

# **ENVIRONMENTAL IMPACT STATEMENT RASMUSSEN VALLEY MINE RECORD OF DECISION**

## **LEAD AGENCY:**

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**January 2017**



# TABLE OF CONTENTS

<b>SECTION 1 – INTRODUCTION.....</b>	<b>1</b>
1.1 Background .....	1
1.2 Geographic Setting .....	2
1.3 Proposed Action .....	2
1.4 Purpose and Need for Action .....	4
<b>SECTION 2 – THE DECISION.....</b>	<b>5</b>
2.1 Introduction.....	5
2.2 The Decision .....	6
2.2.1 Agency Selected Alternative .....	6
2.2.2 Approval of RCA.....	11
2.2.3 Recommendation for Lease Modifications .....	12
2.3 Decision Authority .....	13
2.4 Enforcement Authority.....	13
<b>SECTION 3 – PUBLIC COMMENTS.....</b>	<b>15</b>
3.1 Summary of Public Comments.....	15
3.1.1 Water Quality.....	15
3.1.2 Cover Infiltration Model Inputs .....	16
3.1.3 Cover Performance .....	17
3.1.4 Management of Water Entering Pit.....	18
3.1.5 Existing Source of Selenium in Streams.....	18
3.1.6 Impact from COPCs in Fugitive Dust from Mine Activities.....	18
3.1.7 Surface Water Monitoring Locations.....	19
3.1.8 Accumulation of Selenium Bearing Sediments in Water Management Structures.....	19
3.1.9 Release of Selenium Bearing Runoff from Haul Roads.....	19
3.1.10 Potential for Native Plants to Translocate Selenium to the Soil Surface .....	20
3.1.11 Changes in Volume and Timing of Surface Water Flows .....	20
3.1.12 Ingestion of Constituents of Potential Concern by Wildlife and Humans.....	20
3.1.13 Impacts to Greater Sage-Grouse .....	21
3.1.14 Impacts to Canada Lynx .....	22
3.1.15 Impacts to Livestock and Grazing Permittees.....	23
3.1.16 Impacts to Wetlands and Aquatic Species.....	23
3.1.17 Groundwater Points of Compliance .....	24
3.1.18 Groundwater Impacts Timing .....	25
3.1.19 Wildlife Habitat Mitigation.....	25
3.1.20 Fisheries and Aquatics.....	25
3.1.21 Traffic on County Roads .....	26
3.1.22 Habitat Fragmentation.....	26
3.1.23 Climate Change.....	26
3.1.24 Revegetation Standard .....	28
<b>SECTION 4 – PRINCIPAL CONSIDERATIONS FOR THE DECISION .....</b>	<b>29</b>
4.1 Compliance with Water Quality Standards .....	29
4.2 Ingestion of Constituents of Potential Concern by wildlife and humans .....	31

4.3	Impacts to Wetlands and Aquatic Species.....	31
4.4	Wildlife Habitat Mitigation.....	32
4.5	Impacts to Blackfoot River Wildlife Management Area.....	32
4.6	Lease Modifications and conservation of phosphate resource.....	32
4.7	Socioeconomic Benefits.....	32
4.8	The No Action Alternative .....	33
<b>SECTION 5 – MITIGATION.....</b>		<b>35</b>
5.1	Mitigation.....	35
5.1.1	Geotechnical Stability.....	35
5.1.2	Paleontology.....	35
5.1.3	Air Resources.....	35
5.1.4	Water Resources.....	35
5.1.5	Soils.....	38
5.1.6	Vegetation .....	38
5.1.7	Wetlands .....	38
5.1.8	Terrestrial Wildlife.....	39
5.1.9	Fisheries and Aquatic Resources .....	41
5.1.10	Threatened, Endangered, or Sensitive Species .....	42
5.1.11	Visual Resources .....	43
5.1.12	Land Use, Access, and Transportation .....	43
5.1.13	Cultural Resources.....	44
5.1.14	Tribal Treaty Rights and Interests.....	44
5.1.15	Social and Economic Conditions.....	44
<b>SECTION 6 – MONITORING.....</b>		<b>47</b>
<b>SECTION 7 – CONDITIONS OF APPROVAL .....</b>		<b>49</b>
7.1.1	General.....	49
7.1.2	Cultural Resources (including Paleontological Resources) .....	49
7.1.3	Air Quality.....	49
7.1.4	Soil .....	49
7.1.5	Vegetation .....	50
7.1.6	Surface and Groundwater .....	50
7.1.7	Wildlife.....	52
7.1.8	Grazing.....	52
7.1.9	Visual Resources .....	52
7.1.10	RCA Cover .....	52
7.1.11	Agency Costs .....	53
7.1.12	Monitoring and Reporting.....	53
7.1.13	Financial Assurance .....	53
7.1.14	Adaptive Management .....	54
<b>SECTION 8 – ALTERNATIVES CONSIDERED .....</b>		<b>55</b>
8.1	Alternatives Considered .....	55
8.1.1	Overburden Storage and Management .....	55
8.1.2	Infrastructure Elements .....	55
8.1.3	Ore Transport and Access Routes.....	56

8.1.4	Cover Systems .....	56
8.1.5	Wetlands Mitigation .....	56
8.1.6	Mine Sequencing and Material Handling .....	57
8.1.7	GM Management and Seed Mix .....	57
8.2	Agency Preferred Alternative .....	57
8.3	Scoping and Public Involvement .....	57
8.4	Government Consultation .....	58
8.5	Consultation with Shoshone-Bannock Tribes .....	58
<b>SECTION 9 – COMPLIANCE WITH ESTABLISHED REQUIREMENTS .....</b>		<b>63</b>
9.1	Caribou National Forest Revised Forest Plan .....	63
9.2	Pocatello Field Office Approved Resource Management Plan .....	63
9.3	Federal Land Policy and Management Act .....	63
9.4	National Environmental Policy Act .....	63
9.5	Mineral Leasing Act .....	64
9.6	Mining and Mineral Policy Act .....	64
9.7	Endangered Species Act .....	64
9.8	National Historic Preservation Act .....	64
9.9	Clean Water Act and Idaho Groundwater Quality Rule .....	65
9.10	Clean Air Act .....	66
9.11	Environmental Justice (Executive Order 12898) .....	66
9.12	Migratory Bird Treaty Act .....	66
<b>SECTION 10 – FINAL AGENCY ACTION .....</b>		<b>67</b>
<b>SECTION 11 – REFERENCES .....</b>		<b>71</b>
<b>SECTION 12 – ACRONYMS, ABBREVIATIONS, AND DEFINITIONS .....</b>		<b>73</b>
<b>SECTION 13 – FIGURES .....</b>		<b>75</b>

## FIGURES

Figure 1	Project Location .....	77
Figure 2	Surface Ownership .....	79
Figure 3	Existing Infrastructure .....	81
Figure 4	Facility Layout Map for the Proposed Action .....	83
Figure 5	Facility Layout Map for the Rasmussen Collaborative Alternative (RCA) .....	85



# SECTION 1 – INTRODUCTION

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## 1.1 BACKGROUND

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In January 2011, the Bureau of Land Management (BLM), Pocatello Field Office (PFO) received an application (Agrium 2011) from Nu-West Industries, Inc., doing business as Agrium Conda Phosphate Operations (Agrium) for the development of its Federal Phosphate Lease I-05975 (the Lease) including a request to enlarge the Lease with lease modifications. The Lease and requested lease modifications are located in Caribou County, Idaho, 18 miles northeast of Soda Springs, Idaho (**Figure 1**). The Lease conveys to Agrium the right and privilege, subject to the terms and conditions of the Lease, to explore and develop the federally-owned mineral estate and to use the surface of the Lease for related mine activities. The phosphate mineral estate is administered by BLM. The application, in the form of a Mine and Reclamation Plan (Proposed Action), proposed to extract phosphate ore from the Lease and expand the Lease in three areas to accommodate permanent overburden storage on National Forest System (NFS) lands and to recover federal phosphate mineral outside the existing lease. The ore will be processed at the Conda Phosphate Operations fertilizer plant (CPO) near Soda Springs.

BLM reviewed the Proposed Action submitted by Agrium and determined that it could significantly impact resources such as surface water, groundwater, designated wetlands, and fisheries and aquatic species. To assess the potential impacts of the project and to develop site-specific mitigation measures and alternatives to avoid or lessen those impacts, an Environmental Impact Statement (EIS) was prepared in compliance with the National Environmental Policy Act (NEPA).

Because much of the surface proposed to be affected by the mine is on NFS lands within the Caribou-Targhee National Forest (CTNF) administered by the Soda Springs Ranger District, the U.S. Forest Service (USFS) joined BLM as co-lead agencies in reviewing the application and preparing the NEPA document (BLM and USFS, 2016). Title 36 of the Code of Federal Regulations [36 CFR 3590.2(a)] directs BLM to "consult with the agency having jurisdiction over the lands with respect to the surface and reclamation aspects." The USFS is responsible for surface management of NFS lands. In addition, the USFS is responsible for authorizing the disposal of mineral materials (in this case, "borrow materials" related to mine construction) on NFS lands both on and off the Lease and activities (such as mine facilities, access roads, and haul roads) that are proposed to be located on lands outside the Lease.

Because the proposed mine expansion has the potential to result in the leaching and release of contaminants from the mine waste rock into groundwater and surface water, the Idaho Department of Environmental Quality (IDEQ) participated as a cooperating agency in preparing the EIS. Because the Proposed Action also had the potential to impact jurisdictional wetlands requiring a Clean Water Act (CWA), Section 404 permit from the U.S. Army Corps of Engineers (USACE), the USACE was included as a cooperating agency in the preparation of the EIS.

The mining and associated activities will also occur on public land administered by BLM, portions of the Blackfoot River Wildlife Management Area (WMA) administered by the Idaho Department of Fish and Game (IDFG), state land administered by the Idaho Department of Lands (IDL), and areas of private land (**Figures 2, 4 and 5**). In addition to the joint and cooperating agencies, other agencies participating in the EIS preparation were the IDFG, IDL,

U.S. Environmental Protection Agency (USEPA), Idaho Department of Water Resources (IDWR), and the U.S. Fish and Wildlife Service (USFWS).

This Record of Decision documents the approval of mining activities and a recommendation to the BLM Idaho State Office regarding Agrium's request for lease modifications.

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## 1.2 GEOGRAPHIC SETTING

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The project area is located on the southwestern flank of the southern end of Rasmussen Ridge and adjacent to portions of Rasmussen Valley (**Figure 1**). Rasmussen Ridge is a northwest-to-southeast trending ridge between the Upper Valley and Rasmussen Valley. Surface waters in the vicinity of the mine include the Blackfoot River to the south and Lanes Creek to the east, both tributaries of the Blackfoot River, and Angus Creek to the west and southwest, also a tributary of the Blackfoot River. The Blackfoot River begins where Lanes Creek and Diamond Creek join east of the Lease. The Blackfoot River bends around the southeast end of the Lease and then flows south through the Narrows, a gap between Wooley Range and Dry Ridge. Angus Creek is located southwest of the Lease. It flows southeast through Rasmussen Valley to the Blackfoot River.

Primary access to the area is from south of the Lease by way of Blackfoot River Road and Rasmussen Valley Road, which branches to the northwest from Blackfoot River Road. Blackfoot River Road by way of Lanes Creek Road connects the USFS roads with State Route 34 to the north, and Blackfoot River Road also connects to State Route 34 to the west near the physiographic features called China Cap and China Hat. These roads also connect to other USFS, local, county, and state roads in the area.

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## 1.3 PROPOSED ACTION

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The Proposed Action submitted by Agrium proposing to develop a new open pit phosphate mining operation (**Figure 1**) is discussed in **Section 2.3** of the Final EIS.

The Proposed Action consists of the following:

- Disturbing up to 467.8 acres on portions of Township 7 South (T7S), Range 44 East (R44E) Sections 4, 5, 6, 8, and 9; T6S R43E Sections 34, 35, and 36; T7S R43E Section 1.
- Developing a 2.4-mile-long Rasmussen Valley Mine open pit in six sequential phases mined from south to north totaling 195.4 acres.
- Proposed mining activity life of 3.9 years and a total project duration (including reclamation) of 5.8 years.
- Progressive open pit backfilling and concurrent reclamation to minimize unreclaimed pit disturbance at any one time.
- Two permanent external overburden piles downslope from the pit area and haul road, designated the North Overburden Pile and South-South Overburden Pile. These piles would consist of overburden that has historically contained leachable selenium and other constituents of potential concern (COPCs) at concentrations that have less risk of adversely impacting surface waters and groundwater beneficial uses. For the purposes of this ROD, the term "non-Meade Peak materials" or "non-Meade peak overburden" will



be used to describe these materials that historically contained leachable selenium and other constituents of potential concern (COPCs) at concentrations that have less risk of adversely impacting surface waters and groundwater beneficial uses and as defined in the Final EIS. The piles would be reclaimed with a minimum of 12 inches of growth medium (GM). For the purposes of this decision, GM is defined as the A and B soil horizons.

- Two permanent external overburden piles contiguous with and upslope from the pit and designated as the North and South External Overfill Piles. These piles would consist of Meade Peak overburden and would be reclaimed and covered the same as the backfill.
- Two temporary external overburden piles downslope from the pit area and haul road, designated the South Main Temporary Overburden Pile and a portion of the North Overburden Pile. These piles would contain Meade Peak overburden and would be reclaimed with 12 inches of GM.
- Two temporary overburden piles containing Meade Peak overburden and located within the pit boundary, designated as the North and South Temporary Overburden Piles. After the overburden has been rehandled to its final permanent location, the area would be reclaimed with the same cover as used for the backfill.
- An optional stockpile area downslope from the pit area and haul road (designated as the Ore Stockpile Area) for temporary storage of ore or Meade Peak-containing materials as operational demands dictate. Once operations cease and any ore and overburden is removed, the area would be reclaimed.
- Three GM stockpiles used for reclamation activities and reclaimed.
- Access and haul roads constructed, operated, and reclaimed.
- Portions of Lanes Creek and Diamond Creek County Roads permanently realigned and the abandoned road reclaimed.
- Temporary power lines constructed, operated, and reclaimed.
- A staging area constructed, operated, and reclaimed.
- Dust suppression supply, water quality monitoring, and water supply wells constructed, operated, and reclaimed.
- Surface water sediment controls constructed, operated, and reclaimed.
- Fuel storage area would be constructed, operated, and reclaimed.
- Ore recovered from the mine would be transported to the existing Wooley Valley Tipple, a railroad loading facility,) by way of the Wooley Valley Tipple Haul Road (**Figure 3**). From there, it would be carried by railroad to Agrium's CPO fertilizer manufacturing plant located northeast of Soda Springs and 12 miles southwest of the proposed mine, where it would be processed into fertilizer.
- No ore processing other than potentially crushing and screening operations at the mine site.
- Modifying the Lease boundary in one area to allow recovery of federal phosphate ore currently outside the Lease.
- Modifying the Lease boundary in two locations to allow permanent storage of mine waste on National Forest Lands.

- Direct impact to 20.5 acres of jurisdictional wetlands.
- External overburden piles downslope from the pit and West Side Haul Road.
- Covering all overburden backfill with a 5-foot thick cover and all other disturbance, including permanent external overburden piles, with 12 inches of GM.

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## 1.4 PURPOSE AND NEED FOR ACTION

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The Lease grants Agrium the exclusive right and privilege to explore for, drill for, mine, extract, remove, beneficiate, concentrate, or otherwise process and dispose of the phosphates or phosphate rock and associated or related minerals, also called the “leased mineral.”

The purpose of the proposed federal undertaking for BLM and USFS is to evaluate and respond to Agrium’s proposed 2011 Mine and Reclamation Plan (Agrium 2011) to recover phosphate ore reserves contained within the Lease and proposed lease modifications (**Figures 4 and 5**) to enlarge the lease area, as directed by the Mineral Leasing Act of 1920.

The Lease gives Agrium the right to construct works, buildings, plants, structures, equipment, and appliances, as well as the use of on-lease rights-of-way, which may be necessary and convenient to exercise the rights and privileges granted by the Lease. To ensure that Agrium’s Proposed Action meets the requirements of the applicable BLM and USFS land use plans and applicable laws and regulations, the agencies are required to evaluate the Proposed Action and issue decisions related to the method of development of the Lease, including alternative mining approaches and decisions to modify or enlarge the existing Lease, while otherwise authorizing the Proposed Action.

The need for the proposed federal undertaking is to ensure economically viable development of the phosphate resources, in accordance with federal laws and regulations governing federal leases, and allow Agrium to exercise its right to develop the Lease. BLM authorization is required for operations within the lease boundaries. The BLM is required to evaluate mining proposals and issue decisions related to the phosphate leases. USFS Special Use Authorizations (SUAs) are required for mining operations located on USFS-managed lands outside the phosphate lease boundaries, such as roads, stockpiles, and water management features.

If soil and alluvium (also known as “mineral materials”) need to be removed from NFS lands, the USFS would need to authorize the removal. Modifications to grazing agreements on NFS lands would also need to be authorized by the USFS. The USFS would determine whether and how to authorize these operations. Because portions of the on-lease operations would also occur on USFS lands, the USFS is a joint lead agency in the EIS, and the BLM has consulted with the USFS in completing the analysis for on-lease operations.

## SECTION 2 – THE DECISION

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### 2.1 INTRODUCTION

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The BLM and USFS are making separate but coordinated decisions related to Agrium's (Proponent) proposed Rasmussen Valley Mine and Reclamation Plan. Decisions are based on the Final EIS and applicable laws, regulations, and policies with consideration also to rights granted to Agrium in its federal phosphate lease. The BLM's decision also considers any recommendations from the surface owners and managers of split estate lands and USFS recommendations regarding surface management and mitigation on NFS lands located on the Lease and within the areas recommended for enlargement by lease modification. The USFS is making a separate decision regarding the issuance of SUAs for off-lease disturbances/structures located on NFS lands (e.g., off-lease portions of the haul road, stormwater control features), on- and off-lease sale of mineral materials, and off-lease enhancements to grazing allotments.

The Agency Preferred Alternative, identified in **Section 2.7** of the Final EIS, is a combination of alternative elements addressing potential issues associated with the Proposed Action. The alternative selected in this Record of Decision (ROD) is the Agency Preferred Alternative described as the Rasmussen Collaborative Alternative (RCA) in the Final EIS.

As part of the decision-making process, the BLM has considered comments and responses generated during public, tribal, and agency scoping; Agrium's rights to recover leased mineral resources; anticipated environmental and socioeconomic consequences discussed in the Final EIS; public comments received following the release of the Draft and Final EIS; other unsolicited comments; recommendations from the CTNF Forest Supervisor; and applicable laws, regulations, and policies.

Regulations at 43 CFR 3590.0-1 and 3594.1 direct the BLM to promote orderly and efficient mining operations and practices without waste or avoidable loss of minerals and to encourage maximum recovery and use of all known mineral resources; to promote operating practices which will avoid, minimize or correct damage to the environment - land, water and air - and avoid, minimize or correct hazards to public health and safety. BLM must also ensure that mining operations are conducted in a manner that yields the ultimate maximum recovery of the mineral deposits, consistent with the protection and use of other natural resources and the protection and preservation of the environment - land, water and air. For the phosphate deposits of eastern Idaho, BLM must also consider rights granted by treaty to the Shoshone-Bannock Indian tribes.

In considering alternatives and mitigation for a proposed mine, BLM gives consideration to all legal and environment aspects as well as wise use of the non-renewable mineral resource. BLM must explore and weigh alternatives and mitigation, including the No-Action alternative, that are necessary to maintain compliance with applicable standards and provide adequate environmental protection, and what alternatives and mitigation may seem appropriate but could lead to under-utilization of the non-renewable mineral resource. Requiring alternatives and mitigation beyond what is proposed by the Proponent typically comes at some additional cost to the Proponent. Those costs may be offset by selectively mining only the most profitable portions of a deposit and abandoning those resources that are less profitable. With this in mind as well

as ensuring compliance with established requirements, BLM considers incorporating additional mitigation measures as appropriate to protect or lessen impacts to environmental resources and ways to enhance recovery to provide a domestic supply of mineral resources important to our society and standard of living. BLM evaluates various mine plans and considers lease modifications to enable ultimate maximum recovery of the ore deposit and adjacent ore resources that might not otherwise be recoverable.

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## 2.2 THE DECISION

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### 2.2.1 Agency Selected Alternative

Public and internal agency scoping and subsequent effects analysis of the Proposed Action revealed several impacts that needed to be addressed through alternative actions or additional mitigation. To address these impacts, Agrium, in collaboration with P4, LLC (P4), the operator of the adjacent South Rasmussen Mine, developed several alternative elements that included changes to haul road locations, overburden pile locations, mine pit size, pit phase sequencing and backfilling, pit depth relative to depth to groundwater, revegetation seed mixes, staging area components, stream crossings, and impacts to wetlands and aquatic influence zones and the addition of mineral materials borrow areas to obtain earthen material for cover construction. Those elements that would provide an environmentally preferable alternative and were not mutually exclusive, such as different haul road routes and overburden pile locations, were combined into a single alternative called the RCA as described in **Section 2.5.1** of the Final EIS. The RCA was the preferred alternative in the Final EIS and is the selected alternative in this decision.

The RCA addresses potential COPC impacts to surface waters and groundwater and decreases overall wildlife habitat impacts while enhancing the reclamation at the adjacent South Rasmussen Mine.

The RCA (**Figure 5**) includes the following components and revisions to the Proposed Action:

- The Proposed Action haul road that would extend up Rasmussen Valley will not be constructed, eliminating the haul road crossings of Rasmussen Valley Road, eight drainages, and Angus Creek. The RCA haul road will connect the West Side Haul Road that extends alongside the Rasmussen Valley Mine pit, with the existing shared Monsanto-Agrium haul road that extends along the northeast side of Rasmussen Ridge. It reroutes the haul road up the southwest slope of Rasmussen Ridge and onto P4's South Rasmussen Mine, through the mine, and past Agrium's Rasmussen Ridge Mine Shop Area (**Section 2.5.1.3.2 and Figure 2.5-4** in the Final EIS). This route, designated Haul Road 5 (HR-5), avoids all wetland impacts; allows the transport of overburden to the South Rasmussen Mine pit; and eliminates the need for new fuel facilities at the staging area near the Rasmussen Valley Mine pit, as proposed in the Proposed Action, by routing mine traffic past existing fuel facilities at the Rasmussen Ridge Mines Shop Area. Ore will also be hauled to Agrium's Wooley Valley tippie (rail load-out) by this route. The RCA retains the West Side Haul Road from the Proposed Action but will modify the configuration of the haul road and the access ramp at the west end of Phase 7 (Access Ramp 5) to avoid all impacts to wetlands in these areas. HR-5 will be constructed through the previously disturbed West Limb backfill of South Rasmussen Mine and across the backfilled and reclaimed South Rasmussen Mine pit. Construction of HR-5 will be completed before mining of RCA Phase 1.

- The RCA extends the pit north to the end of the Lease to recover additional phosphate resources revealed by exploration drilling Agrium performed subsequent to submitting the Proposed Action. The six phases in the Proposed Action will be increased to nine phases to allow more efficient mining and accommodate the added length of the pit. The nine phases allow overburden to be handled and temporarily stored without the need for external overburden piles downslope of the pit. The phases will be developed generally from the northwest (mine north) to the southeast. The pit will be 2.4 miles long, with the phases ranging in length from 1,000 to 2,600 feet, averaging 600 feet wide with a maximum depth of 340 feet on the southern portion. The nine phases allow overburden to be more efficiently handled without the need for external overburden piles overlying shallow groundwater downslope of the pit. The life of proposed RCA mining activities will be 4.8 years, and the total project duration (including reclamation) will be 7.1 years.
- Overburden from the initial mine phases will be placed into P4's partially backfilled South Rasmussen Mine pit (located directly northwest of the proposed mining activities). Since the area where Rasmussen Valley Mine overburden is to be placed was not originally scheduled to be reclaimed, the reclamation of this backfill will increase the overall reclaimed area at the South Rasmussen Mine. The majority of overburden mined from Phases 1 and 2, and a portion from Phases 3 and 4, will be directly placed as backfill in the unreclaimed portion of P4's partially reclaimed South Rasmussen Mine. Mining concluded at the South Rasmussen Mine in 2013, and reclamation is ongoing. All overburden excavated from the Rasmussen Valley Mine will be used to backfill either the South Rasmussen Mine pit or the previously mined phases of the Rasmussen Valley Mine. The additional overburden in the South Rasmussen Mine will extend from the State Phosphate Lease portion of the South Rasmussen Mine, onto the Federal Phosphate Fringe Lease I-23658 to the east (**Figure 2.5-1** of Final EIS). The placement of overburden in the South Rasmussen Mine allows Agrium to eliminate the Proposed Action external overburden piles that would overlie the shallow groundwater downslope of the Rasmussen Valley Mine pit, eliminating the potential source of COPC impacts to shallow groundwater and the inter-connected surface waters of Angus Creek and the Blackfoot River. Another reason to eliminate the external overburden storage piles downslope of the mine pit is because portions of the piles would need to be constructed on areas found to be naturally unstable. Eliminating the piles eliminates the need for engineering controls to reduce the risk of slope failure to an acceptable level.
- The RCA includes constructing three permanent external overburden piles at the northern end of the mine labeled Overfill Piles 1, 2, and 3 (**Figure 2.5-1** of Final EIS) and two temporary overburden piles on the backfilled pit portions of phases 3, 4, and 5 that extend uphill to the northeast outside the pit area. Both the permanent and the temporary piles will be used to store overburden when operations produce more overburden than concurrent reclamation can accommodate. When pit space is available, the temporary overburden will be placed back into the pit as part of concurrent reclamation. All areas disturbed as a result of these piles will be reclaimed. Reclamation of the external areas where all materials are rehandled and the area returned back to natural ground will be covered with a minimum of 12 inches of GM and revegetated. The permanent external piles will be reclaimed with the approved engineered earthen cover for overburden (RCA Cover C). The pit backfill in the location of the temporary pile areas will be reclaimed with the approved engineered earthen cover (RCA Cover C) after the temporary overburden has been rehandled and the pit backfill shaped to final reclamation contours. Groundwater impacts analysis has shown that these piles impact the regional groundwater aquifer on a localized basis but do not injure overall groundwater beneficial uses or surface water quality. All backfilled and

overfill areas will be graded to a 3H:1V maximum final slope and reclaimed with the RCA Cover C.

- The strip of land between the mine pit and the West Side haul road will be utilized for GM and pit alluvium storage and reclaimed when no longer needed. These storage areas were added in the Final EIS to allow reclamation soil materials that were originally planned to be placed on the borrow areas, to now be temporarily placed within the strip between the haul road and the pit. This reduces the borrow area disturbance on the Blackfoot River Wildlife Management Area by utilizing the strip of land that would not be suitable as habitat during mining operations due to its proximity to major mining equipment activity.
- To reduce infiltration to groundwater and as in the Proposed Action, the mined-out Rasmussen Valley Mine pit will be backfilled to an elevation and slope such that water will run off and not pond on the surface. Reclaimed slopes will be no steeper than 3H:1V and no less than 2 percent to shed precipitation and snowmelt efficiently, but not so steep as to cause slope failure or excess erosion.
- A staging area, similar to that for the Proposed Action, will be constructed, operated, and reclaimed, but the bulk fuel storage originally proposed for the area is eliminated as a result of the relocated haul road providing nearer access to the existing fueling capabilities at the Rasmussen Ridge Mine facilities, which would also be used for equipment maintenance.
- Power lines will not be constructed from the existing transmission line located in Upper Valley to the staging area because electrical generators will be used to power mine facilities, eliminating the disturbance associated with constructing the power line.
- Portions of the Blackfoot River, Lanes Creek, and Diamond Creek County Roads will be realigned to avoid the mine pit similar to the Proposed Action in accordance with authorization from Caribou County.
- Sediment control structures will be constructed and operated to prevent sediment in runoff from disturbed areas from entering surface waters. Surface water management features, including runon diversion ditches and an access road upslope of the mine pit, and additional sediment control basins were added to the Final EIS to keep clean water segregated from areas that could introduce COPCs. Water and sediment collected in the water management structures will be removed as needed to maintain design volume capacity. Sediment removed from water management structures servicing areas where COPCs are a concern will be periodically removed and used as backfill in the mine pit.
- Three areas are designated to obtain GM, alluvium, and colluvium for use in constructing a cover (RCA Cover C) over backfill and permanent overburden piles. Between the Draft EIS and the Final EIS, the North-North and North Main borrow areas on NFS lands were enlarged to maximize the area available for borrow outside the Blackfoot River WMA. The expectation is that the borrow areas on NFS lands will be exhausted of appropriate material before the Blackfoot River WMA borrow area disturbed. This expectation is based on the current understanding of the material properties and available volumes of material within the NFS borrow areas. Further characterization of these materials' properties and volumes will provide additional information that could modify the need to utilize material from the borrow area on IDFG property depending upon operational requirements. GM, alluvium and colluvium from the borrow areas and from the pit area may be stockpiled on the borrow areas as necessary for operations. These borrow areas are not part of the BLM decision but would be authorized by the respective surface

management agency, in this instance, the USFS and the IDFG. Those two agencies have acknowledged that they will coordinate Agrium's utilization of the final amounts and locations of borrow pits on their respective lands to minimize the effect to the higher quality wildlife habitat in the area.

- Reclamation will be conducted with a wider variety of revegetation plant species to improve final reclamation wildlife habitat. This will provide a range of plant species to account for different animal species preferring various micro-climates and habitats that will exist in the revegetated areas based on slope, aspect, elevation, and prevailing wind direction.
- Monitoring wells and associated access roads will be installed and constructed to monitor groundwater quality trends and assure that groundwater has not exceeded the water quality requirements of the IDEQ's Points of Compliance (POC) determination.
- The footprints of the West Side Haul Road and the access ramp at the west end of Phase 7 (Access Ramp 5) and the county road were modified to avoid any impacts to wetlands.
- Not mining below the regional water table avoids the need for dewatering the surrounding rock, thus eliminating potential impacts to water levels in surrounding groundwater wells. The Final EIS-predicted Proposed Action dewatering of the water table would require pumping at 4,300 gallons per minute for 7 to 8 months. Eliminating mining below the water table would also eliminate the need to manage this water.
- The RCA reduces impacts to aquatic influence zones by 70 acres compared to the Proposed Action.
- The RCA includes using GM, alluvium, and colluvium from the Rasmussen Valley Mine borrow areas to improve the performance of the cover on the Rasmussen Valley Mine overburden to be placed in the South Rasmussen Mine pit. The improved cover would consist of 3 feet of limestone from the South Rasmussen Mine site, overlain by 1.5 feet of earthen material from the Rasmussen Valley borrow area, overlain by 1 foot of GM, also obtained from the South Rasmussen Mine site. The cover performance is predicted to have a similar percolation rate as the Rasmussen Valley Mine RCA Cover C. The predicted extent and concentrations of COPCs in groundwater with the additional Rasmussen Valley Mine overburden in the South Rasmussen Mine, were submitted to the IDEQ for its review to determine if the RCA action was predicted to cause an exceedance of groundwater standards outside of the IDEQ's January 6, 2015, POC Determination for South Rasmussen Mine. Based on the information received, the IDEQ determined that changes in the Points of Compliance for South Rasmussen Mine were not required.
- The RCA eliminates any direct disturbance to wetlands and waters of the U.S. (WOUS). Therefore, the USACE has determined that a Section 404 Clean Water Act (CWA) permit will not be required.
- All of the changes to the RCA between the Draft and Final EIS increase the overall surface disturbance by almost 149 acres, primarily because of the enlargement of the borrow area on NFS lands.
- Agrium was requested to consider recovering the ore reserves located at the north end of the Lease to satisfy the BLM's CFR directive of "ultimate maximum recovery" of resources on leasable lands.

- Agrium has proposed extending the project pit beyond the lease boundary in several locations to recover contiguous federal phosphate mineral and to provide an area to place overburden outside the existing Lease. These activities would require an authorized modification to the lease boundary in three locations.
- Portions of the ore haul roads, the runon diversion ditch, water management structures, and access roads and monitor wells would occur on USFS land outside of the Lease boundary and would require SUAs from the USFS (Error! Reference source not found.5).
- The West Side Haul Road will extend for 2.3 miles along the southwest side of the mine pit to service access ramps into the pit. Sections of the West Side Haul Road will be built as needed for mining operations and connect with HR-5.
- Agrium will salvage, at a minimum, the A and B soil horizons from areas of disturbance for use as GM during reclamation. All disturbed areas not requiring an RCA Cover C will receive GM to a depth of at least 12 inches. Any excess GM will be used to supplement the GM layer as operations deems necessary and practical. The ultimate goal will be to maximize the recovery and return the mined area to productive post-mining uses. The GM will be spread with dozers, graders, or other appropriate equipment before revegetation. Because GM is most efficiently handled in dry conditions, GM will generally be salvaged in the summer to fall. Throughout the life of mining activities, GM will be used in concurrent reclamation activities or temporarily stored at external stockpiles throughout the project. Agrium will employ direct placement of GM on reclaimed areas wherever practical. GM will be salvaged from a mining phase or area before mining that phase or area. Most of the GM from Phases 1 through 4 will be temporarily stored and used for reclamation when areas are available for topsoil placement and direct placement of GM is not practical. All salvaged soil will be used for reclamation. The stockpile areas will be permanently reclaimed after the stockpiled soil is removed or the stored soil is no longer needed for reclamation.
- To limit precipitation and snowmelt percolation into overburden and backfill, a store-and-release cover (RCA Cover C) will be constructed over all backfill and permanent overburden piles at the Rasmussen Valley Mine. The RCA cover will consist of 3 feet of alluvium obtained from the pit area, overlain by 2 feet of GM, alluvium, and/or colluvium obtained from the borrow areas, overlain by 1 foot of GM obtained from the pit area. The 6-foot thick cover is designed to slow the movement of infiltrating precipitation long enough for plants to transpire a substantial portion of the retained water, thus reducing the amount of water that percolates downward past the root zone and into the underlying overburden or backfill. The 6-foot cover thickness will separate the revegetation root zone from the underlying backfill and overburden, thus eliminating the potential that accumulations of selenium and COPCs in reclamation vegetation would be harmful to wildlife, livestock and humans. As described in **Section 2.5** of the Final EIS, the RCA proposed by Agrium contains several best management practices (BMPs) to reduce or eliminate impacts to groundwater and surface water. One of these BMPs is an alternative cover (Cover C) to be placed on overburden to reduce the amount of meteoric water that percolates through the overburden and transports COPCs into underlying groundwater. The cover will be placed using methods that ensure the layers meet construction quality design requirements and seeded with the approved reclamation seed mix.
- Surface disturbance resulting from the RCA is estimated to be 528.5 acres. The pit, backfill, and overfill footprint of the nine phases will disturb a total of 227.7 acres. The total potential disturbance area may not be needed if less borrow and storage area is



used. Disturbance could be somewhat larger if areas of instability are encountered that require a layback to reduce steepness of the pit wall. Agrium would need to obtain approval for this from BLM on a case by case basis, however this decision acknowledges and anticipates that minor modifications to the mine plan will be needed from time to time. Because of the progressive open pit backfilling and concurrent reclamation, the unreclaimed pit disturbance at any one time will be minimized.

- Water management features for the RCA will be similar to those for the Proposed Action. In comparison to the Proposed Action, the RCA will require fewer water management features for the temporary overburden piles and GM stockpiles. Culverts and haul road sediment control basins along the West Side Haul Road for the RCA will be similar to those in the Proposed Action. In contrast, where the Rasmussen Valley Haul Road in the Proposed Action would require nine culverts in Rasmussen Valley, the RCA's HR-5 will require three culverts where it climbs the slopes of Rasmussen Ridge to reach the P4 South Rasmussen Mine and the existing Rasmussen Ridge Mine Haul Road. Each of the GM stockpile areas will also have a group of sediment control basins along its downslope side.
- To minimize potential impacts to nesting birds, Agrium will plan ground-clearing activities during the non-nesting season.
- To minimize impacts to wildlife, any fencing constructed will be wildlife-friendly and will include the use of smooth wire (non-barbed wire) in fence construction and wire spacing that facilitates wild ungulates crossing over or under
- Under the RCA, 525 acres (96 percent of the disturbed acreage) on the Rasmussen Valley Lease will be reclaimed. In addition, P4 will reclaim 59 acres on the South Rasmussen Mine, for a total reclaimed acreage of 556 acres. Based on wildlife habitat services modeling results, reclamation will offset 65.2 percent of the wildlife habitat services lost under the RCA. Agrium has agreed in its letter regarding the Habitat Mitigation Funding Commitment for Rasmussen Valley Mine dated September 23, 2016, to provide funding to the Sagebrush Steppe Land Trust, an eastern Idaho non-profit conservation organization, in the amount of \$1,169,073.00 to implement wildlife habitat mitigation projects to mitigate for the residual wildlife habitat lost. The funding is in lieu of Agrium implementing a project itself. The funding amount was determined with cost estimates for four realistic hypothetical wildlife habitat mitigation projects typical of those that could be implemented in southeastern Idaho. Each project was designed to mitigate for the residual wildlife habitat services lost after mine reclamation. The dollar amount was the average of the four hypothetical projects. The projects and cost estimates are described in Agrium's Wildlife Habitat Mitigation Plan. The BLM requires that within 120 calendar days of the executed BLM approval letter authorizing mining activities or before ground disturbing activities begin, whichever is later, Agrium will fulfill its agreement and fund the Sagebrush Steppe Land Trust mitigation commitment.

## 2.2.2 Approval of RCA

The BLM approves the RCA, the Agency Preferred Alternative as described in **Section 2.5** in the Final EIS and summarized in **Section 2.2.1** above in this ROD, because this alternative addresses important issues identified by public, agency, and tribal entities and it employs reasonable measures to satisfy regulatory requirement and adequately reduces potential environmental impacts on local and region water quality.

A comparison of the RCA with the Proposed Action and the No Action Alternative can be found in **Table 2.9-1** of the Final EIS. In summary, the RCA eliminates impacts to surface waters that were predicted to occur with the Proposed Action. Those predicted impacts would have added pollutants to the Blackfoot River and its tributaries which have been listed as impaired under the CWA. External overburden piles that were predicted to adversely impact surface waters were eliminated by placing overburden in areas overlying less vulnerable regional groundwater aquifers. The pit dewatering under the Proposed Action will not take place under the RCA, eliminating the need to manage up to 4,000 gallons per minute of produced groundwater. Seepage out of the overburden and backfill impacting groundwater would be less under the RCA than the Proposed Action because the cover design for the RCA allows less meteoric water percolation than does the Proposed Action cover, resulting in less COPC loading to the underlying regional aquifer. The RCA also reduces the residual impacts to wildlife habitat as compared to the Proposed Action by reclaiming areas of the South Rasmussen Mine pit that were not scheduled to be reclaimed. The Proposed Action predicted impacts to 20.5 acres of wetlands. The RCA will avoid all impacts to wetlands. Under the RCA, mining would be extended an additional 10 months and the overall project life an additional 15 months compared to the Proposed Action increasing the positive impact to the economy.

The RCA was selected over the No Action Alternative because the RCA would allow Agrium to exercise the right to mine under its Lease while maintaining compliance with all federal regulations, standards and policies, and state statutes. The No Action Alternative would deny Agrium the right to mine, even though the project, as given in the RCA, would meet environmental requirements.

The RCA is the BLM's Selected Alternative. Additional requirements in the form of the Conditions of Approval in **Section 7** of this ROD are also made part of this decision. These requirements were formulated to further reduce environmental impacts and assure regulatory compliance at the mine. Small deviations in the pit disturbance area may be necessary to accommodate actual site conditions encountered during mining. For example, unstable rock conditions may warrant a layback of a pit wall for a reasonable distance to ensure safety to the miners. Agrium will coordinate these changes through the BLM on an as needed basis.

### **2.2.3 Recommendation for Lease Modifications**

Agrium has proposed extending ore recovery beyond the lease boundary in several locations to recover contiguous federal phosphate mineral that extends to the southeast and permanently place mine waste (overburden) outside the existing Lease at the northern end of the mine (Error! Reference source not found.5). The BLM decision recommends that the Idaho BLM State Office approve Agrium's lease modification application to increase the size of lease IDI-05975 by 200.18 acres. The lease modification is required to allow the recovery of federal phosphate mineral contiguous to the existing Lease, extending beyond the Lease to the southeast, and to allow mine overburden (mine waste) to be placed on NFS lands outside the existing lease on the northern portion of the mine. The lease modification clearly meets the criteria for such action as defined in 43 CFR 3510.15. The modification will add the following lands to the existing lease:

- 40.18 acres within Township 6 South, Range 44 East, Boise Meridian, Idaho, SW ¼ SW ¼ Section 31 to allow overburden to be permanently stored on NFS lands.

- 40 acres within Township 7 South, Range 44 East, Boise Meridian, Idaho, SE ½ NE ¼ Section 6 to allow overburden to be permanently stored on NFS lands
- 120 acres within Township 7 South, Range 44 East, Boise Meridian, Idaho, S ½ SW ¼ Section 10 to authorize the recovery of Federal phosphate mineral that extends outside the existing lease.

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## 2.3 DECISION AUTHORITY

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Phosphate is a leasable mineral regulated by the Mineral Leasing Act of 1920. Regulations implementing the Mineral Leasing Act are codified in 43 CFR 3500. The BLM is the federal agency delegated to manage the federal mineral estate under this Act. On land where the surface is under non-federal ownership (split estate), the BLM will consult with the landowner before the issuance of permits or approvals.

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## 2.4 ENFORCEMENT AUTHORITY

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Under the Inspection/Enforcement sub-part of the Solid Leasable Mineral regulations (43 CFR 3598.1) the BLM has full authority to inspect, monitor, and assess compliance with established requirements. Established requirements are applicable laws and regulations; lease, license, or permit terms; conditions and special stipulations; approved mine or exploration plan requirements; and BLM issued orders. Under 43 CFR 3598.4, the BLM can issue notices of non-compliance and orders to mine operators/lessees to ensure compliance with established requirements. The BLM can, either in writing or orally, order the cessation of operations without prior notice in a situation where failure to comply with established requirements threatens serious damage to the environment (43 CFR 3598.4(c)). The BLM can unilaterally, without concurrence from other agencies, take these actions. The regulations also allow the BLM to direct changes or take corrective actions to approved mine and reclamation plans in response to the results of environmental monitoring or to correct an oversight 43 CFR 3592.1(d)(2). The BLM has used these authorities in the past to effect changes at the phosphate mines.

Other Authorities: Other agencies have statutory and regulatory authorities to which the leases are subject. The BLM typically partners with them to ensure an effective approach to regulatory oversight of mining operations. Each of these authorities has been used from time to time in regulating the Idaho phosphate mines, for example:

- The Environmental Protection Agency has CWA authorities that it can use to issue notice of violations and require corrective actions.
- The IDEQ has water quality protection requirements (primarily groundwater, but some surface water) that it also can use to issue violations and require corrective actions.
- The U.S. Mine Safety and Health Administration has authority to regulate mine activities to ensure operational safety and health requirements are met.

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## SECTION 3 – PUBLIC COMMENTS

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### 3.1 SUMMARY OF PUBLIC COMMENTS

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A total of 1,009 comment letters were received for the Draft EIS. Many of the comment letters had more than one comment, resulting in a total of 1,268 comments on the Draft EIS. A list of these comments and associated letters, emails, and handwritten comments received at the public meetings was distributed to Agrium, agencies, and subject matter experts for responses. Responses are compiled in **Appendix A** of the Final EIS.

Comments were also received on the Final EIS. Those comments and responses are summarized below.

#### 3.1.1 Water Quality

One of the primary issues driving comments on the Final EIS analysis involved the protection of surface and groundwater quality and quantity. To comply with law, water quality impacts from the project cannot exceed applicable regulatory limits. Phosphate mining in southeast Idaho has had a history of water quality impacts to the Blackfoot River and its tributaries. Segments of Angus Creek and Blackfoot River near Rasmussen Ridge are formally listed as “impaired” under Section 303(d) of the CWA for selenium, sediments, dissolved oxygen, and temperature. Because of concern over already impacted water resources in this area, the Final EIS emphasized the analysis of impacts to surface and groundwater.

Mining operations are not allowed to conduct activities that would exceed Idaho’s groundwater standards except as described in Idaho’s Groundwater Rule (Rule) [Idaho Administrative Procedures Act (IDAPA) 58.01.11.401]. Any exceedance of water quality criteria must be approved by IDEQ under provisions of the Rule. The Rule authorizes IDEQ to allow exceedance of groundwater standards to occur if a site specific POC determination is set for the operation and the operator implements best practical methods to minimize contamination to groundwater and interconnected surface water. The operation must protect existing uses and projected future beneficial uses of the groundwater. The Rule allows a mine operator of a new or expanding mine to request the IDEQ set POCs at which the mine operator must protect existing and projected future beneficial uses of groundwater. To comply with the Rule, the mine operator must use BMPs to limit the groundwater impacts and receive a POC determination. The POC determination includes prescribing locations for groundwater monitoring wells to be installed and monitored for compliance with groundwater quality standards. The POC well locations are shown on **Figure 5** of this document.

Surface waters are managed for beneficial use in accordance with surface water quality standards contained in IDAPA 58.01.02. Mine operations must not cause surface water quality to exceed the surface water quality standards. In addition to the surface water quality standards, Section 303(d) of the CWA requires states to identify streams and lakes that do not meet surface water quality standards and to establish total maximum daily loads (TMDLs) for listed pollutants.

### 3.1.2 Cover Infiltration Model Inputs

During the Final EIS availability period, a commenter expressed concerns with the precipitation values and leaf area index (LAI) values used in the cover system infiltration model. The commenter stated that the values used to model precipitation do not adequately encompass the upper range of precipitation that areas in SE Idaho receive and recommended that maximum precipitation values be modeled and that a mitigation/adaptive management plan be developed to address impacted groundwater in the event that infiltration rates differ from those predicted. The commenter also alleged that the LAI value of 2.0 used in the modeling was higher than what would be expected for reclamation vegetation at the Rasmussen Valley Mine.

#### Precipitation

In response, the Final EIS precipitation data for infiltration modeling was generated stochastically using the WGEN synthetic weather generator (Richardson and Wright, 1984). A 100-year daily synthetic precipitation data set for the site was generated based on the area-weighted average monthly precipitation and is a reasonable expectation of weather that the cover might experience based on known past data.

If the overall climate changes from that modeled, the plant cover and type on a store and release cover is expected to change in accordance with variations in the amount of precipitation both on a short-term year-to-year time frame and on a long period such as would be seen with climate change. It is expected that under higher precipitation regimes the multilevel vegetation cover would increase in response to the wetter soil conditions and longer growing season, with the additional transpiration offsetting at least some of the additional infiltration. More water would also run off.

The net infiltration determined for the cover is considered a conservative best estimate for both cover alternative selection purposes in the Final EIS and for use by the IDEQ in determining BMPs for setting groundwater POCs. That said, now that BLM has made a decision to allow mining, it will be the POC groundwater monitoring network and associated indicator monitoring wells that will be used by the IDEQ to determine if groundwater quality is out of compliance. So long as the groundwater stays within compliance, the net percolation rate of the cover would not need to be considered. If the IDEQ determines that Agrium needs to implement additional mitigation measures to protect groundwater beneficial uses, many options could be considered by an adaptive management process. This may consist of a cover modification, or or other appropriate modifications that would correct the concern.

#### Leaf Area Index

A review of remote sensing imagery of LAI for North America (Ran et al. 2015) suggests that LAI varies approximately from 1 (during winter) to 3 (during summer) in the southeast Idaho region. While the imagery and corresponding LAI estimates are reflective of existing vegetation coverage for the region, a well-planned, multistoried, diverse mix of plant community is expected to provide larger leaf surface area and in turn, higher LAI estimates. As mentioned in the Final EIS, the proposed seed mix for the RCA consists of 26 species including 13 grasses, 6 forbs, and 7 shrubs, which were selected to create a multistoried, complex, and heterogeneous plant community on the reclaimed areas of the Rasmussen Valley Mine. Though the vegetation coverage will likely fluctuate based on the time from seeding and the time of year, a long-term LAI value of 2.0 for the RCA proposed plant community is considered to be reasonable, if not conservative.

Sensitivity analyses on LAI (Simic et al. 2014) suggests evapotranspiration losses generally increase and precipitation recharge generally decreases with an increase in LAI. Therefore, an LAI value of greater than 2.0 at the Rasmussen Valley Mine will result in a lower net percolation rate than used for the RCA cover design. In addition, soil type or texture has been found to have a greater impact on precipitation recharge or net percolation rate compared to vegetative cover or LAI (Simic et al. 2014). The study also indicates that the recharge rate is less sensitive to fluctuations in coarse-grained soils but vary considerably with small changes in fine-grained soil, similar to that observed during sensitivity analyses of saturated hydraulic conductivity of RCA Cover C.

Less LAI can also be correlated with higher evaporation as wind velocities become greater on the soil surface with less vegetation.

Sensitivity analyses performed for various parameters of the RCA Cover C and subsequently reported in the Final EIS are deemed adequate.

### **3.1.3 Cover Performance**

A commenter recommended that the ROD stipulate a management decision framework to provide a fully functioning cover should the Cover C construction quality assurance/quality control program determine that the proposed RCA store and release cover fails to meet predicted values. This framework would include a timeline to install a pre-approved cover that meets the 0.14 inches per year (in/yr) rate. The commenter also requested that geosynthetic clay liner (GCLL) cover designs or some similar performing and installable system should be considered in the ROD as a failsafe cover system.

In response, the cover design for the RCA is predicted to protect BMP groundwater beneficial uses in accordance with the Rule and POC determination. During construction, the cover material properties and key components of the cover will be tested to ensure the cover is constructed to meet the design assumptions in the net infiltration rate prediction. If concerns arise regarding the cover construction, or groundwater quality changes, the BLM has the authority to require Agrium to revise the cover design to mitigate for any unacceptable groundwater impact determined by the IDEQ as a result of cover performance.

Another commenter expressed concern that the net percolation rates calculated for several of the alternatives in the Rasmussen Valley Mine Project Cap and Cover Alternatives Analysis Report (BC 2015a), and Cover C in the Final EIS, are very low and have concerns regarding the achievability of these rates. The recommended that the ROD should require a final cover installation that meets the Cover C predicted infiltration rate of 0.14 in/yr and be fully functional at the 0.14 in/yr rate for all reclaimed pit areas prior to acceptance of mine closure and reclamation bond release.

In response, Cover C was selected because it had the lowest predicted net percolation rate of any of the earthen covers in the Final EIS and that the cover meets the BMP requirement cover for the IDEQ POC determination. A quality control/quality assurance monitoring plan will be prepared to ensure the cover uses earthen material that meets the key physical parameters of the cover design and is constructed to achieve the component performance of the design. A cover test plot will be constructed as soon as weather permits and the materials and layers are tested to verify consistence with the infiltration model inputs. Once the cover is constructed on overburden, each mine phase will be tested periodically for component performance throughout the life of the mine. The overall performance of the cover will be determined by monitoring the

IDEQ POC groundwater monitoring wells and water quality trends exhibited in the indicator groundwater monitoring wells.

### **3.1.4 Management of Water Entering Pit**

A commenter was concerned about how water entering the pit from local water pockets encountered during mining would be handled.

The volume of water draining from these perched water pockets is expected to be minimal and easily handled within the pit. The volume of water reaching the underlying regional aquifer from these perched pockets is expected to be very small and the duration very short and have a negligible overall impact to groundwater beneficial uses.

### **3.1.5 Existing Source of Selenium in Streams**

A commenter alleged that current sources of selenium in streams were not addressed in the Final EIS and stated the selenium problem in streams is getting worse and the project does nothing to reduce the problem and permits expansion of the problem.

In response, the Final EIS states that the Comprehensive Environmental Response, Compensation, and Liability Act investigations have been initiated to assess and address the contamination and potential risks associated with past/present selenium pollution sources, including the nearby Enoch Valley Mine, Ballard Mine, North Maybe Canyon Mine, South Maybe Canyon Mine, Champ Mine, and Mountain Fuel Mine. Further analysis of the sources of selenium contamination is outside the scope of this Final EIS.

The Final EIS **Sections 3.3.1.2.2 through 3.3.1.2.6** discuss selenium cycling in study area streams and describes the link between selenium and phosphate mines. **Section 3.7.5** of the Final EIS on tissue analysis acknowledges the potential for bioaccumulation of selenium and other heavy metals in macroinvertebrates and fish which could be exacerbated by mine related increases in heavy metal contamination. The effects section of the Final EIS models the potential increase in selenium in macroinvertebrates and fish for the Proposed Action and alternatives (**Sections 4.7.1.1.2 and 4.7.1.1.3** of the Final EIS). **Sections 4.7.1.2.2 and 4.7.1.2.3** of the Final EIS conclude that the RCA would not cause a measurable increase in selenium or other heavy metals in surface waters or in aquatic organisms. The RCA is selected as the preferred alternative in the ROD in large part because the potential for contamination of surface water with selenium and other water quality impacts is reduced or eliminated compared to the Proposed Action in the Final EIS. The Final EIS demonstrates consistency with the Forest Plan. Elimination or reduction in selenium contamination in the Blackfoot watershed beyond those attributed to the Rasmussen Valley Mine is beyond the purpose and need of the project.

The Final EIS has met the requirement of a comprehensive analysis of and hard look at the effects of selenium contamination on aquatic organisms.

### **3.1.6 Impact from COPCs in Fugitive Dust from Mine Activities**

Two commenters questioned the impact from dust generated by wind on bare overburden, backfill, and beds of trucks hauling ore and overburden and from dust that is kicked up by vehicle tires.

An evaluation of the potential impacts to surface waters by dust from the project was prepared. The evaluation utilized a very conservative assumption that all dust generated onsite would be



deposited in the Blackfoot River.. The evaluation determined that the concentration increase in surface waters due to dust particulates containing selenium was 0.000004 milligrams per liter (mg/L) during high flow months and 0.000038 mg/L during low flow months. Both values are below the ability to detect the increase and thus are considered negligible impacts.

A commenter also questioned the impact of the dust on plant uptake of selenium, and the potential for harm to animals consuming the vegetation. Dust on plants would only persist between precipitation events or the infrequent periods of calm winds so the opportunity for exposure to wildlife would be minimal. If all of the selenium in the dust predicted above was taken up by plants in an area of 2,000 acres, approximately 4 times the disturbed area of the mine, the selenium concentration in the plants would be approximately 0.3 milligrams per kilogram (mg/kg) dry weight, an order of magnitude below the 5 mg/kg standard for vegetation on reclaimed disturbance. This is a very protective value since some of the selenium in the dust would be carried by runoff to streams, and some of it would be leached below the plant root zone.

### **3.1.7 Surface Water Monitoring Locations**

A commenter stated that one of the surface water monitoring locations on Angus Creek needed to be farther upstream to avoid potential impacts from the new haul road extending onto P4's South Rasmussen Mine. BLM's decision required that the monitoring plan include a location upstream of the potential haul road impacts.

### **3.1.8 Accumulation of Selenium Bearing Sediments in Water Management Structures**

A commenter was concerned that selenium bearing sediments could collect in drainage control structures and be accumulated in vegetation growing in and nearby the structures.

Ditches and sediment ponds servicing overburden areas that may generate selenium bearing sediment will be cleaned out periodically to remove the accumulated sediment and place it as backfill in the mine pit. The quantity of vegetation that might uptake selenium in the stormwater or sediment is not expected to be extensive enough to adversely impact wildlife in the area, nor be concentrated enough in vegetation to be of concern.

### **3.1.9 Release of Selenium Bearing Runoff from Haul Roads**

A commenter was concerned that dust control water from haul trucks would leak out on haul roads and ultimately be carried to surface water during precipitation events.

This issue is addressed in the mine plan. Runoff from haul roads will be directed to and collected in stormwater sediment retention basins and not be allowed to enter surface waters unless the retained water meets surface water discharge criteria standards in accordance with Agrium's Stormwater Pollution Prevention Plan (SWPPP) and the CWA. Section 9 of the MSGP establishes quality criteria for any water being discharged from the site. As such Agrium will be required to meet these standards prior to releasing from the site into WOTUS. Section 9 of the MSGP is incorporated by reference into the RVM SWPPP

### **3.1.10 Potential for Native Plants to Translocate Selenium to the Soil Surface**

A commenter questioned the analysis of native plants re-inhabiting the reclamation cover on the backfill and overburden and the potential that deep-rooted native plants would translocate selenium in the overburden to the soil surface. Those native plants that do not have deep tap roots would not be expected to extend their roots past the bottom on the cover since the cover is designed to retain infiltrated water within the cover thickness to supply the plants, and roots typically stay within the zone of great seasonal saturation. Plants with deeper tap roots can penetrate deeper than the cover thickness, but again, would get a majority of their nutrition and water needs from the upper 6 feet of cover where the majority of the water is retained after infiltration of precipitation and snowmelt. Ultimately, just as the pre-mining native vegetation and soil development exists over the selenium bearing geologic strata prior to mining without resulting in harmful selenium buildup in the plants or soil, so will the continual soil formation and leaching of the underlying overburden be expected to remove the plant soluble selenium from deeper root zones in the overburden over time.

### **3.1.11 Changes in Volume and Timing of Surface Water Flows**

A commenter alleged that base flow in Angus Creek would be reduced by about 10 percent rather than the 2.64 percent described in the Final EIS.

Ground disturbance and alteration of surface drainages can affect the volume and timing of surface water runoff and flow patterns. These changes affect base and peak flows of drainages, which in turn can affect erosion patterns; local availability of surface water; recharge rates to local, intermediate, and regional aquifers; and depth to groundwater.

Under impacts to Angus Creek and associated wetlands and springs, the Final EIS page 4-110 discloses that runoff in the Angus-Blackfoot subwatershed will be reduced by 2.64 percent in the RCA. The objector has confused a reduction in runoff with a reduction in base flow, but they are not the same thing. The Final EIS page 4-110 does acknowledge a reduction in surface flow to Angus Creek. It is assumed that a reduction in runoff will reduce surface flow, but attempting to predict effects on base flow in any specific stream reach based on reduction in runoff would likely be extremely difficult.

### **3.1.12 Ingestion of Constituents of Potential Concern by Wildlife and Humans**

A commenter expressed concern that COPCs may accumulate in vegetation to the extent that livestock and wildlife may be harmed if they eat the vegetation and that humans could be harmed if they consume meat from these sources. Certain reclamation techniques used at some historical phosphate mines in southeastern Idaho have increased the potential that specific local plant species may accumulate COPCs to the extent that livestock and wildlife may be harmed, but there is no indication from analysis in the Final EIS that this would occur at the Rasmussen Valley Mine from implementation of the RCA.

Additionally, there have been concerns in the past regarding humans eating wildlife that have consumed vegetation in the southeastern Idaho phosphate mining area, particularly around the mines themselves. In response to that concern, a public health assessment was prepared by the Agency for Toxic Substances and Disease Registry, U.S. Department of Health and Human

Services in 2006 (U.S. Department of Health and Human Services, 2006) that evaluated COPC levels in wildlife, using elk as the target species. The assessment determined that for human consumption of elk, only copper in elk livers warranted a recommendation that limits consumption below what is considered typical. The Idaho Department of Health and Welfare also issued a news release in 2006 (Idaho Department of Health and Welfare, 2006) reminding hunters to limit consumption of elk livers of animal harvested near phosphate mines.

Certain reclamation techniques can also allow COPC loading to surface waters to the extent that aquatic life is harmed and can affect the beneficial uses of groundwater for livestock, wildlife and humans. The above concerns will not be a problem under the RCA. The reclamation methods in the RCA call for a cover over mine waste that would be constructed from native alluvium and GM that has been tested to show that the release of selenium and other COPCs into vegetation, surface waters, and groundwater will not exceed standards established to protect aquatic life, wildlife, and humans and protect beneficial uses for ground and surface waters. Environmental monitoring of similar covers currently in use at other contemporary mines in the area have demonstrated this type of cover to be effective in eliminating uptake of adverse amounts of COPCs into reclamation vegetation.

### **3.1.13 Impacts to Greater Sage-Grouse**

One commenter questioned the statement in the Final EIS that the project area was not optimum habitat for Greater Sage-Grouse, and that leks in Caribou County should have been mapped and their population data shown in the Final EIS. These should have been superimposed on locations of mining, haul roads, and other industrial activity in the county. Furthermore, the use of a 2,567-acre study area, given the long distance impacts (11 miles) is inadequate.

Another commenter alleges that the Final EIS dismisses impacts to sage-grouse as short-term and that habitat modifications associated with mine development may fragment marginally suitable sagebrush habitat and indirectly impact individual sage. They noted that about 1/3 of the study Area is riparian.

In response, the mine is not in any of the ARMP sage grouse classified areas. There are no GHMAs (general habitat management areas), IHMAs (important habitat management areas) or PHMAs (primary habitat management areas) within the mine area. For sage-grouse in particular, baseline survey observations indicate that sagebrush habitat in the project area and the vicinity is patchy, and that grasses and forbs (which would contribute to nesting/brood-rearing habitat) generally grow in moderate to sparse quantities among available sagebrush habitat. Vegetation cover types and acreages as summarized in Table 3.5-2 of the Final EIS show that emergent wetland and shrub/scrub wetland types (which could include riparian habitat) constitute only 12.8 percent of the project area, much less than 1/3 as referenced in the comment.

As described in the Final EIS, only one sage-grouse lek has been confirmed as occupied within 10 miles (7.8 miles southwest) of the mine, and there is a mountain range between the lek and the mine. The Caribou National Forest Revised Forest Plan (RFP) (USFS 2003) states that those projects within 10 miles of an active sage-grouse lek should be considered further for suitability as sage-grouse habitat, which was the basis for sage-grouse impacts analysis. The ROD for the Approved Resource Management Plan Amendment (ARMPA, 2015) indicates that 90 percent of sage-grouse core activity (e.g., nesting) occurs within 6.2 miles of active leks in Idaho. The known lek southwest of the project area is located more than 6.2 miles from the

project and is also separated from the mine by the Wooley Range. Therefore, impacts are expected to be minimal.

The Final EIS uses the designations from the BLM ARMPA and USFS RFP for managing greater sage-grouse in Idaho and southwestern Montana. ARMPA Priority habitat management areas (PHMAs) encompass areas with the highest conservation value to greater sage-grouse, based on the presence of larger leks, habitat extent, important movement and connectivity corridors, and winter habitat. Important habitat management areas (IHMAs) contain additional habitat and populations that provide a management buffer for the PHMA and connect patches of PHMA. IHMAs also encompass areas of generally moderate to high conservation value habitat and/or populations, and, in some conservation areas, include areas beyond those identified by USFWS as necessary to maintain redundant, representative, and resilient populations. General habitat management areas (GHMAs) encompass habitat outside of PHMAs or IHMAs that contains 10 percent of the occupied leks that are also of relatively low male attendance compared to leks in PHMAs or IHMAs. GHMAs are generally characterized by lower quality disturbed or patchy habitat of low lek connectivity (BLM and USFS 2015b).

PHMAs, IHMAs, and GHMAs were delineated based on the best available information and encompass the vast majority of known habitat and leks in the sub region; however, areas of occasional or intermittent use by greater sage-grouse were omitted (BLM and USFS 2015b). None of the aforementioned greater sage-grouse habitat management areas overlap the study area; the nearest management area (GHMA) occurs 5 to 6 miles to the south. Page 4-190 of Final EIS states that field observations (TRC 2012a,b,c) indicate that sagebrush habitat in the study area is patchy and that grasses and forbs (which would contribute to nesting/brood-rearing habitat) generally grow in moderate to sparse quantities amongst the sagebrush. The Final EIS page 3-139 describes the location of occupied and unoccupied leks and individual bird sitings in the vicinity of the study area. The Final EIS concludes that field observations indicate that sagebrush habitat is marginal, there are no Greater Sage-Grouse habitat management areas, and there is only one occupied lek within a 10-mile radius of the study area (7.8 miles southwest). For these reasons, sage-grouse use of the study area is expected to be limited to small foraging or migrating groups.

The Final EIS adequately incorporates the ARMPA in conjunction with current information on the condition of sage-grouse habitat and occurrence of sage-grouse leks and individuals to assess the effects of the project and consistency with law and policy.

The Final EIS discloses how the Proposed Action meets the BLM and USFS management direction for sage-grouse (e.g., Table 4.8.7) and acknowledges that there could be temporary impacts to sage-grouse individuals. The Final EIS also documents that applicable law and policy are followed, even with impacts to sage-grouse.

### **3.1.14 Impacts to Canada Lynx**

One commenter was concerned that no map was included in the Final EIS showing travel corridors for Canada lynx. Another commenter alleges that the Final EIS does not address why lynx are rare in the area or offer to mitigate the causes.

In response, there is no corridor for Canada lynx in the cumulative affect area, only potential linkage habitat. That is why Canada lynx are considered transient users of the area. The Final EIS page 3-134 cites more recent surveys from multiple entities to conclude that lynx use of the area, if any, would be transitory. The cumulative effects section starting on page 700 discusses past, present, and potential future lynx habitat fragmentation, and page 5-50 states that any lynx moving through the area may avoid or move around the study area until the area is reclaimed.

Further improvement of habitat for lynx within the cumulative effects area (CEA) is not compulsory and is outside the scope of the mining project.

The Final EIS addresses cumulative effects to all special status species in **Section 5.8** beginning on page 5-48. This analysis includes cumulative impacts to Canada lynx. The analysis quantifies all past, present, and reasonably foreseeable future actions that do or will impact Canada lynx. Not only are these actions discussed, but specific features of these actions that would impact the species are mentioned. Impacts from roads (and by default off highway vehicles and snowmobiles), timber sales, grazing, and other actions are quantified and discussed in relation to impacts from the Proposed Action and the RCA. Each one of these impacts were added together to form a total cumulative impact for all actions in the CEA.

### **3.1.15 Impacts to Livestock and Grazing Permittees**

Several commenters expressed concern that impacts to livestock grazing and grazing permittees was not adequately addressed in the Final EIS. Several improvements to the USFS Rasmussen Valley Cattle Allotment (RVCA) have been offered by Agrium to decrease the economic impacts and effects of the Rasmussen Valley Mine to the local ranchers due to losses in the Angus Creek pasture. Agrium has offered to install two water supply wells with pump, controls, and power in the Little Long Valley pasture. Water from the wells will be pumped to water troughs for cattle use. If a suitable location is not found for a well, Agrium will construct a pipeline from a well on Agrium's nearby property and pump water from it to troughs to be located on the southwest side of the Little Long Valley pasture. Agrium will also build a boundary fence on the south end of the Little Long Valley pasture in order to facilitate livestock using the southwest side of this pasture.

Some of the animal unit months temporarily lost in the Angus Creek pasture will be moved to the Little Long Valley pasture. Agrium will also install new fencing in the Angus Creek pasture (Unit 3A) and on a state grazing lease contiguous to and north of Unit 3A, which would allow for the grazing of lands that have not previously been open to grazing. The improvements would result in a net increase of 127 head-months (HMs) within the RVCA. Approximately 5.74 miles of new fence would be installed, and the total acreage required to install the wells and pipeline or a pipeline to pipe water from an existing well to stock watering locations is expected to be approximately half an acre. To minimize impacts to wildlife, any fencing constructed will be wildlife-friendly. This will include the use of smooth wire (non-barbed wire) into fence construction and ensuring spacing of the wires that facilitates wild ungulates to cross over or under.

No significant impacts will result from these improvements. The Little Long Valley pasture and newly-available areas will not be grazed beyond the capacity of the suitable rangeland within the pasture. All applicable mitigation measures and BMPs identified in the Final EIS and **Section 5** of this document will be implemented during installation and maintenance of the fencing and water supply infrastructure, and use of these areas will be governed by the conditions of the USFS Annual Operating Instructions and applicable permit and the IDL (on the state grazing lease), thus ensuring environmental resource protection. Positive economic impacts may accrue for permittee(s) authorized to graze animals within the RVCA as a result of the increase in HMs. Improvements to the grazing allotments affected by the project are managed by the USFS and IDL and are not within the BLM's decision space.

### **3.1.16 Impacts to Wetlands and Aquatic Species**

A commenter noted that mining and associated activities could adversely alter the lengths of intermittent and perennial stream channels with effects to aquatic habitat. Runoff from mining

could also alter the quantities of suspended sediments and COPCs in the stream channels. Selenium or other COPCs could be ingested or absorbed by macroinvertebrates, amphibians, or fish. The RCA and compliance with the SWPPP will mitigate these effects.

### **3.1.17 Groundwater Points of Compliance**

A commenter requested that the ROD define how groundwater impacts (combined selenium plumes from Rasmussen Valley Mine and South Rasmussen Mine) are to be managed both separately and when comingled and clearly delineate responsible parties, contributions, and recourse with respect to the evolution of combined COPC concentrations. The commenter also requested that the cumulative effects analysis fully assess the potential combination of South Rasmussen Mine and Rasmussen Valley Mine selenium plumes and the resultant effect on the Wells Aquifer.

In response, the Final EIS clearly states that groundwater is under the authority of the Idaho Department of Environmental Quality (IDEQ) in accordance with the Idaho Ground Water Rule. The IDEQ will review the groundwater quality results from each POC well and compare it to the applicable groundwater standard. If the IDEQ considers it necessary, the owner of that POC well would be required to address any mitigation required.

Another commenter alleges that POCs are being set which abandon the background level for compliance, that the Final EIS shows that the groundwater standard would be exceeded in the Wells Regional Aquifer from the RCA, and that no POCs were identified in the Final EIS. The commenter also alleges that analysis of regional groundwater contamination was not done showing sources, pathways, and fate and that this violates NEPA's hard look requirement, cumulative effects analysis, and the intent of the CWA.

In response, the Final EIS clearly states that the POC determination is under the authority of the IDEQ in accordance with the Rule as stated in **Section 3.3.2.3** of the Final EIS. Agrium has applied for and received a POC determination from the IDEQ for the Rasmussen Valley Mine. Based on the aquifer classification system described in the Idaho Administrative Code, groundwater in the study area is classified as a general resource and is subject to numerical standards contained in Section 58.01.11.200 and modified in Subsections 200.03, 301.02.a, and 401.1 (Final EIS p 3-79). Background level determinations for the POC would be determined using methods described in the Statistical Guidance for Determining Background Ground Water Quality and Degradation (IDEQ 2014b).

Potential impacts to the groundwater quality in the Wells Regional Aquifer are discussed in the Final EIS **Section 4.3.1.2.4** p 4-97 and **Table 4.3-17** p 4-107 and have been extensively evaluated, including numerical modeling of groundwater as described in **Sections 4.3.1.2.2 and 4.3.1.2.4**. Additional groundwater information, both baseline and modeling for transport, can be found in the Water Resources Technical Reports (Whetstone Associates, 2015a,b,c). Geology, geochemistry, and monitoring wells, as examples, are sources of information addressing contamination sources and transport. The Final EIS discusses sources of contamination and potential transport in **Sections 3.1.2.1—Structural Setting, 3.1.3.2.1—Regional Selenium Studies, 3.1.3.3—Baseline Geochemical Characterization Study, 3.3.1.1—Baseline Surface Monitoring Network, 3.3.2.1.1—Regional-Scale Groundwater Flow System, 3.3.2.2.1—Hydrologic Characteristics of Bedrock and Unconsolidated Deposits, 3.4.2.2—(Soil) Trace Element Results, 3.4.3—Soil Suitability and Quantity, 4.3.1.1.2—Numerical Models, 4.3.1.1.3—Impacts to Groundwater Resources, and 5.3.6—Cumulative Effects**. In addition, numerous reports exist in the project record that contain information to support the Final EIS regarding contaminants and transport (Whetstone Associates as one example). This

list is not all inclusive of the information provided for sources, amounts, and movement and transport of contaminants.

Based on the above, the NEPA hard look requirement is satisfied and the cumulative effects analysis requirement was addressed. The CWA requirement was also addressed.

### **3.1.18 Groundwater Impacts Timing**

A commenter alleged that, in assessing the plumes for the ROD, the agencies should map the Rasmussen Valley Mine and South Rasmussen Mine plumes on matching time intervals and estimated calendar years.

In response, **Figure 4.3-22** shows the maximum extents of simulated Rasmussen Valley Mine selenium and manganese plumes. Modeling results suggest that the maximum extents of the Rasmussen Valley Mine plumes are achieved after 20 years of simulated transport and they remain unchanged throughout the 500 years of modeling period. As such, the Rasmussen Valley Mine selenium and manganese plume footprints depicted on **Figure 4.3-22** would be the same after 100 years as inquired by the commenter.

### **3.1.19 Wildlife Habitat Mitigation**

A commenter alleged that nowhere in the monitoring plan does it include language to monitor the effectiveness of the wildlife habitat mitigation. Additionally, the commenter alleged that wildlife habitat monitoring or evaluation is missing from the Habitat Mitigation Fund bylaws, that accountability of the in-lieu fee to ensure that adequate wildlife habitat mitigation has been realized is critical, and that the Final EIS should include language that ensures that wildlife habitat mitigation measures, whether through an in-lieu fee or actual projects, considers all stakeholders and that language to ensure accountability and evaluation be incorporated to ensure that wildlife habitat mitigation is measurable and adequate.

In response, the use of realistic hypothetical projects to determine an in-lieu fee assumes that the money will be effectively and efficiently used to fund actual projects that satisfy priority wildlife habitat mitigation needs. The creation and use of a committee of knowledgeable wildlife trust agencies and technical specialists, with input from interested public, to select projects and direct mitigation activities assures that the money will be used for projects that meet the highest standard. Monitoring and reporting of project efficacy is the responsibility of the committee. The process of how the money will be used is further described in the Habitat Mitigation Fund bylaws.

### **3.1.20 Fisheries and Aquatics**

A commenter requested that the monitoring plan include an aquatic tissue sampling and analysis plan for mine years 3, 6, 9, and 12 in the Rasmussen Valley Mine environmental monitoring plan. The plan should include a management action should tissue samples indicate new or increased COPC concentrations from baseline conditions. The ROD should include a management action trigger for any required remediation and an associated resource management plan.

In response, surface water monitoring is described in **Section 2.1** of the Environmental Monitoring Plan (EMP). In short, during mine operations, surface water will be monitored at seven locations during the spring and fall of each year (two events per year) to be representative of high flow and base flow conditions until there is enough data to justify terminating monitoring.

Assessing impacts to surface water quality is the current regulatory monitoring and CWA compliance procedure. There is currently no fish tissue regulatory requirement to include a threshold/management action trigger in the ROD as surface water quality is not anticipated to be affected by implementation of the RCA; however, the EMP will be updated to include aquatic tissue sampling if surface water sampling/monitoring indicate new or increased COPCs compared to baseline conditions.

### **3.1.21 Traffic on County Roads**

A commenter alleged that the Final EIS states there will be no increase in traffic (**Section 4.10.1.1.2 of Final EIS**) and that mine expansion on the end of Rasmussen Valley has already resulted in increased traffic. The road through Rasmussen Valley has been widened and larger trucks hauling ore are running on it. This increased traffic has already resulted in the death of wildlife and cattle. It has also made it more difficult to conduct daily cattle activities.

In response, a map on p 4-145 of the Final EIS shows the proposed haul roads to be constructed under the RCA to connect the Rasmussen Valley Mine to the existing Wooley Valley Tipple Haul Road. The RCA proposed haul roads eliminate increased traffic effects on the Rasmussen Valley Road and Blackfoot River Road from the Rasmussen Valley Mine.

The Final EIS fully complies with the need to analyze the expected effects to transportation routes. There were three alternatives considered. No additional traffic is expected on county roads in Rasmussen Valley as a result of mine activity.

### **3.1.22 Habitat Fragmentation**

A commenter alleged that the cumulative effects analysis is clearly a problem when the USFS does not analyze these impacts across the CEA, including habitat fragmentation by mining, roads, power lines, off highway vehicles, snowmobiles, grazing, and fences. The CEA should have been mapped showing these fragmentation causes and analyzed characteristics the NTT report referenced as important.

In response, in the Final EIS fragmentation has been quantified on p 5-50 of the Final EIS. This section quantifies all acreage resulting in fragmentation of habitat within the CEA related to past, present, and reasonably foreseeable future actions. On page 5-51 the Final EIS qualitatively discusses fragmentation impacts.

The Final EIS does quantify fragmentation within the CEA and does so in detail. The statement in question, "fragmentation effects within the CEA have not been quantified by the land management agencies," is somewhat confusing. While fragmentation has been quantified, the statement is correct in saying that the effects of this fragmentation have not been. However, the effects have not been ignored and have been given a detailed qualitative analysis. The analysis in the Final EIS discusses the impacts that habitat fragmentation has on greater sage-grouse. The analysis also discusses the magnitudes, qualitatively, that different types of fragmentation and disturbance would have on different species. It would be near impossible to quantify these effects. However, a rational discussion ensues which basically and correctly assumes that the more fragmentation that occurs, the greater the impact on a species, therefore allowing the agency to draw distinct differences between the Proposed Action, the No Action, and the RCA while also disclosing those impacts in the Final EIS.

### **3.1.23 Climate Change**

One commenter alleged that Chapter 5 described only some of the impacts of climate change such as timing of stream flow, changing snowmelt, reducing water supplies, changing infiltration



rates, changing precipitation rates, and vegetation. Further, cumulative effects were not analyzed to NEPA's hard look standard, including the considerations listed above, but also in respect to the Forest Service Roadmap to address climate change. This roadmap provides guidance to the agency, including, but not limited to: a) Assessing vulnerability of species and ecosystems to climate change; b) Restoring resilience; c) Promoting carbon sequestration; and d) Connecting habitats, restoring important corridors for fish and wildlife, decreasing fragmentation, and removing impediments to species migration. The commenter also alleges climate change analysis should address livestock grazing.

The commenter also alleges that while the Final EIS (p 4-28) characterized CO<sub>2</sub> emissions from the RCA as 20 percent larger than the Proposed Action, it did not account for all CO<sub>2</sub> emissions in the CEA even though Agrium operates several of those mining and processing operations.

In response, as discussed in **Sections 4.2.1.1.2 and 4.2.1.2.2**, regardless of the effects of RCA on climate change, there are observable trends in climate change. These changes will be negligible over the 7.1-year RCA life-of-mine. Projected changes in climate over this period would not be expected to have appreciable impacts on the operation of the mine or initial reclamation. Long-term changes in the frequency and timing of precipitation and snowmelt could affect how the RCA cover performs and could cause adjustments in the plant community. These long-term changes would be moderate for the Proposed Action and negligible for the RCA Alternative.

Climate and climate change are discussed in the Cumulative Effects Analysis **Section 5.2.2**. Page 5-12 contains a discussion of predicted long-term trends, model indications, and possible outcomes. Predicted trends are at the global and regional levels. At the local level, precipitation may increase causing increased infiltration but may also increase vegetation density and the associated increased transpiration needed to reduce leaching.

The National Roadmap for Responding to Climate Change (USDA, Forest Service, July 2010) is not policy but rather guidance meant for use in forest planning level efforts.

NEPA's hard look requirement is satisfied. There is no requirement that the USFS follow the National Roadmap for Responding to Climate Change in every regard relating to implementation of this mining project.

Livestock Grazing is not specifically mentioned in the climate change analysis. The climate change analysis mentions animal and plant respiration and agriculture operations (Livestock Grazing).

**Section 5.2.2.2**, p 663 of the Final EIS mentions that production carbon dioxide (CO<sub>2</sub>) (greenhouse gas [GHG]) is naturally occurring through animal and plant respiration.

**Sections 5.2.2.3, 4, 5, & 6**, pp 663–664 of the Final EIS address past, present, and foreseeable future activities including agriculture operations on GHG emissions. The December 2014 Council on Environmental Quality Draft Guidance to Federal Agencies provides direction on how to consider the effects of GHG, stating “Agencies continue to have substantial discretion in how they tailor their NEPA processes.”

Analysis of livestock grazing in the climate change analysis in the Final EIS is embedded in the terms animal respiration and agriculture operations.

The characterization of CO<sub>2</sub> emissions found in the Final EIS on p 4-28 refers to direct and indirect impacts. Qualitative accounting for all CO<sub>2</sub> emissions within the CEA is located in the Cumulative Effects **Section 5** on p 5-11 of the Final EIS. Sources of GHG emissions within the CEA are described qualitatively but not quantified. The document discusses that within the CEA, phosphate mining and processing are the largest contributors to GHG emissions. Also, other

sources such as public vehicle traffic, agricultural equipment use, home heating, and other industrial uses are discussed.

The Final EIS states that quantitative data is not readily available for listed contributors to GHG emissions. However, quantitative data for impacts from the Proposed Action and RCA was analyzed in **Section 4.2.1.2.2**. Quantitative data for other GHG producers such as agricultural equipment use, grazing, and public vehicle travel within the CEA does not appear to be readily available at a scale to be useful for CEA analysis; therefore, the best available science could be limited to a qualitative discussion for these impacts.

### **3.1.24 Revegetation Standard**

A commenter requested that actual standards to measure the success or failure of re-vegetation be established for concurrent and post-closure reclamation.

This has already been done. The Idaho Rangeland Performance Standards are the performance standards required by the PFO ARMP. **Section 2.3.2** in the Final EIS describes the reclamation vegetation monitoring to be performed to determine compliance with the performance standards. **Table 4.5-12** in the Final EIS summarizes the compliance with the PFO ARMP goals, objectives, and actions for vegetation resources under the RCA.

Agrium has also signed a mitigation agreement with the IDFG stating that it commits to fully mitigate any and all impacts to the Blackfoot River WMA from Agrium's Rasmussen Valley Mine project. The agreement requires reclamation to be performed in accordance with the BLM-approved plan, which includes the above referenced Idaho Rangeland Performance Standards.

Agrium has committed in its environmental monitoring plan to use these same standards not just on a BLM/split estate, but on all mixed ownership surface.

## SECTION 4 – PRINCIPAL CONSIDERATIONS FOR THE DECISION

Issues of concern for the Final EIS were identified during the public and internal scoping process via input from the public, the Agencies, and experience with other similar projects in the area. The issues identified through this process and carried through the Final EIS analysis are summarized in **Table 1.6-1** of the Final EIS and discussed in greater detail at the beginning of each resource section included in **Chapter 4** of the Final EIS. Comments and the agency responses to the comments on the Draft EIS are provided in **Appendix A** of the Final EIS. The BLM prepared and released a Final EIS based on public comment.

The BLM requested public and tribal input and input from other agencies for consideration as the ROD was prepared and released during the “Availability Period” as prescribed by NEPA. Comments received during this period were all considered in formulating this section. BLM’s rationale for selecting the RCA alternative with Conditions of Approval described in this ROD is presented here.

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### 4.1 COMPLIANCE WITH WATER QUALITY STANDARDS

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One of the primary issues driving comments on the Final EIS analysis involved the protection of surface and groundwater quality and quantity. To comply with law, water quality impacts from the project cannot exceed applicable regulatory limits. Phosphate mining in southeast Idaho has had a history of water quality impacts to the Blackfoot River and its tributaries. Segments of Angus Creek and Blackfoot River near Rasmussen Ridge have reached cumulative effects thresholds and are formally listed as “impaired” under Section 303(d) of the CWA for selenium, sediments, dissolved oxygen, and temperature. Because of concern over already impacted water resources in this area, the Final EIS emphasized the analysis of impacts to surface water and groundwater. The RCA eliminated the impacts to surface water quality that were predicted for the Proposed Action.

Overburden excavated during mining is the primary source of selenium and other COPCs predicted to be released by the Rasmussen Valley Mine. The Proposed Action planned to place this overburden back in the mined out pit as backfill and in external piles located upslope and downslope of the pit. Fate and transport modeling of the overburden found that the COPCs released from overburden that was to be temporarily and permanently stored on areas downslope of the pit would adversely impact the underlying shallow alluvial aquifers and that these aquifers were hydraulically connected to the already impaired Angus Creek and Blackfoot River located in the valley bottom. In addition to the impacts predicted to Angus Creek and the Blackfoot River, fate and transport modeling also predicted that the deeper Wells Regional Aquifer would be impacted by COPCs released by both the overburden placed as backfill and placed upslope of the pit. The impacts to the Wells Regional Aquifer exceeding groundwater quality standards were predicted to migrate under private property located approximately 4,000 feet to the northwest of the mine.

As a result of this determination, mitigating measures were considered to reduce the impacts to both surface water and groundwater. Two primary approaches were taken to lessen or eliminate the impacts predicted. One was to find a possible location to relocate the overburden to avoid

releasing COPCs into sensitive, already impacted waters, and the other was to reduce the amount of meteoric water that would contact the overburden, thus reducing the amount of COPCs released into groundwater.

Relocating the overburden in the planned external piles downslope of the pit was one option considered. This option would completely eliminate the predicted impacts to Angus Creek and the Blackfoot River. To this end, an agreement was reached between Agrium and P4, the operator of the South Rasmussen Mine immediately northwest of the Rasmussen Valley Mine. The South Rasmussen Mine was in the final stages of mining and the plan was to leave a pit that was only partially backfilled. The partially backfilled pit was determined to have enough space to accept additional overburden from the Rasmussen Valley Mine and allow Agrium to totally eliminate the external overburden piles that were predicted to impact Angus Creek and the Blackfoot River. The alternative was incorporated into the RCA.

With the elimination of the external overburden piles downslope of the pit and a source of COPCs to shallow alluvial groundwater and surface water, only impacts to the deep Wells Regional Aquifer were predicted from the overburden. In order to reduce this impact to the extent practical, BMPs for reducing the percolation of meteoric water through the overburden were evaluated. To accomplish this, seven cover designs including the Proposed Action cover were evaluated for constructability, percolation rate, durability, ability grow suitable vegetation that meets COPC standards for wildlife and stock consumption and compatibility with post-mining multiple use requirements in the PFO ARMP and the ability to meet groundwater quality standards and protect beneficial uses of groundwater in accordance with the Rule. To predict their relative ability to restrict meteoric water from entering the backfill and overburden piles thus reducing the COPC loading to the regional aquifer, each cover was evaluated with a numerical infiltration model.

The seven covers considered were four earthen store-and-release covers, a capillary break cover, a barrier cover, and a geo-synthetic cover. The capillary break cover was eliminated early on because appropriate capillary break material was not available close to the project area. Modelling of the four earthen store-and-release covers found that the cover designated as Cover C exhibited the smallest percolation rate of the earthen store-and-release covers. The geo-synthetic cover had the lowest predicted percolation rate of all cover designs. When the percolation rates for each cover were applied to the fate and transport model, the Cover C design was selected for the RCA because it met the Rule requirement to protect groundwater beneficial uses with BMPs, was thick enough to prevent uptake of COPCs by vegetation above the standards, and was considered durable and constructible with select nearby earthen materials. The cover design met the requirement of the POC determination.

A cover quality control/quality assurance monitoring plan will be implemented to ensure the cover uses earthen material that meets the key physical parameters of the cover design and is constructed to achieve the component performance of the design. A cover test plot will be constructed as soon as weather permits and the materials and layers tested to verify consistence with the infiltration model inputs. During construction, the cover material properties and key components of the cover will be tested to ensure the cover is constructed to meet the design assumptions in the net infiltration rate prediction. Once cover is constructed on overburden, each mine phase will be tested periodically for component performance throughout the life of the mine. The overall performance of the cover will be determined by monitoring the IDEQ POC groundwater monitoring wells and water quality trends exhibited in the indicator

groundwater monitoring wells. If concerns arise regarding the cover construction, or groundwater quality changes, the BLM has the authority to require implementation of adaptive management procedures where Agrium will be required to revise the cover design to mitigate for any unacceptable groundwater impact determined by the IDEQ as a result of cover performance.

Another concern with the Proposed Action was how water resulting from the need to dewater the southern end of the pit would be handled so as not to adversely impact groundwater or surface water. The water generated was predicted to be 4,000 gallons per minute for several months. The RCA eliminated this concern by revising the mine plan to avoid mining below the regional groundwater table.

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## **4.2 INGESTION OF CONSTITUENTS OF POTENTIAL CONCERN BY WILDLIFE AND HUMANS**

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A commenter expressed concern that COPCs may accumulate in vegetation to the extent that livestock and wildlife may be harmed if they eat the vegetation and that humans could be harmed if they eat the wildlife that have consumed vegetation from around the mines.

To mitigate for the above concerns, the reclamation methods proposed for all the alternatives considered including the RCA call for a cover over mine waste that would be constructed to avoid the release of selenium and other COPCs into vegetation, surface waters, and reduce the release of selenium and COPCs to meet water quality standards established to protect aquatic life, wildlife, and humans and protect water against the reduction of beneficial uses.

A commenter also questioned the analysis of native plants re-inhabiting the reclamation cover on the backfill and overburden and the potential that deep rooted native plants would translocate selenium in the overburden to the soil surface. Those native plants that do not have deep tap roots would not be expected to extend their roots past the bottom on the cover since the cover is designed to retain infiltrated water within the cover thickness to supply the plants, and roots typically stay within the zone of great seasonal saturation. Plants with deeper tap roots can penetrate deeper than the cover thickness, but again, would get the large portion of their water and nutrient needs from the 6-foot thick cover where the majority of the water is retained after infiltration of precipitation and snowmelt. Ultimately, just as the pre-mining native vegetation and soil development exists over the selenium bearing geologic strata prior to mining without resulting in harmful selenium buildup in the plants or soil, so the continual soil formation and leaching of the underlying overburden is expected to remove the plant soluble selenium from root zones in the overburden over time.

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## **4.3 IMPACTS TO WETLANDS AND AQUATIC SPECIES**

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Mining and associated activities could alter the lengths of intermittent and perennial stream channels with effects to aquatic habitat. Runoff from mining could also alter the quantities of suspended sediments and COPCs in the stream channels. Selenium or other COPCs released by mining could be ingested or absorbed by macroinvertebrates, amphibians, or fish. The RCA avoids all direct impacts to wetlands and compliance with the RVM SWPPP will minimize effects from runoff by collecting runoff in sediment control ponds and only releasing the water if testing shows it meets water quality requirements as defined in the RVM SWPPP and Section 9 of the MSGP.

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## **4.4 WILDLIFE HABITAT MITIGATION**

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The use of realistic hypothetical projects to determine an in-lieu fee assumes that the money will be effectively and efficiently used to fund actual projects that satisfy priority wildlife habitat mitigation needs. The creation of a committee of wildlife trust agencies and technical specialists to select projects and direct mitigation activities assures that the money will be used for projects that meet the highest standard. The process of how the money will be used is further described in the Habitat Mitigation Fund bylaws.

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## **4.5 IMPACTS TO BLACKFOOT RIVER WILDLIFE MANAGEMENT AREA**

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Impacts to the Blackfoot River WMA were reflected in comments received during scoping and the Draft EIS comment period and the availability period of the Final EIS. To address these comments, an agreement between Agrium and the IDFG sets forth Agrium's commitment to "fully mitigate any and all impacts to the WMA from Agrium's proposed project." "These agreements document the acceptance by IDFG of Agrium's mitigation commitments as appropriate and adequate to fully mitigate any and all impacts and effects of the mine on the BRWMA [Blackfoot River WMA]." The agreement includes Agrium paying \$432,000 to the IDFG, as partial mitigation of the effects of the mine on the Blackfoot River WMA, deeding the Angus Creek property to IDFG (approximately 160 acres), and enrolling or maintaining enrollment of 2,160 acres in Access YES (Dry Valley, Blackfoot Reservoir). A portion of the \$432,000 (not to exceed \$20,000) would be used to construct an informational kiosk/shelter that describes the relationship of the mine and the Blackfoot River WMA and the mitigation paid for and being implemented to balance the impacts of the mine on the Blackfoot River WMA.

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## **4.6 LEASE MODIFICATIONS AND CONSERVATION OF PHOSPHATE RESOURCE**

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Agrium has proposed extending ore recovery beyond the lease boundary in several locations to recover contiguous federal phosphate mineral that extends to the southeast and permanently placing mine waste (overburden) outside the existing Lease at the northern end of the mine (Error! Reference source not found.5). The BLM decision recommends that the Idaho BLM State Office approve Agrium's lease modification application. The lease modification is required to allow maximum recovery of the federal phosphate mineral and clearly meets the criteria for such action as defined in 43 CFR 3510.15. Otherwise, the recovery of the non-renewable resources and the economic benefits would be delayed for the foreseeable future. The Final EIS analysis shows that recovery can be accomplished without a great deal of additional environmental impact. Approving the lease modifications would increase the phosphate resource recovery, extending the mine life by an additional 10 months before moving to another, currently unimpacted phosphate resource.

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## **4.7 SOCIOECONOMIC BENEFITS**

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Agrium's current activities generate \$181 million in personal income per year throughout Idaho, with \$65 million in personal income generated in Caribou County alone. Approval of the RCA, including reclamation, would provide a similar annual benefit as well as provide 15 additional months of these benefits beyond that provided by the Proposed Action.

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## 4.8 THE NO ACTION ALTERNATIVE

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The purpose of the Proposed Action is to recover phosphate reserves contained in the Lease. The need for the Proposed Action is to ensure economically viable development of the phosphate reserves in accordance with federal laws and regulations. The recovered phosphate ore will supply the CPO with phosphate for the manufacture of fertilizer. If the No Action Alternative were selected, the Lease would not be developed under the proposed Mine and Reclamation Plan or RCA. The No Action Alternative would meet the purpose and need for the BLM to consider Agrium's application for the Proposed Action but would not meet the BLM's requirement to promote recovery of the leasable phosphate mineral estate or for Agrium's right and privilege, subject to the terms and conditions of the Lease, to develop the federally-owned mineral estate and to use the surface of the Lease for related mine activities.

Other Agrium mines in the vicinity, such as the Rasmussen Ridge Mines, have reached the end of their mine life and, if no other mine is developed to replace them, phosphate ore for the CPO would no longer be available and the plant would shut down. Reduced mining activity and the possible shutdown of the CPO would have substantial economic impacts including the loss of hundreds of local jobs, the loss of mineral royalties, tax base, and related effects to the local population and economy. The United States made the decision when it issued the lease contract in 1955 to allow the phosphate resource to be mined. Selection of the No Action Alternative would not cancel the Lease or mean that the Lease could never be developed, but would mean that a new Mine and Reclamation Plan would need to be submitted for the resource to be developed. Because implementation of the RCA is anticipated to practically address resource issues and comply with related laws and regulations, BLM has no basis for selecting the No Action.

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## SECTION 5 – MITIGATION

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### 5.1 MITIGATION

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Mitigation measures for each resource are discussed in **Chapter 4** of the Final EIS. There is also a separate discussion of wildlife habitat mitigation based on the Habitat Equivalency Analysis (HEA) in **Section 2.3.7.9** of the Final EIS. Mitigation measures are identified below.

#### 5.1.1 Geotechnical Stability

Several options for mitigating geotechnical stability of downslope external overburden piles were considered for the Proposed Action. The selected mitigation in the RCA was elimination of the downslope external overburden piles. Mine design features, such as pit wall slope and catch bench width, will be adapted as needed to respond to indications of pit wall instability.

#### 5.1.2 Paleontology

If vertebrate macro fossils or unusual invertebrate fossils that may be scientifically significant are uncovered, operations in that affected area will be suspended until the appropriate BLM Authorized Officer is notified and the discovery is addressed. If the discovery is located on split estate lands, the BLM will notify the land owner and offer a BLM representative to evaluate the discovery. If the discovery is located on NFS lands, the BLM will notify the USFS. For discoveries on BLM Public Lands, a BLM representative will evaluate the discovery and identify what course of action should be taken.

#### 5.1.3 Air Resources

Agrium will mitigate particulate emissions by applying water or supplementary dust suppressants, such as magnesium chloride or calcium chloride, as necessary, and liquid dust suppressants will be used for all blast hole drilling operations. Dust abatement techniques include keeping soils moist while loading into dump trucks, covering construction materials and stockpiled soils if they are a source of fugitive dust, controlling speed limits to reduce airborne fugitive dust caused by vehicular traffic, and revegetating disturbed areas as soon as possible after disturbance.

#### 5.1.4 Water Resources

The RCA eliminates the external overburden piles downslope of the pit which eliminates the predicted impact to shallow groundwater and connected surface waters. The remaining water quality concern regarded impacts to groundwater from the leaching of COPCs from overburden used as pit backfill at the Rasmussen Valley Mine and the South Rasmussen Mine and placed in the external overburden piles upslope of the Rasmussen Valley Mine pit backfill. Meteoric water that percolates into the backfill and overburden and the resulting leachate will ultimately impact the underlying Wells Regional Aquifer. The amount of water percolating through overburden and the COPC concentration in that water is a key factor in determining the intensity and timing of impacts to groundwater from the Rasmussen Valley Mine and South Rasmussen Mine.

A key factor affecting the amount of COPCs that reach groundwater is the rate at which COPCs leach from overburden. Laboratory column testing of representative samples from the site-specific geologic zones representative of overburden was performed in the Final EIS to determine the COPC “source terms” to be used for fate and transport modeling of the groundwater (**Section 4.1.1.1.2 and Figure 4.1.1 of the Final EIS**).

One of the primary BMPs used to limit percolation into the underlying overburden is the construction of a cover over the overburden to limit the rate of meteoric water percolation in overburden. The cover is the boundary between the surface meteoric water that runs off, evaporates, or infiltrates and the underlying overburden containing leachable COPCs. The physical properties of the cover, the intensity and timing of climatological factors such as precipitation and snowmelt, and the vegetation properties of the cover determine the amount of water that will percolate through the cover and potentially leach COPCs from the underlying overburden into groundwater.

Seven covers were considered for limiting percolation into the overburden. Six were earthen covers consisting of four earthen store-and-release covers, a capillary break cover, and a compacted barrier cover. The seventh was a cover incorporating a GCLL with a drainage layer and GM layer. Appropriate materials were not available to construct an effective capillary break cover so it was eliminated from consideration. An infiltration model was used to predict the percolation rate of meteoric water into the overburden for each cover (**Section 4.3.1.1.2 and Table 4.3-3 of the Final EIS**). The modeling found that the earthen cover that performed the best was the cover designated as Store-and-Release Cover C (Cover C).

The only cover that had lower modeled percolation than Cover C was the GCLL cover. Although infiltration modeling predicted the GCLL cover would have the lowest net percolation, it would have a very low efficacy-to-cost ratio and would be the most technically challenging to construct. This cover would require substantially more complex construction associated with the haulage and compaction of external borrow material for the bedding layer, installation of the GCLL on steep slopes, crushing and screening of non-Meade Peak-containing material from the pit for a drain layer or installation of a synthetic drainage layer, and installation of the cover system in phases consistent with the concurrent reclamation. The synthetic materials and potential plugging of the drainage layer could complicate the long-term performance and durability of this cover. The ability to maintain a diverse vegetative cover, given the relatively thin root zone, was also a concern with this type of cover. This alternative was eliminated from detailed evaluation because of its technical challenges for construction, high costs to construct and maintain, and impact on post-mining multiple uses. Cover C was selected as the cover that, on balance, performed adequately and was the lowest risk when constructability and maintenance were considered.

To predict the expected concentrations and extents of COPCs in groundwater over time, the cover percolation rate and the source term COPC concentrations for the Proposed Action and RCA were integrated into in a fate and transport model using geohydrologic data from the site (**Section 4.3 of the Final EIS**). The results of the fate and transport modeling for the Proposed Action predicted that selenium and manganese in groundwater as a result of mining activity would exceed the Idaho Groundwater Quality Standards in the areas under the backfilled pit and under the external overburden piles and in groundwater downgradient of the pits and external overburden piles.

Agrium submitted a POC determination application for the Rasmussen Valley Mine on April 7, 2016. The POC application included the RCA BMPs in Appendix D - Best Management Plan Analysis. The application was determined to be complete by the IDEQ on May 5, 2016. The IDEQ evaluated Agrium's BMPs and determined that by using the BMPs proposed in the RCA, there were no predicted impacts to the alluvial, Dinwoody Formation, or Rex Chert Member groundwater systems, and impacts to the Wells Formation regional groundwater system above Idaho's ground water quality standards, were not predicted beyond the Rasmussen Fault located north of the proposed mine. The IDEQ issued a POC determination on August 5, 2016. The IDEQ concurred that Cover C sufficiently met the need to protect future groundwater beneficial uses with less long-term maintenance and at a lower cost.

Environmental monitoring of groundwater resources in the vicinity of the mine as described in the POC determination will allow the IDEQ to assess the actual impacts compared to the predicted impacts that are disclosed in the Final EIS. If unanticipated actual impacts are identified, the mine will need to implement appropriate adaptive management and institute proactive steps to address those impacts in accordance with the site-specific POC determination and the Rule. Based on the IDEQ's involvement with and review of the Final EIS, the RCA, along with the POC determination, meets the requirements contained in the Rule and the CWA for allowing mining activities to proceed.

The RCA also includes a BMP for reducing water percolation into overburden from the Rasmussen Valley Mine that is placed in P4's South Rasmussen Mine pit, including backfill placed within the Federal Fringe Lease area (IDI-23658). P4 will use borrow material from the Rasmussen Valley Mine external borrow areas to improve the performance of the cover placed on the overburden stored in the South Rasmussen Mine pit Fringe Lease. The improved cover is predicted to have a similar percolation rate as the Rasmussen Valley Mine RCA Cover C.

At the request of the IDEQ, P4 submitted a technical report evaluating the RCA BMPs proposed for the South Rasmussen Mine. The report included a fate and transport model using the predicted Cover C percolation rate and the Synthetic Precipitation Leachate Procedure source term data representing the Rasmussen Valley Mine overburden to be placed in the South Rasmussen Mine. The IDEQ requested the modeling technical memorandum to determine if the RCA action could cause an exceedance of groundwater standards outside of IDEQ's January 6, 2015, POC determination for South Rasmussen Mine. Based on the information submitted, the IDEQ determined that changes in the POC for South Rasmussen Mine were not required.

At the Rasmussen Valley Mine, Agrium will design and implement BMPs to control erosion, and the resultant sedimentation in surface waters, and the release of COPCs from the project-related activities to protect groundwater and surface waters in and around the analysis area. In addition, Agrium will limit the surface area of Meade Peak-containing material that will be exposed at any given time through direct backfilling and placing protective cover material over any backfill. Surface water drainage diversion structures will be constructed above each mining phase to intercept runoff before it reaches the pit, thereby avoiding runoff water contact with Meade Peak-containing material and limiting the pit water that would need to be managed.

Protecting groundwater will include surface water control measures designed to limit surface water exposure to COPC-containing material or to keep COPC-containing surface water from reaching shallow groundwater. A collection ditch downslope of the pit backfill will be constructed within the footprint of the pit to limit infiltration from the ditch reaching the alluvial aquifers downslope.

A Spill Prevention Control and Countermeasure (SPCC) Plan will be developed before construction and operations, providing direction for preventing and controlling potential spills; describing the aboveground tanks and secondary containment structures for bulk petroleum products, solvents, and antifreeze; identifying the routine monitoring requirements; and describing BMPs for controlling releases of the pollutants of concern. Agrium has prepared an EMP (**Appendix B** of the Final EIS) that identifies a groundwater and surface water monitoring network to monitor compliance with IDEQ water quality standards.

### **5.1.5 Soils**

Straw wattles, silt fences, erosion matting, and other erosion control and sediment transport BMPs will be implemented to reduce, capture, and control soil loss. All slopes will be dragged, fertilized, and seeded on the contour as much as practical to reduce soil loss. Excess sediment transport by runoff will be contained by ditches servicing temporary sediment control basins until soil loss is minimized as vegetative controls are established.

### **5.1.6 Vegetation**

Impacts to vegetation will be partially offset by concurrent reclamation and prompt revegetation of disturbed areas. The area of unreclaimed pit disturbance at any given time will be minimized. Under the RCA, 525.4 acres (96 percent of the area of disturbed vegetation) will be reclaimed. Existing vegetation will be protected by limiting surface disturbance to only that necessary for mining operations. Agency-approved seed mixes will be used for revegetation of reclaimed areas, and the reclaimed areas will be managed to control and prevent the introduction of invasive and noxious plant species.

Although not a component of the mitigation presented in the Final EIS, in its “Access and Land Use Agreement” with IDFG for lands within the Blackfoot River Wildlife Management Area, Agrium agrees that it would consider experimental opportunities with regard to flora reclamation in areas that might be of interest to IDFG.

### **5.1.7 Wetlands**

No wetlands will be directly impacted under the RCA. The USACE has determined that a Section 404 CWA permit will not be required since no jurisdictional wetlands are impacted by the project. All mapped wetlands on the mine area were treated as jurisdictional wetlands.

As noted earlier, Agrium will implement BMPs to control erosion, sedimentation, and the release of COPCs at the Rasmussen Valley Mine to protect surface waters, including indirect impacts to wetlands. Agrium will limit the surface area of Meade Peak overburden that will be exposed at any given time through direct backfilling and use of the approved cover system over backfill and overburden. Surface water drainage diversion structures will be constructed before each mining phase to intercept runoff before it reaches the pit, thereby reducing runoff water contact with Meade Peak-containing material.

Dust will be mitigated or minimized by surface application of water and, as necessary, supplemented with dust suppressants such as magnesium chloride or calcium chloride. Stormwater control structures will include several types of designs to reduce or eliminate the risk of surface water contamination. Runoff sediment control basins for runoff water and silt will be constructed to collect and contain water exposed to mining disturbances or overburden at strategic locations before mining activities occur in that area. Collection ditches constructed

along the outer perimeters of the stockpile sites will transfer surface water runoff from these sites and carry it to runoff sediment control basins. Culverts will be constructed to convey natural drainages under potential linear obstructions, such as haul roads or county roads, to prevent impacts from stream crossings. Stockpiles will be stabilized with vegetation, straw wattles, and silt fences to minimize erosion.

The RCA haul road provides a shorter route to Agrium's Rasmussen Ridge Mine Shop Area, thus reducing the amount of dust potentially impacting Rasmussen Valley. The RCA haul road connects with the eastern end of the existing Wooley Valley Tipple haul road thus avoiding all wetland impacts that would have occurred if the haul road had continued up Rasmussen Valley as designed in the Proposed Action. The RCA haul road eliminates eight stream crossings including a crossing of Angus Creek and eliminates the need to cross the Rasmussen Valley County Road, thus eliminating a potential safety hazard.

### **5.1.8 Terrestrial Wildlife**

Wildlife habitat impacts are addressed in the Final EIS by quantifying the area of habitat disturbed and reclaimed, the degree of wildlife services lost and regained by reclamation in the disturbed area, and the duration of the lost services. This quantification includes using a HEA that integrates the three factors into a single value for each habitat affected. Although the RCA disturbance area is larger, when reclamation is accounted for, the RCA results in less residual habitat service lost than does the Proposed Action because the RCA includes the backfilling and subsequent reclamation of 58 acres of open pit at the South Rasmussen Mine that were not planned for reclamation without the RCA. In addition, reclamation under the RCA will use a wider variety of revegetation plant species including more native species than the Proposed Action.

Under the RCA, 525 acres (96 percent of the disturbed acreage) on the Rasmussen Valley Lease will be reclaimed. Additionally, P4 will reclaim 58 acres on the South Rasmussen Mine, for a total reclaimed acreage of 586 acres. Based on HEA results, reclamation will offset 65.2 percent of the wildlife habitat services lost under the RCA, with a net residual debit of 34.8 percent of the total habitat services lost. Agrium has agreed to fund the Sagebrush Steppe Land Trust, an eastern Idaho non-profit conservation organization, with \$1,169,073.00 to implement wildlife habitat mitigation projects to mitigate for the residual wildlife habitat lost.

The funding is in lieu of Agrium implementing a compensating mitigation project itself. The funding amount was determined using the HEA residual habitat services to calculate an average mitigation project cost. This was determined by calculating the cost to implement four different typical and realistic projects that would increase the habitat services on each parcel of land equivalent to the residual habitat lost at the mine. The average of the four hypothetical projects was used as the final cost to be funded by Agrium. The project and cost estimates are described in Agrium's Wildlife Habitat Mitigation Plan.

The funds provided to the Sagebrush Steppe Land Trust will be used to implement mitigation projects that will benefit wildlife habitat in the region. A Habitat Improvement Team will be formed that will include natural resource trustee and land management agency representatives as well as the Shoshone-Bannock Tribes. Group work will be conducted in an open-meeting forum that allows interested members of the public to participate. The goal of the Habitat Improvement Team is to select, fund, implement, and assess the effectiveness of appropriate projects that serve to mitigate residual wildlife habitat impacts from the mine in a manner that

the team feels contributes to sustainability of wildlife resources and productive habitat in southeast Idaho. The habitats which will primarily be affected by this operation include quaking aspen, high elevation shrubland, and sagebrush steppe habitat.

Agrium desires to implement plans to deliver wildlife habitat mitigation to offset the residual deficit to habitat identified in Agrium's "Conceptual Wildlife Habitat Mitigation Approach" technical memorandum (Great Ecology 2015) for mining operations on federal, state, and private lands in southeast Idaho. Agrium will include a financial donation to the newly created Habitat Fund as a payment from Agrium in-lieu of Agrium performing an actual project.

The in-lieu payment is to be used to benefit wildlife habitat in such a way as to meet landscape-scale wildlife habitat mitigation directives from the BLM in order to meet these mandates as part of the approval of the Rasmussen Valley Mine Project.

The in-lieu payment is meant, among other things, to comply with the BLM and USFS mitigation policies and guidelines that are still under development. It does meet the Department of the Interior's recently issued Mitigation Handbook.

Operations of the Habitat Fund will be overseen by the BLM and managed by the Sagebrush Steppe Land Trust, an independent, non-profit organization that will convene a group of natural resource management agency professionals and stakeholders from within southeastern Idaho as outlined in this document. Sagebrush Steppe Land Trust will oversee implementation of the Habitat Fund of Southeast Idaho. This organization has extensive experience working with federal, state, nonprofit, and private and public landowners to enhance wildlife habitat at the landscape-scale. Sagebrush Steppe Land Trust operates exclusively in the seven southeastern Idaho counties nearest to the proposed mine development and is a public charity qualified under section 501(c)(3) of the Internal Revenue Code. Sagebrush Steppe Land Trust is qualified to hold tax-deductible conservation easements pursuant to section 170(h)(3) of the Federal Tax Code and is qualified to hold conservation easements under the provisions of Idaho Code Section 55-2101 et seq (the Idaho Uniform Conservation Easement Act). A separate Memorandum of Agreement has been developed outlining the contractual obligations between Agrium and Sagebrush Steppe Land Trust to transfer money into the fund and pay for Sagebrush Steppe Land Trust's direct work necessary to oversee implementation of the Habitat Fund. The Habitat Fund will be used to fund projects that protect, conserve, and/or enhance wildlife habitat within southeast Idaho, with emphasis on habitat enhancement work and projects in the vicinity of the Rasmussen Valley Mine project.

In addition to the Habitat Fund, an agreement between Agrium and the IDFG sets forth Agrium's commitment to "fully mitigate any and all impacts to the WMA from Agrium's proposed project." "These agreements document the acceptance by IDFG of Agrium's mitigation commitments as appropriate and adequate to fully mitigate any and all impacts and effects of the mine on the BRWMA [Blackfoot River WMA]." The agreement includes Agrium paying \$432,000 to the IDFG, as partial mitigation of the effects of the mine on the Blackfoot River WMA, deeding the Angus Creek private property adjacent to the Blackfoot River WMA to IDFG (approximately 160 acres), and adding or maintaining enrollment of 2,160 acres in Access YES (Dry Valley, Blackfoot Reservoir). A portion of the \$432,000 (not to exceed \$20,000) will be used to construct an informational kiosk/shelter that describes the relationship of the mine and the Blackfoot River WMA, and the mitigation paid for and being implemented to balance the impacts of the mine on the Blackfoot River WMA. The IDFG is considering using the money for projects

such as streambank and stream channel improvements and exploring aspen creation on IDFG property.

To minimize the potential of taking nesting birds, Agrium will plan ground-clearing activities during the non-nesting season.

To minimize impacts to wildlife, any fencing will be constructed to be wildlife-friendly. This will include the use of smooth wire (non-barbed wire) in fence construction and ensuring spacing of the wires that allows wild ungulates to cross over or under.

### **5.1.9 Fisheries and Aquatic Resources**

Agrium will implement BMPs to control erosion, sedimentation, and the release of COPCs to protect surface waters in and around the mine, as described in **Section 4.3.4** of the Final EIS. Water that runs onto and off of the reclaimed overburden and backfill will only contact the store-and-release Cover C, thus preventing the water from contacting overburden and backfill and acquiring leachable and particulate COPCs that might impact surface waters. Surface water drainage structures will be constructed before each mining phase to divert clean runoff to downslope drainages before it reaches the pit, thereby reducing the volume of runoff water that contacts COPC leachable overburden material. COPCs in dust will be mitigated or minimized by the application of water and, as necessary, dust suppressants such as magnesium chloride or calcium chloride. Analysis of the potential for COPCs in dust from the project to increase COPC loadings to adjacent surface water revealed that the increase in COPC concentration would be below detection limits and would not increase COPCs in surface waters above regulatory standards.

To limit impacts from stream crossings, culverts will be constructed to convey natural drainages under potential linear obstructions, such as haul roads or county roads, and will maintain passage for aquatic species, including fish and amphibians. No crossings will be constructed across fish-bearing streams under the RCA.

As stated above, Agrium has agreed to provide \$432,000 to the IDFG to address impacts to the BRWMA. The IDFG is considering using the money for projects such as streambank and stream channel improvements.

An SPCC Plan will be developed before construction and operations, providing direction for preventing and controlling potential spills; describing the aboveground tanks and secondary containment structures for bulk petroleum products, solvents, and antifreeze; identifying the routine monitoring requirements; and describing BMPs for the COPCs. The SPCC Plan will help to minimize the potential for releases of petroleum products into downstream waters and thus help to protect aquatic habitat.

A surface water monitoring network to assess compliance with the IDEQ and CWA water quality standards will be contained in the EMP (**Appendix B** of the Final EIS). As part of the EMP, Agrium will monitor water quality to determine whether mine-related increases in COPCs are occurring in downstream waters. The EMP will provide flexibility for Agrium to conduct additional receptor sampling including macroinvertebrate or fish tissue sampling, if determined to be necessary based on water sampling results, and to employ mitigation measures if determined to be necessary in the future.

### 5.1.10 Threatened, Endangered, or Sensitive Species

Agrium will incorporate protective measures for USFS Sensitive Species, Management Indicator Species, and BLM Sensitive Species in accordance with standards, guidelines, goals, actions, and objectives in the PFO ARMP and CNF RFP. The RCA design has minimized impact to wildlife habitat to the extent feasible, and concurrent reclamation will minimize the loss of wildlife habitat. Reclaimed disturbed areas will be seeded with wildlife forage species including native grass, forb, and shrub plant species. The mitigation of terrestrial wildlife habitat is outlined in the HEA and in-lieu fee requirement described in **Section 5.1.10** of this ROD. In addition, the following measures will be implemented for threatened, endangered, or sensitive species.

**Sensitive Raptors (including Eagles):** Agrium will plan ground-clearing activities during the non-nesting season (April 1 to July 31) to minimize potential impacts to nesting birds. Where practical, Agrium will clear un-occupied raptor nests that are in the line-of-sight of operations and within the appropriate spatial buffer distance (1/4 mile or 1/2 mile). If active nests are created within the buffer zone during active operations, operations will continue and the nest will be managed on a case-by-case basis.

**Land Birds and Sensitive Small Birds:** Agrium will plan ground-clearing activities during the non-nesting season (April 1 to July 31) to minimize potential impacts to upland nesting birds.

**Sensitive Upland Game Birds:** The seasonal restrictions listed in the PFO ARMP will be implemented to protect Greater Sage-Grouse and Columbian sharp-tailed grouse, as applicable.

**Sensitive Water Birds:** Agrium will plan ground-clearing activities during the non-nesting season (April 1 to July 31) to minimize potential impacts to nesting water birds. No shrub-scrub wetland nesting habitat will be disturbed by the RCA.

**Wetlands, Other Surface Waters, and Sensitive Aquatic and Riparian Species (Amphibians, Reptiles, and Fish):**

- Agrium will design and implement BMPs to control erosion, sedimentation, and the release of COPCs to protect surface waters in and around the project. The RCA Cover C will minimize the potential for uptake of COPCs in vegetation or transport of COPCs to downstream waters.
- No known fish-bearing streams will be crossed under the RCA. The haul road will intersect some small mountain streams, but Agrium will install culverts to maintain passage.
- Dust, potentially containing COPCs, will be mitigated or minimized by the application of water and, as necessary, supplementary dust suppressants such as magnesium chloride or calcium chloride.
- Stormwater control structures to protect sensitive species will be described in the project Storm Water Pollution Prevention Plan<sup>1</sup> (SWPPP) and will include several types of

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<sup>1</sup> The SWPPP is an EPA-regulated plan that allows the mine to meet BLM's requirements for surface water monitoring and management. Agrium would implement a SWPPP in accordance with the National Pollutant Discharge Elimination System program. The SWPPP would identify all potential sources of pollutants that precipitation could mobilize and transport to surface



designs to reduce or eliminate the risk of surface water contamination. Basins to retain runoff water and silt will be constructed at strategic locations before mining activities occur in that area. Retention basins that are 1) not located on overburden or backfill, 2) are not located over the Wells Regional Aquifer, and 3) receive run-off from unreclaimed overburden or haul road running surface will be lined to prevent water from infiltrating through the bottom and sides of the basin impacting underlying groundwater. Conveyance ditches constructed along the outer perimeter of the stockpile sites will transfer surface water runoff from these sites and carry it to runoff retention basins. Stockpiles will be stabilized with vegetation, straw wattles, and silt fences to minimize erosion. Water retention basins receiving runoff that could contain elevated COPC levels will be designed to discourage wildlife use.

- An SPCC Plan will be developed before construction and operations, providing direction for preventing and controlling potential spills; describing the aboveground tanks and secondary containment structures for bulk petroleum products, solvents, and antifreeze; identifying the routine monitoring requirements; and describing BMPs for the pollutants of concern.

### **5.1.11 Visual Resources**

To reduce visual impacts, the RCA will result in backfilling all mine pits, including a portion of a residual pit left empty from P4's past mining operation at the South Rasmussen Mine. Final grading and reclamation of the disturbed areas will be implemented to create landforms that will blend with the surrounding undisturbed topography to the extent practical. Of the 528.5 acres disturbed by the RCA, all but 19.5 acres will be reclaimed. Unreclaimed acres consist of 13.2 acres of pit walls that cannot be reclaimed due to a 3H:1V slope limit on reclaimed areas set in the federal land use plans to ensure that excessive erosion doesn't occur.

To mitigate the visual contrast, the disturbed areas will be reclaimed using an approved seed mix consisting of grasses, forbs, and shrubs. As a result, reclaimed areas will shift visually from a plant community composed predominantly of aspen/conifer forest and sagebrush to one composed mostly of grasses, forbs, and shrubs until succession infilling with the surrounding native species occurs. Some areas, such as the backfill and overburden areas with Cover C may never return to an aspen community.

### **5.1.12 Land Use, Access, and Transportation**

To partially mitigate the temporary loss of livestock HMs as a result of mining activity in the northeastern portion of the Angus Creek pasture of the RVCA, Agrium has offered to provide water on the southwest side of the Little Long Valley pasture and fence off that portion of the Angus Creek pasture (Unit 3A) and part of the IDL state section to allow grazing on the southwestern portions of Unit 3A and the state lease without interfering with mining activity.

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waters in or near the Proposed Action via runoff. The SWPPP would also outline the control measures and BMPs that Agrium would implement to prevent or reduce the discharge of pollutants in stormwater. As part of the SWPPP, Agrium would comply with EPA and IDEQ requirements for monitoring storm-event-related surface water. The SWPPP would remain a living document throughout the life-of-mine and would accommodate changing mining operations through each mining phase. The BLM may require additional activities to supplement the SWPPP.

Some of the HMs temporarily lost in the Angus Creek pasture will be moved to the Little Long Valley pasture. This will decrease the economic impacts and effects to local ranchers. This offer, however, is not made part of the BLM's decision as these activities are on lands within the NFS and require approval from the USFS. Additional details of grazing displacement mitigation are included in the USFS ROD. No other specific mitigation measures for land use, access, and transportation will be required.

In its Use Agreement with the IDFG, Agrium has also agreed to enroll or maintain two parcels of land it owns in the IDFG Access Yes program, allowing access for hunters and fisherman. The agreement includes building or improving an all-terrain vehicle trail accessing NFS lands through its Dry Valley Access Yes property.

### **5.1.13 Cultural Resources**

No historic properties (cultural resources listed on or eligible for the National Register of Historic Places) were identified in the study area; therefore, historic properties will not be impacted by the RCA. If any unidentified cultural resources are discovered during the mining process or associated activities, or during an agency mine inspection, operations in the immediate area of the discovery will be halted. The discovery will be reported to the BLM or CTNF, and the BLM or CTNF or its authorized representatives will document and evaluate the discovery. If necessary, a treatment plan will be developed and implemented.

### **5.1.14 Tribal Treaty Rights and Interests**

Potential impacts to traditional use or treaty rights that have been identified include short-term interruption of access to the lands to exercise treaty rights and traditional uses. BLM made great effort to conserve wildlife resources that are important to treaty rights. Enhanced reclamation of the mine site, including many plant species utilized by the Shoshone-Bannock tribes, and substantial off-site wildlife habitat mitigation projects are required by this decision. It is anticipated that this will restore wildlife and their habitats to near pre-mining levels. It is acknowledged that the current vegetation types will be converted to a grass/forb mix over the long term. That causes a change of vegetation use by tribal members over the long term. It will not however preclude use by tribal members after reclamation activities are completed. The RCA ensures that selenium and other COPCs will not be incorporated into vegetation at levels that pose risk when treaty rights are exercised.

The RCA includes National Forest lands where the tribes have treaty rights. Those lands will be temporarily occupied by mining activities and access will be restricted for a time. Additional access to other lands where treaty rights can be exercised will be provided by Agrium.

No specific impacts to traditional resources or uses that are not available in other areas have been identified. **Section 8.5** of this ROD documents our efforts to include measures to protect Indian trust and treaty rights in our mine plan evaluation and this Decision. If adverse impacts to traditional resources or uses are identified, mitigation measures specific to that resource will be developed through consultation among the Tribes and the agencies and the resource protected to the extent practical.

### **5.1.15 Social and Economic Conditions**

As discussed in **Section 3.1.15** of this ROD, to partially mitigate the temporary loss of HMs as a result of mining activity in the Angus Creek pasture of the RVCA, Agrium is proposing to provide

water on the southwest side of the Little Long Valley pasture. Agrium will also build a boundary fence on the south end of the Little Long Valley pasture in order to facilitate livestock using the southwest side of this pasture. Additional fencing on the Angus Creek pasture 3A and on the adjacent state land would separate mining activity from the adjacent pasture allowing grazing on a portion of the pasture. This provision will increase grazable HMs and decrease the economic impacts and effects to local ranchers. Positive economic impacts may accrue to permittee(s) authorized to graze animals within the RVCA as a result of the increase in grazeable HMs. Improvements to the grazing allotments affected by the project are managed by the USFS and IDL and are not within the BLM's decision space. No other mitigation measures for socioeconomic resources have been proposed.

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## SECTION 6 – MONITORING

The EMP provided in the Final EIS will be finalized prior to mining activities that might affect environmental resources. The EMP will include monitoring groundwater and surface water quality in the vicinity of the mine, monitoring reclamation vegetation success, and backfill and overburden cover construction.

The EMP will include monitoring of groundwater quality under the requirements of the IDEQ POC determination and as required by the BLM. The POC requires sampling ten alluvial monitoring wells, one regional aquifer monitoring well and ten indicator monitoring wells to ensure compliance with the Ground Water Quality Rule. The BLM will require the monitoring of two additional existing monitoring wells completed in the Wells Regional Aquifer, one existing monitor well completed in an alluvial aquifer southwest of the pit, and may require additional wells to monitor the shallow alluvial aquifer southwest of the pit. The POC well locations and three additional wells are shown on **Figure 5** of this document.

The plan will require monitoring the water quality of Angus Creek and the Blackfoot River upstream and downstream of the mine and other surface waters that could be adversely affected by mining operations.

Reclamation vegetation will be monitored for success by determining cover percentages and richness. Noxious weeds will be monitored and controls implemented as needed.

A draft Cover Construction Quality Assurance/Quality Control Plan (CQC Plan) was included as Appendix A in the EMP provided in the Final EIS. As with the EMP, the CQC Plan will need to be finalized after the ROD. As part of the finalizing of the CQC Plan, a cover test plot will be constructed at the site or other appropriate location as soon as weather permits. The test plot will be used to evaluate the construction method for Cover C and to evaluate the test methods to be used to estimate the saturated permeability of the cover. The same equipment and construction methods and test methods to be used on the actual cover will be used to construct and test the properties of the test plot. The test methods proposed to ensure appropriate material is being used to construct the cover include testing particle size distribution, Atterberg limits and coefficient of uniformity of the source material obtained from the borrow area. Once the cover is constructed, the middle two-foot layer of borrow material will be uncovered at several locations and the layer tested for saturated permeability using a Guelph permeameter or similar method appropriate for the material being tested and the target permeability. The test plot will be used to evaluate the measurement density needed to determine an overall cover permeability.

The cover constructed over backfill and overburden will be monitored using the same procedure as determined appropriate based on experience from the test plot to ensure the cover is constructed according to appropriate specifications and that the various layers meet performance specifications.

Should monitoring of the mine indicate that it is not performing as required, the BLM, in consultation with USFS and IDEQ, will have the option to request Agrium to propose adaptive management procedures and/or appropriate modifications to the mine plan to address the lack of performance.

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## SECTION 7 – CONDITIONS OF APPROVAL

As conditions of approval for the Rasmussen Valley lease and the Mine and Reclamation Plan, Agrium, its employees, contractors, agents, assignees, and operators must comply with the environmental protection measures, mitigation, and monitoring measures as well as other requirements defined in the Final EIS, this decision, and conditions defined by authorized agencies in their decisions.

The selected alternative contains numerous environmental protection measures as described in **Section 2.5** and **Chapter 4** of the Final EIS. All practical means to avoid or minimize environmental harm from the selected alternative have been adopted as part of this decision (40 CFR 1505(2)(c)).

### 7.1.1 General

- Agrium is required to submit a revised M&RP that is consistent with the RCA and meets the requirements of 43 CFR 3592.1 as determined by the BLM before any ground-disturbing activities (other than that specifically related to logging and grubbing) commence. The revised M&RP can be submitted in phases for approval by the BLM, but no ground disturbing activity outside of the currently approved M&RP phase is allowed until an M&RP covering that phase is approved.
- Agrium will be responsible for acquiring and complying with all necessary local, state, and federal permits and for providing documentation of those permits to the BLM and USFS as applicable.
- In compliance with the RVM MSGP the following actions will be conducted. Routine inspections of stormwater facilities will be conducted by Agrium to verify compliance with applicable regulations and the SWPPP and to detect any conditions requiring modification or repair. Maintenance and repair actions will be documented in mine records.

### 7.1.2 Cultural Resources (including Paleontological Resources)

- Although no impacts to cultural or paleontological resources are expected from the selected alternative, and State Historic Preservation Office concurrence on cultural resource site evaluations has been received for the area of planned disturbance, if unanticipated cultural materials, historic sites, or vertebrate macrofossils are encountered, Agrium will notify the USFS and the BLM and operations will be halted in the vicinity of the discovery until inspected by a qualified agency representative and a mitigation plan developed if determined necessary.

### 7.1.3 Air Quality

- Agrium will control dust generated from project activities with dust suppressant water applied by water trucks. Dust suppressing chemicals such as magnesium chloride and calcium chloride may also be used as needed.

### 7.1.4 Soil

- Soil resources and expected depths and volumes that are available for salvage from the proposed disturbance areas have been described with baseline soil surveys. Agrium will

salvage all A and B soil horizons suitable for use as reclamation soil from areas of disturbance and either use them for concurrent reclamation or stockpile them separately for subsequent use as reclamation. For the purposes of this decision, GM is defined as the A and B soil horizons salvaged for reclamation. All disturbed areas not requiring an RCA Cover C will receive GM to a depth of at least 12 inches. Any excess GM will be used to supplement the GM layer as operations deems necessary and practical. Stockpiles will be placed on stable landforms and protected from erosion by establishing short-term vegetation cover. Reclaiming disturbed areas that are no longer required for active mining operations will be conducted concurrent with other mining operations.

- USDA guidelines (2013) will be used for determining topsoil suitable for reclamation on any areas approved for new surface disturbance for this project.

### **7.1.5 Vegetation**

- Timber will be cruised by the USFS and then harvested from proposed disturbance areas as directed by the USFS. Agrium will purchase the timber at the market value appraised at the time of harvest. Small brush and slash will be incorporated in the topsoil when it is salvaged.
- Agrium will schedule reclamation earthwork to ensure that no large areas of untreated lands are exposed during the winter months. Revegetation of disturbed areas will be conducted during reclamation activities by seeding and planting with the vegetation species mix approved. Seeding will proceed no later than the first fall after earthwork is complete.
- Agrium will continue to be responsible for monitoring and preventing the spread of noxious weeds in compliance with established guidelines and includes cleaning all off-road vehicles prior to entering and re-entering the project area and using only certified weed-free seed, mulch, straw bales, etc.

### **7.1.6 Surface and Groundwater**

- Stormwater run-off will be classified as contact water or non-contact water for water management purposes. Non-contact water is run-off that has not contacted overburden or other surfaces that could leach COPCs in amounts that could adversely impact surface water. Non-contact water includes stormwater run-on from upslope of the mine that will be collected in run-on collection ditches and routed around the mine features and into natural drainages. Stormwater runoff from the growth medium stockpiles and the borrow and storage areas is also considered non-contact water. Runoff from these areas will be collected in runoff collection ditches and routed to unlined sediment basins. These basins are designed as flow-through detention basins with an outlet control to provide attenuation of the peak discharge and the capacity to provide adequate settling of sediment.

Contact water includes stormwater runoff from the mine features (including haul roads, pre-stripping areas, pit backfill, and temporary overburden piles) and will be collected in runoff collection ditches and routed to lined retention basins. These contact water retention basins are designed to contain the 100-year, 24-hour storm event with additional capacity to accommodate snowmelt described as the “rain on snow event” in the Draft Surface Water Management Plan (SWMP, Appendix C of the Final EIS).



- Agrium will design all stormwater ponds with stable spillways so that discharge does not erode the spillways or instigate structural failure of the ponds. Discharges will be sampled and assessed by Agrium for COPCs under the SWPPP.
- Agrium will manage stormwater to reduce or eliminate contact with backfill and external pile overburden. Once a slope is reclaimed to a 3H:1V slope and the store and release cover is installed, runoff and sediment control facilities (i.e., ditches, ponds) will be located off the reclaimed area to the extent feasible in order to protect the reclaimed slope from erosion and damage related to heavy equipment use.
- Agrium will control stockpiled areas of snow and will place it in areas to reduce infiltration or mixing of snow or snowmelt into/with overburden to the extent practicable.
- Agrium will mine and dispose Meade Peak containing overburden in a timely manner to reduce exposure of this material to surface weathering and oxidation, the process that liberates soluble selenium compounds. Meade Peak containing overburden is overburden containing rock from the Meade Peak formation and specific portions of the Rex Chert Member that have been shown to release selenium and other COPCs at concentrations that can adversely impact vegetation, wildlife, stock, groundwater and surface water as defined in the Final EIS. Surface area of seleniferous overburden fills will be reduced by design to the extent practicable to limit the amount of water infiltration and potential release.
- The RCA includes groundwater monitoring wells and associated access roads. The groundwater monitoring well locations are shown on Figure 5. The IDEQ has made a POC determination (IDEQ 8/5/2016) for the Rasmussen Valley Mine. The determination includes ten POC groundwater monitoring wells located in alluvial aquifers on the southwestern flank of Rasmussen Ridge to detect changes in groundwater that could affect Angus Creek and the Blackfoot River, one groundwater well in the deep regional aquifer downgradient from the Rasmussen Valley Mine, and ten indicator wells in the deeper groundwater aquifers. Although not in the POC well network, the BLM also requires that existing groundwater monitoring wells MW-2W, MW-12W, and MW-6A be monitored. An EMP will be prepared that contains the monitoring schedule and sampling and analysis plan for all groundwater monitoring.
- Surface water monitoring will consist of two monitoring locations on Angus Creek, four monitoring locations on Blackfoot River, and one monitoring location on Spring Creek.
- If surface water sampling/monitoring indicate new or increased COPCs compared to baseline conditions, aquatic tissue sampling may be added to the monitoring plan.
- Agrium will continue to be responsible for monitoring water quality at the Rasmussen Valley Mine as per separate program requirements. These ongoing programs are described in the Rasmussen Valley Mine EMP, which will be updated to address monitoring requirements for the project. Unless directed otherwise by the respective agencies, Agrium will provide monitoring data to the USFS, BLM, and IDEQ as part of the annual operations reporting. Water quality monitoring requirements include those associated with the off-lease stormwater control features permitted by SUA and Mineral Materials Permits.

### **7.1.7 Wildlife**

- To minimize the possibility of an unintentional take of migratory birds, Agrium will time vegetation removal and ground clearing activities, including timber harvest, outside of the nesting season or the latest possible dates.
- Agrium will install signs along mine roads at known wildlife crossing locations to alert drivers to the increased potential for wildlife encounters in those locations.
- The BLM requires that within 120 calendar days of the executed BLM approval letter authorizing mining activities to proceed or before ground disturbing activities begin, whichever is later, Agrium will fund the Sagebrush Steppe Land Trust in the amount of \$1,169,073.00 to implement wildlife habitat mitigation projects in accordance with the Habitat Mitigation Fund bylaws to mitigate for the residual wildlife habitat lost due to the Rasmussen Valley Mine.

### **7.1.8 Grazing**

- Agrium will prevent livestock grazing on active and reclaimed mine disturbances until these areas are accepted for grazing management by the surface owner. This prevention will be done by periodic coordination between Agrium and the surface owner to identify exclusion areas and discuss additional measures that may be needed, such as fencing or bilingual signs designed to inform livestock herders of grazing restrictions.
- Agrium will collaborate with the surface owner to share mining progress plans and to discuss and resolve any potential grazing access issues.

### **7.1.9 Visual Resources**

- Agrium will contour reclaimed features to blend in with the surrounding topography. The overburden and backfill will be contoured to minimize erosion and reduce infiltration.

### **7.1.10 RCA Cover**

- A cover test plot of the RCA Cover C will be constructed as soon as weather permits. The earthen materials used to construct the cover test plot will be tested for properties expected to influence the performance of the cover layers and the performance of the cover as a functioning unit such as particle size distribution, coefficient of uniformity, and Atterberg limits. The method of construction will be documented to allow the preparation of a construction plan including equipment used, spreading lift thicknesses, oversize management, and equipment pass counts. Once the cover test plot is constructed, the key layers of the cover (components), will be tested for in-place properties such as bulk density, moisture content, and saturated conductivity to verify that component properties are consistent with those modeled, and can be achieved with the available earthen materials.
- Once Cover C is constructed on overburden, the cover on each pit phase will be tested throughout the life of the mine using methods developed during the cover test plot construction and testing.
- Agrium must submit a construction quality control plan for Cover C and the cover test plot. This plan must be reviewed and approved by the BLM prior to commencing any test plot or cover construction activities. The construction quality plan will include monitoring cover construction to provide data showing the cover was built in accordance with BLM-

approved plans and specifications. It will also include monitoring component performance to provide data showing the cover components will function as designed.

- Agrium will construct the cover to minimize the incorporation of snow and ice into the cover layers and to minimize the infiltration of snowmelt and stormwater.

### **7.1.11 Agency Costs**

Due to the complexity of the final design, construction, and monitoring of the mine and reclamation, it is anticipated that the BLM will incur significant inspection and operational oversight costs. The BLM is mandated (43 CFR 3590.2(b)) to inspect mining operations on federal phosphate leases at least quarterly. However, oversight of the complex mitigation features of the Rasmussen Valley Mine will require a substantial effort, well beyond the mandated quarterly inspection. The BLM has sufficient staff time to accomplish the mandated level of inspections, but to ensure that the various required mine features are constructed and implemented properly, as described in the Final EIS and approved in this ROD, the BLM will require additional monetary resources. In particular, oversight of cover system construction, quality assurance/quality control, evaluating environmental monitoring data and responding to adaptive management needs, ensuring enhanced reclamation revegetation, and cover system monitoring fall into this category of requiring additional resources. Agrium will be responsible for contributing the necessary funding for the BLM oversight efforts that are above and beyond that of typical quarterly mine inspections. It is estimated to require a quarter full time staff to perform the additional oversight. Agrium is required to deposit adequate funds with BLM on a quarterly bases to cover the quarter full time staff costs associated with inspecting the mine. The initial deposit shall be \$29,420.00 to BLM payable within 30 days of approval of the mine plan to cover the initial quarterly payment. Agrium shall ensure that contributions are timely and of such amount as to keep the account positively funded at all times until the BLM's work related to the mine, cover, and reclamation is completed.

### **7.1.12 Monitoring and Reporting**

Agrium must finalize the draft Rasmussen Valley Mine EMP and Cover Quality Control and Assurance Plan and include a sampling and analysis plan, a quality assurance project plan, and an adaptive management plan within 120 days of the signing of the ROD.

Agrium is required, at a minimum, to annually prepare environmental monitoring reports to document and present the collected data to the USFS, BLM, and IDEQ. Documentation and results of monitoring required by this decision must be included in the annual reports.

### **7.1.13 Financial Assurance**

Under its regulatory authority and prior to allowing Agrium to start ground disturbing activities, the BLM will require Agrium to post an adequate performance bond for activities on public lands and NFS Lands on the Lease that considers the cost of complying with all permit and lease terms to include royalty and reclamation requirements (43 CFR 3504.50). The bond will ensure that adequate funds are available to the federal government to close and reclaim the project in the event that Agrium is unable or unwilling to fulfill its reclamation responsibilities. Reclamation performance bonds are calculated according to the BLM policy regarding bonding requirements and calculation guidance for phosphate mining operations (BLM, 2013). The bond calculation for the project will cover the maximum reclamation liability during the life of the project or the period of the bond, not less than 3 years. The bond Agrium is required to maintain for the mine

will be managed adaptively and could be adjusted up or down if the costs to reclaim or royalty factors change. Periodic review and recalculation of the bond amount will occur, and any increases will need to be incorporated into Agrium's reclamation bond instrument. Factors that could change the performance bond amount include inflation/deflation, changes in fuel costs, equipment rental rates, wages, and materials. A similar actual-cost bond will also be required by the USFS for areas of project disturbance permitted by SUAs (36 CFR 251.56(e)). The State of Idaho will hold the performance bond for all mining activities occurring on state and private property. Duplicate bonding will be avoided.

#### **7.1.14 Adaptive Management**

Should future monitoring of the mine indicate that any feature is not performing as required by established requirements, including this ROD, the BLM, will consult with appropriate jurisdictional agencies, such as the USFS and IDEQ, and will require Agrium to follow adaptive management procedures and develop and implement appropriate modifications to the mine plan to address the lack of performance.

## **SECTION 8 – ALTERNATIVES CONSIDERED**

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### **8.1 ALTERNATIVES CONSIDERED**

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Initial public and agency scoping of the Proposed Action indicated that the Proposed Action would likely cause undesirable adverse effects on the important natural resources and land uses listed above. The primary goal of alternatives development was to identify and describe acceptable ways to address unresolved conflicts with the Proposed Action identified during scoping while meeting the purpose of and need for the Proposed Action. The NEPA process requires that alternatives evaluated in detail be reasonable.

Alternatives development began with the compilation of a list of issues and indicators identified in public and agency scoping. The agencies and their EIS contractor (Arcadis) evaluated these issues and requested that Agrium identify modifications to project features, facilities, or operations that would eliminate or reduce anticipated environmental effects to acceptable levels while fulfilling the purpose of and need for the Proposed Action. For initial consideration, alternative elements were organized into the following seven categories.

#### **8.1.1 Overburden Storage and Management**

Overburden storage and management during and after mining operations were identified as potential sources of COPCs that could contaminate surface water and groundwater. Runoff and drainage from in and around the overburden piles could also increase the potential release of COPCs. In addition, some of the locations for overburden piles in the Proposed Action carried a potential for geotechnical instability, which could lead to slope failure and exacerbate the issue of the release of COPCs, which could in turn affect surface water and groundwater quality; wetlands and riparian areas; vegetation; wildlife; fisheries and aquatic species; and threatened, endangered, or sensitive species. Overburden piles on the ridge slopes would also affect the visual character of the landscape. Alternative elements that would contain and manage the runoff and leaching were considered and included alternative locations for temporary or permanent overburden piles, including the use of previously disturbed areas, and backfilling directly to previously mined areas to minimize storage. Several different locations for overburden piles near the Lease and several previously mined areas were considered for the disposal or storage of overburden. Some of the alternative elements considered did not reduce adverse effects in comparison to the Proposed Action. Some may have reduced one adverse effect at the cost of increasing others.

#### **8.1.2 Infrastructure Elements**

Aspects of mine infrastructure, such as the locations of facilities and the construction and maintenance of power lines, were evaluated for environmental issues. A key issue for locating and constructing infrastructure was potential effects to surface water and wetlands. One issue was the disturbance of natural drainages and indirect effects to wetlands in Rasmussen Valley associated with constructing a power line extending from the existing transmission line located in Upper Valley to the staging area. Another issue for overhead power lines was the potential for electrocution or collisions for birds. Using portable generators eliminates the impact.

### **8.1.3 Ore Transport and Access Routes**

The primary elements of ore transport and access are the ore haul roads. The existing Wooley Valley Tipple was identified as the preferred loading point for transport of the ore to the CPO, and all haul road alternatives were designed to link to the existing Wooley Valley Tipple Haul Road. The Rasmussen Valley segment of the Proposed Action Haul Road was identified as having several issues. This haul road would cross the floor of Rasmussen Valley and Rasmussen Valley County Road, disturb 10.3 acres of wetlands and other WOUS, impair public access and recreation, and disturb public and private grazing land. Alternative haul road routes were considered for their potential to reduce these impacts, particularly those to wetlands and riparian areas. An alternative to avoid a new crossing of Rasmussen Valley and connect with existing haul roads at the Rasmussen Ridge Mines, originally identified as HR-4, depended on reaching an agreement with P4 to cross through its South Rasmussen Mine. HR-5 in the RCA is a variation of this alternative.

### **8.1.4 Cover Systems**

As with overburden storage and management during mining, overburden and backfill after mining were identified as potential sources of COPCs that could contaminate surface water and groundwater. Many of the potential effects of the long-term management of overburden and backfill are the same as those for overburden storage and management during mining. A key element for the long-term management of overburden and backfill is the cover design. Objectives of the cover design are to establish a healthy vegetative ground cover to stabilize the ground surface from erosion and mass failure, limit deep percolation (thus limiting the leaching and transport of COPCs into groundwater), and provide a diverse vegetative cover for wildlife forage and cattle grazing.

Under state of Idaho law, degradation is allowed if approved by the IDEQ, and protects existing and future beneficial uses and is in accordance with mine-specific POC set by the IDEQ. The IDEQ has set POCs for this project. Besides considering existing and future beneficial uses of the groundwater in the vicinity of the Rasmussen Valley Mine, the Rule requires the IDEQ to assess BMPs that are available to reduce impacts. The IDEQ directed Agrium to provide a range of cover systems for evaluation of groundwater protection and cost effectiveness. Seven cover designs including four earthen store-and-release covers, including the Proposed Action cover and the RCA Cover C, an earthen barrier cover, an earthen capillary break cover and a geo-synthetic laminate cover were proposed by Agrium and assessed in the Final EIS. The mine cover designs in the Proposed Action and the RCA both addressed all of the objectives to a great degree. The Final EIS predicted that they both would result in groundwater degradation, with the RCA Cover C degrading the groundwater the least of all the earthen covers and the GCLL cover degrading the groundwater the least of all the covers. In the Final EIS, IDEQ's evaluation concluded that of all these cover designs and determined the RCA Cover C would meet the best management practices requirements of the Idaho Ground Water Protection Rule.

### **8.1.5 Wetlands Mitigation**

The combined alternatives feasibility analysis (Brown and Caldwell [BC], 2013) does not directly address alternative elements for wetlands mitigation, but the RCA eliminates impacts to wetlands. Other alternative elements, such as alternative haul roads and alternative overburden pile and GM stockpile locations, which would avoid impacts to wetlands, were considered.

### 8.1.6 Mine Sequencing and Material Handling

Mine sequencing and material handling affect the extent of surface disturbance at any given time, the amount of Meade Peak overburden that must be managed, and the potential for accumulation of mine pit water or the contamination of groundwater and surface water, which includes the sequencing of backfilling and overlaps to some extent with overburden storage and management. Aspects of mine sequencing and material handling may also reduce or eliminate the need for mining below the water table. The Proposed Action included mining starting at the southern end of the deposit and moving generally north. The RCA reversed the sequence, starting at the north end of the deposit.

### 8.1.7 GM Management and Seed Mix

Alternative elements for GM management and seed mixes are addressed in the alternatives analysis. Alternatives that included GM storage in Rasmussen Valley for haul road reclamation were eliminated with the haul road alternatives in the valley. Alternative GM stockpile locations included locations for overburden piles that were considered and eliminated and locations that were incorporated into the RCA. The chosen alternative elements for GM storage eliminate potential impacts to wetlands. The alternative seed mixes emphasize diversity and reclamation of wildlife habitats.

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## 8.2 AGENCY PREFERRED ALTERNATIVE

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The Final EIS Agency Preferred Alternative, the RCA, is described in **Section 2.5** of the Final EIS and summarized in **Section 2.2** of this ROD.

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## 8.3 SCOPING AND PUBLIC INVOLVEMENT

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Public scoping for the Draft EIS formally began on March 1, 2011. On that date, the BLM published a Notice of Intent to prepare an EIS in the *Federal Register* (Vol. 76, No. 40, page 11,259). The Notice of Intent announced the agencies' intent to conduct an environmental analysis of phosphate ore mining at the proposed Rasmussen Valley Mine.

On March 4, 2011, the BLM and the USFS issued a public notice in the Caribou County Sun and the Idaho State Journal announcing the agencies' intent to conduct an environmental analysis of phosphate ore mining at the Rasmussen Valley Mine and the dates and locations of three public meetings scheduled to solicit and receive comments on the Proposed Action. The public notice also announced that the period for submitting written comments for public scoping would end on March 31, 2011. A public mailing list was also compiled, and scoping letters were sent to federal, state, tribal, and local government agencies and members of the interested public. This Proposed Action was placed into the BLM's ePlanning database at the beginning of the NEPA impact assessment and will remain in the database after signature of the ROD. This database is accessible to the general public. Scoping is detailed in **Chapter 6** of the Final EIS.

Public meetings were held on March 21, 22, and 23, 2011, in Soda Springs, Pocatello, and Fort Hall, Idaho (respectively). The meetings were conducted in an open house format, with representatives of the agencies, Agrium, and the BLM's EIS contractor in attendance. Public comments were solicited and then compiled to help define the key issues and alternatives for evaluation in the environmental analysis. Key issues identified from the public scoping process

included potential effects of the Proposed Action on water resources; socioeconomic conditions; livestock grazing; reclamation and restoration; wildlife and vegetation; soils; threatened, endangered, and sensitive species; air quality; aesthetics; land use; scenic resources; hazardous and solid wastes; and public health, as identified in **Section 1.6.5** of the Final EIS.

The NEPA regulations in 50 CFR 1503.1 require the lead agencies, in this case the BLM and USFS, to request public comment on a Draft EIS before preparing a Final EIS. Comments should be obtained from federal, state, and local agencies; Indian tribes; and those persons or organizations that may be interested in or affected by the proposed project. On September 18, 2015, notifications that the Draft EIS was available were distributed to government offices, tribes, educational institutions, public media, organizations and businesses, and interested individuals listed in **Section 6.5** of the Final EIS. A notice of availability was also published in the *Federal Register*. Those groups and individuals that had previously indicated that they wanted copies of the Draft EIS were sent electronic or hard copies of the Draft EIS. The public was allowed 45 days to respond and was scheduled to end November 2, 2015. In addition, public meetings were held on October 6 and 7, 2015, at the BLM PFO in Pocatello and at the USFS Soda Springs Ranger District in Soda Springs, Idaho. After release of the Final EIS on September 9, 2016, BLM requested public input relative issuance of this ROD. Public response to that request is outlined in **Section 3** of this ROD.

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## **8.4 GOVERNMENT CONSULTATION**

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In July 2011, agency scoping was conducted that included the BLM, USFS, IDEQ, USACE, IDFG, IDL and USFWS to discuss issues identified through public scoping in March 2011 and to discuss agency issues and indicators that should be considered for the Rasmussen Valley Mine Project. Following this meeting, the Interdisciplinary Team and the BLM's contractor provided additional issues and indicators, which were presented to agency management in November 2011. These issues and indicators were then presented to Agrium in December 2011.

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## **8.5 CONSULTATION WITH SHOSHONE-BANNOCK TRIBES**

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The 1868 Fort Bridger Treaty between the United States and the Shoshone-Bannock Tribes reserves the Tribes' right to hunt, fish, gather, and exercise other traditional uses and practices on unoccupied federal lands. In addition to these rights, the Shoshone-Bannock have the right to graze tribal livestock and cut timber for tribal use on those lands of the original Fort Hall Reservation that were ceded to the federal government under the Agreement of February 5, 1898, ratified by the Act of June 6, 1900.

Under this treaty and those agreements, the federal government has a unique trust relationship with the Shoshone-Bannock Tribes. The BLM has a responsibility and obligation to protect Tribal treaty rights and trust resources and to consider and consult on potential effects to natural resources related to the Tribes' treaty rights or cultural use. Tribal concerns and interests for the Rasmussen Valley Mine revolve around impacts to these rights.

The National Historic Preservation Act and its implementing regulations (36 CFR 800) require consultation with federally recognized Indian tribes to identify traditional cultural properties (TCPs) and consider potential effects on such properties because of a federal undertaking. TCPs are sites of religious or cultural importance that may also be eligible for the National Register of Historic Places because of their importance in the traditions and cultural identity of a



cultural group. In addition, the American Indian Religious Freedom Act, Executive Order (EO) 13175: Consultation and Coordination with Indian Tribal Governments, and EO No. 13007: “Indian Sacred Sites” contain requirements for consulting with tribes on the potential effects of federal undertakings on tribal interests. Areas of traditional use may include areas used to gather plants, animals, or fish for subsistence or for ceremonial or medicinal purposes. National Register Bulletin No. 38 provides guidance for identification and evaluation of such TCPs and traditional use areas.

Consultation with the Fort Hall Business Council (Council) of the Shoshone-Bannock Tribes is required on land management activities and land allocations that could affect public land uses and access to the land by tribal members. The goal of this consultation and coordination is to ensure that tribal governments, Native American communities, and individuals whose interests may be affected have a sufficient opportunity for productive participation in BLM resources management decision-making. To fulfill this requirement, the BLM met with tribal staff on January 10, 2011, to present an overview of the Proposed Action and the EIS process, and the tribal staff expressed interest in being kept updated on its progress. Another meeting was held with tribal staff at the BLM PFO on February 9, 2012. The BLM presented an overview and status of the Rasmussen Valley Mine EIS. The tribal participants did not identify any issues or provide substantive comments at that meeting. The status of other ongoing mining activity and exploration applications was also reviewed at the meeting. Subsequent meetings of the BLM and tribal staff have taken place on February 20, 2013, January 15, 2014, November 18, 2014, October 9, 2015, February 26, 2016, and March 3, 2016. Written comments were received from tribal staff during a presentation of the Draft EIS on October 9, 2015, and in a letter from the tribal staff on April 13, 2016.

A formal Government to Government Consultation occurred on November 22, 2016 to present the Final EIS and discuss this upcoming Record of Decision. At that meeting, several issues and concerns were expressed by the Business Council. On January 3, 2017, BLM received a copy of formal correspondence from the Council to BLM regarding the mine and the FEIS. The letter expressed opposition to the mine, general dissatisfaction with BLM’s EIS analysis, and concern with reduction of their treaty rights.

Of primary concern to the Council expressed during the November consultation meeting and also reiterated in their letter is the issue of treaty rights maintenance, especially mine-caused diminishment of culturally important natural resources and opportunities to access and utilize those resources. The Council is concerned about the effects of mining, not only in the Rasmussen Valley Mine area and vicinity, but also the significant cumulative effects to their hunting, gathering, and other traditional uses from past, current, and future mining activities.

The Council stated that the EIS did not address tribal issues. The EIS details effects to treaty rights and tribal interests and describes substantial project changes and mitigation measures designed to address these effects. The issues raised by the Council in the November, 2016 consultation meeting and in their subsequent letter, as well as their initial scoping comments and comments on the Draft EIS have been addressed in the FEIS. See FEIS sections, especially Appendix A sections: Topic 15 Tribal Treaty Rights and Interests, issues a-d, pages A140-142; pages A55- 56; A64- 65; A124-125.

The BLM acknowledges rights granted to the Shoshone-Bannock Tribes in their 1868 Fort Bridger Treaty with the United States and has devoted effort to identifying and understanding

tribal concerns and using the Rasmussen Valley Mine EIS to ensure that approved mining and reclamation activities incorporate measures to effectively reduce or eliminate effects.

The treaty with the Shoshone-Bannock does not prevent the United States from allowing future actions that constitute occupancy of federal lands within the treaty area. This ROD approves the RCA and allows Agrium to also exercise rights granted by its phosphate lease contract with the United States. Agrium's mining proposal includes significant reclamation activities designed to maintain the treaty rights and cultural activities of the Shoshone-Bannock to hunt, fish, and gather on the public lands in the area, as well as provide restored habitat to sustain wildlife. Activities and mitigation measures include backfilling of virtually all mined out pits (except for 3 percent of the mining disturbance where backfilling would have to occur at a slope predicted to be too steep to avoid long-term erosion and potential slope failure). The mine is required to emphasize revegetation with native plants. A list of culturally important plant species to the Shoshone-Bannock people has also been consulted on and incorporated into reclamation seeding and revegetation plans.

To ensure safety, access through the mine to the public as well as tribal members will be restricted during the time active operations are occurring. Access similar to the present will be restored after mining operations cease. Additional access to lands and culturally important natural resources will increase in the area due to a Use Agreement that Agrium has signed with IDFG related to developing the portion of the Rasmussen Valley Mine within the Blackfoot River WMA. The agreement provides for access along portions of the Blackfoot River upstream of the Blackfoot Reservoir. A trail and new permanent easement through Agrium private land in Dry Valley will provide all-terrain vehicle and other access to portions of the CNF at the base of Dry Ridge.

The mine is required to undertake reclamation activities as soon as possible in order to begin reestablishment of vegetation and natural systems. An earthen cover is a component of the RCA that will serve to protect grazing and wild animals from COPCs that might otherwise accumulate in reclamation vegetation. Use of this cover will also allow native people who exercise treaty rights to safely consume wildlife and vegetation that occur on the public reclaimed site in the future.

The monitoring activities designed for the site will allow BLM to test environmental media such as groundwater, surface water, and reclamation plants to ensure they are meeting the established requirements under the land use plans and water quality laws and that the Tribes can safely exercise their treaty rights when the site is no longer occupied. If monitoring data indicates a problem, the BLM will require Agrium to undertake an adaptive management program to correct the problem (see 43 CFR 3592.1 (d)(2)). Prior to initiating mining activities, the BLM will require Agrium to post a surety bond of adequate amount (amount is reassessed regularly based on change in site conditions) to address these activities if Agrium is unable or unwilling to address them in the future.

In addition to mitigation measures that are in place to address treaty rights, the BLM felt that more could be done to address concerns of importance that have been consistently communicated to us by the Tribes. Residual impacts from mining occur to the natural resources that form the basis of treaty rights. These impacts occur during mining, before reclamation commences, and before reclamation vegetation transitions over the long-term to a condition similar to pre-mining natural site conditions. The BLM's inclusion of an HEA model in the Rasmussen Valley Mine EIS is state-of-the art and designed to quantify these residual effects to

the natural vegetation communities over time. Use of the HEA model in this EIS allows the BLM to quantify an equivalent amount of off-site mitigation in the form of native vegetation and wildlife habitat mitigation projects to offset residual impacts to these resources from the mine. The BLM will include tribal representation in the process of selecting these off-site mitigation projects to ensure a native perspective is included.

This mitigation, when added to the required mine reclamation activities of backfilling, recontouring, and revegetating is intended to mitigate for one hundred percent of the effects to wildlife habitat and pre-mining native plant communities, and by design would ensure that cumulative effects in the area from another new phosphate mine would not add to any diminishment of culturally significant vegetation and wildlife species that are the focus of hunting, gathering, and cultural use activities protected by treaty.

The Council communicated to the BLM that because the HEA model focuses on vegetation and wildlife habitat, it falls short of what is necessary to properly evaluate impacts to treaty rights. The BLM agrees, in part, with the Council and has addressed this issue. The HEA model used in the EIS and in support of this ROD was not intended to evaluate impacts to resources other than vegetation wildlife habitat. Other resources and land uses important to the Tribes such as visual and cultural resources have not been omitted or discounted in the EIS. The BLM has incorporated other, more suitable or practical forms of analysis to evaluate effects on these important resources.

In our meetings, the tribal staff and Fort Hall Business Council emphasized the importance of maintaining water quality and avoiding situations that would require remediation of contaminants. The EIS has evaluated the RCA and related mitigation with respect to water quality impact and compliance with applicable standards. No measureable impacts to surface waters adjacent to the mine are predicted. The EIS predicts that impacts to groundwater would occur from the mine, but those impacts are localized, and not manifested in springs, seeps, or other surface water. The impacts are not expected to impact current or future beneficial uses, including tribal use of the water, or pose a pathway to ecological receptors or humans because of the extreme depth to affected groundwater. The RCA is expected to comply with the Clean Water Act, the Idaho Groundwater Protection Rule. Based on careful review of the EIS, implementation of the RCA is not anticipated to create a human or environmental health hazard and would not require remediation of contaminants.

The Tribes expressed concern that BLM evaluates these projects using “western” or “scientific” methods rather than methods that are valued by the Tribes.. BLM used the process prescribed by the United States Congress under NEPA. However, BLM has also attempted to incorporate a Tribal perspective in appropriate portions of the EIS.

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## **SECTION 9 – COMPLIANCE WITH ESTABLISHED REQUIREMENTS**

**Table 1.4-1** of the Final EIS lists the principal permits and authorizations that need to be obtained before mining begins. The following paragraphs list agency guidelines and requirements that must be met. The list of applicable laws below is not exhaustive, yet includes the major applicable laws.

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### **9.1 CARIBOU NATIONAL FOREST REVISED FOREST PLAN**

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The BLM decisions regarding mining on the NFS lands encompassing the Rasmussen Valley lease are subject to the CNF RFP, approved February 2003. All of the proposed components of the RCA on CNF land are within the 0.5-mile buffer of Prescription 8.2.1(d) of the RFP (**Figure 1.2-2**). When the mine is approved, these USFS lands will be managed under Prescription 8.2.2(g). The USFS has reviewed the proposed mineral development action and the analysis of predicted impacts. The Mine and Reclamation Plan, as mitigated by the selection of alternatives and with the mitigation described in this Decision and the Final EIS, meets the standards and guidelines in the revised Caribou Forest Plan (USDA, CTNF Recommendation letter August 20, 2016). The Mine and Reclamation Plan will provide for long-term multiple-use management on the CTNF. This decision complies with all applicable standards and guidelines.

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### **9.2 POCATELLO FIELD OFFICE APPROVED RESOURCE MANAGEMENT PLAN**

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For land surface overlying the phosphate lease not within the National Forest, this decision is subject to the BLM PFO ARMP (ARMP 2012). The PFO ARMP has been reviewed, and it has been determined that the RCA (with appropriate mitigation and monitoring) complies with the terms and conditions of the plan as required by 43 CFR 1610.5.

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### **9.3 FEDERAL LAND POLICY AND MANAGEMENT ACT**

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The decision has been reviewed for compliance with land management agency policies, plans, and programs including the Federal Land Policy and Management Act and recently released DOI mitigation policy. The decision is in conformance with the direction for mineral development contained in the PFO ARMP and the CNF RFP (2003). The RCA includes mitigation to ensure that unnecessary or undue environmental degradation does not occur. The decision recognizes public lands as an important source of mineral resources and manages public lands within the principle of multiple-use and sustainable development.

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### **9.4 NATIONAL ENVIRONMENTAL POLICY ACT**

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The Mine and Reclamation Plan has the potential to result in significant effects to the environment. Therefore, in accordance with the provisions of NEPA, this decision considers alternatives and mitigation developed to minimize degradation to the environment. The EIS was prepared to make environmental information available to agency decision makers, other agencies, Indian tribes, and the public. Because there are potential impacts to surface water

and groundwater, and because of its special expertise, the IDEQ has been engaged as a cooperating agency in the preparation of the EIS. In accordance with the provisions of NEPA, this decision considers alternatives and mitigation developed to minimize degradation of the environment.

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## **9.5 MINERAL LEASING ACT**

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The approved action will allow Agrium to exercise its existing development rights granted in its federal mineral leases. The selection of the RCA also includes modifying (enlarging) the existing lease which ensures that the ultimate maximum recovery of the mineral deposit can occur. As dictated by the Mineral Leasing Act, Agrium will pay rent and a gross value royalty on phosphate production to the United States. As directed by this Act, half of this money will be returned to Idaho for use by the state government.

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## **9.6 MINING AND MINERAL POLICY ACT**

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This decision is in harmony with the direction given in the act to foster and encourage private enterprise in developing economically sound and stable domestic mining and minerals industries and to foster orderly economic development of domestic minerals resources and reclamation of mined lands.

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## **9.7 ENDANGERED SPECIES ACT**

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The BLM has coordinated with the USFWS as directed by this Act. A Biological Assessment was prepared for the project which states that implementation of this decision with the appropriate mitigation measures “may effect, but is not likely to adversely affect” Canada lynx and is not likely to jeopardize the continued existence of the North American wolverine. The project is expected to meet the requirement of this Act and by memorandum dated September 8, 2016, the U.S. Fish and Wildlife Service has concurred with the Biological Assessment of the RCA.

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## **9.8 NATIONAL HISTORIC PRESERVATION ACT**

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Section 106 of the National Historic Preservation Act requires the BLM to evaluate potential effects of its undertakings on historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Section 106 process seeks to accommodate historic preservation concerns with federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties. In letters dated November 23, 2011, February 14, 2013, and April 8, 2013, the Idaho State Historic Preservation Office concurred with the mitigation measures and determinations in the Final EIS for the selected alternatives.

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## 9.9 CLEAN WATER ACT AND IDAHO GROUNDWATER QUALITY RULE

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Expected impacts to water quality from this decision and subsequent mining were fully analyzed in the Final EIS. Impacts to groundwater and surface water are not expected to exceed applicable water quality standards in the CWA and Idaho Groundwater Quality Rule (Rule).

The IDEQ was a cooperating agency in the preparation of the Final EIS. As described in a letter received August 6, 2016, the IDEQ has concurred with the assessment contained in the Final EIS.

Based on the aquifer classification system described in the Idaho Administrative Procedures Act (IDAPA) Code, groundwater in the Study Area is classified as a General Resource and is subject to numerical standards contained in section 58.01.11.200 and modified in subsections 200.03, 301.02.a, and 401.1 (Final EIS p 3-79). Impacts to the groundwater quality in the Wells Regional Aquifer are discussed in **Section 4.3.1.2.4 p 4-97; Table 4.3-17 p 4-107** of the Final EIS. Idaho water quality standards for groundwater are contained in IDAPA 58.01.11. Groundwater resources are discussed in the Final EIS in **Section 3.3.2**. Potential impacts to groundwater by mine facilities have been extensively evaluated, including numerical modeling of groundwater as described in **Sections 4.3.1.2.2 and 4.3.1.2.4** of the Final EIS. Additional groundwater information both baseline and modeling for transport, can be found in the Water Resources Technical Reports (Whetstone Associates, 2015a,b,c).

The POC determination prescribes the location of groundwater monitoring wells beyond which pre-mining existing and future beneficial uses of groundwater must be protected as specified in IDAPA 58.01.11.401 and allows groundwater within the POC to exceed groundwater standards. Degradation of water quality must be approved by the IDEQ under provisions of the Rule. The Rule authorizes the IDEQ to allow degradation to occur if a site-specific POC determination is set for the operation and the project has applied all practical methods of preventing or reducing contamination to groundwater and interconnected surface water. The Rule allows a mine operator of a new or expanding mine to request that the IDEQ set POCs at which the mine operator must meet groundwater quality standards as described in IDAPA 58.01.11.200. To comply with the Rule, the mine operator must use BMPs to limit the groundwater impacts and receive a POC determination. The POC determination is under the authority of the IDEQ in accordance with the Rule as stated in **Section 3.3.2.3** of the Final EIS. Agrium received a POC determination for the Rasmussen Valley Mine from the IDEQ on August 5, 2016. The POC determination prescribes the location of groundwater monitoring wells beyond which groundwater impacted by the mine is not allowed to exceed the groundwater standard maximum concentrations specified in IDAPA 58.01.11. The POC well locations are shown on **Figure 5** of this document. For the POC determination, background levels would be determined using methods described in Statistical Guidance for Determining Background Ground Water Quality and Degradation (IDEQ 2014b).

In accordance with the IDAPA 58.01.11, since groundwater degradation from the RCA was predicted in the Final EIS, Agrium made an application to the IDEQ and received approval of a site-specific POC. As part of that process, a range of seven mine cover designs were assessed. The IDEQ identified RCA Cover C as meeting the intent of the Rule of applying appropriate and practical BMPs to protect groundwater quality. With the POC in place, the IDEQ has indicated to

the BLM that the RCA as mitigated and selected by this decision is anticipated to comply with the Rule.

Surface waters are managed for beneficial use in accordance with surface water quality standards contained in IDAPA 58.01.02. Mine operations must also comply with surface water quality standards of the CWA. Section 303(d) of the CWA requires states to identify streams and lakes that do not meet surface water quality standards and to establish TMDLs for listed pollutants. The RCA is predicted to meet surface water standards and TMDLs for listed pollutants.

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## **9.10 CLEAN AIR ACT**

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The project is expected to meet the requirements of the Clean Air Act. Air emissions from the Mine and Reclamation Plan are regulated by IDEQ and EPA regulations. The Rasmussen Valley Mine will operate under an IDEQ-issued air quality permit, which addresses fugitive dust control measures, haul truck speed limits, blasting and drilling dust suppression, and other air pollution control requirements.

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## **9.11 ENVIRONMENTAL JUSTICE (EXECUTIVE ORDER 12898)**

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This decision will not have disproportionately high and adverse effects on one minority over another or low-income populations under EO 12898. As described in other sections, measures have been included in this ROD and in the RCA to lessen or mitigate effects to Indian tribes exercising treaty rights.

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## **9.12 MIGRATORY BIRD TREATY ACT**

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Ground clearing and timber removal are necessary precursors to mineral extraction and are part of this decision. There is potential for the approved action to impact migratory birds. Appropriate measures to minimize those impacts and incorporate them as mitigation measures in the Final EIS, such as ground clearing new mining areas outside of nesting seasons, are described in **Section 4.6.1.2.2** of the Final EIS and in the Mitigation section of this decision. By memorandum dated December 20, 2006, the USFWS has concurred with the measures.



## SECTION 10 – FINAL AGENCY ACTION

The BLM and other agencies prepared the EIS as required by NEPA since the Proposed Action may significantly affect the environment. The environmental impact analysis constitutes a hard look at Agrium's mine plan, the predicted impacts, and the mine plan's projected compliance with established requirements. However, because the analysis is forward looking, the Final EIS and its conclusions do not replace the need for continual re-assessment and adaptive mine management by the operator, Agrium, to ensure actual compliance with established rules, regulations, and statutes. As the actual mine operator, Agrium will act reasonably to ensure future compliance based on continual assessment and response to the actual environmental site conditions that develop as a result of its activities. Compliance may require changes to all or part of mining activities approved herein and the change and/or application of additional mitigation activities to reduce environmental impacts. Provisions for adjusting the mine and reclamation plan are outlined in 43 CFR 3592(d)(1,2). Although the BLM will perform its regulatory roles to periodically inspect and process Agrium's future requests to modify approved mining activities or consult with Agrium about its mining activities, in doing so, the United States of America does not assume any management responsibility or liability for the proper operation of the mine project in compliance with applicable rules, regulations, and statutes. The BLM at all times is carrying out its discretionary duties and responsibilities as provided by the Mineral Leasing Act of 1920 in order to see that phosphate deposits are leased under the terms and conditions as specified in the statute. 30 U.S.C. §§ 211(a), 181, 182, 184(c).

### MAKING AN APPEAL OF THE ROD TO THE BOARD OF LAND APPEALS

If you appeal, the following procedures must be followed.

**NOTICE OF APPEAL....**A person served with the decision being appealed must transmit the *notice of appeal* in time for it to be filed in the office where it is required to be filed within 30 days after the date of signing the decision (43 CFR 4.411 and 4.413). You may state your reasons for appealing, if you desire.

#### WHERE TO FILE NOTICE OF APPEAL

U.S. Dept. of the Interior  
Office of the Secretary  
Office of Hearings & Appeals  
Board of Land Appeals  
801 North Quincy St., MS 300-QC  
Arlington VA 22203  
(703) 235-3750

U.S. Dept. of the Interior  
Office of the Solicitor  
University Plaza  
960 Broadway Ave., Suite 400  
Boise Idaho, 83706

U.S. Dept. of the Interior  
Bureau of Land Management  
Idaho Falls District Office  
1405 Hollipark Drive  
Idaho Falls Idaho  
(208)-524-7500

**STATEMENT OF REASONS....**Within 30 days after filing the *Notice of Appeal*, file a complete statement of the reasons why you are appealing. This must be filed with the **United States Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals, 801 N. Quincy St., MS 300-QC, Arlington, VA 22203**. If you fully stated your reasons for appealing when filing the *Notice of Appeal*, no additional statement is necessary (43 CFR 4.412 and 4.413). Also send a copy to: **U.S. Dept. of the Interior, Office of the Solicitor, University Plaza, 960 Broadway Ave., Suite 400, Boise Idaho, 83706**.

**ADVERSE PARTIES....**Within 15 days after each document is filed, each adverse party named in the decision and the Regional Solicitor or Field Solicitor having jurisdiction over the State in

which the appeal arose must be served with a copy of: the *Notice of Appeal*, (b) the Statement of Reasons, and (c) any other documents filed (43 CFR 4.413). If the decision concerns the use and disposition of public lands, including land selections under the Alaska Native Claims Settlement Act, as amended, service will be made upon the Associated Solicitor, Division of Land and Water Resources, Office of the Solicitor, U.S. Department of the Interior, Washington, D.C. 20240. If the decision concerns the use and disposition of mineral resources, service will be made upon the Associate Solicitor, Division of Mineral Resources, Office of the Solicitor, U.S. Department of the Interior, Washington, D.C. 20240.

**PROOF OF SERVICE....** Within 15 days after any document is served on an adverse party, file proof of that service with the **United States Department of the Interior, Office of the Hearings and Appeals, Interior Board of Land Appeals, 801 N. Quincy St., MS 300-QC, Arlington, VA 22203**. This may consist of a certified or registered mail "Return Receipt Card" signed by the adverse party (43 CFR 4.401(c)(2)).

**REQUEST FOR STAY** Except where program-specific regulations place this decision in full force and effect or provide for an automatic stay, the decision becomes effective upon the expiration of the time allowed for filing an appeal unless a petition for a stay is timely filed together with a *Notice of Appeal* (43 CFR 4.21). If you wish to file a petition for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the Interior Board of Land Appeals, the petition for a stay must accompany your *Notice of Appeal* (43 CFR 4.21 or 43 CFR 2804.1). A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the *Notice of Appeal* and Petition for a Stay **must** also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards For Obtaining A Stay. Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards: (1) the relative harm to the parties if the stay is granted or denied, (2) The likelihood of the appellant's success on the merits, (3) the likelihood of immediate and irreparable harm if the stay is not granted, and (4) whether the public interest favors granting the stay.

Unless these procedures are followed your appeal will be subject to dismissal (43 CFR 4.402). Be certain that **all** communications are identified by serial number of the case being appealed.

**NOTE:** A document is not filed until it is actually received in the proper office (43 CFR 4.401(a)). See 43 CFR Part 4, subpart b for general rules relating to procedures and practices involving appeals.

**Do not appeal unless this decision is adverse to you and you believe it is incorrect.**

It is my decision to approve the Rasmussen Valley Mine Project as defined by the RCA in the Final EIS and this ROD and subject to environmental protection measures of the RCA and this ROD and the results of any appeal as described above. Agrium may proceed with mining and reclamation activities authorized by this ROD and as provided herein. This ROD outlines Agrium's projected future activity and mitigation levels needed to allow the mining project, as submitted by Agrium, to proceed as it envisioned and as authorized under the Mineral Leasing Act of 1920. Agrium remains responsible for ensuring and confirming that its activities, whether current or future, comply with all applicable rules, regulations, and statutes when it undertakes to implement the ROD. Implementation of this decision may begin at the close of an appeal-filing period which ends 30 days after this ROD is signed.

Mary D'Aversa

Mary D'Aversa

BLM Idaho Falls District Manager

1/13/2017

Date



## SECTION 11 – REFERENCES

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## SECTION 12 – ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

### ACRONYMS AND ABBREVIATIONS

Agrium	Nu-West Industries, Inc., doing business as Agrium Conda Phosphate Operations
ARMPA	Approved Resource Management Plan Amendment
BC	Brown and Caldwell
BLM	U.S. Bureau of Land Management
BMP	best management practice
BRWMA	Blackfoot River Wildlife Management Area
CFR	Code of Federal Regulations
CNF	Caribou National Forest
CO <sub>2</sub>	carbon dioxide
COPC	constituent of potential concern
CPO	Agrium Conda Phosphate Operations fertilizer plant
CTNF	Caribou-Targhee National Forest
CWA	Clean Water Act
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Plan
EO	executive order
GHG	greenhouse gas
GHMA	general habitat management area
GM	growth medium
HEA	Habitat Equivalency Analysis
HM	head-month
HR-5	Haul Road 5
IBLA	Interior Board of Land Appeals
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IDL	Idaho Department of Lands

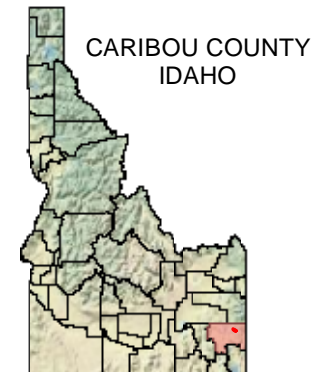
IDWR	Idaho Department of Water Resources
LAI	leaf area index
mg/l	milligrams per liter
mg/kg	milligrams per kilogram
NEPA	National Environmental Policy Act
NFS	National Forest System
NOI	Notice of Intent
P4	P4, LLC
PFO	Pocatello Field Office
PHMA	priority habitat management area
POC	Point of Compliance
Proposed Action	Mine and Reclamation Plan
RCA	Rasmussen Valley Collaborative Alternative
RFP	Revised Forest Plan
ROD	Record of Decision
Rule	Idaho Groundwater Rule
RVCA	Rasmussen Valley Cattle Allotment
SPCC	Spill Prevention Control and Countermeasure
SUA	Special Use Authorization
SWPPP	Storm Water Pollution Prevention Plan
TCP	traditional cultural property
TMDL	total maximum daily load
USACE	U.S Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WMA	Wildlife Management Area
WOUS	Waters of the U.S.

## DEFINITION

Backfill – Earthen material placed within the vertical boundaries of the excavated mine pit shell.



## **SECTION 13 – FIGURES**



#### LEGEND

- PROJECT LOCATION
- CARIBOU NATIONAL FOREST
- MAJOR HIGHWAY

*Projection:*  
North America Datum 1983,  
Universal Transverse Mercator,  
Zone 12 North  
*Source:*  
USA Topo Maps,  
served by ESRI ArcGIS Online,  
accessed on 8/16/2016



NORTH

0 2 4  
Miles

#### RASMUSSEN VALLEY MINE

**FIGURE 1**  
Project Location

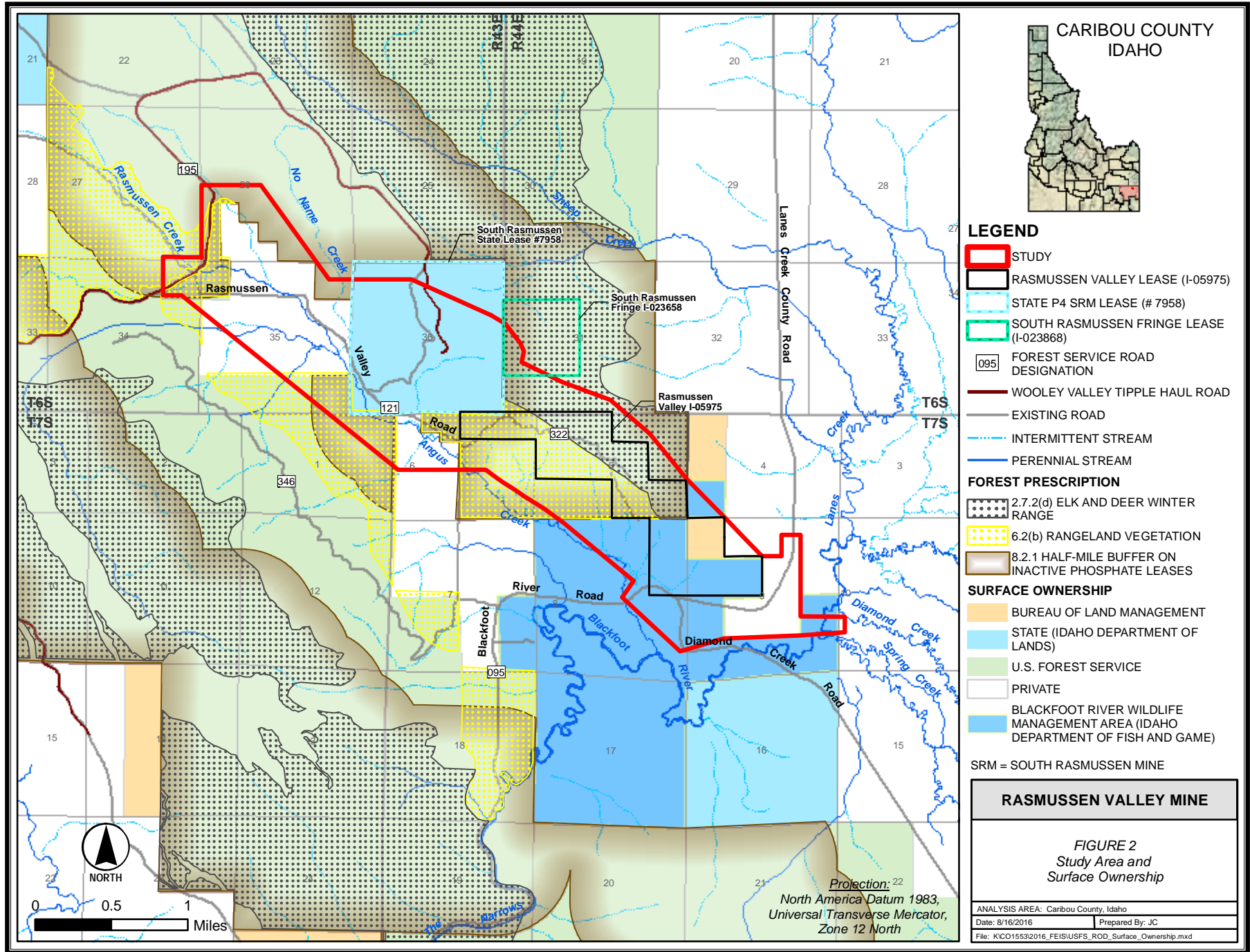
ANALYSIS AREA: Caribou County, Idaho

Date: 8/16/2016

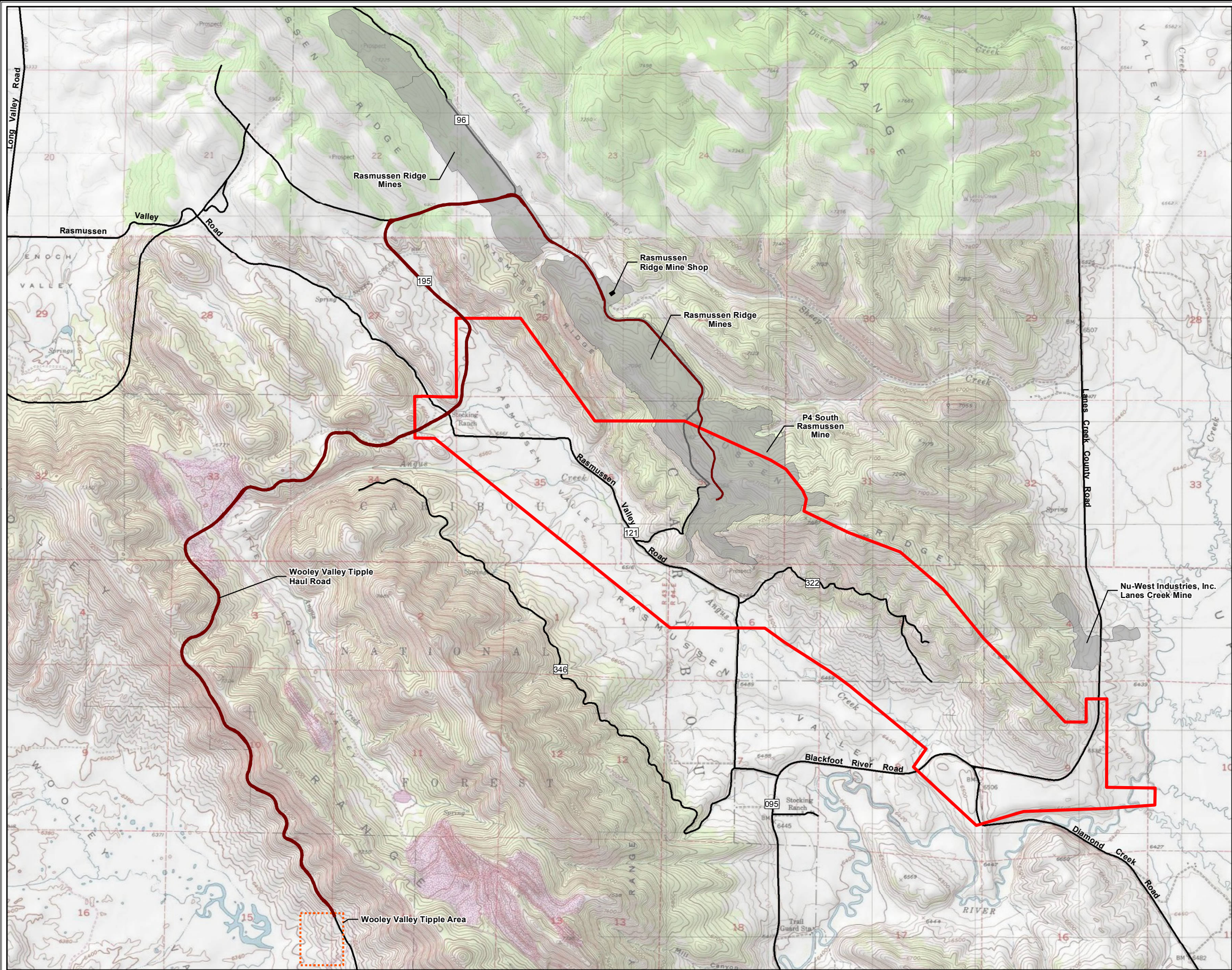
Prepared By: MSH &amp; JC

File: KIC015532016\_RODIUSFS\_ROD\_Project\_Location.mxd





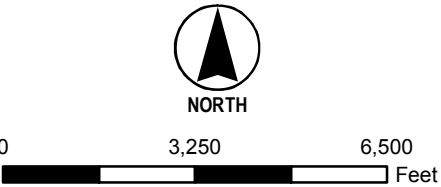




**LEGEND**

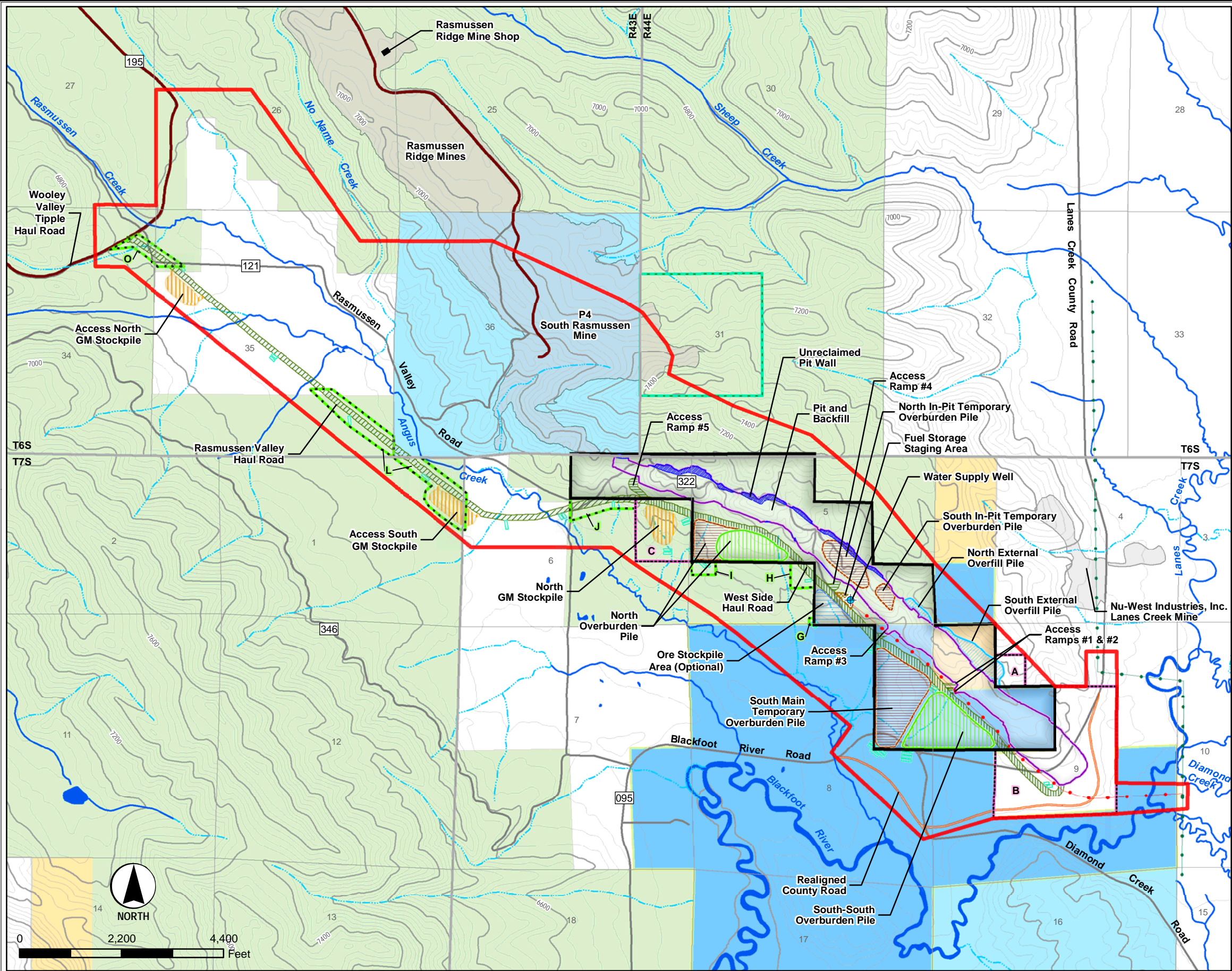
- STUDY AREA
- 195 FOREST SERVICE ROAD DESIGNATION
- EXISTING INFRASTRUCTURE**
  - EXISTING MINED AREA
  - WOOLEY VALLEY TIPPLE AREA
  - WOOLEY VALLEY TIPPLE HAUL ROAD
  - EXISTING ROAD
  - EXISTING SHOP/OFFICE

*Projection:*  
North America Datum 1983,  
Universal Transverse Mercator,  
Zone 12 North  
*Source:*  
USA Topo Maps,  
served by ESRI ArcGIS Online,  
accessed on 6/29/2016



RASMUSSEN VALLEY MINE	
<b>FIGURE 3</b> Existing Infrastructure	
ANALYSIS AREA: Caribou County, Idaho	
Date: 6/29/2016	Prepared By: JC
File: Z:\Agrium\CO1553\2016_RODI\ROD_Existing_Infrastructure.mxd	





**LEGEND**

STUDY AREA

SOUTH RASMUSSEN FRINGE LEASE (I-023868)

RASMUSSEN VALLEY LEASE (I-05975)

PROPOSED LEASE MODIFICATION

PROPOSED SPECIAL USE AUTHORIZATION

PROPOSED PIT

STAGING AREA

GROWTH MEDIUM (GM) STOCKPILE

PERMANENT OVERBURDEN PILE

PERMANENT OVERFILL PILE

TEMPORARY ORE STOCKPILE

TEMPORARY OVERBURDEN PILE

SEDIMENT BASIN

UNRECLAIMED PIT WALL

EXISTING MINED AREA

PROPOSED PROJECT POWER LINE

EXISTING POWER LINE

WEST SIDE HAUL ROAD

RASMUSSEN VALLEY HAUL ROAD

ACCESS RAMP

COUNTY ROAD REALIGNMENT

WOOLEY VALLEY TIPPLE HAUL ROAD

EXISTING ROAD

TOPOGRAPHIC CONTOUR: MAJOR

TOPOGRAPHIC CONTOUR: MINOR

INTERMITTENT STREAM

PERENNIAL STREAM

PLANNED WATER SUPPLY WELL

EXISTING SHOP/OFFICE

195 FOREST SERVICE ROAD DESIGNATION

**SURFACE OWNERSHIP**

BUREAU OF LAND MANAGEMENT

STATE (IDAHO DEPARTMENT OF LANDS)

U.S. FOREST SERVICE

PRIVATE

BLACKFOOT RIVER WILDLIFE MANAGEMENT AREA (IDAHO DEPARTMENT OF FISH AND GAME)

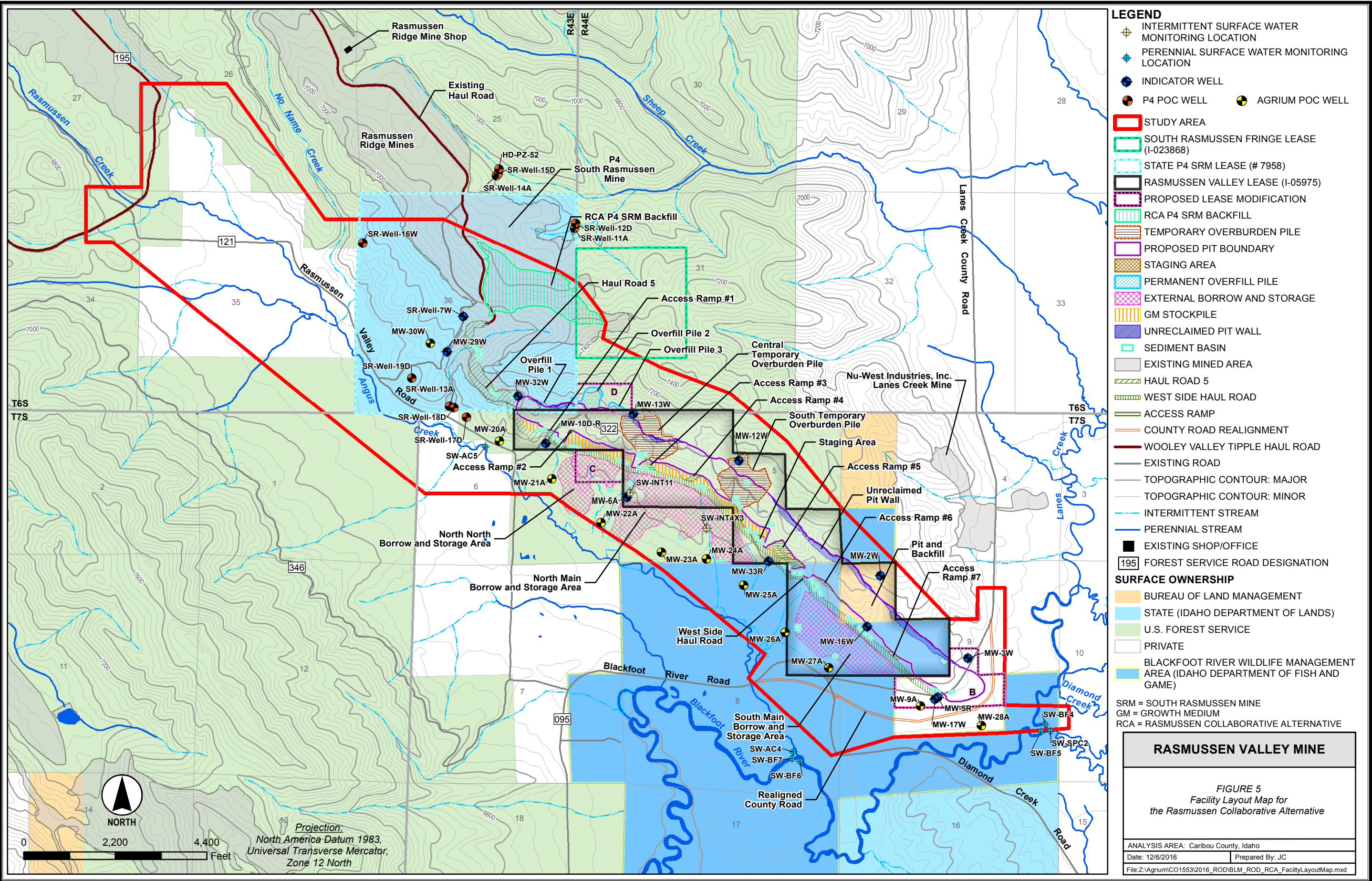
*Projection:*  
North America Datum 1983,  
Universal Transverse Mercator, Zone 12 North

**RASMUSSEN VALLEY MINE**

**FIGURE 4**  
Facility Layout Map for  
the Proposed Action

ANALYSIS AREA: Caribou County, Idaho  
Date: 7/26/2016 Prepared By: JC  
File: Z:\Agrium\CO1553\2016\_RODIUSFS\_ROD\_PA\_FacilityLayoutMap.mxd





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