



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

February 22, 2016

Connie Davis
Aggregate Industries - WCR, Inc.
1687 Cole Blvd., Ste. 300
Golden, CO 80401

**Re: Hazeltine Mine, DRMS Permit No. M-2004-031,
Permit Amendment Application No. 1 (AM-01),
Objections Received**

Dear Ms. Davis:

On December 16, 2015, the Division of Reclamation, Mining and Safety (Division) determined that Permit Amendment Application No.1 (AM-01) was complete for the purposes of filing. Therefore, the public comment period opened on December 16, 2015. On or about February 17, 2016, the public comment period closed for AM-01. During the comment period the Division received timely a comment and timely objections from the following parties and/or interested persons:

Letters of Objection:

- 1) Keith and Shirl Sabin, dated February 5, 2016, received February 11, 2016
- 2) City of Thornton, dated February 16, 2016, received February 16, 2016
- 3) Equity Funding LLC, dated February 16, 2016, received February 16, 2016

Commenting Agency:

- 1) Colorado Division of Water Resources, dated January 13, 2016, received January 13, 2016

Please find enclosed copies of the written comment and objections identified above, for your records. Please inform the Division how Aggregate Industries intends to address the jurisdictional issues raised by the timely objections.

If you need additional information please contact me at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203, by telephone at 303-866-3567, extension 8131, or by email at Tyler.ODonnell@state.co.us.

Sincerely,

Tyler O'Donnell
Environmental Protection Specialist

Enclosure: Objection Letter from Keith and Shirl Sabin received February 11, 2016
Objection Letter from the City of Thornton, received February 16, 2016
Objection Letter from Equity Funding LLC, received February 16, 2016
Comment Letter from Division of Water Resources, received January 13, 2016

cc: Wally Erickson, DRMS



110
(100)

Keith and Shirl Sabin
8193 Counter Drive
Henderson, CO 80640

February 5, 2016

M. 2004-031

RECEIVED

FEB 11 2016

DIVISION OF RECLAMATION
MINING & SAFETY

Adams County Commissioners and Adams County Planning Department
4430 South Adams County Pkwy
Brighton, CO 80601

Dear Adams County Commissioners and Adams County Planning Department:

This letter is to address our concerns regarding the delay in completion of the reclamation of the Hazeltine Mine [Section 9, Township 2 South Range 67 West of the Prime Meridian]. As you know Aggregate Industries WCR Inc (AI) has requested to delay the completion of this project with the Division of Reclamation, Mining, and Safety until 12/31/2018.

This project on 104th Avenue just east of the South Platte River has been ongoing for close to a decade now and should be completely phased out as scheduled no later than 6/30/2016. Since weeks go by with no activity at the mine, it would seem that added effort could accomplish this quite easily.

Until the past 6 months AI has utilized berms to minimize the visual impact, dust, and noise from this operation but now they have accumulated a plethora of diggers, machinery, vehicles, and out-buildings directly behind our property. Another 3 years of this unsightly display is completely unacceptable. Unless this can be camouflaged or removed I remain opposed to the extended delay in completion of the project.

Furthermore, we appeal to you that as the project is completed it will show a re-vitalized landscape that is visually attractive to nearby homeowners, Adams County, the City of Thornton, and all those that pass-by on 104th Avenue. Please - no chain link fencing, barbed wire, or clutter!

Thank you for your consideration.

Keith and Shirl Sabin

Cc: Division of Reclamation, Mining, and Safety
1313 Sherman St – Ste 215
Denver, Co 80203

CSH



City of Thornton

Infrastructure Maintenance Center
12450 Washington Street
Thornton, CO 80241-2405

Infrastructure Department
720-977-6600
FAX 720-977-6202
www.cityofthornton.net

February 16, 2016

Mr. Tyler O'Donnell
Division of Reclamation, Mining, and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

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FEB 16 2016

**DIVISION OF RECLAMATION
MINING AND SAFETY**

RE: Hazeltine Mine; Permit No. M-2004-031

Dear Mr. O'Donnell:

The purpose of this letter is to provide information regarding existing site conditions at the Hazeltine Mine as the Division considers a proposed amendment to the above referenced permit. During the course of researching the proposed amendment to the permit, the city of Thornton became aware that surface water is being planned to be drained into the pit on a permanent basis rather than being allowed to flow to the South Platte River as it historically did prior to development of the Hazeltine Mine gravel pit and the three gravel pits to the north. The surface water appears to be coming from what is known as the Bull Seep. The city is not aware of any existing water right or augmentation plan that would allow the water to be stored in the reservoir. Attached are two aerial photographs of the Hazeltine Mine vicinity. The first aerial photograph is from October 9, 2015. The second aerial photograph is from June 26, 1993. They demonstrate the conditions in regards to the surface water drainage in the vicinity.

Sincerely,

Ed Lanyon
Water Resources Administrator

EA/dm

cc: MLCR
Mike Refer, Aggregate Industries

Hazeltine Mine Historical Aerial Photographs



Source: © 2016 Google; Google Earth; October 9, 2015



Source: © 2016 Google; Image U.S. Geological Survey; Google Earth; June 26, 1993

Equity Funding LLC
5040 Acoma Street
Denver, CO 80216
Office: (303) 918-1215 FAX: (303) 295-1256

February 16, 2016

Mined Land Reclamation Board
C/o Division of Reclamation Mining and Safety
1313 Sherman St, #215
Denver, CO 80215

RECEIVED

FEB 16 2016

**DIVISION OF RECLAMATION
MINING AND SAFETY**

Dear Board Members;

RE: Aggregate Industries, Inc. - Hazeltine Mine
 M-2004-031 Amendment 01
 Adjoining owner objection letter

This letter and the attached report contain the reasoning for my objections to the above referenced Amendment filed by Aggregate Industries for their Hazeltine Mine. I do not believe that this Amendment will correct the disturbance to areas outside the permit boundary. Nor will it minimize the disturbance to the prevailing hydrologic balance of the areas east of their mine, as directed by the Mined Land Reclamation Board on March 18, 2015. If it does anything, it will only drain the surface so there is less standing water on my property and will do nothing to lower the groundwater elevation to its historic elevation. When this is the case, I will have to deal with a swampy parcel of land from now on and this has/will reduce the property's value for any type of development. In effect, this takes away my enjoyable use of the property. Included in this packet are a series of photos starting in 1948 showing that the entire property had been used in a variety of uses that were not compatible with swampy areas. Only after 2005 did the property become saturated and unusable, unless you're a duck. Leaving the groundwater elevated at its present level on my property also does not correct the findings in the Board Order to protect areas outside the affected lands from damage. It requires mitigating the mounding not dewatering the surface.

Attached is an analysis of the technical report from the Amendment (AM01) prepared by Steve O'Brian of Environment, Inc., that leads me to this conclusion. You may disagree with some of the points he puts fourth but in short, if Aggregate Industries does not place a horizontal drain system at an elevation below the ground surface then it cannot drain the underlying gravel strata or hope to approximate the historic groundwater elevation on our property.

I fear that they foresaw the future when in an Adequacy Response to the Division of Reclamation Mining and Safety dated 6/9/15, where they state (*bold italics* added for emphasis)

"...would also impact pre-mining *jurisdictional wetlands on both the Orr* and AI properties as well as mitigation wetlands that have been constructed on AI's property in accordance with approved 404 permit (DA file # 199980194)."

They have increased the jurisdictional wetland from 0.03 ac ± to approximately 3.29 ac. so it now covers 73.27% of our property making it virtually impossible to use the land for anything that would involve destroying the wetlands. The pre-mining, wetlands they refer to on the Orr Property is the 0.03 acres associate with where the historic Fulton Ditch/Bull Seep confluence was. Equity Funding was not part of the 404 permit noted in their reply and has little concern for their wetlands.

They should have thought about that when they were designing the new Bull Seep channel, the slurry wall and their wetland area.

Attached is a table showing a list of the most important dates when items were submitted to or by Aggregate Industries from when I sent them the first letter suggesting we get together and discuss the problem in an attempt to resolve it before the Division of Reclamation Mining and Safety was brought into it. The following information is a recap with dates and times included, for easier reference. After sending them the letter on 3/31/11, our next attempt was made when Lisa DeVescovo and I meet with Mr. Refer in early July 2011 to discuss the problem. I told him that I did not want to hire more consultants to build a case against them, which left me with going to the Board for relief. He said I should do whatever I needed to do. So I was finally forced to file a complaint with the Division on 9/14/11 (167 days later). On 10/5/2011 the Division inspected the site and determined there were 2 Possible Violations, one for disturbing the Hydrologic Balance and one for disturbing areas outside the permit area and told AI to file a groundwater mounding mitigation plan within 60 days. It took them another 233 days to file their first of five Technical Revisions. TR01 was approved 257 days later (1/16/13) after Aggregate Industries asked for 6 extensions and the plans were never implemented. Total time from first Equity Funding notice was 657 days.

Technical Revision 02 was filed on 5/1/2013 (131 days after T01 was approved). Sixty-one (61) days later TR02 was approved after 2 extensions. But 2 days later Aggregate Industries asked for an extension on installation of the drain pipe. That extension request was never approved. Total time from first our notice was 825 days.

Technical Revision 03 was filed on 5/15/14 after Mr. O'Donnell did the fourth inspection of the site on 3/24/14 (318 days after TR02 was approved). He noted they were still in violation of the Rules listed in the original inspection on 10/5/2011. Total time from first notice was 1,141 days. TR03 was approved on 6/16/14 to require monthly monitoring and installation of a screen to keep the TR02 pipe from clogging.

Inspection #6 was done on 10/31/14 to review status of groundwater mitigation and offsite disturbance issues raised in the 10/5/2011 inspection. After 137 days it did not appear TR03 was working or making significant changes. Aggregate Industries was given until 11/25/14 to submit a groundwater mounding mitigation plan. Total time from first notice from Equity Funding was 1310 days. On 11/25/14 Aggregate Industries asked for a 35-day extension saying they were talking with us, we were never contacted. On 12/30/15 they asked for 30 days till 1/31/15 same excuse, same actions no contact made and extended till 2/2/15. Total time from first notice by Equity Funding to this request was 1,370 days.

The Division sends a Notice of Violation on 3/3/15 to Aggregate Industries for not mitigating the groundwater mounding problem. On 3/18/15 Board orders Aggregate Industries to submit a Technical Revision for a temporary mitigation plan within 30 days (5/20/15) and a permanent approvable plan within 90 days (7/20/15). Aggregate Industries files TR04 on 5/21/15 (1 day after board ordered) on 6/15/15. TR04 is approved and AI has till 6/20/15 to start work. Total time from first Equity Funding notice was 1,537 days.

On 7/20/17 TR05 is submitted as permanent plan. It is essentially TR04 reworded, Divisions denies TR05 on 7/20/15 saying it should be an Amendment since it is a major change to the reclamation plan and Aggregate Industries asks for a determination ruling from the Board. Eighty-six (86) days later the MLRB determines it should be an Amendment and gives Aggregate Industries till

12/15/15 to file the required Amendment. Total time from first Equity Funding notice to determination order was 1,658 days.

On it goes, on 12/16/15 (a Tuesday), AM01 is filed one day late. It seems to take TR05, add the necessary other exhibits and refiled it as an Amendment. This took them another 63 days after the Determination hearing. The Amendment is deemed complete on 12/31/2015 or *4.76 years* after we first notified Aggregate Industries that there was a problem with groundwater mounding on our property and there is no end in sight.

In a recent overture to Aggregate Industries to clear this up I offered to sell them the property at a reasonable cost to recover the money and time I have spent trying to get the property back to its pre 2005 conditions. This offer included the fair market value to the land prior to their flooding it. They did not have the courtesy to reply to the offer. In reality, during all this time it appears that Aggregate Industries has made the necessary filings late or asked for more time for no valid reason, while we have not had use of our property. If you go back to when Aggregate Industries should have seen the problem developing (2/4/05) then it took them *10 years 11 months and 11 days* to file a mitigation plan that does not appear to return the groundwater elevations to close to their historic levels on my property.

We are now faced with at least 6 months more of waiting for them to take a productive action and if it does not work the clock starts over while trying to get them to fix the problem. In their Amendment, they say the facility will be turned over to the City of Thornton and if this happens during the time we are waiting for any relief, AI will claim it is not their problem because the Mined Land Reclamation Board approved their plan. The other scenario we see is that they ask for bond release on the grounds that Thornton will continue to develop the reservoir so reclamation is assured. Past experience shows that if this is done the municipality (who do not post bonds) will just ignore the complaints and delay until everyone is dead. In the 2015 annual report they said all mining would be completed by 12/31/15. We believe that, that indicates they plan to transfer the permit to Thornton in the near future to free themselves of having to deal with fixing the mounding problem and if it is not resolved by this Amendment we will be left with the loss of use of our property and its value.

I am confident that the Board will see my patience over the past 4.76 years and require Aggregate Industries to return my land to a usable condition with no further delays or continuances. We will look forward to discussing our concerns with the Mined Land Reclamation Board. If the staff has any questions or needs more information please contact me or Steve O'Brian of Environment, Inc. and we will try to provide it.

Sincerely,
Equity Funding LLC


Fred Orr
Manager

Encl.

cc: Environment, Inc.

TABLE 1
HENDERSON MINE TIMELINE FROM EQUITY FUNDINGS FIRST CONTACT
(Source DRMS Laserfich files)

Date	Time from original EF notice (days)	Net Time (days)	Party	Actions	Notes
3/31/2011			Equity Funding to AI	Letter requesting discussion of water	no response from AI
9/14/2011	167	167	Equity Funding to DRMS	Complaint letter	Environment report attached
10/5/2011	21	188	DRMS	D. Bird inspection #1	First of a series, found Possible violation for Hydro balance impacts. Caused by Equity Funding complaint.
12/27/2011	83	271	AI to DRMS	Extension Request	asks for 60 days due 3/4/12
3/6/2012	70	341	AI to DRMS	Extension Request	asks for 60 days due 5/5/12
3/6/2012	0	341	DRMS to AI	Notice of extension	Division state this is last extension. (Keffelew)
5/4/2012	59	400	AI to DRMS	TR 01 filed	To install pump station Decision by 6/4/12
5/15/2012	11	411	DRMS	B. Keffelew Inspection #2	No report in Division file
5/21/2012	6	417	AI to DRMS	TR 01 Waiver of decision date	claim need more time to address division comments
5/22/2012	1	418	DRMS to AI	waiver granted	#1 Extended to 7/6/12
6/13/2012	22	440	Brooks to AI	Letter from Equity Funding attorney to AI	Attempt to get response on Equity Funding claim of loss of use of property
7/5/2012	22	462	DRMS	B. Keffelew Inspection #3	No report in Division file
8/3/2012	29	491	AI to DRMS	TR01 additional info.	month late was due on 7/6/12
8/14/2012	11	502	Brooks to Flannigan	Attorney Equity Funding correspondence	Response to T. Flannigan
8/24/2012	10	512	DRMS to AI	Decision date extension	#2 due date 9/20/12
9/18/2012	25	537	AI to DRMS	Extension Request	#3 asks for 30 days more to 10/9/12
10/4/2012	16	553	DRMS to AI	TR01 adequacy comments	reply date set for 10/15/12
10/12/2012	8	561	AI to DRMS	Extension Request	#4 needs 45 days to 12/1/12
10/26/2012	14	575	DRMS to AI	Extension approval	given till 11/30/12
11/14/2012	19	594	AI to Equity Funding	Settlement letter	Proposal to buy at under value
11/28/2012	14	608	AI to DRMS	Extension Request for TR01	#5 asks for 30 days to settle with Equity Funding no new info addressing TR01 adequacy included
11/29/2012	1	609	DRMS to AI	Extension approval	granted till 12/30/12
12/21/2012	23	631	AI to DRMS	Extension Request for TR01	#6 asks for another 30 days
12/21/2012	0	631	DRMS to AI	Extension approval	granted till 1/28/13
1/16/2013	26	657	DRMS to AI	TR01 approved	no date of completion required.
5/1/2013	131	762	AI to DRMS	TR02 filed	Proposed drain pipe from wetland to reservoir decision date 6/1/13
5/21/2013	20	782	AI to DRMS	TR01 withdrawn	No actions take 365 days after original TR documents filed
5/30/2013	9	791	DRMS	B. Keffelew et al Site visit #4	#1 AI asks for 30 days for TR 02
5/31/2013	1	792	DRMS to AI	Extension granted for TR02	Extended decision to 6/1/13
6/3/2013	3	795	AI to DRMS	Extension request	#2 Extended decision to 7/1/13
6/3/2013	0	795	DRMS to AI	TR02 adequacy report	Response due 7/1/13
7/1/2013	28	823	AI to DRMS	TR02 adequacy response	TR approved
7/3/2013	2	825	AI to DRMS	TR02 Extension request	#3 Asked for 7 days till 7/8/13. This was never responded to and it appears the TR02 was automatically approved since it was never denied.
3/24/2014	264	1089	DRMS	T. O'Donnell Inspection #4	Inspection to look at TR02 facility. Re affirms Possible Hydro Violations and off site disturbance (approx. 2.5 years after first inspection) given till 5/9/14 to file necessary plan to resolve issues.
5/9/2014	46	1135	AI to DRMS	Extension request Insp.	#1 Asked to time to 5/16/14
5/15/2014	6	1141	AI to DRMS	TR03 filed	Includes installation of screen and monthly monitoring for TR02 structure
5/16/2014	1	1142	DRMS to AI	TR03 complete	Decision date 6/16/14
5/19/2014	3	1145	DRMS to AI	TR03 adequacy review sent	5 questions
5/22/2014	3	1148	DRMS	T. O'Donnell Inspection #5	filed 6/4/14, Restated Possible Violation for Hydro

TABLE 1
HENDERSON MINE TIMELINE FROM EQUITY FUNDINGS FIRST CONTACT
(Source DRMS Laserfich files)

Date	Time from original EF notice (days)	Net Time (days)	Party	Actions	Notes
6/10/2014	19	1167	AI to DRMS	TR03 adequacy response filed	on date due
6/16/2014	6	1173	DRMS to AI	TR03 approved	
10/31/2014	137	1310	DRMS	T. O'Donnell's Inspection #6	PV restated and date set to file plan for mitigation by 11/25/14
11/25/2014	25	1335	AI to DRMS	#1 Extension request	Based in claim they are talking to Equity Funding about purchase need till 12/30/14
11/25/2014	0	1335	DRMS to AI	Extension approval	granted till 12/30/14
12/30/2014	35	1370	AI to DRMS	#2 Extension request	Based in claim they are talking to Equity Funding about purchase need till 1/31/15
12/30/2014	0	1370	DRMS to AI	Extension approval	Nothing was filed with this to address Inspection problems noted.
3/3/2015	63	1433	DRMS to AI	Notice of Violation	granted till 2/2/15
3/18/2015	15	1448	MLRB	Hearing on NOV	Found in violation, ordered to submit an approval temporary plan in 30 days (5/20/15) and a Permanent plan in 90 days(7/20/15)
5/21/2015	64	1512	AI to DRMS	TR04 filed	Will install temporary pipes thru slurry wall at elevation that only drains surface. (due date 5/20/15)
6/9/2015	19	1531	AI to DRMS	Adequacy Response	Says that they can not lower groundwater due to jurisdictional wetland on their and the Equity Funding Property. NOTE: These wetland did not exist on Equity Funding property until AI installed the slurry wall and moved Bull Seep and flooded the area.
6/15/2015	6	1537	DRMS to AI	TR04 approved	6/14/15
7/20/2015	35	1572	AI to DRMS	TR05 filed	This takes TR04 adds more information and makes it the permanent plan that was due on 7/20/15
7/20/2015	0	1572	DRMS to AI	TR05 denied	Since plan is an amendment
10/14/2015	86	1658	MLRB	determination ruling	Ruled that permanent plan was an amendment. Technically due date was 7/2/15 (86 days late) Board gave till 12/15/15 to submit AM
12/16/2015	63	1721	AI	AM01 filed	Incorporates TR05 with other data to make a n amendment (1 day late)
12/31/2015	15	1736	DRMS to AI	Noted AM01 filing was complete	
		4.76	years		Still not resolved.
1/7/2016	7	1743	AI	First date of Publication	
1/14/2016	7	1750	Equity Funding	Received comment notice	Copy of Published notice

Environment, Inc.

LARRY E. O'BRIAN
FOUNDER

STEVAN L. O'BRIAN
PRESIDENT

February 12, 2016

7985 VANCE DRIVE, SUITE 205A
ARVADA, COLORADO 80003
303-423-7297
FAX 303-423-7599

Mr. Fred Orr
Equity Funding, Inc
5040 Acoma St
Denver, CO 80216-2010

Dear Fred,

Re: Aggregate Industries - Hazeltine Mine
Amendment 01 review.

The following information is to supplement the letter I sent you on 3/31/2011 regarding the apparent cause of the increased groundwater elevations and resultant flooding on your parcel of land. It also will address my review of the Aggregate Industries - WCR, Inc (AI) Amendment filed with the Division of Reclamation Mining and Safety on 12/10/2015 that proposed to alleviate the problem caused by their actions. I will also include copies of the maps and exhibits I use to address your concerns that their planned actions will not lower the groundwater parcel on the Orr property so it minimizes the disturbance to the prevailing hydrologic balance on and around the affected lands.

The attached photos, date from 1949 to 2014 to present are also used to show the changes to the Orr Property before installation of the slurry wall and relocation of Bull Seep. Some of them came from the Division of Reclamation, Mining and Safety Notice of Violation presentation presented to the Mined Land Reclamation Board on 3/18/15. I choose to respond to the paragraph of the Tetra Tech Memo in the order presented. It is not intended as an engineering review of their work only to point out ways their plan will not lower the groundwater table east of the slurry wall, to near historic elevations.

I agree with their consultants, Tetra Tech statement in the first paragraph, but it needs to be understood that this has always

been the case and isn't something new that happens since the relocation of Bull Seep and installation of the slurry wall. The relocation and construction did cause an increase to the groundwater table and did increase the surface flooding to a yearly event since the Bull Seep has allowed to become a weed, choked drainage. Exacerbating this problem is that Bull Seep is unlined and allows leakage that enters the groundwater table faster since it flows slower then in the past. Review of the 1948 thru 2003 photos show little vegetation was present in the historic channel. I believe that when the channel was relocated, the length increased by approximately 740 feet; the channel slope was decreased by 20%, so it slowed the water passage to a point, that it lets cattails and other wetland plants thrive in the channel. This restricts the carrying capacity of the seep so it backs up and floods more often then prior to the move. The new post 2004 photos show that it is out of its bank thru most of the reach from 104th Ave to the NE corner of the Hazeltine Mine (M-2004-31). Some of that may be caused by the Fulton Ditch over flow but this return flow was in place in the 1949 photo and it did not appeared to cause any undue hardship on the Bull Seep prior to the construction and relocation. When you add more water to a drainage that is already flow restricted; increase the groundwater due to a slurry wall and infiltration of seepage, you have a formula for what has happened to the Orr Property. It also appears that since the Bull Seep has become vegetation infested that water backs up in the Fulton overflow drain, flooding the land.

The presentation packet for the March 25, 2015 Enforcement Action contains two plats, 12 & 14, that are graphs of the AI monitoring data and plats 11 & 13 are maps showing the location of the wells graphed. These show, there was an increase in groundwater elevation for the wells east of the slurry wall starting in February 2005. I have made a minor revision to these plats adding colored coded lines that match the Divisions colors to show the average groundwater elevation (solid line) and the ground elevations for MW's 1, 2, 3, 4, 5, 6A and 11A (dashed lines). In some cases, i.e. MW's 1, 3, 4, and 5 the increased groundwater elevation does not reach the surface and the 3 wells covered by water are those that are closest to the Orr Property.

These graphs show that there has been a marked increase in the groundwater elevations after the slurry wall was built.

While there are no site specific studies done for the Orr Property, it is possible to use the best available information to draw some conclusions on what was going on, the Orr Property prior to 2005. According to the Division of Reclamation Mining and Safety records AI submitted monitoring well data with each of their annual reports filed from 5/6/2005 to 11/02/15 for the wells located along the east side of their permit line. Review of those reports produced the following information. The wells that provided historic groundwater elevations closest to the Orr Property are Well #255775 (MW#2) which is immediately west of the property line; Well # 255788 (MW #11B) is immediately north; Well # 255776 (MW #3) is east of the Fulton Ditch and Well 255780 (MW #8) is north of the site. All are shown on the attached photo map plats 11 & 13 from the D.R.M.S. presentation. When Tetra Tech says there is not enough data to estimate the ground water historic elevation on the Orr Property, they did not take time to research the information presented during the 3/18/15 enforcement action hearing taken by the D.R.M.S. In that presentation slides 9, 10, 15 are examples of what could be created using AI's annual report data. These wells could be used to estimate the pre slurry wall/ Bull Seep move, groundwater elevations across the Orr Property, or they could establish targets for AI to work towards to mitigate the groundwater mounding occurring from their slurry wall.

One way to do this would be to establish the average elevation for each monitoring well and then connecting the wells with a straight line to estimate the depth at any point along the line. For an example of what could be done, I reviewed the drill logs for MW#2 submitted that run from 2/16/2004 to 1/27/2005 to establish the average groundwater elevations in MW # 2 prior to installation of the slurry wall and relocation of Bull Seep. This average was 6.08 feet BELOW the surface at MW#2 for the first year of data collected. If you then did this for the other 3 wells you could create an approximate isopac of the average groundwater table that could become the target for mitigation of the impacts to the hydrologic balance.

The logs from the 2005 Annual Report on file shows that for June 8, 2005 collection event, notes that between 4/18/05 and 6/9/05 there was *substantial water in the trench caused by the slurry wall*. Review of the four monitoring well observation logs listed above indicate that in MW#2 the ground water started increasing above its normal elevation on 2/4/05 and by 6/8/05 it had increased by 5.85 feet above normal. By 10/2/06 the data indicated the water was one-quarter foot (3 inches) above ground level. In 2007 & 2008 they list MW#2 as flooded. This same pattern is consistent for all the other wells including MW#3 except that it is not flooded by 2007. These well logs provide the information that the groundwater elevations were increasing after the construction of the slurry wall and the Bull Seep relocation was completed on the area east of the slurry wall. The D.R.M.S. Enforcement photos presented on Slides 22 thru 26 show the areas affected by the high ground water/flooding as a result of AI's activities on the Orr Property. While they show areas of open water, what is not really evident are the wetland vegetation areas where the soil is saturated as a result of the groundwater reaching to within 18 inches of the surface. I estimate that of the 4.49 acres of the Orr Property, by 2011 when the first objection was filed that 3.29 acres or 73.27% was new wetland area is based on a 2012 photo that is included in this report. The argument has been made that most of this wetland area was old wetlands but if you review the photo maps 1949 thru 2003 only a very small area in the very northwest corner of the site, where the Fulton Ditch entered the Bull Seep, could be call legitimate wetland area (approx 0.03ac.) and this is because it is part of the confluence of the ditch and the seep. All of this suggests that the relocation of the Bull Seep and the construction of the slurry wall have caused an increase in the elevation of groundwater table on the Orr Property.

From the review of the proposed installation of the drain pipes thru the slurry wall in June 2015, it appears they are designed to only remove surface water from the area east of the slurry wall. This is confirmed in the first paragraph of the report under **System Design**. In the second paragraph, they state the lowest elevation on the Orr Property was believed to be 5038.5 yet the invert of the temporary drain pipes were 5038.8 or 3.6 inches higher. The proposed final design uses the same

elevation. This leaves the groundwater approximately 3.25 feet above the average groundwater depth in MW#2. Point drains work like wells they only drain area immediately around the pipe, not below the pipe and do not drain laterally out from the pipe like a buried horizontal pipe would. They will have NO effect on the groundwater elevations on the Orr Property and will tend to leave surface water exposed, also. In addition, in Paragraph 6 they state the design is capable of handling 4.2 feet of surface water, so has little value to lessening the impacts of the slurry wall and the relocation of Bull Seep, on the Orr Property. I presume that they foresee a 4.2 foot increase due to normal seasonal flows in Bull Seep, which I can understand taking into account the lower, slower and reduced carrying capacity of Bull Seep as constructed. If this potential increase is due to 100 year flood event then the entire reservoir would be affected not just the Bull Seep drainage and no water would be passed thru the drain pipes. This would also mean that the water could be 7.5 feet above the average groundwater elevations prior to them installing the slurry wall at a non-flood state for the South Platte River.

In conclusion, nothing in Aggregate Industries proposed Amendment leads me to a conclusion that AI plans to minimize the disturbance to the prevailing hydrologic balance on the areas east of their mine as directed by the Mined Land Reclamation Board. The installation of 2 - 18 inch pipes will have no effect on the groundwater elevation. While they will partially relieve the impact create by lowering the grade of Bull Seep and allowing it to fill with vegetation, but they will not lower the surrounding ground water elevation to their pre 2005 levels. Until the groundwater is lowered to it does not get with 24 inches of the surface it means that the property will not dry so it is usable like what it was prior to their activities. It will take some other type of groundwater drain system, placed at an elevation below ground level, close to the historic groundwater elevations for there to be a chance of returning the groundwater level to its approximate historic elevation that existed prior to construction of the slurry wall or the relocation of the Bull Seep. The problem along the east side is that by locating Bull Seep on the side that needs lowering, it tends to load the ground water above any ground drain system so it either had to be lined

from 104th north or moved to the east side of the mine for the ground drain to work properly. For this reason you need to object to their Amendment on the grounds that their proposal will not solve the problem on the Orr Property.

List of Attachments:

Colorado Aerial Photo Service photos 1948 to 2003
Google Photo dated 2012
D.R.M.S. Enforcement Presentation Plats 9, 10, 11, 12(revised), 13, 14(revised), 15, 22, 26 & 27

If you have any questions please call me.

Sincerely,
Environment, Inc.



Stevan L. O'Brian
President

enclosures

cc file

FIGURE ORR-1

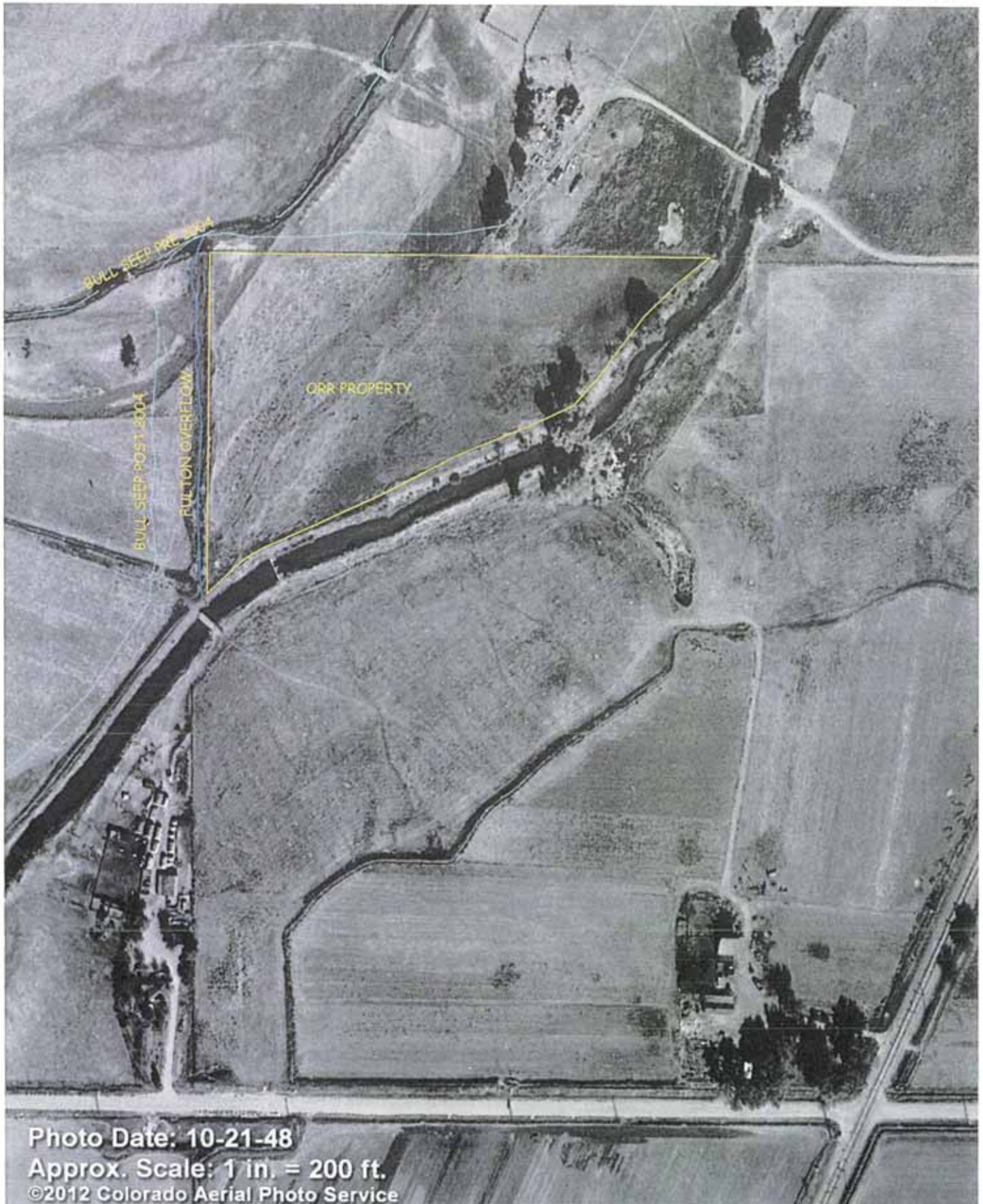


FIGURE ORR-2

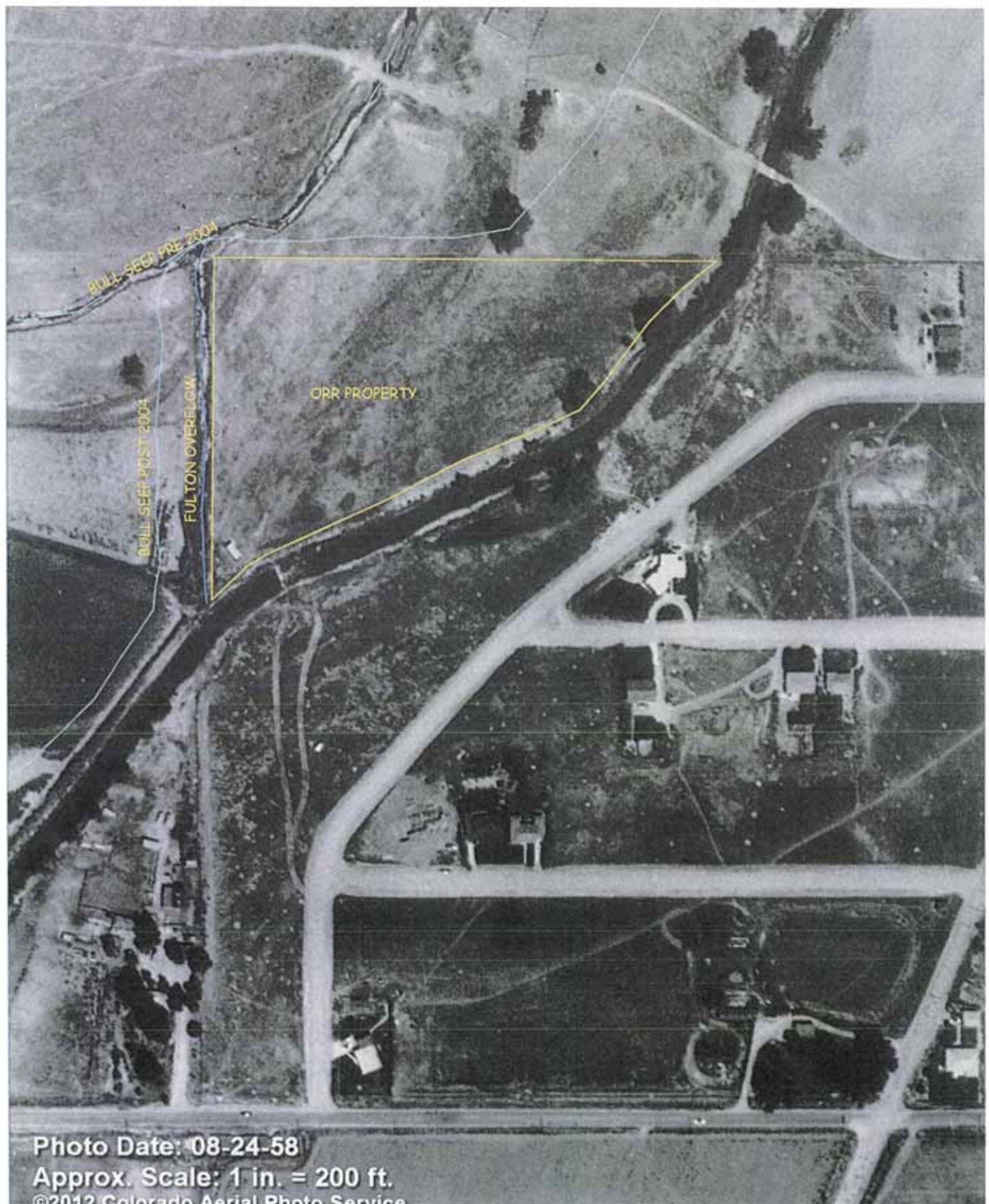


FIGURE ORR-3

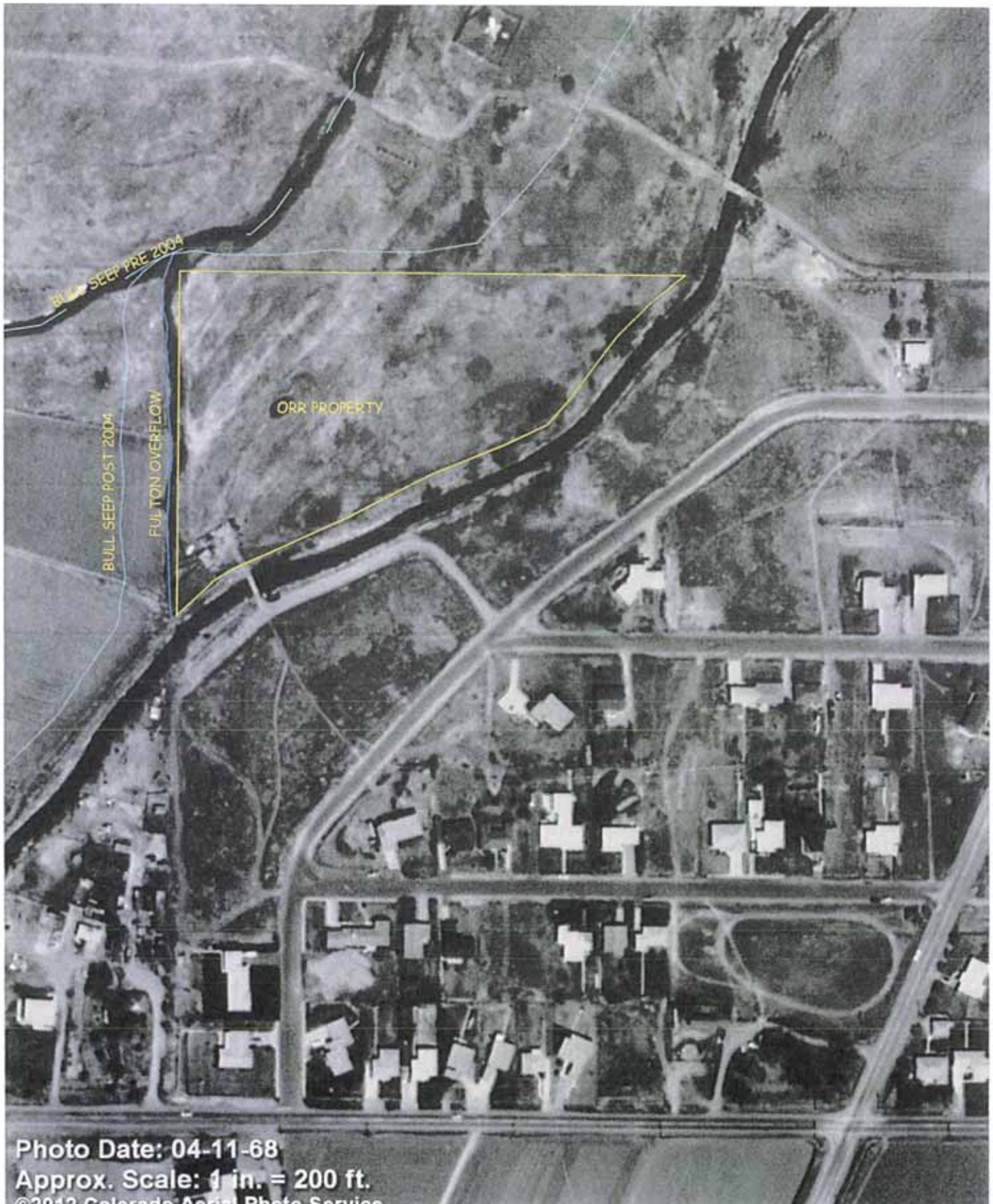


FIGURE ORR-4



FIGURE ORR-5

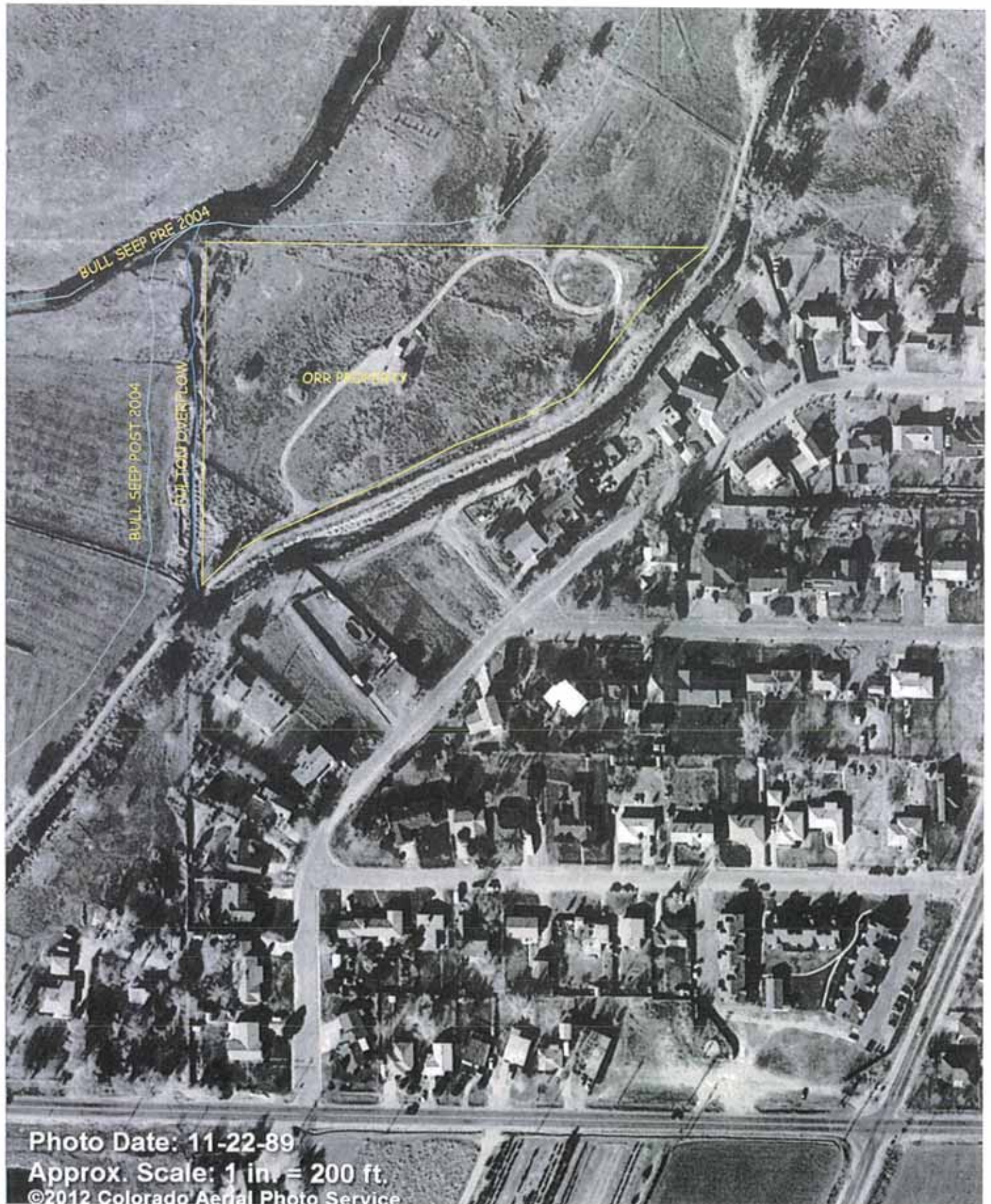


FIGURE ORR-6

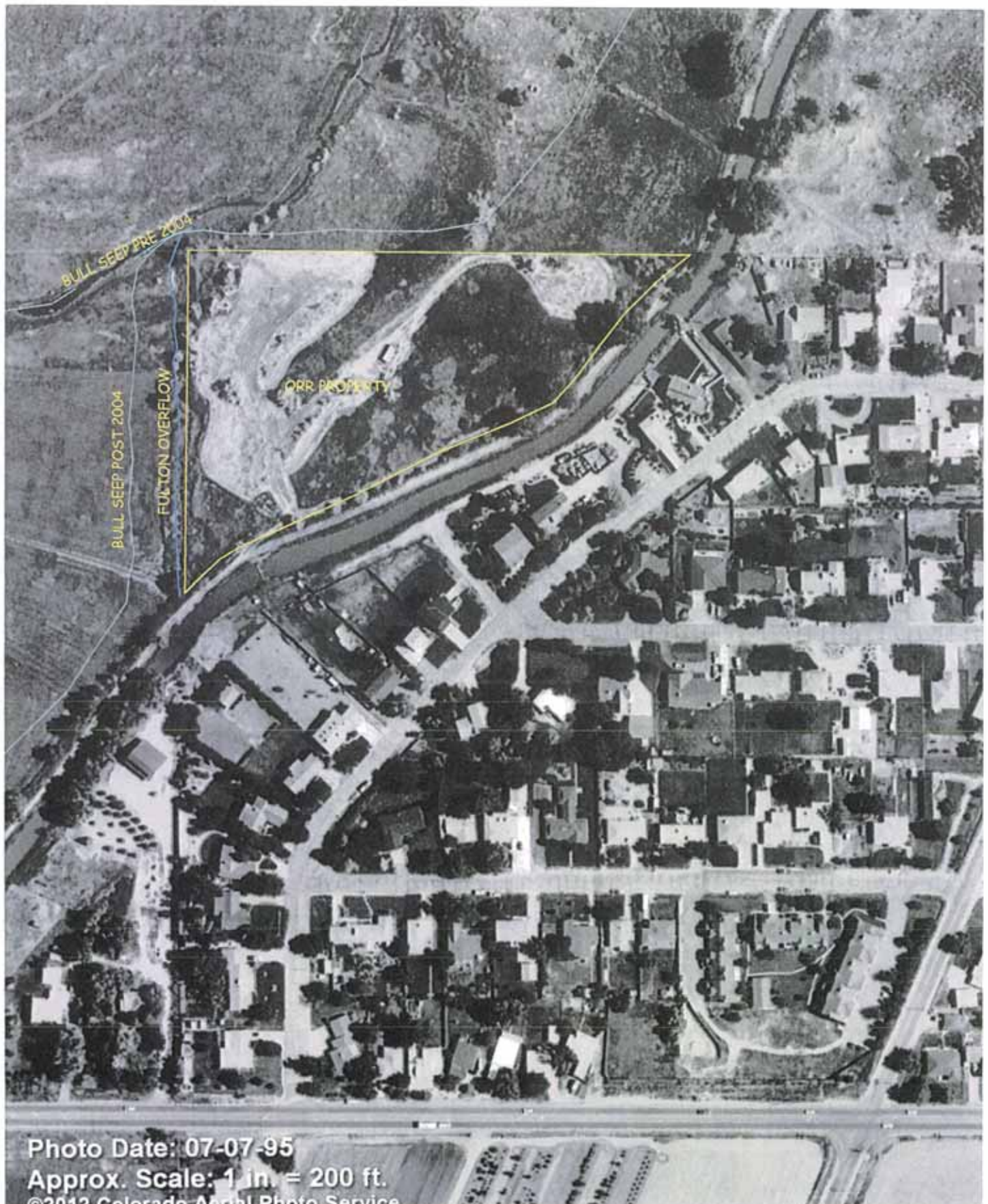


FIGURE ORR-7



FIGURE ORR-8



What is Groundwater Mounding?

Pre-mining



What is Groundwater Mounding?

Pre-mining



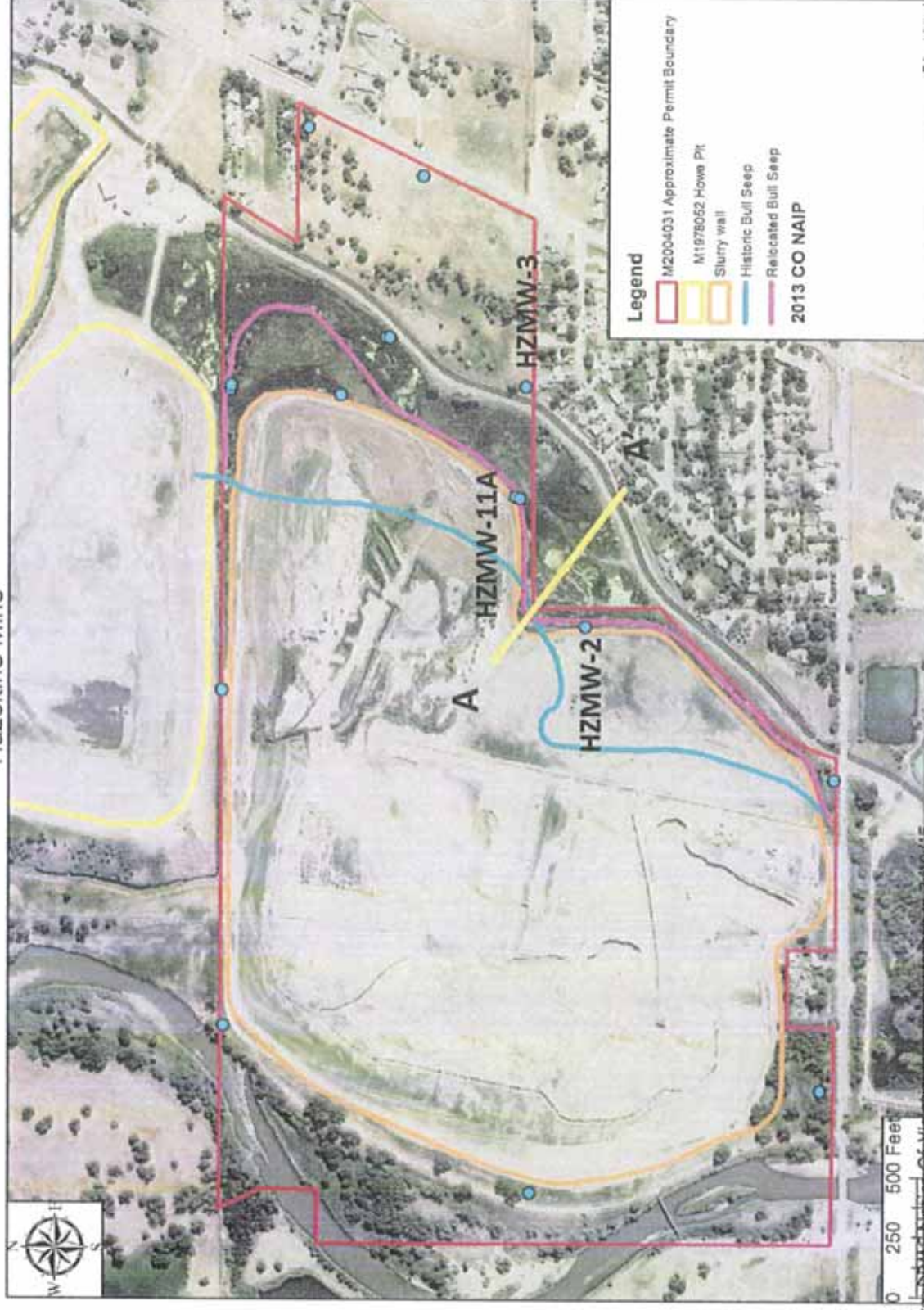
Post-mining



No scale intended

Groundwater wells Near Orr Property

Hazeltine Mine



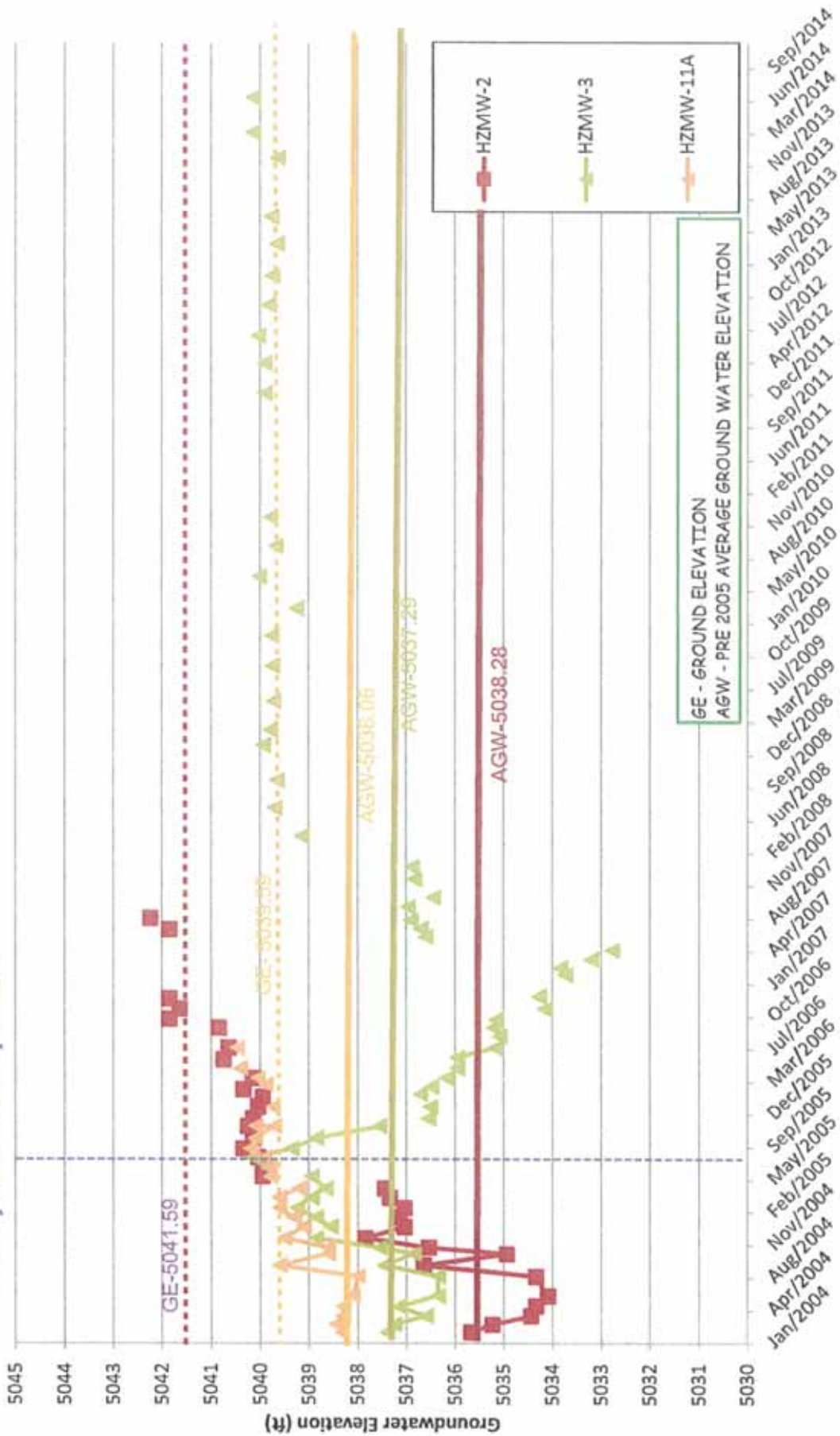
Source: DENR Notice of Violation hearing presentation 3/16/15

PLAT # 11

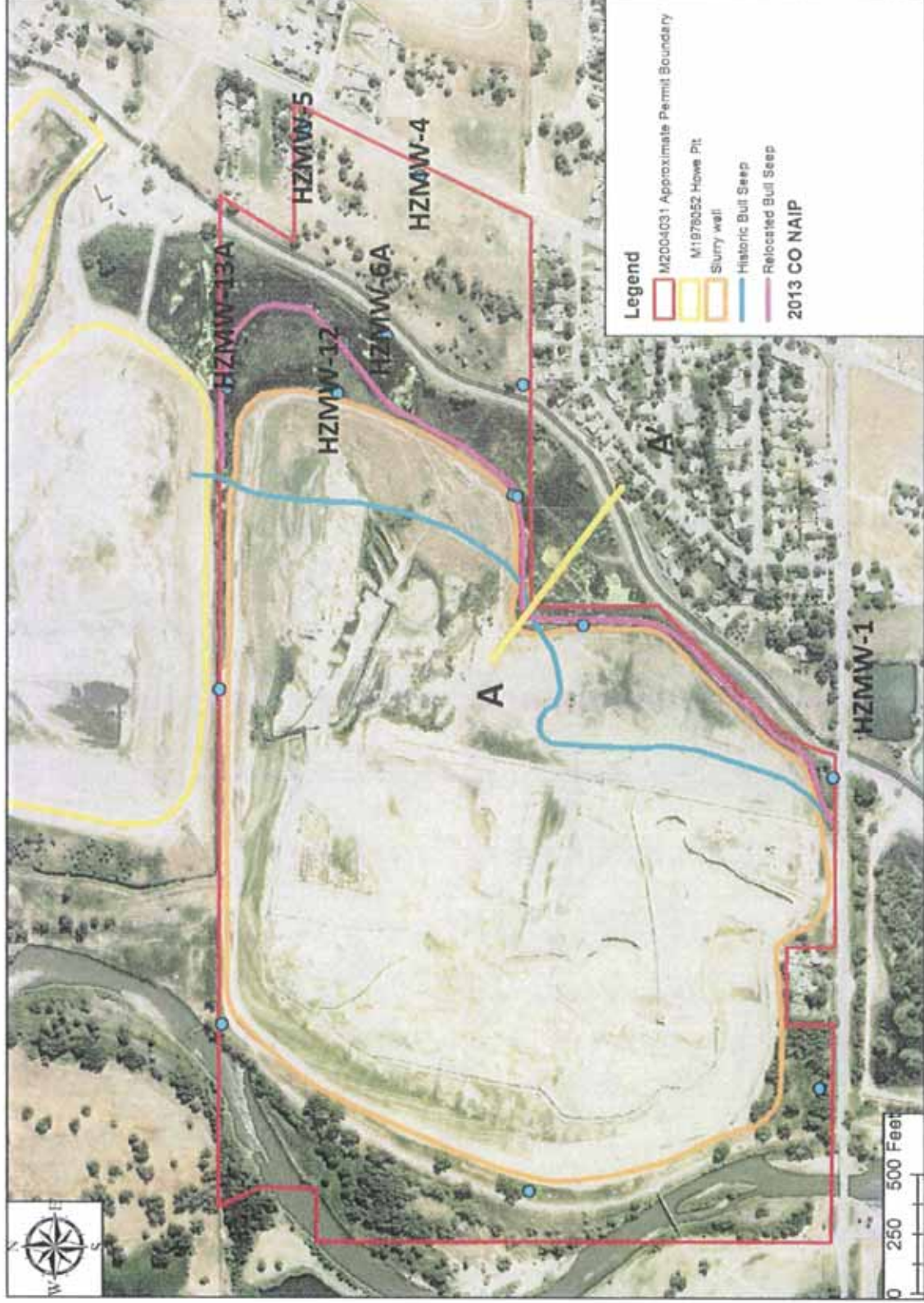
Groundwater elevation in wells near Orr Property

GE-5048.27

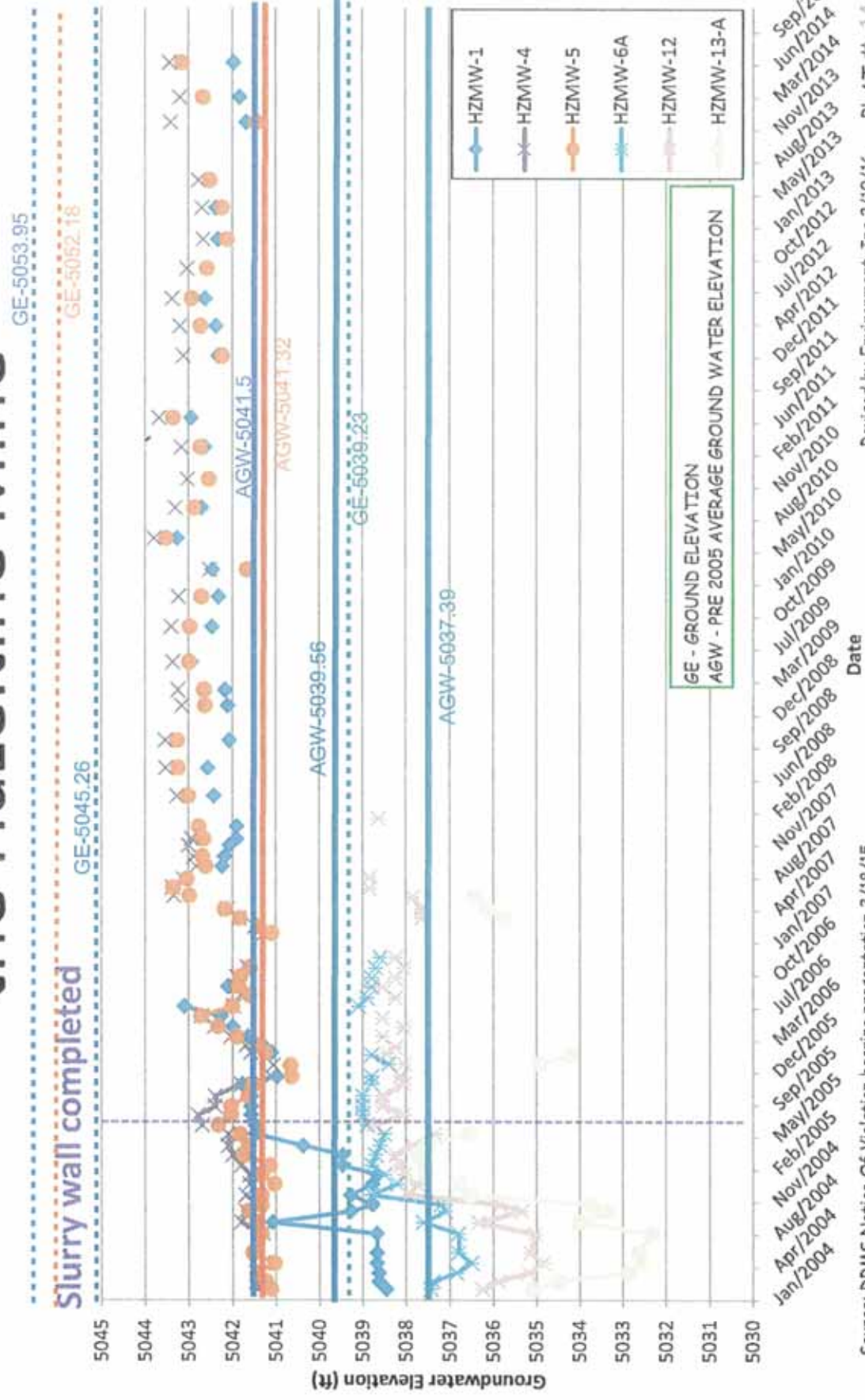
Slurry wall completed



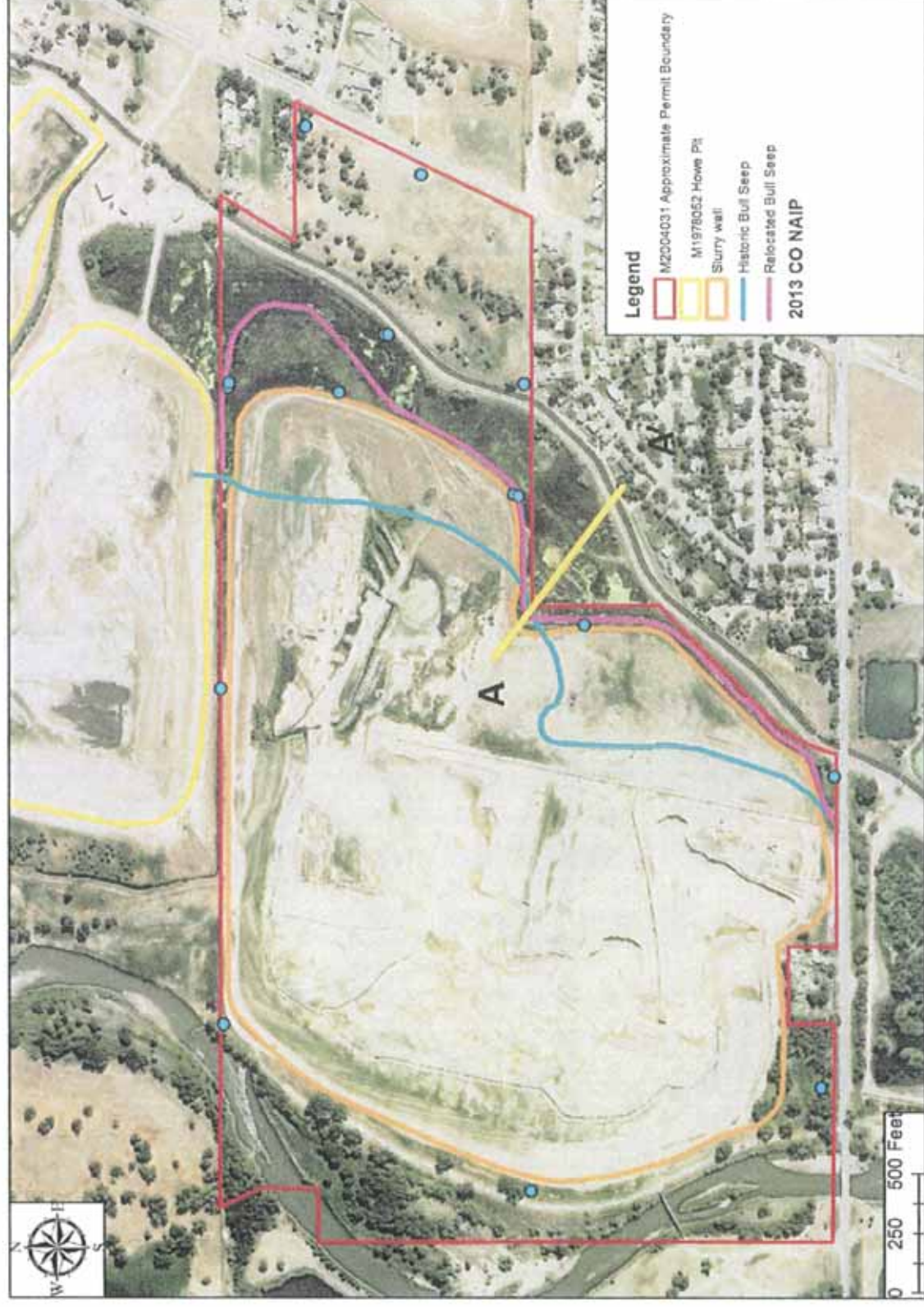
Groundwater elevation in wells East of the Hazelmine Mine



Groundwater elevation in wells east of the Hazeltilne Mine



Groundwater mounding at Hazeltine Mine



Source: DRMS Notice Of Violation hearing presentation 3/18/15

2005 - Orr Property



2012 - Orr Property



Source: DRMS Notice Of Violation hearing presentation 3/18/15

PLAT # 26

2014 - Orr Property



Source: DRMS Notice Of Violation hearing presentation 3/18/15

PLAT # 27



1313 Sherman Street, Room 821
Denver, CO 80203

Response to Reclamation Permit Amendment Application Consideration

DATE: January 13, 2016
TO: Tyler V. O'Donnell, Environmental Protection Specialist
CC: Division 1 Office, District 2 Water Commissioner
FROM: Ioana Comaniciu, P.E.
RE: Hazeltine Mine, File No. M-2004-031
Operator: Aggregate Industries-WCR, Inc.
Contact: Connie N. Davis, (970) 396-5252
Section 9, Twp 2 South, Rng 67 West, 6th P.M., Adams County

COMMENTS: Aggregate Industries-WCR, Inc. requested an amendment (AM01) to the application for Hazeltine Mine, Permit no. M2004-031. The purpose of this amendment is to incorporate a permanent ground water mounding mitigation plan into the final reclamation of the site. A soil-bentonite slurry wall keyed into the bedrock was constructed around the perimeter of the Hazeltine Mine. The installation of the slurry wall caused ground water mounding into an adjacent property, known as Orr property. The operator is proposing to construct a permanent drain to reduce ground water levels from Orr property into the Hazeltine Mine Pit. The propose system will be a gravity system where partial flows from the Bull Seep and groundwater seepage will be diverted through the mine and from there conveyed back to Bull Seep and the South Platte River.

The final use of the Hazeltine Mine is a water storage reservoir owned and operated by the City of Thornton. According to our records a 90-day leak test for this reservoir started on December 9, 2015. This office has no objection to the amendment request, provided all inflows and outflows of the water through the reservoir from the drain system are properly accounted for. All water pumped from the drain shall not be used for any beneficial purposes and must be discharge to the stream system without consumptive use. Water shall not be impounded in the reservoir except pursuant to lawful diversions allowed by statute or decree. At all other times, all inflow of water into the reservoir from any source, including precipitation, ground water inflows and drain water shall be removed to prevent illegal storage of water. The owner or operator will need to coordinate with Brent Schantz, River Operations Coordinator, to review operations, measurement structures, and accounting.

The applicant may contact the State Engineer's Office with any questions.

