



STATE OF
COLORADO

Ebert - DNR, Jared <jared.ebert@state.co.us>

M-1980-183 Groundwater Monitoring

1 message

Joshua Oliver <joliver@brannan1.com>

Wed, Apr 5, 2017 at 3:48 PM

To: "Jared.Ebert@state.co.us" <Jared.Ebert@state.co.us>

Cc: Fred Marvel <fmarvel@brannan1.com>, Alex Schatz <aschatz@brannan1.com>

Mr. Ebert,

Attached are the 1st quarter Pit 29 groundwater monitoring results for M-1980-183.

Nothing appears out of the ordinary. Seasonal fluctuations in groundwater levels are evident, and the French drain appears to be working well.

If you have any questions, please let us know.

Thank you,

Joshua Oliver

Environmental Manager



joliver@brannan1.com

O: 303.853.5159 | M: 303.472.1736 | F: 303.853.5233



4 attachments



Piezometer Groundwater Levels 4-3-17.pdf
37K



Pit 29 MW-4 and Reservoir Water Levels 4-3-17.pdf
1010K



DRMS Q1 2017 GW Levels Cover Letter.doc
188K



Piezometer Chart Pit 29 4-3-17.pdf

45K



April 4, 2017
Colorado Division of Reclamation, Mining and Safety
1313 Sherman St. Room 215
Denver, CO 80203

Re: Pit 29 M-1980-183 Groundwater Level Monitoring

Mr. Jared Ebert:

Please find the attached reservoir, MW-1, MW-2 and MW-4 quarterly readings, in addition to Pit 29 South cell water levels.

MW-4 datalogger monitoring and manual depth to groundwater monitoring continues to verify the functionality of the French drain project, which was completed in 2015 along the southern boundary of the western half of the property.

The data continues to indicate a lack of relationship between groundwater levels in MW-4 and the South Cell Reservoir.

MW-1 indicates a gradual deepening of the water table outside of the slurry wall, although in past years there has been evidence of groundwater recharge in the MW-1 depth to groundwater levels, which could be apparent in the next couple of months. MW-2 indicates a rise in groundwater levels, which is likely due to Fulton Ditch resuming operation. The groundwater levels in MW-2 rise by several feet each year around this time, in general accordance with Fulton Ditch operation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Josh", with a long horizontal flourish extending to the right.

Joshua Oliver
Environmental Manager
(303) 472-1736
joliver@brannan1.com

Brannan Pit #29

Water Level Measurements

Date Month-Year	Depth to Water (ft)			
	MW-1 OUT	MW-2 OUT	MW-3 OUT	MW-4 OUT
12/1/2005	21.50	22.50	11	NA
1/1/2006	23.00	23.00	13	NA
3/1/2006	22.00	20.00	11.5	NA
5/1/2006	21.50	20.00	10.5	NA
6/1/2010	20.50	17.70	N/A	NA
9/1/2010	20.00	18.90	N/A	21.40
12/1/2010	20.90	23.17	N/A	26.25
3/1/2011	20.57	19.40	N/A	24.66
6/1/2011	19.40	15.74	N/A	21.80
9/1/2011	18.94	18.63	N/A	21.08
12/1/2011	20.20	21.10	N/A	21.15
3/1/2012	20.95	10.30	N/A	17.75
6/1/2012	20.89	18.47	N/A	14.09
9/12/2012	20.97	19.21	N/A	5.64
11/12/2012	-	-	N/A	4.84
12/12/2012	21.79	20.54	N/A	5.67
4/13/2013	22.84	18.16	N/A	5.61
4/22/2013	22.55	19.70	N/A	5.30
6/13/2013	22.48	18.78	N/A	5.60
9/1/2013	21.66	19.15	N/A	4.52
12/13/2013	23.19	20.60	N/A	5.60
3/14/2014	24.15	16.75	N/A	6.09
6/14/2014	23.32	17.76	N/A	5.18
9/14/2014	22.91	18.80	N/A	4.64
11/14/2014	23.60	19.62	N/A	5.22
12/1/2014	24.85	20.48	N/A	6.02
3/31/2015	26.87	17.50	N/A	6.78
6/15/2015	21.79	16.69	N/A	4.79
9/15/2015	19.94	17.75	N/A	5.27
12/15/2015	21.42	19.15	N/A	6.54
4/6/2016	23.11	20.06	N/A	9.15
7/13/2016	20.66	18.64	N/A	6.33
8/30/2016	20.61	19.86	N/A	9.01
9/27/2016	20.78	20.37	N/A	8.77
10/31/2016	20.53	20.91	N/A	9.09
11/21/2016	20.58	21.05	N/A	9.05
12/28/2016	21.61	21.93	N/A	9.15
1/26/2017	22.49	22.31	N/A	9.20
2/27/2017	23.44	22.60	N/A	9.20
3/28/2017	23.35	19.78	N/A	9.19



