Montana Resources

600 Shields Ave.
Butte, Montana USA 59701
59701(406) 496-3200
(406) 723-9542 fax
www.montanaresources.com

Atlantic Richfield Company

317 Anaconda Road
Butte, MT 59701
Main (406) 782-9964
Fax (406) 782-9980
A BP affiliated company

June 10, 2015

Certified Mail
Mr. Henry Elsen, Esquire
U.S. EPA Region VIII, Montana Office
Baucus Federal Building
10 West 15th Street, Suite 3200
Helena, Montana 59626

Certified Mail
Mary Capdeville, Esquire
CERCLA Site Attorney
Mine Flooding CERCLA Site
Department of Environmental Quality
Legal Unit (Remediation)
P.O. Box 200901
Helena, Montana 59620-0901

Certified Mail
Mr. Nikia Greene, Remedial Project Manager
US EPA Region VIII, Montana Office
Federal Building
10 West 15th Street, Suite 3200
Helena, Montana 59626

Certified Mail
Mr. Daryl Reed, State Project Officer
Montana Department of Environmental Quality
State of Montana
Phoenix Building, P.O. Box 200901
Helena, Montana 59620-0901

Re: BUTTE MINE FLOODING SITE CD, CV 02-35 Bu-RFC, 2015 First Quarter Report

Dear Ms. Capdeville, Mr. Elsen, Mr. Greene and Mr. Reed:

The Settling Defendants (Atlantic Richfield Company and the MR Group, as defined in the Consent Decree) continue to implement the remedial action requirements as specified in the Statement of Work to the Consent Decree. The attached report summarizes those activities conducted during the first quarter of 2015. The electronic copy being sent June 10, 2015 will be followed by the hardcopy via certified mail. This first quarter report submittal is deemed timely as approval for this date of submittal was granted via e-mail.

Please contact us if you would like to schedule a meeting to discuss the implementation of the RA or the BMFOU 2015 First Quarter Report.

On behalf of the Settling Defendants,

Mark Thompson
Manager of Environmental Affairs
BMFOU Project Manager
Montana Resources, LLP
600 Shields Avenue
Butte, MT 59701

Tim Hilmo, P.E.
Operations Project Manager
BP Atlantic Richfield
Remediation Management
317 Anaconda Road
Butte, MT 59701

CC: Rebecca Summerville, Esq. Datsopoulos, MacDonald, and Lind P.C.
Rolin P. Erickson, MR
Timothy McHugh, MR
Cord Harris, BP
John Davis, Esq. Poore, Roth and Robinson P.C.
Bill Duffy Esq., Davis Bacon and Stubbs, LLP
Jill Kelley Esq., Kelley Services
Terence E. Duaime, MBMG

Attachments

SETTLING DEFENDANTS BMFOU QUARTERLY REPORT
CONSENT DECREE FOR THE
BUTTE MINE FLOODING SITE CD, CV 02-35 Bu-RFC
REMEDIAL ACTION – IMPLEMENTATION OF THE REMEDY
QUARTER 1, 2015

Final REPORT

The Settling Defendants[1] continue to implement the remedial action requirements specified in the Statement of Work to the Consent Decree. This report summarizes those activities conducted during the first quarter of 2015 as required under section **X. Reporting Requirements, Paragraphs 31and 35** of the Consent Decree. The headings (a-g) in the following report correspond to the categories identified in paragraph 31. The sections captioned **Issues Encountered and Information about MR Operations** have been added at the request of the EPA.

a) Actions Taken Toward Achieving Compliance with the Consent Decree

To achieve compliance with the Consent Decree, the Settling Defendants conducted remedial action activities under the seven components identified in the Statement of Work for Remedial Design/Remedial Action ("SOW") which is part of the Consent Decree. These seven components and the remedial action activities undertaken by the Settling Defendants (hereinafter referred to as "SDs") in the first quarter of this year include:

1. **Monitoring Program -** The Montana Bureau of Mines and Geology ("MBMG") conducted all monitoring activities as required by the SOW with the exception of the semi-annual Berkeley Pit water quality sampling program. A rotational slump of the highwall in the southeast sector of the Berkeley Pit occurred on February 8, 2013. This slope failure and the potential of continuing slope instability in the eastern sector of the Berkeley Pit has created a safety issue for persons assigned to sample the Berkeley Pit and other components of the Remedial Action. At the request of the Agencies, the SDs are evaluating the necessity for near-term water quality sampling of the Berkeley Pit and potential, safe alternative sampling methods and additional migratory waterfowl mitigation efforts.

[1] The term Settling Defendants as used in this report collectively refers to Atlantic Richfield Company, Montana Resources, Inc., Montana Resources LLP, and Dennis Washington.

To this end, ***STRATA* Geotechnical** consulting firm completed the scope of work for the **BMFOU Berkeley Pit Slope Stability Evaluation** *("Evaluation")* and the Report was submitted to the agencies on August 15, 2014. The SDs received Agency comments on the Evaluation on November 6, 2014. The SDs in conjunction with ***STRATA,*** are currently preparing answers to the comments as well as making changes to the document as requested by the Agencies. The SD response document will be submitted in Q2 2015. During Q1 2015 no significant slope failures occurred within the Berkeley Pit.

The SDs are continuing to formulate the concepts to safely enable resumed water sampling, and potentially waterfowl hazing and mortality counting, while mitigating risk to sampling personnel. This Task has been included in the Scope of Work for the HsBWTP Remedial Action Adequacy Review (RAAR) that is currently in progress (please refer to Section 4 of this report.)

Normal waterfowl mitigation efforts continue according to plan; only on-water inspections using the pontoon boat have been suspended.

The SDs cooperated with and assisted the MBMG personnel by providing safe access to the on-site sampling locations.

2. **Public Education and Involvement** – The SDs are represented on the Berkeley Pit Public Education Committee which directs the publication of the PITWatch and the website www.PITWATCH.ORG. These are the primary vehicles for educating the public about BMFOU status and activities. The PITWatch committee did not meet during Q1 2015.

3. **Horseshoe Bend ("HsB") Inflow Control** – The SOW requires integration of the HsB flow into mine operations and/or release of treated water into Silver Bow Creek. Since the issuance of the ROD in 1994 and integration of the entire flow of HsB treated water into the mining and milling process on April 15, 1996, the flow has become an integral part of the water balance required for efficient active mining and milling operations at Montana Resources, LLP ("MR"). The entire flow of treated HsBWTP water has been integrated into MR's milling water circuit since the HsBWTP was commissioned in November 2003. With the exception of minor leaks through the diversion structure on February 11, 2015 and March 5, 2015, there were no instances during the first quarter of 2015 where any significant amount of HsB flow bypassed to the Berkeley Pit. Currently, there is no flow measurement device installed in the ditch bypass to the Berkeley Pit. The SDs are investigating flow

measurement devices that are suitable to record intermittent bypass flow to the Pit so that any such future flows can be measured and recorded as mandated by the CD.

Both stages of the HsBWTP were operated in series for the entire quarter and 100% of the plant water was incorporated into the MR milling circuit. The blower system was used to supply air into both reactors.

The SDs solicited proposals from contractors to implement piping maintenance that will increase the WTP flow capacity. This piping maintenance, combined with other minor maintenance planned for 2015 such as increasing the heights of the launders, will enable the WTP to reach its original design flow capacity. The SDs also ordered variable frequency motor drives for the blower motors and control equipment to distribute blower air between the stages as needed. Additionally, the piping maintenance will include electrically actuated valves to isolate the stages for cleanout purposes.

Significant maintenance activities completed during the quarter include:

- Replaced low fluid level indicator in #2 polymer tank;
- Replaced effluent pump #113;
- Installed new Rotomission on North lime slaker;
- Replaced wasting valve on second stage system;
- Replaced AV-2 (Automatic Valve) on alkalization tank;
- Installed new check valve on #112 effluent pump.

Efforts continue to investigate and lower groundwater levels in the vicinity of the HsBWTP. Engineering controls implemented during the first quarter have continued to reduce the groundwater level in the area of the HsBWTP to approximately 7 feet above the invert of the Stage 1 Reactor. The engineering controls implemented are intended to reduce the inflow and reduce the groundwater level beneath the entire footprint of the HsBWTP. A total of five strategically placed dewatering wells and two piezometer monitoring wells have been installed. The five dewatering wells have pumps installed and groundwater pumping was conducted continuously during Q1 2015. Please refer to Attachment 1 of this report for the Groundwater Level Reduction Summary Report.

4. **HsB Water Treatment Plant Upgrade/Sludge Repository** – The SDs have initiated the Horseshoe Bend Water Treatment Plant Remedial Action Adequacy Review to ensure that ongoing and future remedial activities will meet the requirements of the

CD. The **Draft Site Activity Schedule** for the HsBWTP Remedial Action Adequacy Review ("RAAR") was submitted on June 30, 2014 and approved by the Agencies on September 11, 2014. The Scope of Work ("SoW") for the RAAR was subsequently prepared to evaluate four primary tasks with appropriate subtasks. The comprehensive list of activities in the schedule was identified to meet the milestones required in the CD and also to complete important precursor activities to meet those requirements to ensure continued protectiveness of the remedy. The schedule and scope of work also respond to the issues raised by the Agencies in the February 20, 2014 letter to the SDs regarding the Agencies response to the BMFOU Five-Year Review Issues.

The primary tasks in the RAAR include:

Task 1. HsBWTP O&M Optimization:
- Short term optimization;
- Long term optimization; and,
- Optimization with various source water quality and quantity.

Task 2. BMFOU Site-wide Water Balance Study:
- Base case – current and historical conditions;
- Future conditions – predictive analysis; and,
- Integrate water quality into predictive water balance.

Task 3. Potential Pilot Studies Evaluation:
- Sludge disposal alternatives;
- Alternate influent sources; and,
- Alternative treatment enhancements.

Task 4. Technical Memorandum Preparation.

The SDs vetted nine consulting firms for applicability to complete this review and selected six firms for further consideration. The names of the six firms were presented to the Agencies for determination of any potential Agency conflict of interest issues. The Agencies provided notification on December 9, 2014 that there was no conflict of interest issues with the six firms selected. On December 19, 2014 the SDs sent Request for Qualification and Solicitation of Interest correspondence to each of the six firms along with the HsBWTP RAAR Scope of Work. Four firms responded positively and provided statements of qualifications and presentations to the SDs. The SDs issued a request for proposal to four of the firms. The proposals were received March 27, 2015 and are being evaluated. The SD's will select a potential consulting firm in May 2015 and will provide a statement of qualifications

to the Agencies of the firm selected. The Agencies can then review the SDs proposed "Supervising Contractor" and determine if an "authorization to proceed" is appropriate pursuant to the Consent Decree, Section VI. PERFORMANCE OF THE WORK BY THE SETTLING DEFENDANTS, Paragraph 10, Selection of Supervising Contractors.

The Explanation of Significant Differences, Appendix A to the CD allows for placement of sludge into the Berkeley Pit. During Q1, all of the sludge generated by the HsB WTP was placed into the Berkeley Pit (see Table in Section 7b). The evaluation of sludge disposal in the Berkeley Pit is also included as an activity on the RAAR schedule.

5. **West Camp System** – During the first quarter of 2015, approximately 21.4 million gallons of water were pumped from the West Camp pump station to the Lower Area One (LAO) for treatment in the Butte Treatment Lagoons (BTL) system. Operators of the BTL maintained normal operating levels the entire quarter. The water level was consistently maintained below the 5435 ft. critical water level, and at the end of the quarter was 5420.90 ft.

6. **Waterfowl Mitigation** – During the reporting period, the SDs conducted monitoring, active and passive hazing efforts and reporting as required by the Berkeley Pit Migratory Waterfowl Mitigation Plan, (Exhibit 5 to the CD), but did not perform any on-water activities. The SDs continued to perform waterfowl mitigation efforts under the variance from this requirement of the Waterfowl Mitigation Plan.

   On January 26, February 17 and March 19, 2014 the SDs submitted the December 2014, January 2015 and February 2015 **Berkeley Pit Migratory Waterfowl Mitigation Monthly Reports,** which included the Observation and Hazing logs as attachments to the report letters. Please see these reports for a description of the detail of mitigation efforts.

7. **Institutional Controls** – Full SD compliance with this component of the RA SOW was completed by funding provided in 2002 by the SDs past and future cost cash out provisions of the Consent Decree. The Butte Alluvial and Bedrock Controlled Ground Water Area ("BABCGWA") was established by the MT DNRC in October 2009 with Butte-Silver Bow as the petitioner. Implementation and monitoring of the BABCGWA was assigned to the MBMG and funding from the SDs cash out amount that was provided in 2002. The outer perimeter of the area was determined and covers approximately 8.11 square miles. Please see the **Butte Mine Flooding**

Operable Unit, Water-Level Monitoring and Water-Quality Sampling, 2012 Consent Decree Update, 1982-2012 (MBMG, September 2013) and consult Mr. Terrence E. Duaime, Project Manager of the Montana Bureau of Mines and Geology for more detailed information.

Access - The SDs have fully complied with the CD requirement to provide access to the Agencies.

A small area within the boundary of the Berkeley Pit was viewed and approved by the Agencies to use as a spoil site for waste material from the BPSOU Continental Roadside Channel. This activity commenced, the dump was utilized to spoil contaminated soil and no material was placed into the Berkeley Pit beyond the limits approved by the Agencies and dumping was completed.

The SDs have fully cooperated with the MBMG Monitoring Program during the reporting period.

b) Summary of all results of sampling and tests and all other data generated in the previous quarter

The following table summarizes the performance of the HsBWTP in Quarter 1 2015 and in total for the year to date:

Period	Influent (MG)	HsB Plant Water[2] (MG)	Sludge Wasted (MG)	Lime Delivered (tons)	Average Influent Flow (MGD)	Average Lime Usage (mg/L)
Quarter 1	455	446	43	5,227	5.1	2,744
YTD	455	446	43	5,227	5.1	2,744

Additionally, HsBWTP water is sampled at multiple locations including the HsBWTP influent and, Stage 1 Clarifier overflow, and Plant Water (Mill influent formerly named plant effluent). This testing demonstrates that the current operation of the HsBWTP

[2] The treated HsB water that is used in MR's milling process as required by the CD will be referred to as "HsB Plant Water" instead of the previously used term "effluent." This semantics change has been made to distinguish between effluent that will be treated to the discharge standards stipulated in the CD SOW and plant water that is treated to standards for inclusion into MR's milling process.

satisfactorily complies with the requirement of the CD to treat HsB water that is to be incorporated in MR's milling circuit. In addition, the data will be used for the RAAR.

In the vicinity of the HsBWTP, engineering controls associated with groundwater monitoring and dewatering to lower the groundwater elevation were implemented. Please see Attachment 1 to this report.

c) Identify all work plans and other deliverables required by this Consent Decree completed and submitted in the previous quarter

The third revised Draft BMFOU HsBWTP Operations and Maintenance Plan/Manual and the Site Specific Health and Safety Plan were submitted to the Agencies on December 12, 2014. In a letter dated February 27, 2015, the agencies provided comment on the Draft BMFOU HsBWTP Operations and Maintenance Plan/Manual, but did not comment on the Site Specific Health and Safety Plan. The final BMFOU HsBWTP Operations and Maintenance Plan/Manual will be provided to the agencies in Q2 2015.

d) Describe all actions, data collection and implementation or work plans that may be required under this CD scheduled for the next quarter and provide other information relating to the progress of the work

RA Activity - The RA activity required in this section is congruent with that reported at the beginning of this document and is aligned with the seven general components of the SOW and RA. The inclusion of an eighth component to follow the Remedial Action Adequacy Review required by the SOW has been added as an additional activity for the second quarter. The second quarter 2015 activity summary is as follows:

1. The Monitoring Plan will continue to be implemented during the next quarter and the SDs will continue to provide unfettered access, cooperation and any assistance to the MBMG requested in performing this task. SDs will continue to develop plans for safe methods of sampling the Berkeley Pit.

2. The SDs will provide information to the Agencies as requested and participate in any public education meetings or activities that the Agencies deem necessary to fulfill this requirement of the CD.

3. The HsBWTP will continue to operate in the next quarter with the goal of capturing and treating 100% of the flow emanating from the HsB area; however, it is currently anticipated that the HsBWTP will be down for maintenance for several days

during Q2 as further discussed below. Plant optimization efforts by SDs will continue. The Inflow Control requirement will continue to be met with 100% of the HsBWTP treated water being integrated into the mining and milling operations. Plans are to finalize the Operations and Maintenance Plan/Manual and Health and Safety Plan in the second quarter and submit them to the Agencies. Operation of the dewatering wells around the HsBWTP will continue and the Stage 1 reactor crack repair and Stage 2 reactor will be reassessed in the summer of 2015.

Substantial piping maintenance and upgrades to motor controls will be conducted during Q2 and Q3 of 2015. These activities may require down time of the WTP and could result in the bypass of HsB water to the Berkeley Pit. A schedule for this work and an estimate of the WTP downtime will be provided to the Agencies.

4. Sludge from the HsBWTP will continue to be placed into the Berkeley Pit during the next quarter.

5. Pumping from WCP-1 will continue during Q2 of 2015 to maintain West Camp water levels below the CWL.

6. Waterfowl mitigation efforts will be continued during Q2 as required by the Berkeley Pit Migratory Waterfowl Mitigation Plan, Exhibit 5 to the CD (with the approved exemption from bi-monthly surface inspections) with frequency of observations commensurate with the migratory season. Monthly reports will continue to be submitted to the Agencies.

7. The Institutional Controls required by the CD will continue to be met with full access provided to the Agencies, the MBMG and all SDs at all reasonable times. MR plans to continue to operate the active mining and milling operation within the 70,000 tpd crushing and concentration of ore and active leaching of dumps at less than 350-acres stipulations of **IX. Access and Institutional Controls** section of the CD.

8. The RAAR Site Activity Schedule will be followed and modified, as needed, with modifications approved by the Agencies. The third party consultant selection for the RAAR will be completed and the HsBWTP optimization, BMFOU site-wide water balance update and alternatives study will commence.

9. The Q2 2015 deliverables include:
i. the revised, Final BMFOU HsBWTP Operations and Maintenance Plan/Manual and HsBWTP Site-Specific Health and Safety Plan;

ii. the SDs' Response Document to Agency comments re: **BMFOU Berkeley Pit Slope Stability Evaluation;**
iii. notification to Agencies of the selected RAAR contractor;
iv. A schedule for maintenance that may require substantial WTP downtime and would result in bypass of HsB water to the Berkeley Pit.

Future Work Plans – The SDs will likely submit work plans associated with the RAAR for the Operable Unit water balance and WTP optimization study during Q2 or Q3 of 2015.

e) **Include information regarding unresolved delays encountered or anticipated that may affect the future schedule for implementation of the Work.**

Unresolved delays include in part, waterfowl mitigation and water quality sampling of the Berkeley Pit due to safety issues and resumption is contingent upon the completion of the final slope stability evaluation, determination of near term necessity and additional slope stability monitoring and risk assessment study or adoption of alternative sampling monitoring technique. (Please see the discussion in section 1of this report regarding the inclusion of alternative sampling technique development as part of the SoW for the HsBWTP RAAR. The intention is to identify an appropriate method to safely resume water quality sampling under the specifications in the CD and acquire samples for RAAR testing.)

f) **Include any modifications to the RA or RD Work Plans or other work plans or schedules that Settling Defendants have proposed to EPA or that have been approved by the EPA.**

There are no current, requested modifications to the RA or RD Work Plans or schedules proposed to the EPA.

g) **Describe all activities undertaken in support of the Community Relations Plan during the previous quarter and those to be undertaken in the next quarter**

Please see the response in **Actions Taken Toward Achieving Compliance, 2. Public Education and Involvement** for details to the answers to this reporting requirement.

h) **Issues Encountered**

The current issue that has impacted the mandated BMFOU remedy was the occurrence of slope instability problems in the Berkeley Pit in 2012 and 2013.

i) Other

The following information is included in this report at the request of the Agencies and is not part of the BMFOU RA.

MR continued operations during the first quarter in compliance with State-issued permits and the description in the CD that allows for the recovery of ore, crushing, concentration, leaching and the importation of water as needed for mining (**Consent Decree, IX.** ACCESS AND INSTITUTIONAL CONTROLS, part 26b., p. 39.)

Attachment 2 is the report titled "Berkeley Pit Slope Stability Quarterly Summary" produced by MR's Engineering Department. The report summarizes activities conducted during the quarter related to monitoring and dewatering of the alluvium in the Concentrator, Southeast Corner and Pittsmont Sectors of the Berkeley Pit.

BMFOU QUARTERLY REPORT

Q1 2015

ATTACHMENT 1:

Horseshoe Bend Water Treatment Plant Groundwater Level Reduction Timeline

Montana Resources

Montana Resources, LLP
600 Shields Ave.
Butte, Montana USA 59701
(406) 496-3200
(406) 723-9542 fax
www.montanaresources.com

MEMORANDUM

TO: Steve Czehura

FROM: Amanda Griffith

COPY: Steve Czehura, MR; Mark Thompson, MR; Tim Hilmo, ARCO/BP

DATE: May 5, 2015

SUBJECT: **HsBWTP GWL Reduction-2015 First Quarter Summary**

Background

Five of the six wells drilled in 2014, H14-1, H14-2, H14-4, H14-5, and H14-6, were fitted with dewatering pumps as they were drilled. The sixth well drilled in 2014, H14-3. has been maintained as a monitoring well. In this quarter an additional monitoring well, H15-7 was added adjacent to the First Stage Reactor.

First Quarter

From January 12-16, 2015 the pumps in the dewatering wells were shut down and VFD were installed in each of the dewatering wells. Since that time the wells have been pumped steadily. To obtain additional information about the GWL beneath the First Stage Reactor, Monitor well H15-7 was drilled on February 3, 2015 and completed as a piezometer on February 4, 2015. As noted in Figure 1, the location of this monitoring well is adjacent to the First Stage Reactor tank. The well was drilled to 44.5 feet and completed with 29.5 feet of 6 inch, schedule 80, 0.07 slot PVC screen from 10.5 to 39 feet with 10.5 feet of blank schedule 80 PVC set to the surface. Pea gravel was set in the annulus as a filter from 7 to 39 feet, with two feet of 10/20 Colorado silica sand set from 5 to 7 feet, and a bentonite seal set from 5 feet to the surface. A 5 foot stick of 12 inch steel casing was placed around the PVC casing above the surface to protect the casing from weather and vehicles. Details can be seen in the well completion diagram in Figure 2.

SWL and PWL elevations of all wells can be seen in Table 2. A graphical plot of the elevations alongside the First Stage Reactor tank foundation and ground level elevation can be seen in Figure 3.

Table 1. Pumping rates for HsBWTP dewatering wells.

Well #	Nominal Pumping Rate
H14-1	45 gpm
H14-2	4-5 gpm
H14-4	<5 gpm
H14-5	<5 gpm
H14-6	4-5 gpm

Three more, short auger drilled wells were proposed during the first quarter based on the information gained from H15-7. The plan is to pump the most productive of these and leave at least one to monitor the dewatering of the upper aquifer.

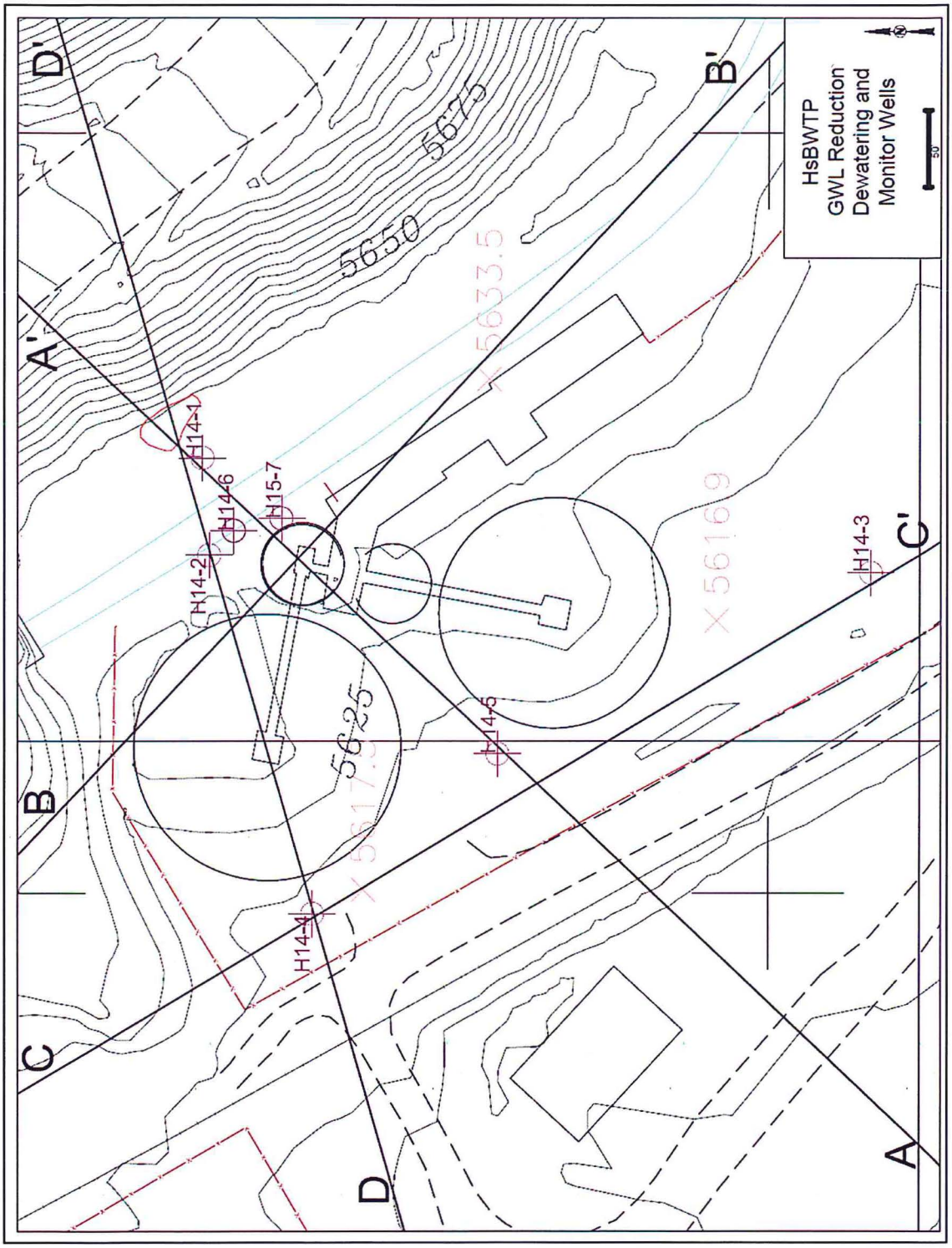
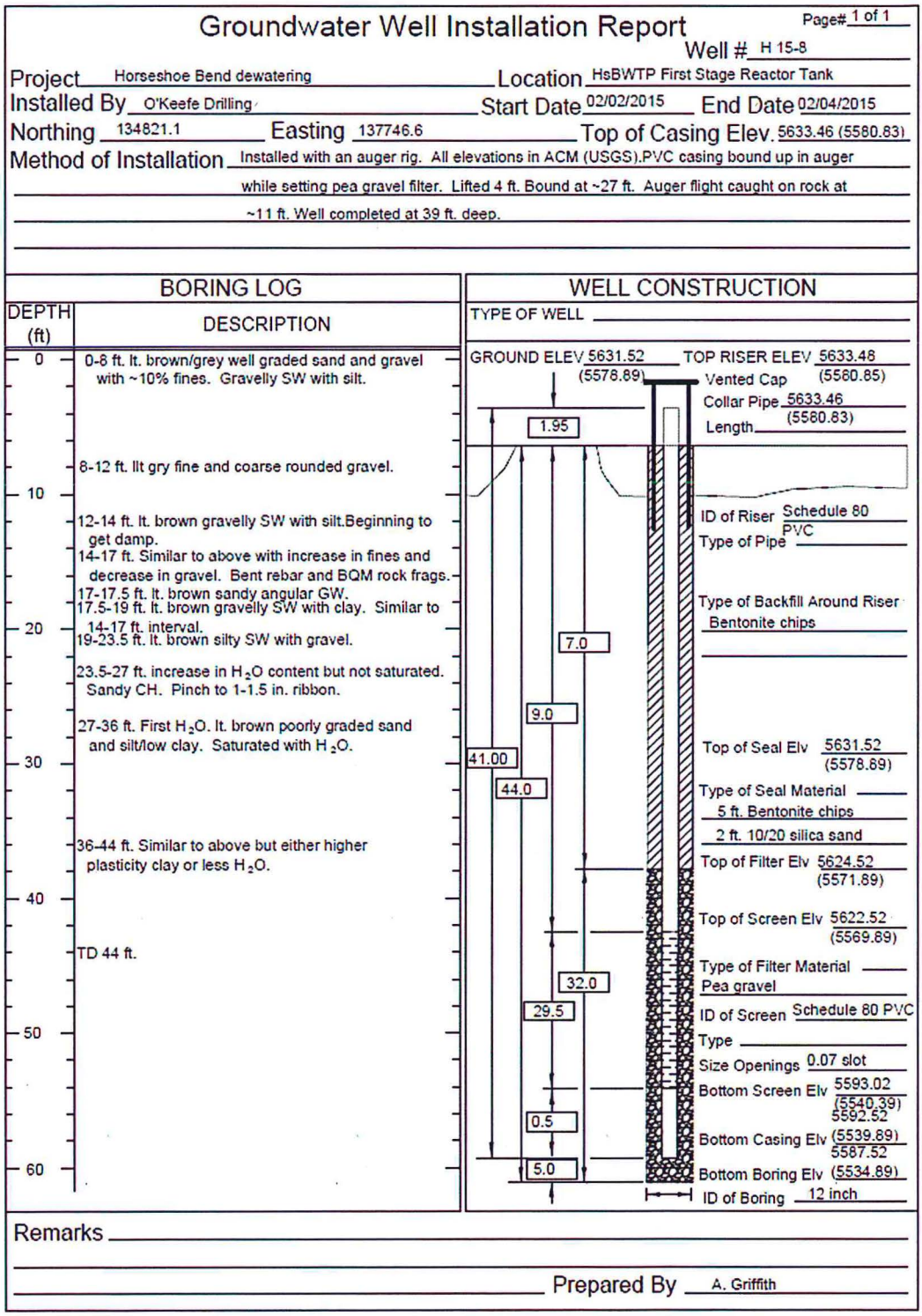


Figure 1. Site map of HsBWTP and surrounding dewatering and monitor wells.



Groundwater Well Installation Report

Page# 1 of 1

Well # H 15-8

Project Horseshoe Bend dewatering Location HsBWTP First Stage Reactor Tank

Installed By O'Keefe Drilling Start Date 02/02/2015 End Date 02/04/2015

Northing 134821.1 Easting 137746.6 Top of Casing Elev. 5633.46 (5580.83)

Method of Installation Installed with an auger rig. All elevations in ACM (USGS).PVC casing bound up in auger while setting pea gravel filter. Lifted 4 ft. Bound at ~27 ft. Auger flight caught on rock at ~11 ft. Well completed at 39 ft. deep.

BORING LOG

DEPTH (ft)	DESCRIPTION
0	0-8 ft. lt. brown/grey well graded sand and gravel with ~10% fines. Gravelly SW with silt.
	8-12 ft. llt gry fine and coarse rounded gravel.
10	12-14 ft. lt. brown gravelly SW with silt.Beginning to get damp.
	14-17 ft. Similar to above with increase in fines and decrease in gravel. Bent rebar and BQM rock frags.
	17-17.5 ft. lt. brown sandy angular GW.
	17.5-19 ft. lt. brown gravelly SW with clay. Similar to 14-17 ft. interval.
20	19-23.5 ft. lt. brown silty SW with gravel.
	23.5-27 ft. increase in H_2O content but not saturated. Sandy CH. Pinch to 1-1.5 in. ribbon.
	27-36 ft. First H_2O. lt. brown poorly graded sand and silt/low clay. Saturated with H_2O.
30	
	36-44 ft. Similar to above but either higher plasticity clay or less H_2O.
40	
	TD 44 ft.
50	
60	

WELL CONSTRUCTION

TYPE OF WELL

GROUND ELEV 5631.52 (5578.89) TOP RISER ELEV 5633.48 (5580.85)

Vented Cap

Collar Pipe 5633.46 (5580.83)

Length

1.95

ID of Riser Schedule 80 PVC

Type of Pipe

Type of Backfill Around Riser Bentonite chips

7.0

9.0

41.00

44.0

Top of Seal Elv 5631.52 (5578.89)

Type of Seal Material 5 ft. Bentonite chips

2 ft. 10/20 silica sand

Top of Filter Elv 5624.52 (5571.89)

Top of Screen Elv 5622.52 (5569.89)

32.0

29.5

Type of Filter Material Pea gravel

ID of Screen Schedule 80 PVC

Type

Size Openings 0.07 slot

Bottom Screen Elv 5593.02 (5540.39) 5592.52

0.5

Bottom Casing Elv (5539.89) 5587.52

5.0

Bottom Boring Elv (5534.89)

ID of Boring 12 inch

Remarks

Prepared By A. Griffith

Figure 2. Site map of HsBWTP and surrounding dewatering and monitor wells.

Table 2. Pumping and static water levels of the HsBWTP dewatering and monitor wells through the first quarter of 2015. Elevations are in ACM Datum.

All Elevations ACM	H14-1		H14-2		H14-3		H14-4		H14-5		H14-6		H15-7	
	Ground Level	5632.25	Ground Level	5631.02	Ground Level	5614.91	Ground Level	5618	Ground Level	5617.1	Ground Level	5631	Ground Level	5631.5
Date	water level below MP	water elevation	water level below MP	water elevation	water level below MP	water elevation	water level below MP	water elevation	water level below MP	water elevation	water level below MP	water elevation	water level below MP	water elevation
9/23/14 3:00 PM	45.6	5589	44.8	5588.67	34.9	5581.96								
10/16/14 12:00 AM	43.7	5590.9	39.5	5593.97	35.2	5581.66	20.3	5599.81	67.3	5551.8				
10/17/14 12:00 AM	45.6	5589	39.5	5593.97	35.2	5581.66	20.4	5599.71	67	5552.1				
10/20/14 12:00 AM	45.0	5589.6	37.3	5596.17	35.0	5581.86	23.05	5597.06	66.75	5552.35				
10/22/14 12:00 AM	45.6	5589	44.8	5588.67	35.3	5581.56	22.9	5597.21	66.7	5552.4				
10/27/14 2:00 PM	46.15	5588.45	30.5	5602.97	35.3	5581.56	22.6	5597.51	67.0	5552.1	42.1	5591.08		
10/30/14 9:00 AM	45.1	5589.5	41.5	5591.97	35.4	5581.46	22.3	5597.81	67.2	5551.9	27.0	5606.18		
11/6/14 12:00 PM	45.95	5588.65	42.0	5591.47	35.4	5581.46	22.3	5597.81	66.7	5552.4	93.15	5540.03		
11/10/14 8:00 AM	46.3	5588.3	42.0	5591.47	35.45	5581.41	22.3	5597.81	67.0	5552.1	89.0	5544.18		
11/11/14 9:00 AM	46.5	5588.1	42.6	5590.87	35.7	5581.16	22.4	5597.71	67.7	5551.4	93.0	5540.18		
11/12/14 9:00 AM	46.15	5588.45	43.0	5590.47	35.75	5581.11	22.35	5597.76	67.95	5551.15	95.7	5537.48		
11/13/14 9:00 AM	46.1	5588.5	43.1	5590.37	35.5	5581.36	22.15	5597.96	67.7	5551.4	93.2	5539.98		
11/14/14 9:00 AM	46.3	5588.3	43.0	5590.47	35.35	5581.51	22.05	5598.06	67.5	5551.6	88.6	5544.58		
11/17/14 8:15 AM	46.1	5588.5	43.25	5590.22	35.8	5581.06	22.4	5597.71	68.7	5550.4	94.6	5538.58		
11/18/14 8:15 AM	44.4	5590.2	43.0	5590.47	35.65	5581.21	23.0	5597.11	68.4	5550.7	90.8	5542.38		
11/19/14 8:00 AM	45.95	5588.65	44.7	5588.77	35.65	5581.21	74.3	5545.81	95.45	5523.65	96.9	5536.28		
11/20/14 8:00 AM	46.1	5588.5	44.9	5588.57	35.6	5581.26	69.0	5551.11	95.35	5523.75	96.9	5536.28		
11/21/14 9:00 AM	45.15	5589.45	42.9	5590.57	35.6	5581.26	31.1	5589.01	95.3	5523.8	96.9	5536.28		
11/24/14 9:00 AM	46.15	5588.45	44.1	5589.37	35.95	5580.91	25.75	5594.36	95.8	5523.3	96.9	5536.28		
11/30/14 12:00 AM	39.15	5595.45	44.1	5589.37	35.95	5580.91	70.9	5549.21	95.18	5523.92	96.9	5536.28		
12/12/14 5:00 PM	46.1	5588.5	48.2	5585.27	36.0	5580.86	70.9	5549.21	95.5	5523.6	96.9	5536.28		
12/19/14 8:00 AM	46.15	5588.45	46.95	5586.52	36.15	5580.71	71.1	5549.01	95.7	5523.4	96.8	5536.38		
1/2/15 8:00 AM	44.9	5589.7	50.95	5582.52	36.3	5580.56	71.65	5548.46	95.55	5523.55	96.4	5536.78		
1/6/15 3:00 PM	46.2	5588.4	51	5582.47	36.7	5580.16	71.4	5548.71	95.55	5523.55	96.25	5536.93		
1/16/15 11:00 AM	20.3	5614.3	21.25	5612.22	36.25	5580.61	66.6	5553.51	70.0	5549.1	70.6	5562.58		
1/26/15 9:00 AM	46.15	5588.45	43.7	5589.77	36.8	5580.06	73.2	5546.91	96.4	5522.7	85.95	5547.23		
1/29/15 1:00 PM	46.25	5588.35	43.6	5589.87	36.95	5579.91	72.8	5547.31	95.9	5523.2	85.8	5547.38		
2/4/15 1:00 PM	45.21	5589.39	43.4	5590.07	36.95	5579.91	72.9	5547.21	95.9	5523.2	85.65	5547.53	10.0	5623.48
2/11/15 1:00 PM	45.35	5589.25	43.7	5589.77	37.4	5579.46	72.85	5547.26	95.85	5523.25	85.65	5547.53	17.3	5616.18
2/13/15 8:00 AM	45.15	5589.45	43.6	5589.87	37.3	5579.56	72.9	5547.21	95.85	5523.25	85.7	5547.48	17.3	5616.18
2/20/15 10:00 AM	45.1	5589.5	43.55	5589.92	37.1	5579.76	72.8	5547.31	95.95	5523.15	85.65	5547.53	17.25	5616.23
2/27/15 9:15 AM	45.45	5589.15	43.5	5589.97	36.9	5579.96	72.9	5547.21	95.95	5523.15	85.65	5547.53	17.15	5616.33
3/6/15 9:00 AM	45.5	5589.1	43.6	5589.87	37.3	5579.56	72.7	5547.41	95.9	5523.2	85.55	5547.63	17.15	5616.33
3/13/15 10:00 AM	45.55	5589.05	43.6	5589.87	37.45	5579.41	72.6	5547.51	95.95	5523.15	85.6	5547.58	17.2	5616.28
3/20/15 8:00 AM	45.7	5588.9	43.6	5589.87	37.2	5579.66	72.75	5547.36	95.9	5523.2	85.6	5547.58	17.2	5616.28
3/27/15 3:00 PM	45.8	5588.8	43.55	5589.92	37.1	5579.76	72.88	5547.23	95.9	5523.2	85.55	5547.63	17.4	5616.08

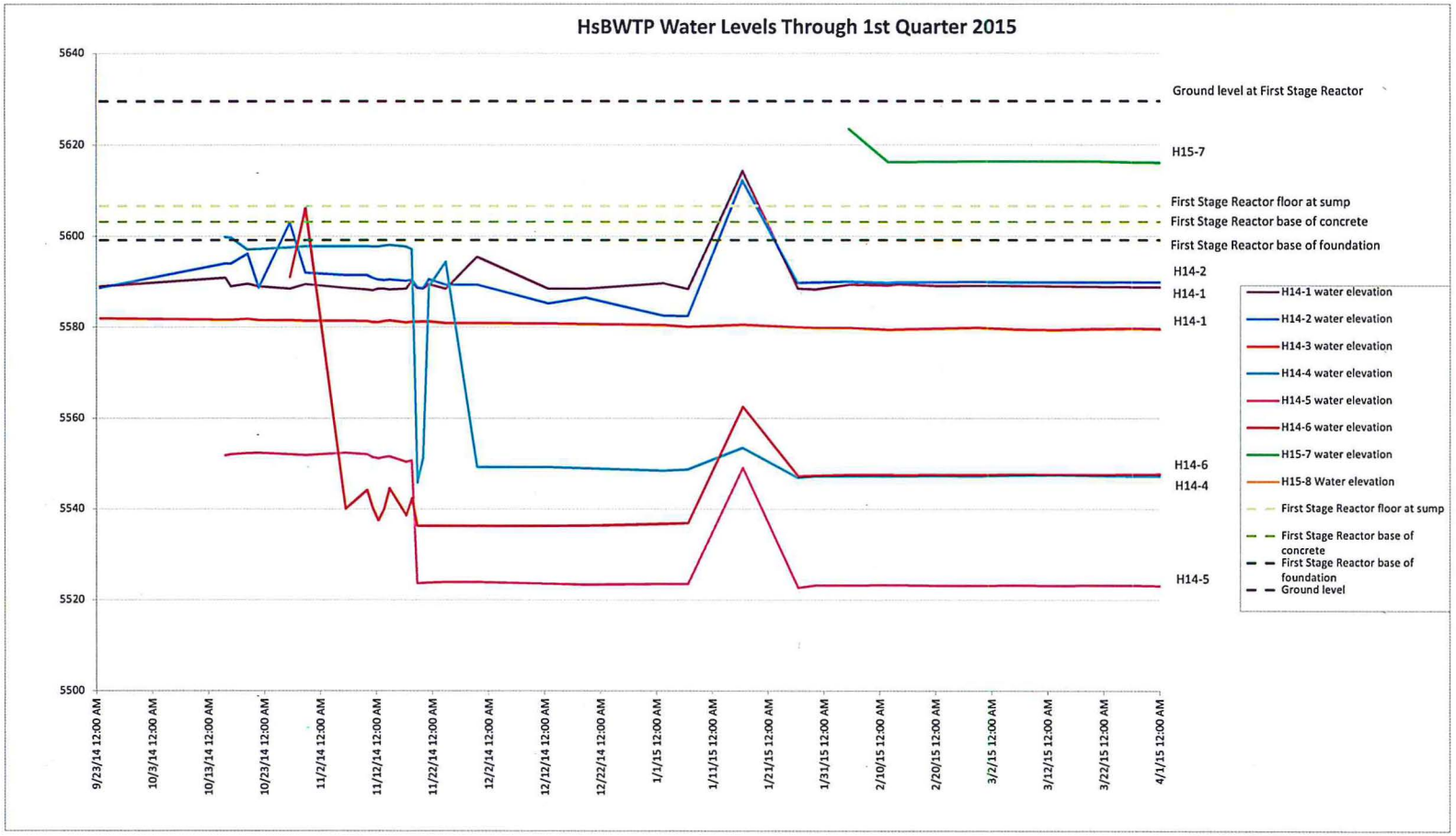


Figure 3. Chart showing water levels of HsBWTP wells in relation to the ground level and foundation base of the First Stage Reactor Tank. Elevations shown in ACM Datum.

BMFOU QUARTERLY REPORT

Q1 2015

ATTACHMENT 2:

Berkeley Pit Slope Stability Quarterly Summary

Montana Resources

Montana Resources, LLP
600 Shields Ave.
Butte, Montana USA 59701
(406) 496-3200
(406) 723-9542 fax
www.montanaresources.com

MEMORANDUM

TO: Stephen Walsh

FROM: S. Czehura

COPY: Mark Thompson, MR; Tim Hilmo, ARCO/BP

DATE: May 5, 2015

SUBJECT: **Berkeley Pit Slope Stability First Quarter Summary 2015**

Monitoring

Four survey points in the Bird Watch Sector, four survey points in the Concentrator Sector, seven survey points in the Southeast Sector and three prisms in the Pittsmont Sector were monitored throughout this period. Survey points in the Bird Watch Sector are checked bimonthly. The western two survey points in the Concentrator Sector are, likewise, monitored bimonthly and the two eastern points are monitored daily.
Seven survey points in the Southeast Sector and three prisms in the Pittsmont Sector are monitored daily. Wire extensometers, i.e. Section 2 (West), in the Concentrator Sector are, checked several times per day. Wire extensometers, i.e. Section 1 (East), in the Southeast Sector are instrumented and monitored continuously. All inclinometers are read daily. All TDR wells are read weekly (Figure 1).

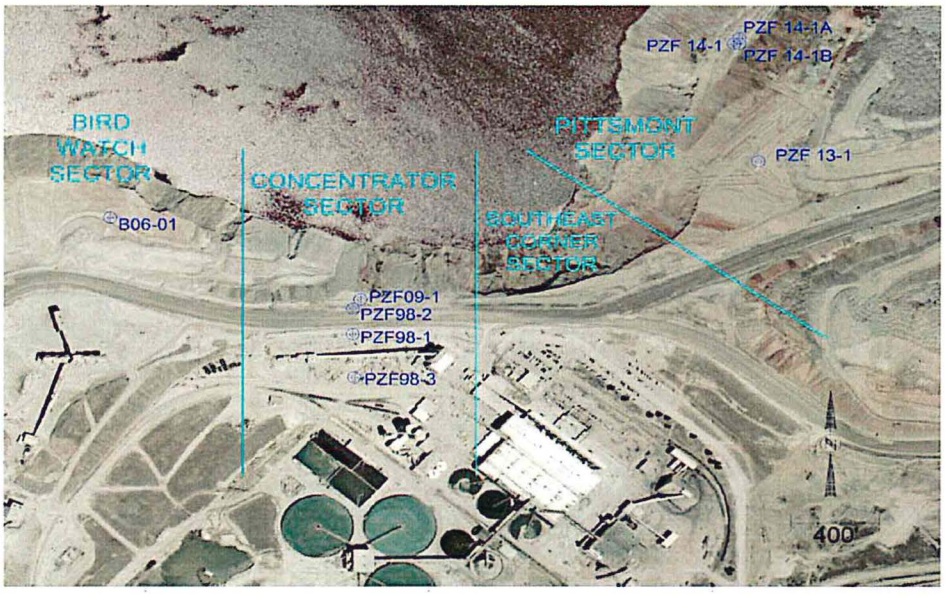


Figure 1. TDR Well locations.

Berkeley Pit - Active Sectors

Sector nomenclature for the Berkeley pit is detailed on Plate II (attached).

Bird Watch Sector: Four survey points were checked in this sector during this period with "no abnormal movement" being indicated.

Slow displacement of the outer portion of the dump, however, continues at a rate of less than 0.6 inch per month. These monitor points are surveyed once a week. The TDR cable in B06-1, likewise, has shown no progressive distress for this period.

Concentrator Sector: Four survey points were checked in this sector throughout the quarter with "no significant movement" being indicated. Two of the monitor points are surveyed daily and two of the monitor points are surveyed once a week.

Two of the three extensometers in this sector, likewise, showed no reportable or progressive movement; however, the middle extensometer (A37456) moved two inches during the week of February 23rd to March 1st. The area was examined thoroughly for new cracking and disturbance. No visible evidence was found. The wire and hardware appeared intact and undisturbed. This area will continue to be monitored closely each shift. All other movement appeared to be random and not progressive. These extensometers are scheduled to be monitored three times per shift. No repairs to the extensometers were performed during this time period.

TDR cables were read weekly throughout the First Quarter in three wells and no progressive movement was detected. In November 2014, TDR monitoring of Well 98-03 was suspended due to a problem with the cable. During the First Quarter 2015, it was determined that the BNC connector at the end of the cable needed to be replaced. The connector was replaced and TDR monitoring resumed.

Southeast Sector: This sector continues to be the most active sector in the Berkeley pit; however, no significant movement was detected during the First Quarter 2015.

On Tuesday January 20th, a "Slope Monitor Intern" walked into wire on the eastern extensometer, A37480. The extensometer wire had to be reset. On March 2nd, new small tension cracks were noticed near this extensometer; however, no movement on the extensometer correlated to the cracking that was observed.

On Tuesday, March 3rd, the data cable on Extensometer A37490 was changed, because of a problematic splice in the old cable.

On Thursday, March 26th at 6:20 AM, a deer broke the wire and string pod on Extensometer A39450. The wire and string pod were replaced the same day by 9:30 AM.

Although the Southeast Sector extensometers are instrumented they continue to be, inspected three times per shift and a reading recorded once a shift. If the automated data collector should go down, manual readings are taken three times per shift concurrent with the inspections.

Overall the survey points monitored during quarter in the Southeast Sector showed no reportable or progressive movement. None of the monitor points were damaged or replaced during the First Quarter.

The current monitor points being surveyed are as follows:

- A37210,
- A37205,
- A37231,
- A37163,
- A37161,
- A37209, and
- A37233.

Daily monitoring of inclinometers PZF12-4, PZF12-5, and PZF12-8 continues. And to date, there has been no significant movement in any of the wells.

All four dewatering pumps in the Southeast Sector ran throughout the quarter as indicated in Table 1.

The pump in well PZF12-3 went down Saturday night March 14th 2015 and a new pump and motor were installed mid-day on March 17th 2015. Pumping resumed later that day. Otherwise, all pumps operated without interruption.

Table 1. Average flows for dewatering wells (First Quarter 2015).

Dewatering Well	January		February		March	
	Flow (gpm)	Availability	Flow (gpm)	Availability	Flow (gpm)	Availability
PZF12-1	54.1	100.0%	51.9	100%	50.3	100%
PZF12-2	35.9	100.0%	35.5	100%	35.2	100%
PZF12-3	21.9	100.0%	21.7	100%	21.7	93%
LP-15	43.0	100.0%	42.9	100%	42.7	100%

Pittsmont Sector: Three prisms on the Pittsmont dump were surveyed once a day, on average of five days per week during the quarter with a total station. No slope movements were detected during the quarter.

The TDR cables in Wells PZF13-1, PZF14-1A, and PZF14-1B were read weekly during the quarter with no indicated distress.

Hydrographs

Water levels are tracked in all sectors. Hydrographs detailing the piezometric surface in each sector are provided for comparison in Figures 2 through 6. No excursions were noted during the quarter in the Bird Watch, Concentrator, or Pittsmont Sectors.

As the pit lake saturates the lower alluvial units in the Southeast Sector, the rising water has a destabilizing effect and STRATA has recommended that pumping continue to maintain slope stability.

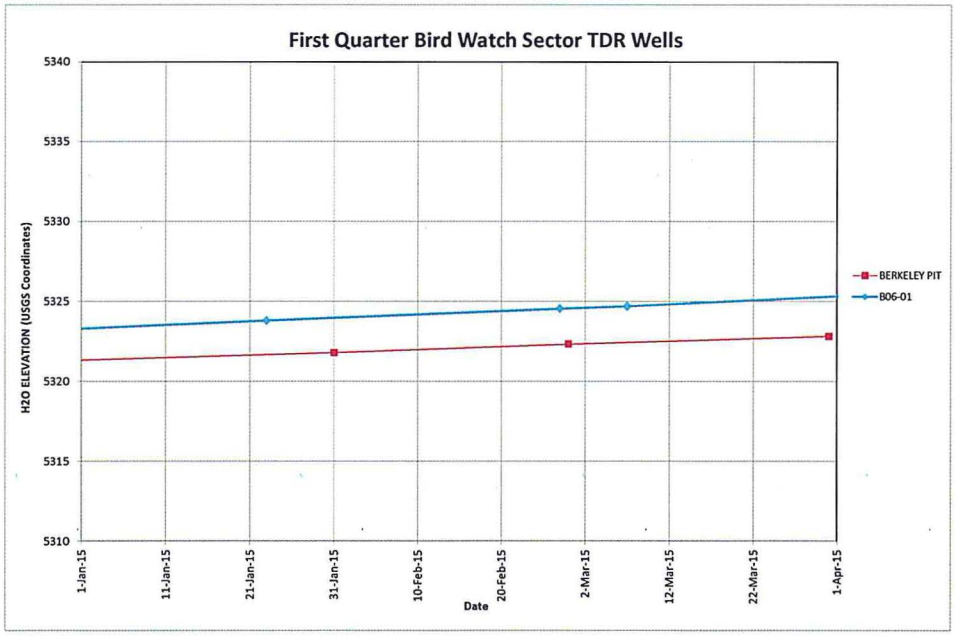


Figure 2. Hydrographs Bird Watch Sector.

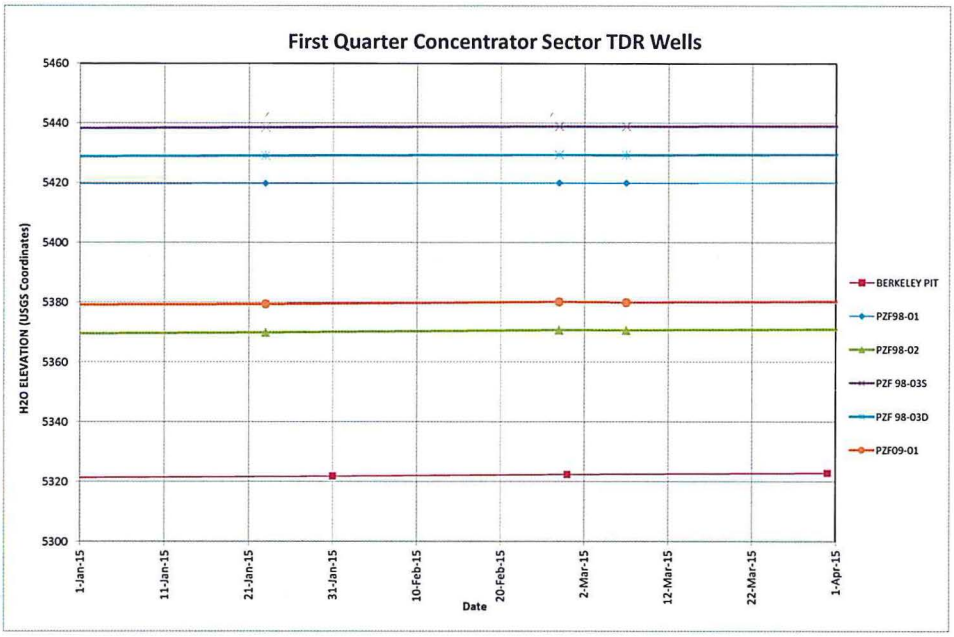


Figure 3. Hydrographs Concentrator Sector.

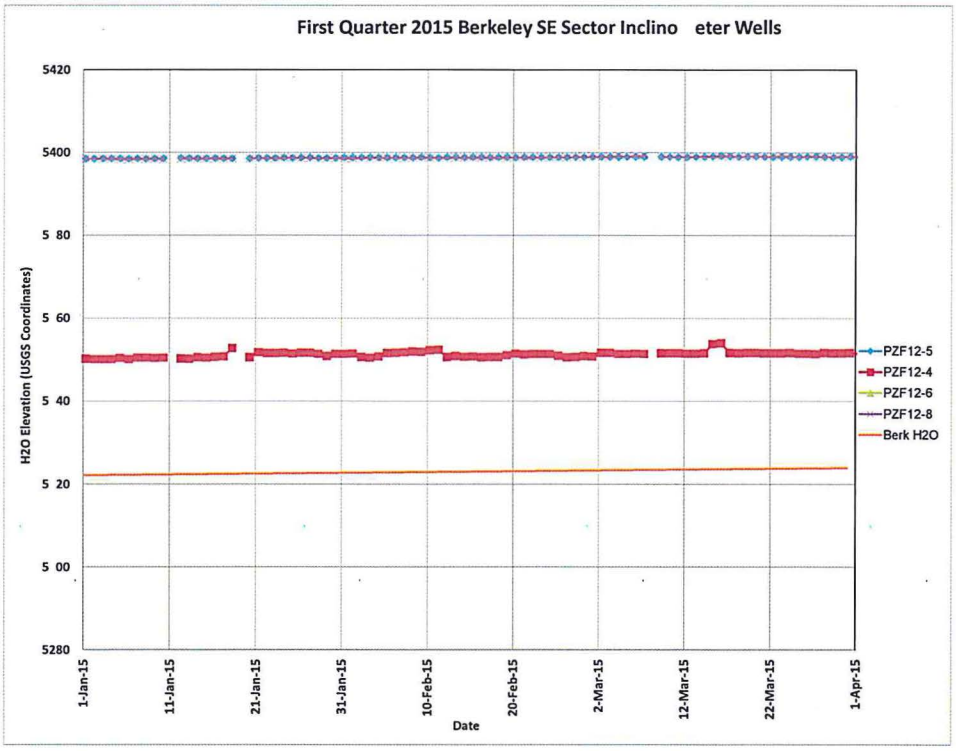


Figure 4. Hydrographs Southeast Sector inclinometer wells.

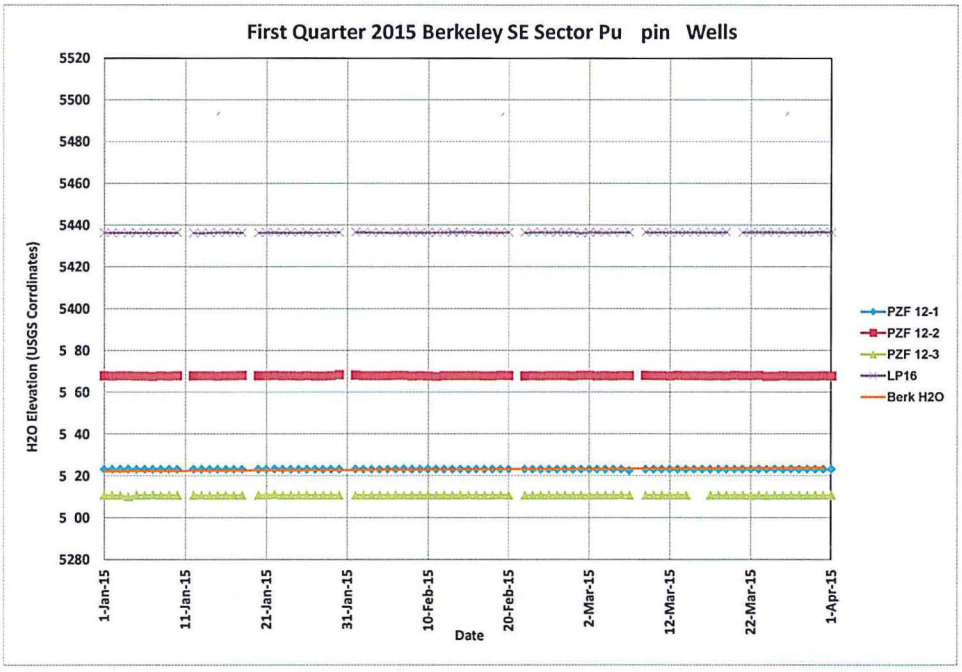


Figure 5. Hydrographs Southeast Sector pumping wells.

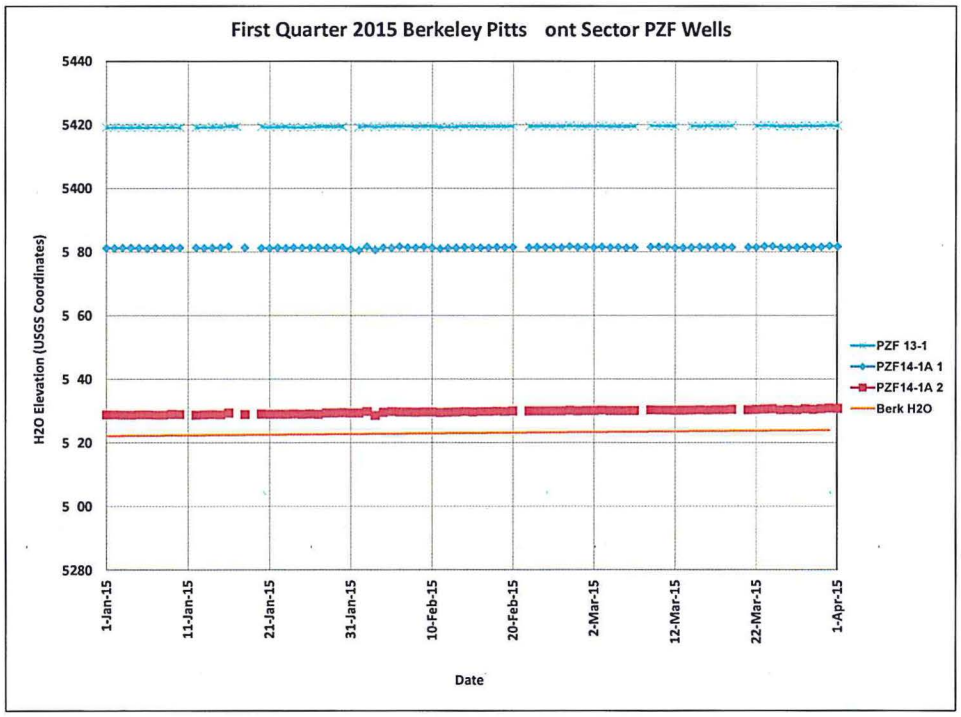
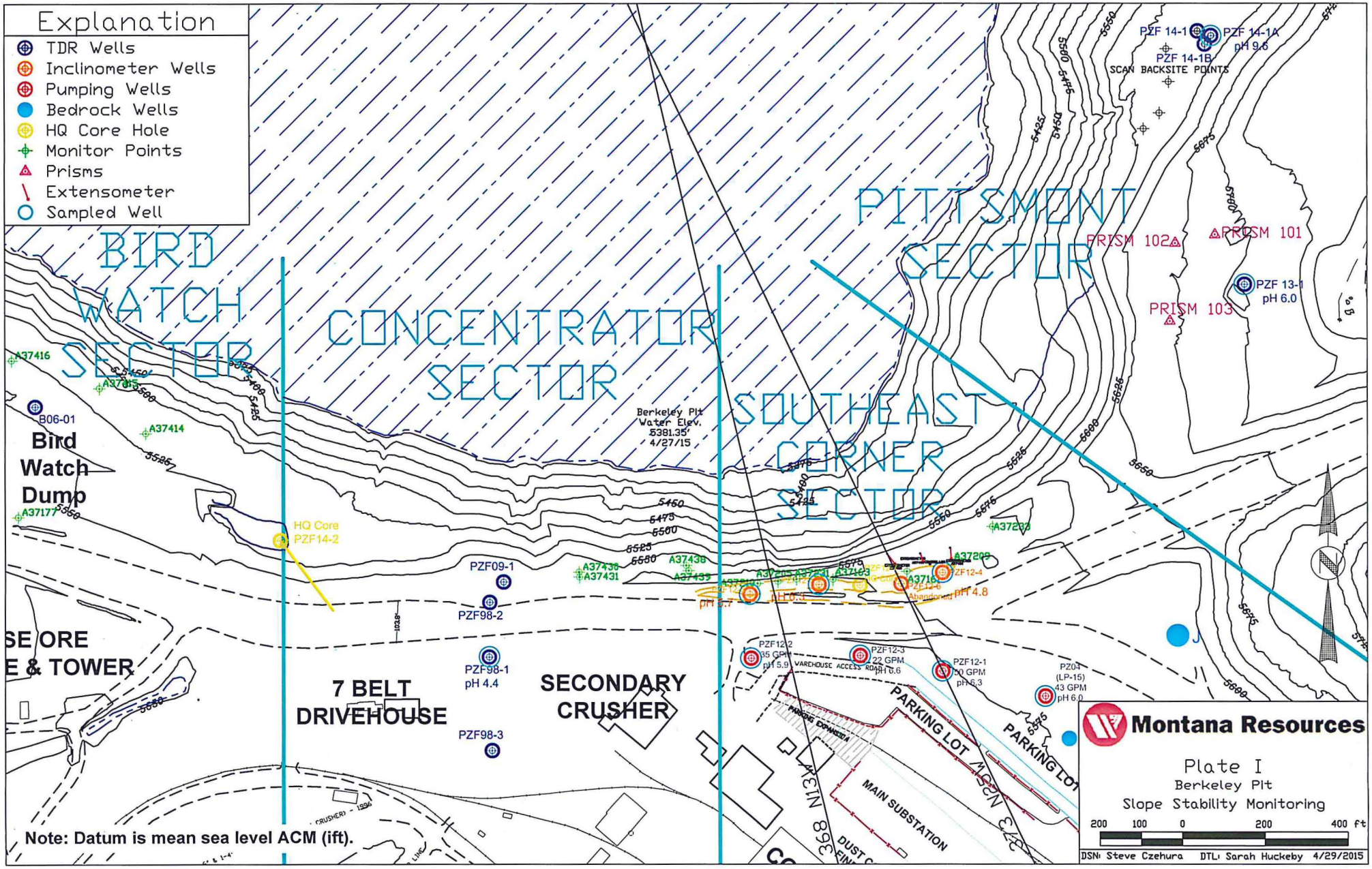
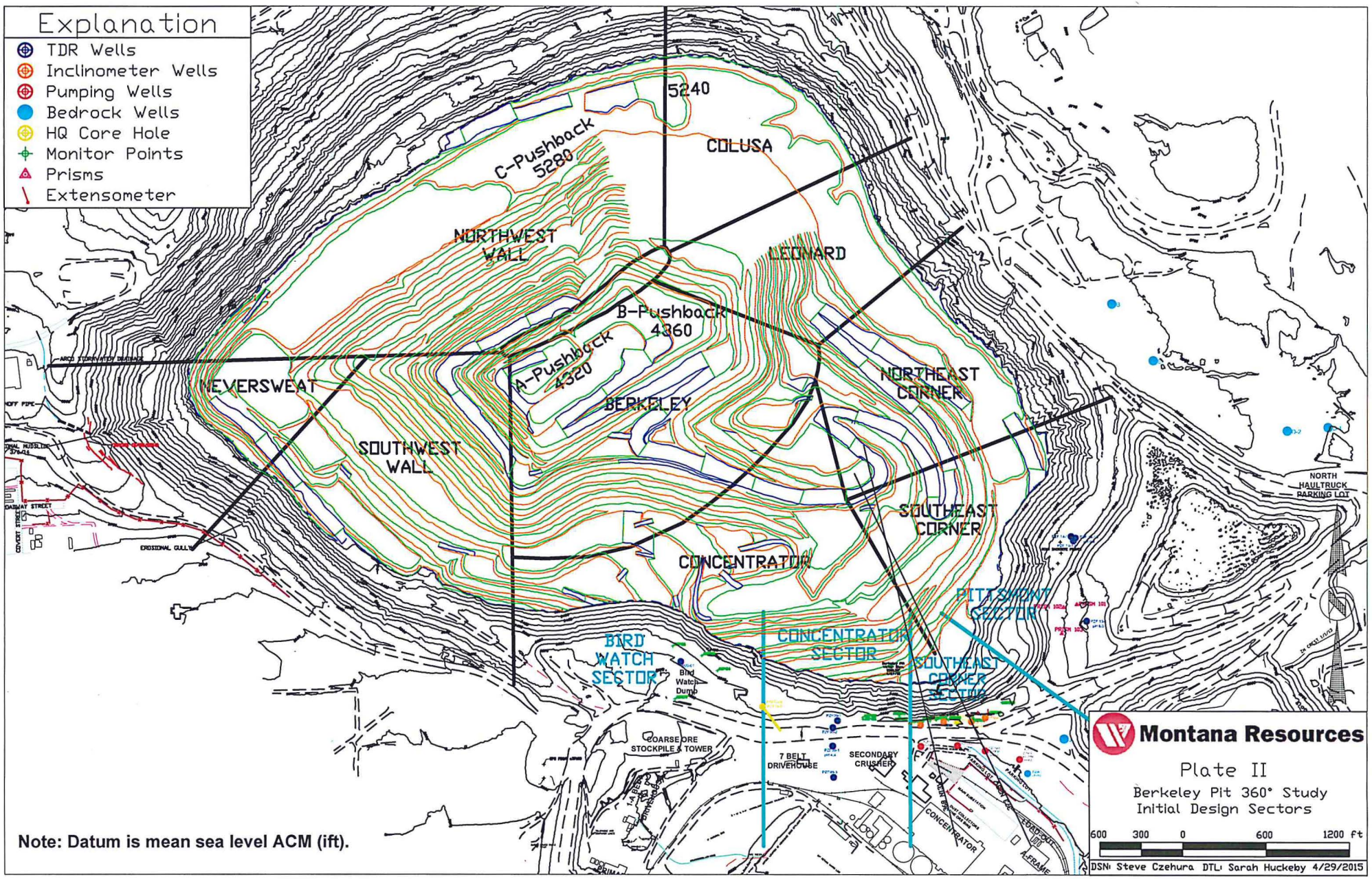


Figure 6. Hydrographs Pittsmont Sector.


Explanation
TDR Wells
Inclinometer Wells
Pumping Wells
Bedrock Wells
HQ Core Hole
Monitor Points
Prisms
Extensometer
Sampled Well
BIRD WATCH SECTOR
CONCENTRATOR SECTOR
PITTSMONT SECTOR
SOUTHEAST CORNER SECTOR
Bird Watch Dump
7 BELT DRIVEHOUSE
SECONDARY CRUSHER
SE ORE
E & TOWER
Berkeley Pit Water Elev. 5381.35' 4/27/15
HQ Core PZF14-2
PZF09-1
PZF98-2
PZF98-1 pH 4.4
PZF98-3
B06-01
A37416
A37414
A37177
A37436
A37431
A37435
A37209
A37163
A37162
A37233
PZF12-2 35 GPM pH 5.9
PZF12-3 22 GPM pH 6.6
PZF12-1 50 GPM pH 6.3
PZF12-4 pH 4.8
PZF12-6 Abandoned
PZ04 (LP-15) 43 GPM pH 6.0
PZF 14-1
PZF 14-1A pH 9.6
PZF 14-1B
SCAN BACKSITE POINTS
PRISM 102
PRISM 101
PRISM 103
PZF 13-1 pH 6.0
WAREHOUSE ACCESS ROAD
PARKING LOT
PARKING LOT
MAIN SUBSTATION
Note: Datum is mean sea level ACM (ift).
Montana Resources
Plate I
Berkeley Pit
Slope Stability Monitoring
200 100 0 200 400 ft
DSN: Steve Czehura DTL: Sarah Huckeby 4/29/2015


Explanation
TDR Wells
Inclinometer Wells
Pumping Wells
Bedrock Wells
HQ Core Hole
Monitor Points
Prisms
Extensometer
5240
COLUSA
C-Pushback 5280
NORTHWEST WALL
LEONARD
B-Pushback 4360
A-Pushback 4320
BERKELEY
NEVERSWEAT
SOUTHWEST WALL
NORTHEAST CORNER
SOUTHEAST CORNER
CONCENTRATOR
PITT SPOINT SECTOR
CONCENTRATOR SECTOR
BIRD WATCH SECTOR
SOUTHEAST CORNER SECTOR
NORTH HAULTRUCK PARKING LOT
Bird Watch Dump
COARSE ORE STOCKPILE & TOWER
7 BELT DRIVEHOUSE
SECONDARY CRUSHER
CONCENTRATOR
A-FRAME
EROSIONAL GULLY
Montana Resources
Plate II
Berkeley Pit 360° Study
Initial Design Sectors
600 300 0 600 1200 ft
DSN: Steve Czehura DTL: Sarah Huckeby 4/29/2015
Note: Datum is mean sea level ACM (ift).