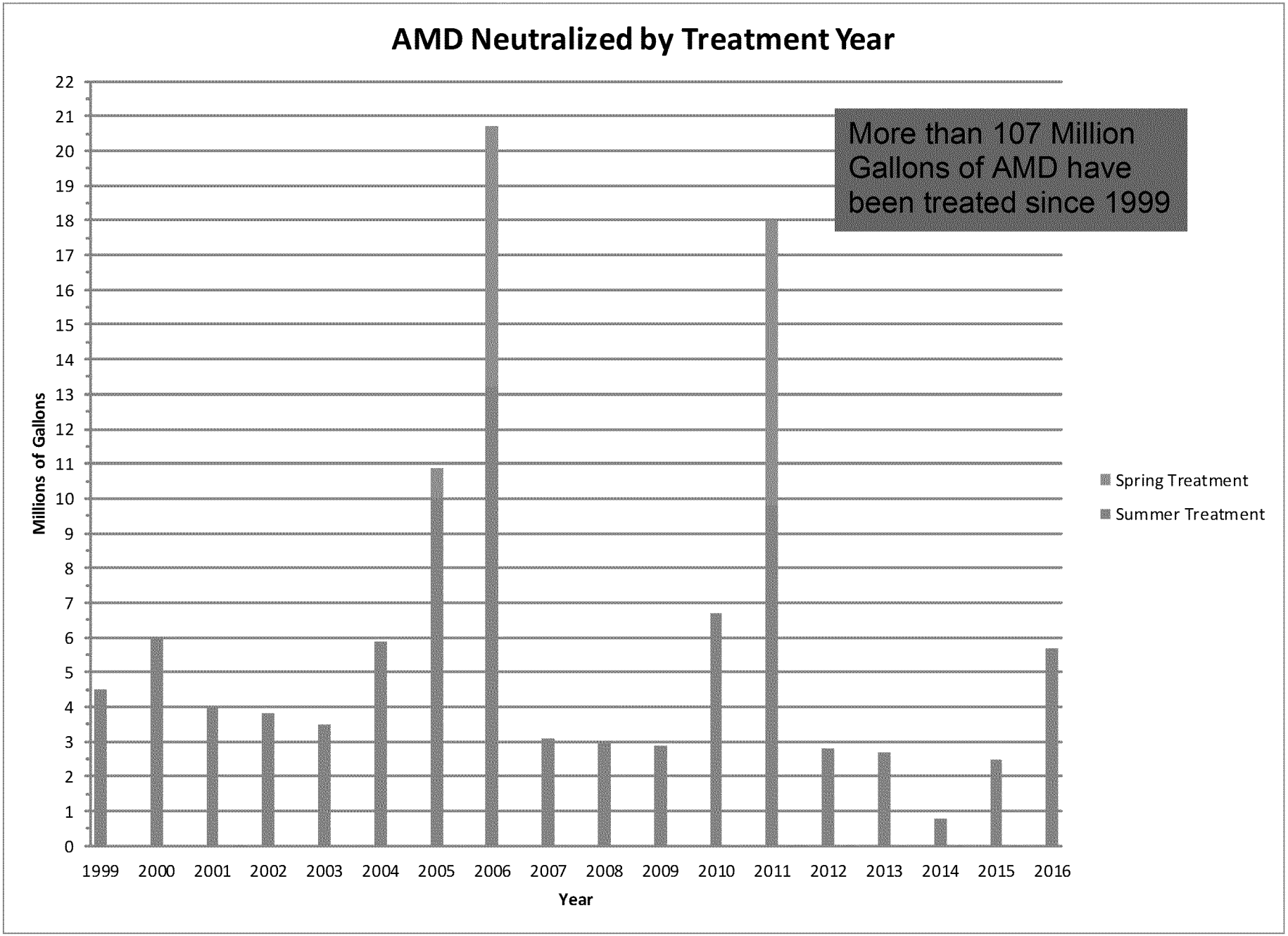
- 62.07 tons lime (dry weight)
- 4,120 gallons diesel
- 200 gallons gasoline
- 184 gallons of polymer
- 2,625 mg lime / liter AMD



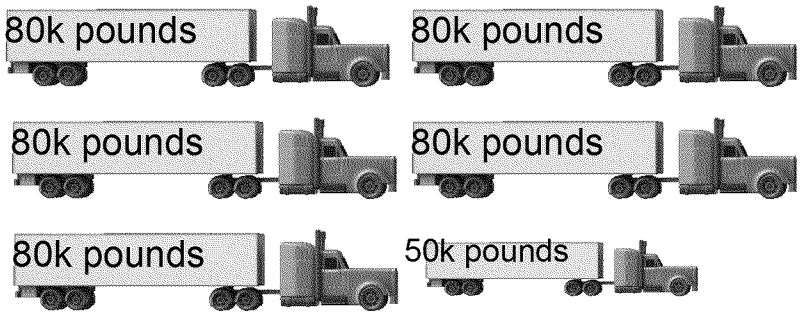
Sludge generated is contained in the pit clarifier



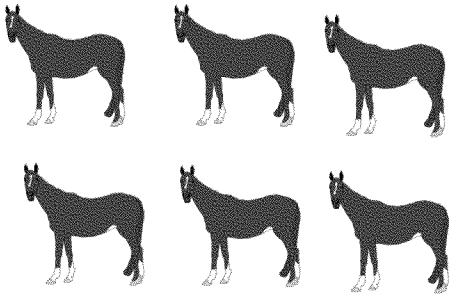
Approximately 485 - 570 tons of sludge generated during the 2016 season will be hauled off site for disposal in 2017.


AMD Neutralized by Treatment Year
More than 107 Million Gallons of AMD have been treated since 1999
Millions of Gallons
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Year
Spring Treatment
Summer Treatment

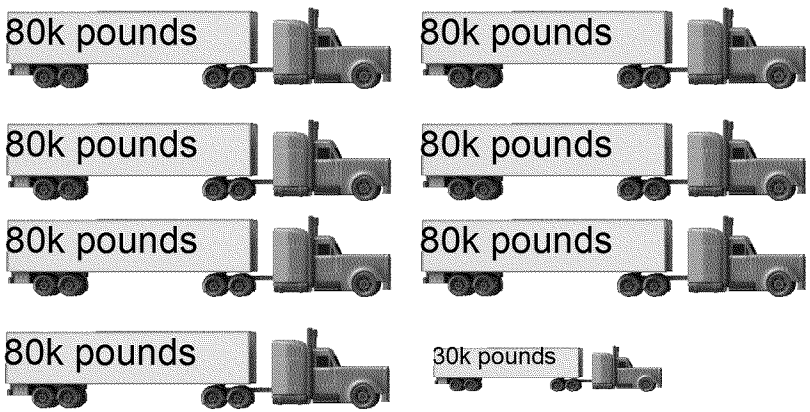
Approximation of Some of the Metals Removed By the Pond Water Treatment Plant Since 1999



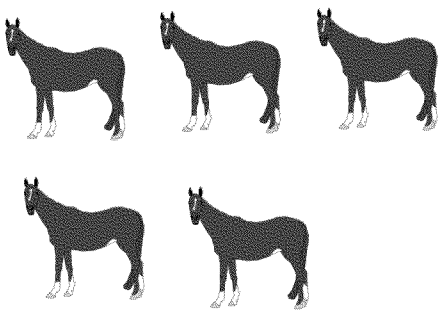
450,000 pounds of aluminum removed



6,400 pounds of nickel removed

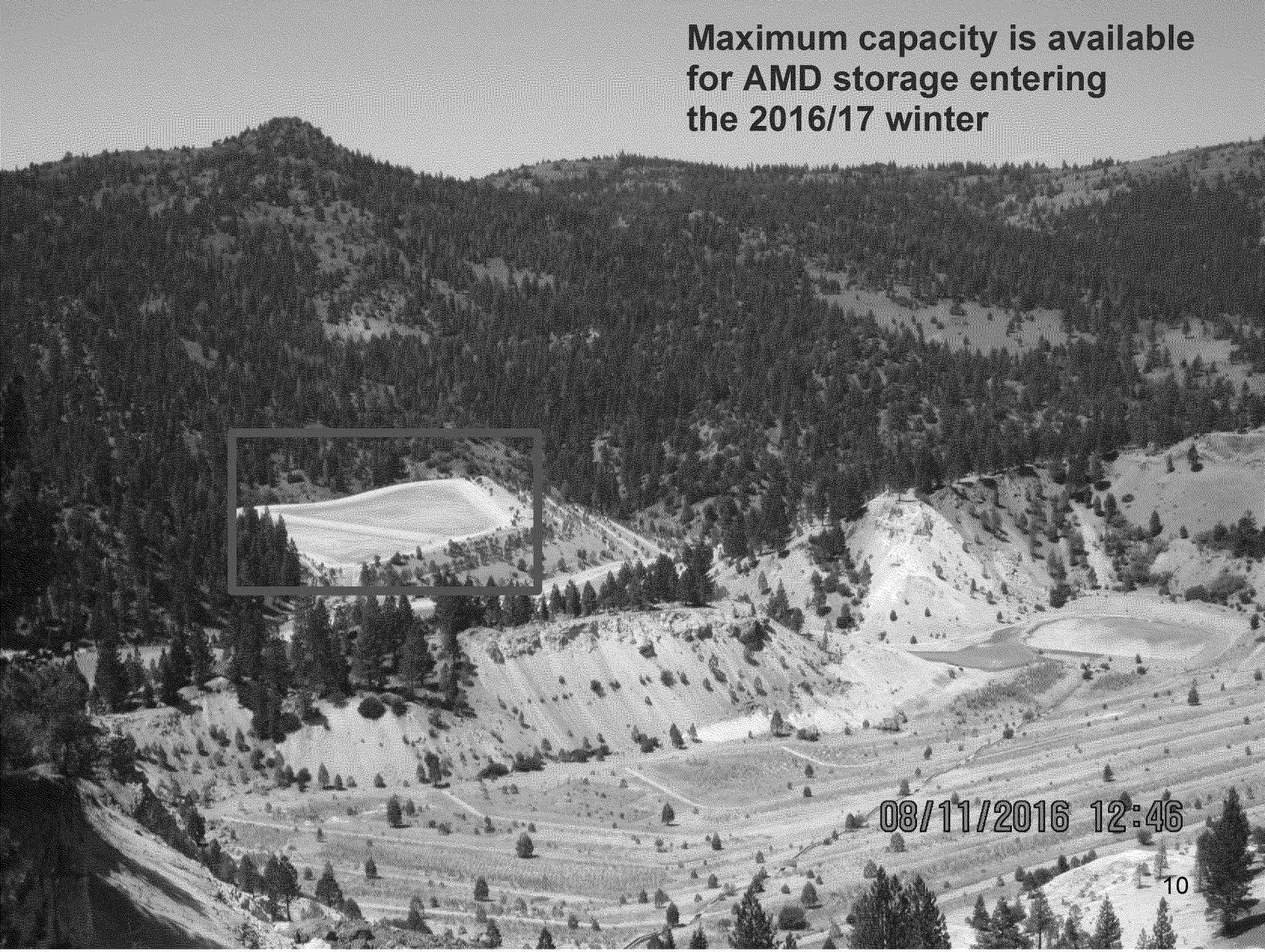


590,000 pounds of iron removed

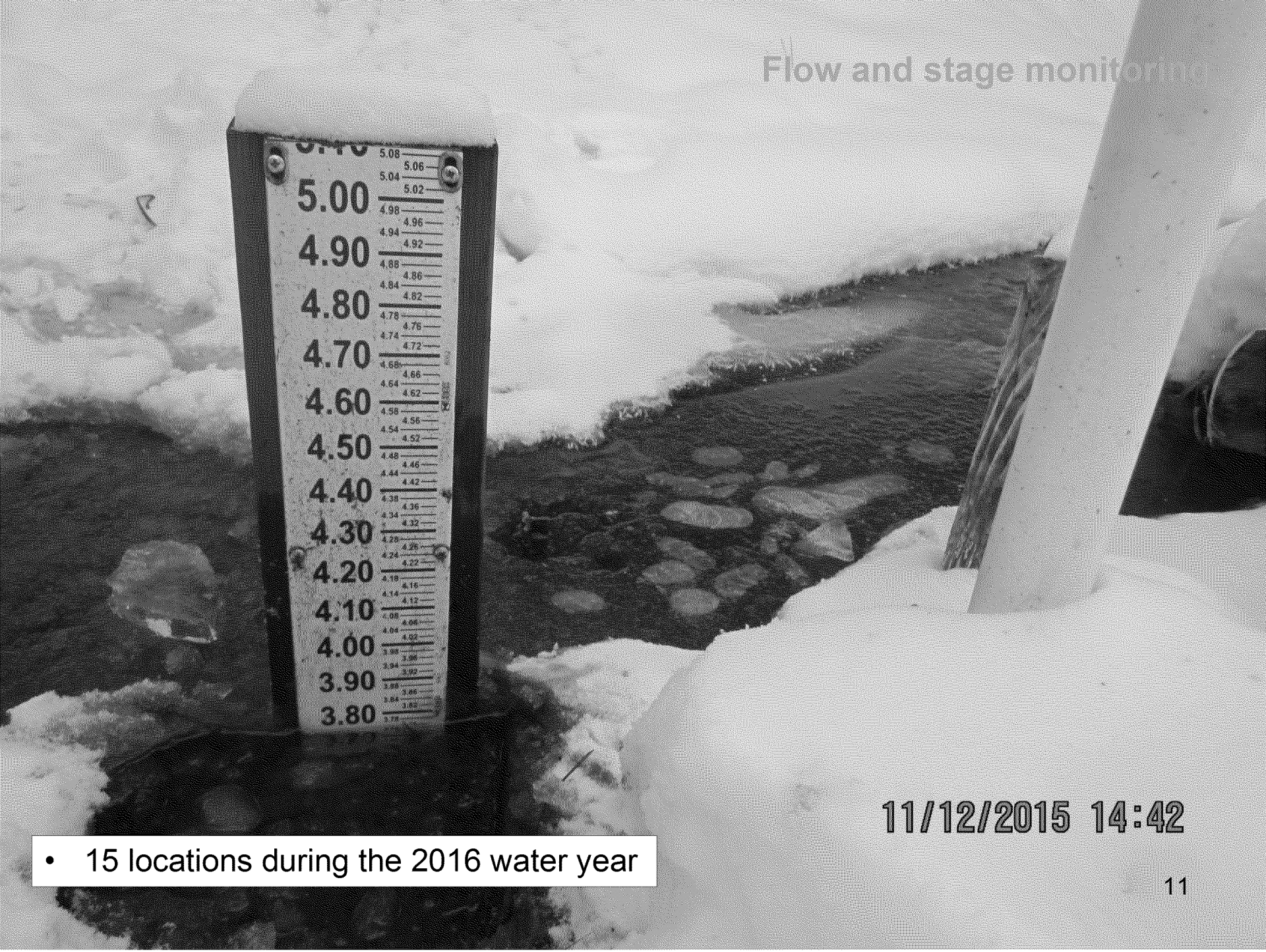


5,500 pounds of arsenic removed

Maximum capacity is available for AMD storage entering the 2016/17 winter



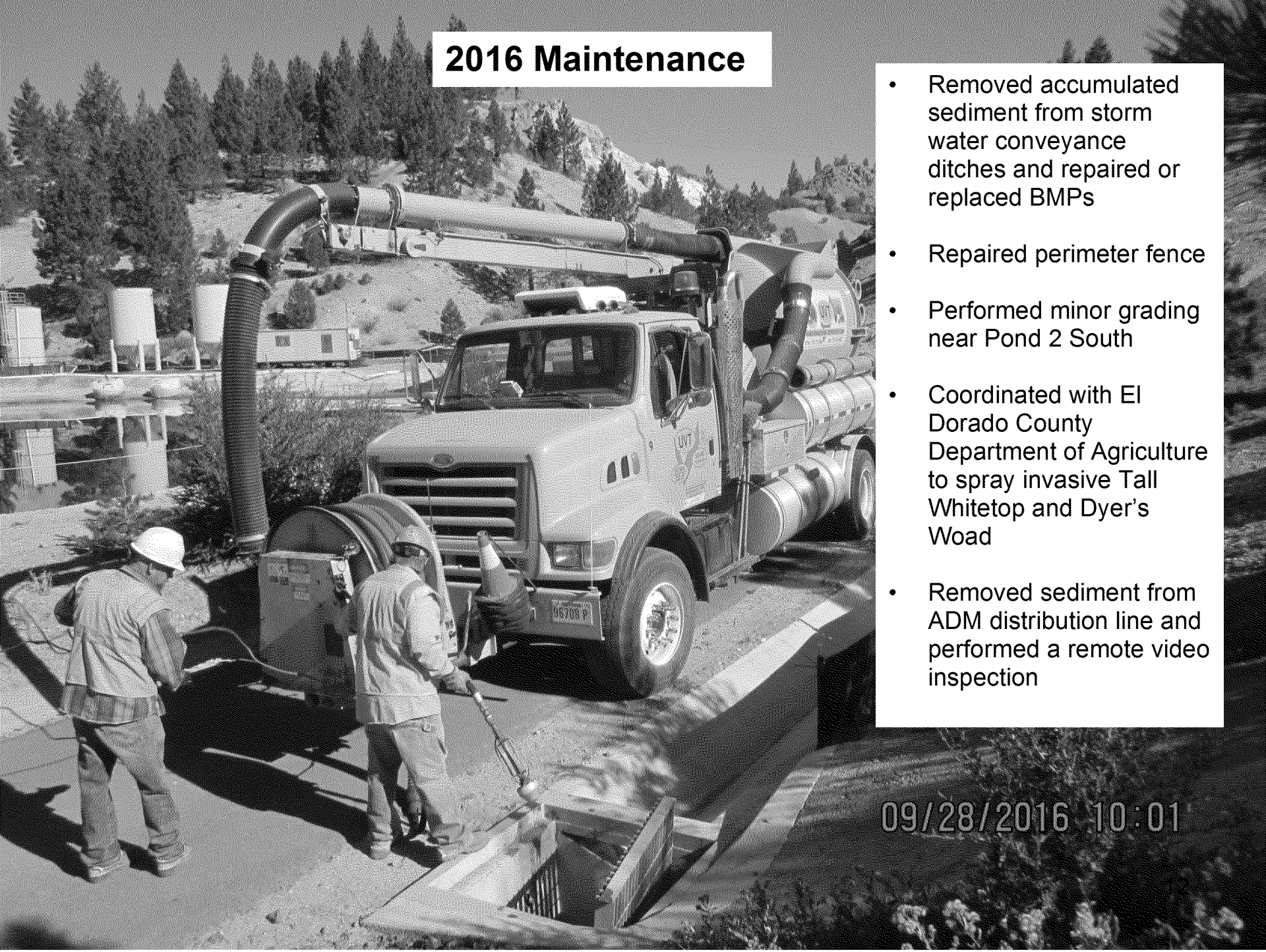
Flow and stage monitoring



- 15 locations during the 2016 water year

2016 Maintenance

- Removed accumulated sediment from storm water conveyance ditches and repaired or replaced BMPs
- Repaired perimeter fence
- Performed minor grading near Pond 2 South
- Coordinated with El Dorado County Department of Agriculture to spray invasive Tall Whitetop and Dyer's Woad
- Removed sediment from ADM distribution line and performed a remote video inspection



Questions?