



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
Curt Fransen, Director

October 29, 2014

Randy Vranes, P.E.
Monsanto Co
Business Unit Lead, Mineral Activities
PO Box 816
Soda Springs, ID 83276

Re: Finalized Point of Compliance for South Rasmussen Mine

Dear Mr. Vranes:

Enclosed please find the Idaho Department of Environmental Quality's (DEQ) final Point of Compliance (POC) determination for South Rasmussen Mine. DEQ is setting this POC to establish the location where Idaho's ground water resources will comply with Idaho's Ground Water Quality Rule (GWQR).

The enclosed determination is divided into four parts. The introduction gives general background information along with the explanation of state authority for regulating ground water. The second part discusses the POC and baseline wells proposed as part of the original application while the third part speaks to additional POC wells DEQ feels are necessary for adequately monitoring the site. The final section discusses the monitoring plan for the ground water wells.

The GWQR also allows for changes in point(s) of compliance based on new information or a change in mining activities (IDAPA 58.01.11.401.08). Possible sources of this new information include the required ground water monitoring plan, the planned evaluation of site wells SR-Well-9W and -8W, the installation of new wells, and the ground water modeling associated with the possible placement of additional waste rock from the proposed Rasmussen Valley Mine into the main pit at South Rasmussen Mine.

Please let me know if you have any questions. You can also contact Mike Rowe of the Pocatello Regional Office to discuss POC implementation.

Sincerely,

A handwritten signature in cursive script that reads "Barry N. Burnell".

Barry N. Burnell
Water Quality Division Administrator

BNB:dls

e: Bruce Olenick – DEQ
Douglas Tanner – DEQ
Mike Rowe – DEQ
Mary Kauffman – U.S. Forest Service
Matthew Wilson – U.S. Forest Service

Point of Compliance Determination
South Rasmussen Mine

Introduction

South Rasmussen Mine (SRM) is owned by P4 Production, LLC (P4) and was in operation from 2001 to 2013 when mining ended. Reclamation of the site is expected to be completed in 2014. Both state and federal leases were mined at the site.

The Idaho Ground Water Quality Rule (IDAPA 58.01.11.401) allows a mine operator to request that DEQ set point(s) of compliance at which the mine operator must meet ground water quality standard as described in IDAPA 58.01.11.150.01. P4 submitted a POC application for SRM on 2 May 2014, which was determined to be complete by DEQ in a letter to P4 dated 2 June 2014.

In their application, P4 proposed the installation of wells to monitor any off-site releases of contaminants in the alluvial, Dinwoody Formation, Rex Chert Member, and Wells Formation ground water flow systems. Six new wells and one existing well were proposed as points of compliance for the four hydrostratigraphic units. Additionally, P4 will continue to sample five existing wells to monitor baseline water quality in the respective ground water flow systems.

Proposed Points of Compliance and Baseline Wells

DEQ agrees with all of the proposed POC wells with some additional direction as discussed below.

- SR-Well-10W – DEQ agrees with the use of this existing well as a Wells Formation POC well.
- SR-Well-16W – DEQ agrees with the need for this Wells Formation well, but believes it should be moved further to the west, preferably on National Forest Service (NFS) land, assuming that such permission can be obtained.
- SR-Well-11A – DEQ agrees with the installation of this alluvial well with the location to be as close to “Watershed B” as possible, but still out of the aquatic influence zone.
- SR-Well-12D – DEQ agrees with the installation and location of this Dinwoody Formation well. As stated in the POC application, flow direction in the Dinwoody Formation at this location is not precisely known, which, depending on results from SR-Well-12D, could mean the need for additional Dinwoody Formation well(s).
- SR-Well-13A – DEQ agrees with the installation and location of this alluvial well.
- SR-Well-14A – DEQ agrees with the need for this alluvial well, but it needs to be moved downgradient to the break in slope in “Watershed A” (northeast) on NFS land, assuming that such permission can be obtained. The location of the well should be such that only alluvial water from Watershed A is being monitored.
- SR-Well-15D – DEQ agrees with the need for this well but believes it should be moved downgradient in “Watershed A” to the northeast, preferably on NFS land, assuming that such

permission can be obtained. The location of the well should be such that only Dinwoody Formation water emanating from SRM is being monitored.

DEQ agrees with all the proposed existing baseline wells, listed below. Note, however, that the use of these wells as baseline wells is dependent on the constant evaluation of monitored results to ensure water quality has not been affected by mining activities.

- HD-PZ-9 – this well will serve as an alluvial baseline well downgradient of the Horseshoe Overburden Area.
- SR-Well-5D – this well will serve as a baseline well for the Dinwoody Formation on the east side of the mine site.
- SR-Well-6R – this well will serve as a baseline well for the Rex Chert Member on the east side of the mine site.
- SR-Well-7W – this well, centrally located within the mine site adjacent to the West Overburden Area, will provide baseline water quality data for the Wells Formation.
- MW-1W – located upgradient of the West Limb Pit, this well will serve as a baseline well for the Wells Formation, assuming an agreement can be reached with the well owner.

Additional POC Wells

Additional wells are needed to adequately monitor the ground water flow systems at SRM. These wells and their approximate proposed locations (Figure 1), which will be subject to further ground truthing, are as follows.

- Alluvial Well #1 – this well is to be located downgradient of the West Limb Pit and due east of SR-Well-13A. This well will detect any potential off-site impacts (e.g., to NFS land) from the pit backfill.
- Dinwoody Fm Well #1 – this well is to be located downgradient of the West Limb Pit either between the pit and the lease boundary or on NFS land to the southwest of the Enoch Valley Fault. This well will monitor ground water quality across the fault.
- Wells Fm Well #1 – this well is to be located to the south and east of the intersection of the Rasmussen Fault and Enoch Valley Fault. This well will monitor water quality across the fault and adjacent to the Wells Formation predicted West Limb selenium plume.

Ground Water Monitoring Plan

New POC wells

New POC wells shall be installed as soon as possible with an installation schedule provided to DEQ no later than 28 Feb 15. Well plans shall be provided to DEQ for approval with the intent that all wells will be installed in 2015. Wells should be monitored four times a year, as close to quarterly as possible, for the first three years after which monitoring will be semiannually (i.e., spring and fall).

Well installation

Prior to the installation of any new well, P4 will submit for DEQ approval a workplan, which will specify well installation, completion, and development procedures. Following installation of the well, P4 shall provide a well completion report (well construction details, well completion logs, well sampling/development record, etc.) for inclusion in the annual report following installation of the well(s).

Baseline/Background wells

A minimum of 12 samples over a three year-period are to be collected from all newly installed wells with a sampling frequency of no greater than once a month, preferably quarterly. Once a three year dataset with a minimum of 12 samples is achieved, sampling can be done on a semiannual basis (e.g., spring and fall). Reduced sampling (i.e., once per year) can be implemented if sampling warrants and if agreed to by all parties.

Data Summary Notice

A data summary notice will be prepared and submitted to DEQ no later than 60 days after the last sample is collected during a particular field event (e.g., monthly, quarterly, spring, fall). The notice will include notification of any water quality exceedances above background or numeric water quality standards.

Annual Report

The annual report is due on or before 31 March of each year for the preceding year. The report is to include a summary of data collected the prior year including discussion especially of any anomalous or unexpected data and all available validated water quality data from all POC and baseline wells in an electronic, easily editable format such as Excel or Access files. Identification of any possible data gaps, or changes in water quality or site conditions, should also be presented and discussed. The report shall identify proposed baseline/background concentrations for constituents identified as water analysis parameters using IDEQ's *Statistical Guidance for Determining Background Ground Water Quality and Degradation*. P4 shall also include the specifications from all wells drilled the previous year.

Constituents to monitor

The following constituents will be monitored for each sampling event.

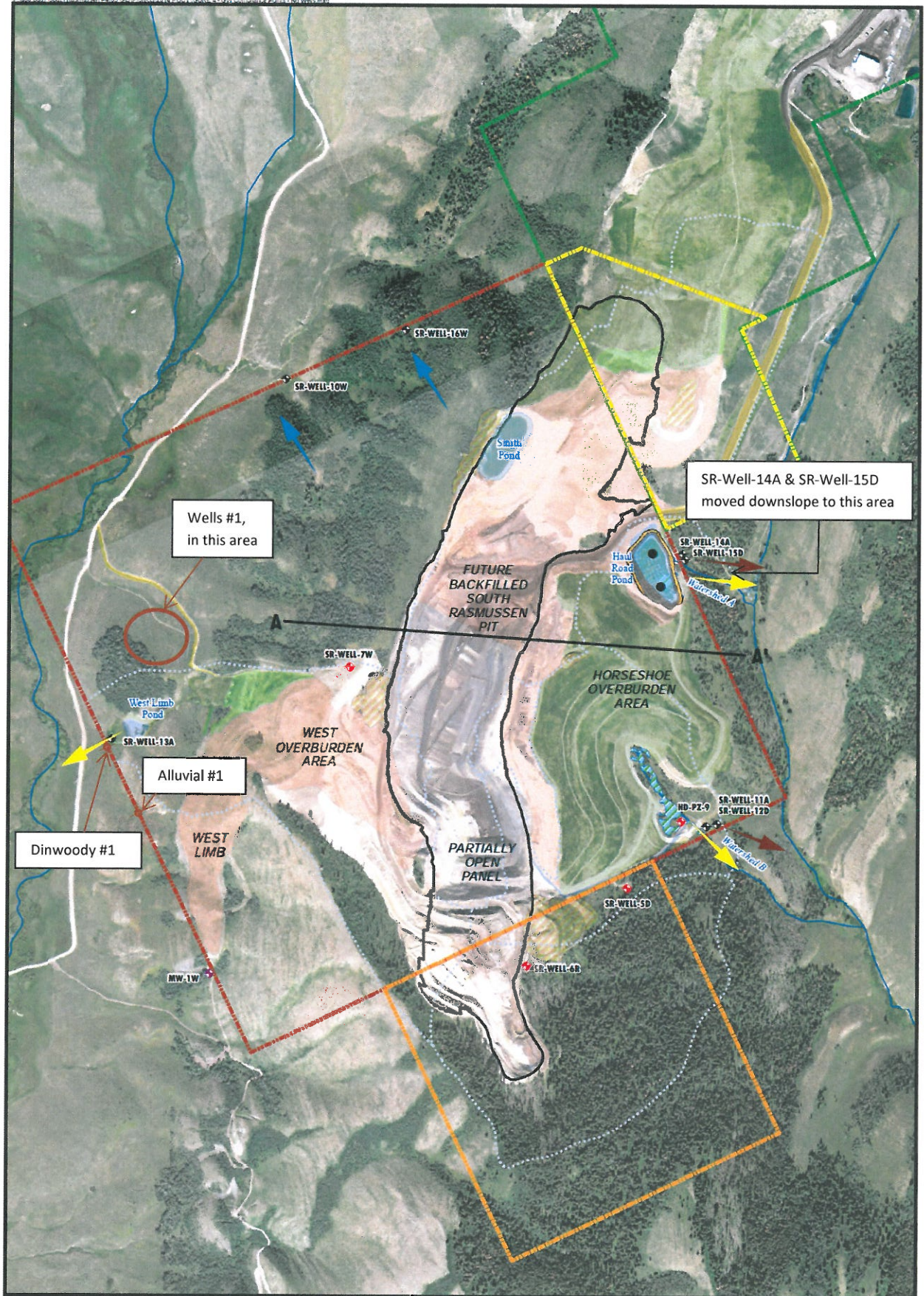
Metals/metalloids (total and dissolved)			
Aluminum	Antimony	Cadmium	Chromium
Iron	Lead	Manganese	Nickel
Selenium	Thallium	Zinc	
Major ions			
Chloride	Sulfate		
General parameters			
Total dissolved solids			
Field parameters			
Ground water elevation	Dissolved oxygen	Oxidation-reduction potential	pH
Specific conductance	Temperature	Turbidity	

Monitoring schedule

Below is the monitoring schedule based on type of well and amount of data previously collected.

Well	Type	Completion (hydro stratigraphic unit)	Sampling events* (through 2013)	Monitoring schedule
HD-PZ-9	Baseline	Alluvium	13	semiannual
SR-Well-5D	Baseline	Dinwoody	12	semiannual
SR-Well-6R	Baseline	Rex Chert	13	semiannual
SR-Well-7W	Baseline	Wells	13	semiannual
MW-1W	Baseline	Wells	6	monthly/quarterly
SR-Well-11A	POC	Alluvium	--	quarterly
SR-Well-13A	POC	Alluvium	--	quarterly
SR-Well-14A	POC	Alluvium	--	quarterly
SR-Well-12D	POC	Dinwoody-Rex Chert	--	quarterly
SR-Well-15D	POC	Dinwoody-Rex Chert	--	quarterly
SR-Well-10W	POC	Wells	12	semiannual
SR-Well-16W	POC	Wells	--	quarterly
Alluvial Well #1	POC	Alluvium	--	quarterly
Dinwoody Fm Well #1	POC	Dinwoody	--	quarterly
Dinwoody Fm/Rex Chert Member Well #2	POC	Dinwoody or Rex Chert	--	quarterly
Wells Fm Well #1	POC	Wells	--	quarterly

*constituents sampled varied by sampling event

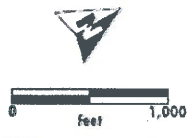


Wells #1, in this area

SR-Well-14A & SR-Well-15D moved downslope to this area

Alluvial #1

Dinwoody #1



NewFields

- Proposed Background Well
- Proposed Background Well (Agrum)
- Proposed Points of Compliance Well
- Monitoring Well - Destroyed
- 2009 Mapped Wetlands
- Proposed Pit Limits
- Agency Added Well
- 2008 Disturbed Areas
- 2008 Reclaim
- Active Fill
- Active Pit
- Pre-2008 Reclaim
- Road/And Service
- Sediment Control Structure
- Topsoil Storage
- Agrium - 1-04375
- Monsanto 1-795B
- P4 - 1-23658
- P6 - 1-04375
- Watershed Boundary
- Groundwater Flow Direction - Alluvium
- Groundwater Flow Direction - Walls Formation
- Groundwater Flow Direction - Dinwoody/Rex Chert

Proposed Groundwater Compliance Points
South Rasmussen Mine
Point of Compliance
Caribou County, Idaho
FIGURE 1