



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor
Toni Hardesty, Director

December 5, 2011

Mr. Mitch Hart
Nu-West Mining
3010 Conda Road
Soda Springs, ID 83276

Subject: Site Assessment of the West Limb and South Limb of the Georgetown Canyon Mine and an Addendum to the Georgetown Canyon Right Fork Mine

Dear Mr. Hart:

The Idaho Department of Environmental Quality (DEQ) has completed a review of historical mining data and geological information of Georgetown Canyon Mine (West Limb and South Limb). Subsequent to that review, DEQ conducted a site visit to the Georgetown Canyon Mine (West Limb and South Limb) and the Right Fork Mine. The observations made at the Right Fork Mine resulted in an addendum to the DEQ 2007 Preliminary Assessment.

During the September 13, 2011 site visit to the West Limb approximately eight trenches were identified. These trenches were identified as exploratory and none were in contact with surface water. The trenches were heavily vegetated and it appeared very little phosphate ore was exposed in the area. The waste rock dumps associated with the trenches were heavily vegetated and had a healthy layer of duff on the surfaces.

The first trench encountered had the largest waste dump estimated at less than 50 cubic yards. The material appeared to be country rock with a minor amount of phosphate ore (<2 percent). The rest of the trenches may have had waste dumps, but DEQ was unable to find evidence as the mining occurred in the early 1900s and the area was overgrown. Therefore, DEQ has made the determination of No Remedial Action Planned (NRAP).

During the September 14, 2011 site visit on the South Limb and Right Fork Mine two trenches were identified immediately south of the Study Area. These trenches were identified as exploratory trenches and were located in areas where there was no evidence of surface water. At Trench 1 the resulting waste dump was heavily vegetated on the top and at the toe. Trench 2 appeared smaller without much evidence of a waste dump. This area was covered with heavy vegetation or perhaps reclaimed by the hillside.

Observations at the former Right Fork Mine showed the adit had completely caved in leaving an approximately two foot swell in the ground surface. The associated waste dump was overgrown with thick vegetation including well established trees. An addendum with amended recommendations to the DEQ 2007 Georgetown Canyon Right Fork Mine Preliminary Assessment is included in Appendix 1 of the South Limb of the Georgetown Canyon Mine Abbreviated Preliminary Assessment. In light of recent observations DEQ has made the determination of NRAP for the South Limb of the Georgetown Canyon Mine.

Preliminary Assessments (PAs) are conducted by DEQ according to the Federal Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). The reasons to complete a Preliminary Assessment include:

- 1) To identify those sites which are not CERCLIS caliber because they do not pose a threat to public health or the environment (NRAP);
- 2) To determine if there is a need for removal actions or other programmatic management of sites;
- 3) To determine if a Site Investigation, which is a more detailed site characterization, is needed; and/or
- 4) To gather data to facilitate later evaluation of the release of hazardous substances through the Hazard Ranking System (HRS).

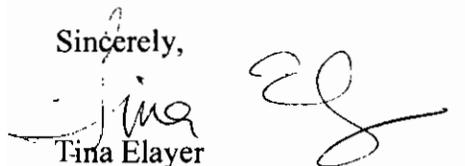
DEQ has also completed PAs under contract with the U.S. Environmental Protection Agency in order to identify risks to human health and the environment, and make recommendations to land owners regarding how risks might be managed, if necessary.

Soil, sediment, and water samples were collected during the site visit on the West Limb and in the general area of the Right Fork Mine. The samples were not submitted for analysis. There was a lack of anthropogenic sources to justify the analysis for these Abbreviated Preliminary Assessments (APAs). The samples will be retained in the DEQ Pocatello Regional Office for six months in case they are needed for further studies on a watershed wide basis.

Attached are the APAs for the West Limb and South Limb of the Georgetown Canyon Mine and an Addendum for the Right Fork Mine included as Appendix 1 of the South Limb APA. These APAs contain limited geological information, photographs, and maps of the property. This information was used by DEQ to make the determination that the property status is NRAP.

DEQ looks forward to addressing any questions you may have regarding our findings. Please contact me (208-373-0563) if you have any comments, questions, or if I may be of any other assistance. Thank you very much for allowing us access to your property. DEQ also appreciated the valuable assistance of Mr. James Williams during the site visit.

Sincerely,


Tina Elayer
Mine Waste Program Specialist

Attachments

cc: Ken Marcy – U.S. EPA
Sherri Clark – USFS
Kyle Free – BLM
Doug Tanner – DEQ Pocatello Regional Office
James Williams – Nu-West Mining
Georgetown Canyon Mine File
Georgetown Canyon Right Fork Mine File

ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Georgetown Canyon Mine (West Limb) near Georgetown, Idaho. This document provides the rationale for the determination of No Remedial Action Planned (NRAP) or if additional analysis or site investigation is necessary for the West Limb of the Georgetown Canyon Mine. Additional sheets are attached which contain relevant information including historical information, photographs, maps, and references generated during the site visit or desktop research.

Preparer: Tina Elayer **Date:** 12/1/11
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706
(208) 373-0563
tina.elayer@deq.idaho.gov

Site Name: Georgetown Canyon Mine (West Limb)

Previous Names (aka): **Superior Group:** Superior, Superior No. 1, Superior No. 2, Superior No. 3, and Superior Extension (Patented Claims)

Site Owner: Nu-West Mining, Inc.

Address: 3010 Conda Road
Soda Springs, Idaho 83276

Site Location: The Georgetown Canyon Mine is located in Bear Lake County approximately 5.7 miles east of Georgetown, Idaho. The site is located on private land (patented claims) in the West Limb section, which runs along the ridgeline on the west side of Georgetown Canyon. Access to the Superior Group of claims can be reached from Georgetown by driving northeast-east along the Georgetown Canyon Road past the former industrial site (extensive reclamation work has been done on this site). Go approximately three miles north on Caribou Nfd road 102 where there is a turn off on the west side which leads to road 197. Road 197 continues for approximately one-half mile and then turns into road 497. Road 497 winds through the claims for approximately 5 miles and ends at the base of the former Georgetown Canyon industrial site where the reclamation work occurred. Two collapsed adits are located off of the Caribou Nfd road 102 in Grant Canyon en route to the Superior Group of claims.

Township 10 South, Range 44 East, Sections 13, 14, 23, 24, 26

Latitude: 42.55510°N **Longitude:** -111.27109°W

Describe the release (or potential release) and its probable nature:

This site was investigated for potential releases of heavy metals and sediment from mine waste dumps and potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals. No evidence or indications of these materials were located on the site. See site photographs at the end of this report.

Part 1 - Superfund Eligibility Evaluation

If all answers are “no” go on to Part 2, otherwise proceed to Part 3.	YES	NO
1. Is the site currently in CERCLIS or an “alias” of another site?		x
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		x
3. Are the hazardous substances that may be released from the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?		x
4. Are the hazardous substances that may be released from the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		x
5. Is there sufficient documentation to demonstrate that there is no potential for a release that constitutes risk to human or ecological receptors? <i>(e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA approved risk assessment completed)?</i>	x	

Please explain all “yes” answer(s):

A site visit on September 13, 2011 of the West Limb of the Georgetown Canyon Mine involving direct observations confirmed contaminants of concern do not exist in concentrations that present a threat to human health or environment. This site is in close proximity to the proposed Study Area for the Georgetown Canyon Mine with a pending Consent Order. The Study Area was excluded from this APA.

Approximately eight trenches were identified. These trenches were identified as exploratory trenches which typically started in the Wells Formation, transversed the Meade Peak Member of the Phosphoria Formation and terminated in the Rex Chert Unit. None of the trenches were in contact with surface water. The trenches were heavily vegetated and it appeared that very little phosphate ore was exposed in the area. The waste rock dumps associated with the trenches were heavily vegetated and had a healthy layer of duff on the surfaces. The first trench encountered had the largest waste dump estimated at less than 50 cubic yards (cy). The material appeared to be country rock with a minor amount of phosphate ore (<2 percent). The rest of the trenches may have had waste dumps, but DEQ was unable to find evidence as the mining occurred in the early 1900s and the area is overgrown.

Part 2 - Initial Site Evaluation

For Part 2, if information is not available to make a “yes” or “no” response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

If the answer is “no” to any of questions 1, 2, or 3, proceed directly to Part 3.	YES	NO
1. Does the site have a release or a potential to release?		x
2. Does the site have uncontained sources containing CERCLA eligible substances?		x
3. Does the site have documented on-site, adjacent, or nearby targets?		x

If the answers to questions 1, 2, and 3 above were all “yes” then answer the questions below before proceeding to Part 3.	YES	NO
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		x
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		x
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within one mile)?		x
7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		x

Notes:

During the site assessments, DEQ used references from several different documents including USGS maps, county tax rolls, and historical reports that have spelled numerous claim names, town sites, and/or geographic features differently from one and another. DEQ’s use of the different spellings is to remain in context with the reference used for each given section of text or written in this report.

Samples were collected but were not submitted for analysis. There was a lack of anthropogenic sources to justify the analysis for this APA. The samples will be retained in the DEQ Pocatello Regional Office for six months in case they are needed for further studies on a watershed wide basis.

Exhibit 1 – Site Assessment Decision Guidelines for a Site

Exhibit 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. The assessor should use Exhibit 1 in determining the need for further action at the site, based on the answers to the questions in Part 2. Please use your professional judgment when evaluating a site. Your judgment may be different from the general recommendations for a site given below.

Suspected/Documented Site Conditions		APA	Full PA	PA/SI	SI
1. Releases or potential to release are not documented at the site.		Yes			
2. Uncontained sources with CERCLA-eligible substances have not been documented as being present on the site. (i.e., they do exist at site)		Yes			
3. On-site, adjacent, or nearby receptors are not present.		Yes			
4. There is no documentation or observations made leading to the conclusion that a sensitive receptor is present or may have been exposed (e.g., drinking water system user inside four mile target distance limit (TDL)).	Option 1: APA	Yes			
5. There is documentation that a sensitive receptor has been exposed to a hazardous substance released from the site.	Option 2: Full PA or PA/SI	No			
6. There is an apparent release at the site with no documentation of targets, but there are targets on site or immediately adjacent to the site.	Option 1: APA SI	No			
	Option 2: PA/SI	No			
7. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within one mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.		No			
8. There are: no indications of a hazardous substance release; uncontained sources containing CERCLA hazardous substances; but there is a potential to release with targets present on site or in proximity to the site.		No			

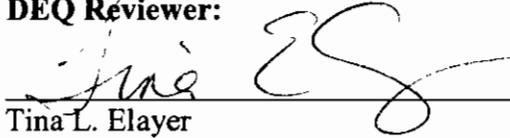
Part 3 - EPA Site Assessment Decision

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “NRAP” box below should be checked. Additionally, if the answer to question 4 in Part 2 is “yes,” then you have two options (as indicated in Exhibit 1): Option 1 -- conduct an APA and check the “Lower Priority SI” or “Higher Priority SI” box below; or Option 2 -- proceed with a combined PA/SI assessment.

Check the box that applies based on the conclusions of the APA:

x	No Remedial Action Planned (NRAP)	Defer to NRC
	Higher Priority SI	Refer to Removal Program
	Lower Priority SI	Site is being addressed as part of another CERCLIS site
	Defer to RCRA Subtitle C	Other: _____

DEQ Reviewer:


Tina L. Elayer

12/1/11

Date

Please Explain the Rationale for Your Decision:

There are no direct airborne, surface, or ground water pathways to any potable water sources or residences. No significant evidence of mining was visible at the site and the few trenches identified during the field visit appeared to be exploratory excavations with minimal disturbance. The waste dumps associated with the trenches were primarily composed of country rock.

As a result of our observations, DEQ is recommending this site be designated as NRAP.

Attachments:

- Historical Information
- Site Photographs
- Maps
- References

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Historical Information

Mine History: There is little historic data regarding the West Limb of the Georgetown Canyon Mine. However, there is some evidence this site was developed in conjunction with exploration activities associated with the larger Georgetown Canyon Mine.

For a period from April, 1906 to October, 1907, 16 association placer mining claims were located on the phosphate deposits of Georgetown Canyon. Unpublished records in the BLM show that all of the claims were purchased by the Utah Fertilizer and Chemical Manufacturing Company (UF&CMC) (USGS 2000).

The UF&CMC was incorporated January 29, 1908 specifically to purchase the mining claims at Georgetown Canyon and at other places and develop mines on the phosphate property (Campbell 1923). The UF&CMC applied for and received patent for all 16 placer mining claims in 1912, 1915, and in 1916. Robert J. Shields of the Salt Lake City law firm of Henderson, Pierce, Critchlow and Barrette was the agent and attorney-in-fact for the UF&CMC. Shields later became the mine manager of the Georgetown Canyon Mine (Campbell 1921).

The first known report of mining related activity in Georgetown Canyon was in 1909 (Gale and Richards 1910). A total of approximately 800 feet of underground development in nine tunnels and two shafts was completed on the mining claims held by the UF&CMC. No production oriented underground mining was ever accomplished by the UF&CMC on these patented placer claims (USGS 2000).

Bell (1919) reported that UF&CMC began sale negotiations in 1919 for the phosphate properties, and in 1928, the UF&CMC sold all of its interests in the 16 patented placer mining claims of Georgetown Canyon (including GCRFM) to the Stockholders Syndicate of Los Angeles, California (Campbell 1928). It is of interest to note that the last president of record of the UF&CMC was F. W. Braun of Los Angeles; at the time of sale, F. W. Braun of Los Angeles was also listed as the president of the Stockholders Syndicate.

From the time of the purchases in 1928 until 1953, Stockholders Syndicate did only upkeep on the properties with no mining of phosphate ore. Although an estimated total of 4,600 feet of underground workings were completed in 1953 and 1954, there was no reported production from the Georgetown Canyon area, and, by 1955, the properties were again idle.

The 16 patented placer mining claims of Stockholders Syndicate were sold to Central Farmers Fertilizer Company (CFFC) in 1955 (Hansen 1964). The Right Fork claim was apparently sold to CFFC in 1947 (DEQ 2004a). The Central Farmers Fertilizer Company was a large farm co-operative, made up of smaller farm co-ops throughout the south, midwest, and northwest United States and southern Canada (Emigh 1959). In 1957, construction started on a processing plant with an electric furnace and kiln in the Canyon, and the railroad spur that was first conceived in 1916 was finally constructed up Georgetown Canyon to the site of the new processing facility (Cressman 1964). Open pit mining was first reported in June of 1958, and, by late 1959, all underground mining had been abandoned. By 1960, the new open pit was approximately 3,000 feet long, 100 feet wide, and 100 feet deep (Fletcher 1960).

Open pit mining in Georgetown Canyon continued until 1963, when the pit was reported to be approximately 10,000 feet long, 250 feet wide and 100 feet deep (Hansen 1964). In 1964, production from the mine stopped, and the El Paso Natural Gas Products Company bought the Georgetown Canyon phosphate properties from the Central Farmers Fertilizer Company (Hansen 1965). The plant facility was closed that same year, and parts of it were moved to Conda, where the company was building a new phosphate processing plant (Service 1967).

The Georgetown Canyon Mine has not produced phosphate ore since 1964; however, the mine ownership has changed hands several times since then:

- *In May of 1972, Agricultural Products Corporation (APC) purchased the mine properties from El Paso. Agricultural Products Corporation was a wholly owned subsidiary of Beker Industries Corporation.*
- *In 1972, APC was dissolved and all of their property holdings, including the Georgetown Canyon mine were assigned to the parent company, Beker Industries.*
- *In January of 1979, Beker Industries Corporation sold the Georgetown Canyon Mine to Western Co-operative Fertilizer, Ltd., USA and formed the Conda Partnership.*
- *In 1987, the Beker Corporation filed for a Chapter 11 bankruptcy and a financial group called Nu-West Industries, Inc. replaced the Beker Corporation in the Conda Partnership.*
- *In 1992, Nu-West Industries, Inc. bought out the Western Co-operative Fertilizer, Ltd., and formed a wholly owned subsidiary named Nu-West Mining, Inc. to replace the co-op in Conda Partnership.*
- *In 1995, the Conda Partnership was dissolved and all of the mine properties were assigned to Nu-West Mining, Inc.*
- *In October of 1995, Nu-West Industries was acquired by Agrium, Inc., a Canadian firm based in Calgary, Alberta (USGS 2000; Sprague 2006).*

Geologic Features: The Georgetown Canyon Mine lies within the northern region of the Basin and Range physiographic province, which is characterized by linear, north-trending fault-bounded ranges and basins created by extensional tectonism initiated during the last 10 to 20 million years. However, the geology of the Georgetown Canyon Mine including the West Limb is dominated by the Southeastern Idaho fold and thrust belt and specifically the Meade Thrust Fault.

Ranges in southeastern Idaho are generally composed of deformed Paleozoic and Mesozoic sedimentary rocks, including thick marine clastic units, comprising cherts and limestones. The valleys are largely in-filled with Quaternary alluvium and colluvium that overlie Pleistocene basalt flows. Middle Pleistocene rhyolite flows of the Snake River Plain cover much of the area and complete the geologic sequences in the region.

Massive accumulations of marine sediment occurred during the Paleozoic era over large areas of eastern Idaho. During the Permian Era, the Phosphoria Formation was deposited, forming the western phosphate field, part of which is located in the Idaho Phosphate Mining Resource Area. (DEQ 2007)

The stratigraphy in the Georgetown Canyon area is dominated by the Georgetown Syncline, a large complex fold dipping to the north. The west limb claims are located on the western extent of the syncline and are overturned and highly faulted (USGS, 1964). The stratigraphy most encountered by mining activities in the area is generally limited to four principal rock units. The stratigraphy, approximate ages, and a description of each unit are summarized in Table 1.

Table 1. Generalized Stratigraphic Setting of Project Area¹.

<i>Unit Name</i>	<i>Age</i>	<i>Description</i>
<i>Dinwoody Formation</i>	<i>Triassic</i>	<i>Approximately 900 feet thick and composed of interbedded gray limestone grading downward to calcareous shale and siltstone with limestone interbeds.</i>
<i>Phosphoria Formation</i>	<i>Permian</i>	<i>Composed of three distinct members including; the Cherty Shale, the Rex Chert, and Meade Peak Phosphatic Shale. The Cherty Shale consists of approximately 100 feet of cherty mudstone resting on the Rex Chert which consists of approximately 150 feet of massively bedded chert containing some limestone at the base. The Meade Peak is the lower member in the formation and is the source of phosphate ore. The unit is comprised of brown to black shale and siltstone with phosphatic mudstones, argillaceous and oolitic phosphorite and cherty mudstone.</i>
<i>Grandeur Tongue of the Park City Formation</i>	<i>Permian</i>	<i>Consists of approximately 75 feet of dense light gray dolomite, but includes limestone near the base of the unit. The unit typically contains nodules of black to dark-gray chert in the upper third and is recognized as an excellent indicator of the overlying phosphatic shales of the Meade Peak Member.</i>
<i>Wells Formation</i>	<i>Permian Pennsylvanian</i>	<i>Approximately 1,500 to 2,000 feet thick in the project area. The Wells Formation consists of two members. The upper member is a buff colored sandy limestone, gray to reddish brown sandstone and interbedded gray limestone and dolomite. The lower member consists of gray cherty limestone with some interbedded sandstone.</i>
<i>Notes: 1. By convention, units are presented from top to bottom, as youngest to oldest.</i>		

The Phosphoria Formation as described by Richards and Mansfield (from Phosphoria Gulch) consist of three members. From youngest to oldest these include; the Cherty Shale, the Rex Chert and the Meade Peak Phosphatic Shale. Thickness of the Meade Peak Member in Georgetown Canyon is approximately 200 feet on the east limb of the Georgetown Syncline and approximately 150 feet on the west limb, likely due to faulting (USGS, 1964). The Meade Peak Member is the oldest and is overlain by the Rex Chert or the Cherty Shale Members. Concentrations of phosphate minerals in the Meade Peak Member are significantly higher than typical concentrations found in other marine sedimentary rock. (Montgomery Watson, 1998).

Site Photographs

Background soil sample GCBG1SS1 was collected from what appeared to be the Rex Chert Formation. The sample was brown in color and contained <2 percent organic material. Latitude 42.57182°N, Longitude -111.26080°W (No photo, sample point is shown on Map 2)



Photo 1. Background surface water sample GCBG1SW1 and sediment sample GCBG1SD1 were collected from a spring in the hillside which feeds the creek where the background parameters were collected. The area is located on USFS land. Latitude 42.56385°N, Longitude -111.26441°W



Photo 2. Unnamed creek on USFS land.

Horiba parameters were collected from this stretch. Creek is located <10 feet from the spring. Surface water sample GCBG2SW1 and sediment sample GCBG2SD1 were collected at this location. Latitude 42.56108°N, Longitude -111.26454°W

Parameters	Georgetown Canyon Mine West Limb
pH	8.81 std. units
Specific Conductance	.381 μ siemen/cm
Turbidity	12 NTU
Dissolved Oxygen	8.12 mg/L
Temperature	6.2°C
Salinity	.01%

A third set of background surface water and sediment samples (GCBG3SW1 and GCBG3SD1) were collected in an area assumed to be located on the patented claims. These samples were collected in a marshy area with an extensive amount of vegetation. The samples were medium to dark brown in color and contained >10 percent organics. (No photo, sample point is shown on Map 2).



Photo 3. View of the access road to the trenches. This road is located on private and USFS property. The road shows minimal signs of use from humans, signs of elk and deer were more evident.



Photo 4. Trench 1 is an exploratory excavation extending from the Wells Formation (foreground) through the Cherty Shale Member of the Phosphoria Formation. The trench is approximately 100 yards long and at the time of the field visit there was no water. A minor amount of phosphate ore (<2 percent) was identified at the end of the trench. The waste material was covered by a thick thatch of duff and vegetation. The waste dump appeared to be less than 50 cy. Latitude 42.55510°N, Longitude -111.27109°W



Photo 5. Trench 2 is less than 133 yards in length and primarily dolomite and limestone. The trench is heavily vegetated and there was no evidence of surface water at the time of the site visit. Latitude 42.55059°N, Longitude -111.26956°W



Photo 6. Head of Trench 3. This trench is composed of mainly limestone and dolomite. No phosphate ore was observed and there was no surface water near the area at the time of the site visit. The bottom of the trench is heavily vegetated. Latitude 42.54749°N, Longitude -111.27111°W



Photo 7. View at head of Trench 4. Trench 4 is less than 133 yards in length. It consists of mainly dolomite and limestone. No water was observed in the trench. Vegetation in the trench and on the sides was well established.
Latitude 42.54602°N, Longitude: -111.27267°W



Photo 8. View looking into Trench 4 where it transverses the Meade Peak Member of the Phosphoria Formation.



Photo 9. View of hillside below Trench 4. Vegetation is well established and there were no signs of erosional pathways from Trench 4.



Photo 10. Historical access road to Trench 5. Road is completely overgrown with heavy vegetation.



Photo 11. View at head of Trench 5. Thin veneer (<5 cy) of waste rock was observed at the head of the trench. Photo was taken from the top of the Wells Formation looking into the Meade Peak Member. Trench 5 is perpendicular to strike and is mainly limestone and dolomite. Vegetation is lush in the trench. Latitude 42.54881°N, Longitude -111.27287°W



Photo 12. View of Trench 5 at the head looking down into the trench. Vegetation has reclaimed the trench and there was no water at the time of the site visit. No erosional pathways were identified coming from the trench.



Photo 13. View of Trench 6, looking up at the head. Vegetation has reclaimed the trench and there was no water at the time of the site visit. No erosional pathways were identified coming from the trench. Latitude 42.53785°N, Longitude -111.26881°W



Photo 14. Looking down into Trench 6. This is the section closest to the access road. No erosional pathways were observed from the trench to the road.



Photo 15. View from bottom of Trench 7. This trench lacked the extensive amount of vegetation found in the other trenches and had more country rock exposed. However, the vegetation was well established at the base and there were no signs of erosional pathways. Latitude 42.53105°N, Longitude -111.27055°W



Photo 16. View of mine scar (high wall) of the Georgetown Canyon Mine on the east flank of the Georgetown Syncline across the valley. The area in the picture is included in the Study Area.



Photo 17. View of Trench (Prospect) 8. The area where the trench/prospect was identified on topographical map appears to be reclaimed. The hillside is vegetated with little evidence of disturbance. Latitude 42.53450°N, Longitude -111.27012°W



Photo 18. Syncline Spring. Surface water and sediment samples (SSPPE1SW1 and SSPPE1SD1) were collected from this location. The spring is heavily vegetated until it reaches the Study Area. Latitude 42.53589°, Longitude -111.26256°W

Parameters	Georgetown Canyon Mine Syncline Spring
pH	8.98 std. units
Specific Conductance	.346 μ siemen/cm
Turbidity	<8 NTU
Dissolved Oxygen	11.39 mg/L
Temperature	8.6°C
Salinity	.01%



Photo 19. Grant Canyon Adit 1 is partially collapsed and extends approximately four feet into hillside. At the time of the site visit the area was dry with no evidence of waste rock or water coming from the adit. The vegetation is well established. Latitude 42.53874°N, Longitude -111.26179°W



Photo 20. Grant Canyon Adit 2. The adit is collapsed from roof to floor. No sign of water or waste rock from previous mining activities. Area is heavily vegetated at mouth of adit and in the surrounding area. Latitude 42.54219°N, Longitude -111.26136°W



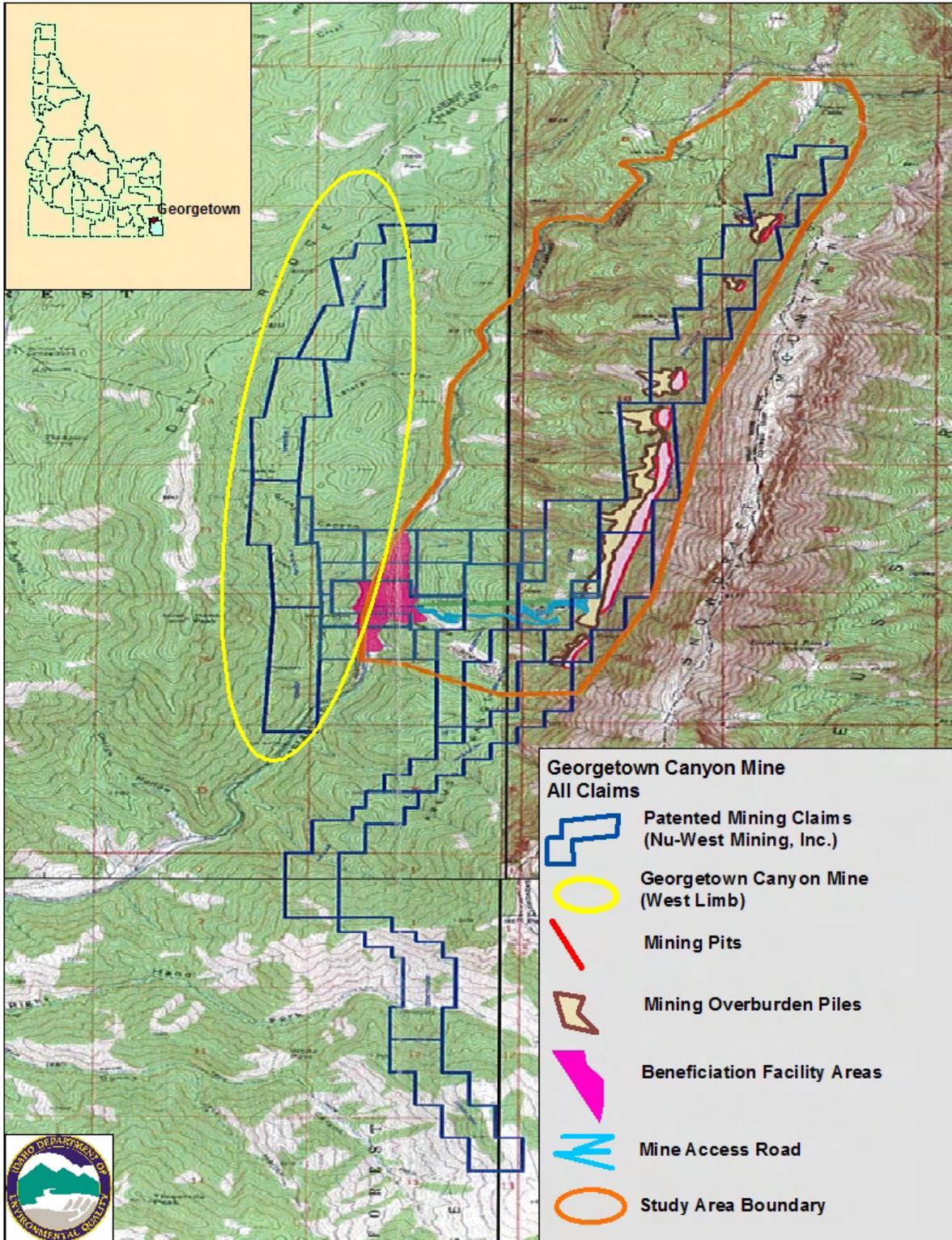
Photo 21. Close-up of collapsed Adit 2.

Surface water and sediment samples (GRCPE1SW1 and GRCPE1SD1) were collected from a seep in an unnamed creek bed in Grant Canyon approximately 100 yards west of the adits. The area is heavily vegetated and is located on the west limb of the Georgetown Syncline. (No photo, sample point is shown on Map 2) Latitude 42.54242°N, Longitude -111.26681°W

Parameters	Georgetown Canyon Mine Grant Canyon
pH	8.31 std. units
Specific Conductance	.278 μ siemen/cm
Turbidity	<10 NTU
Dissolved Oxygen	11.26 mg/L
Temperature	7.7°C
Salinity	.01%

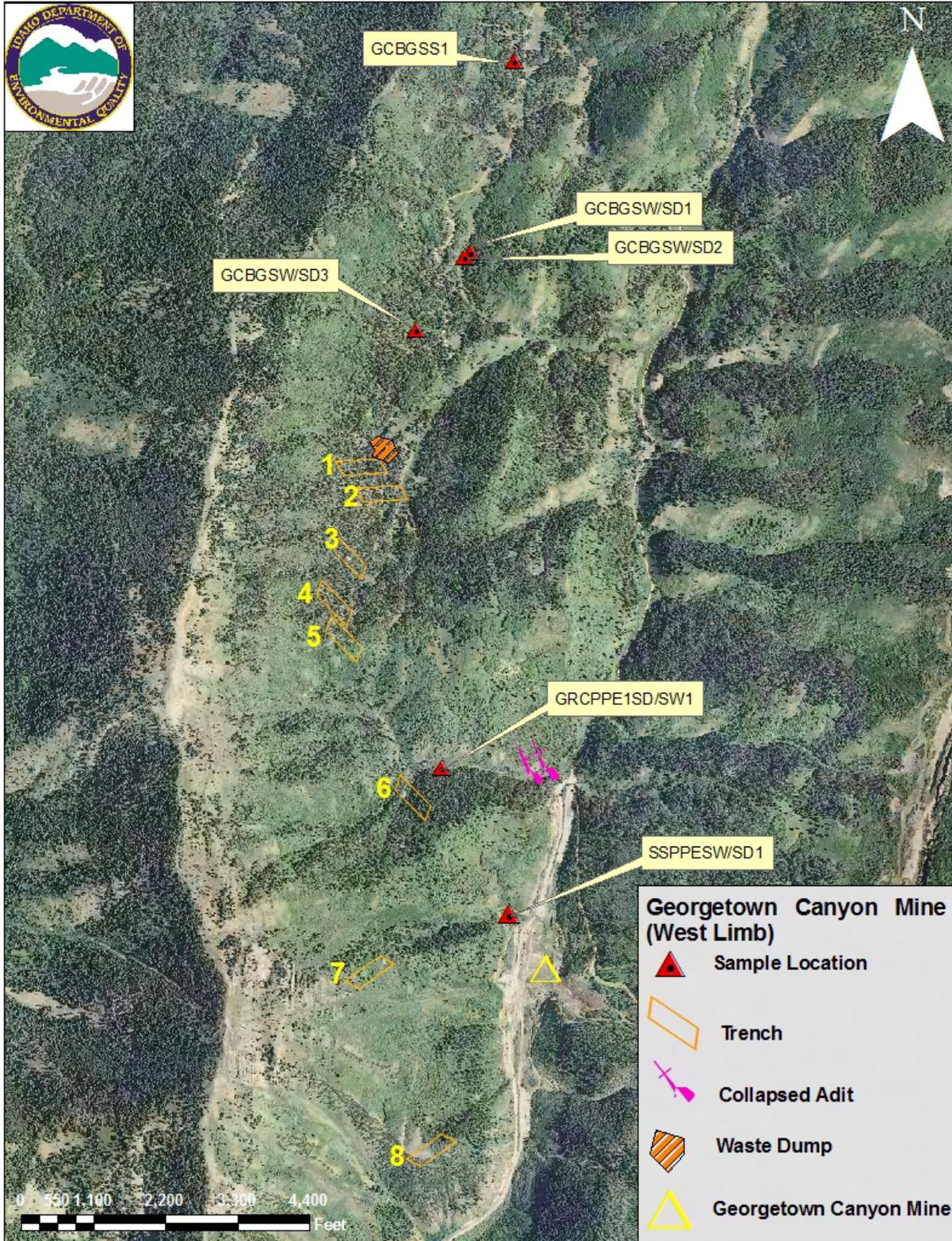
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Maps



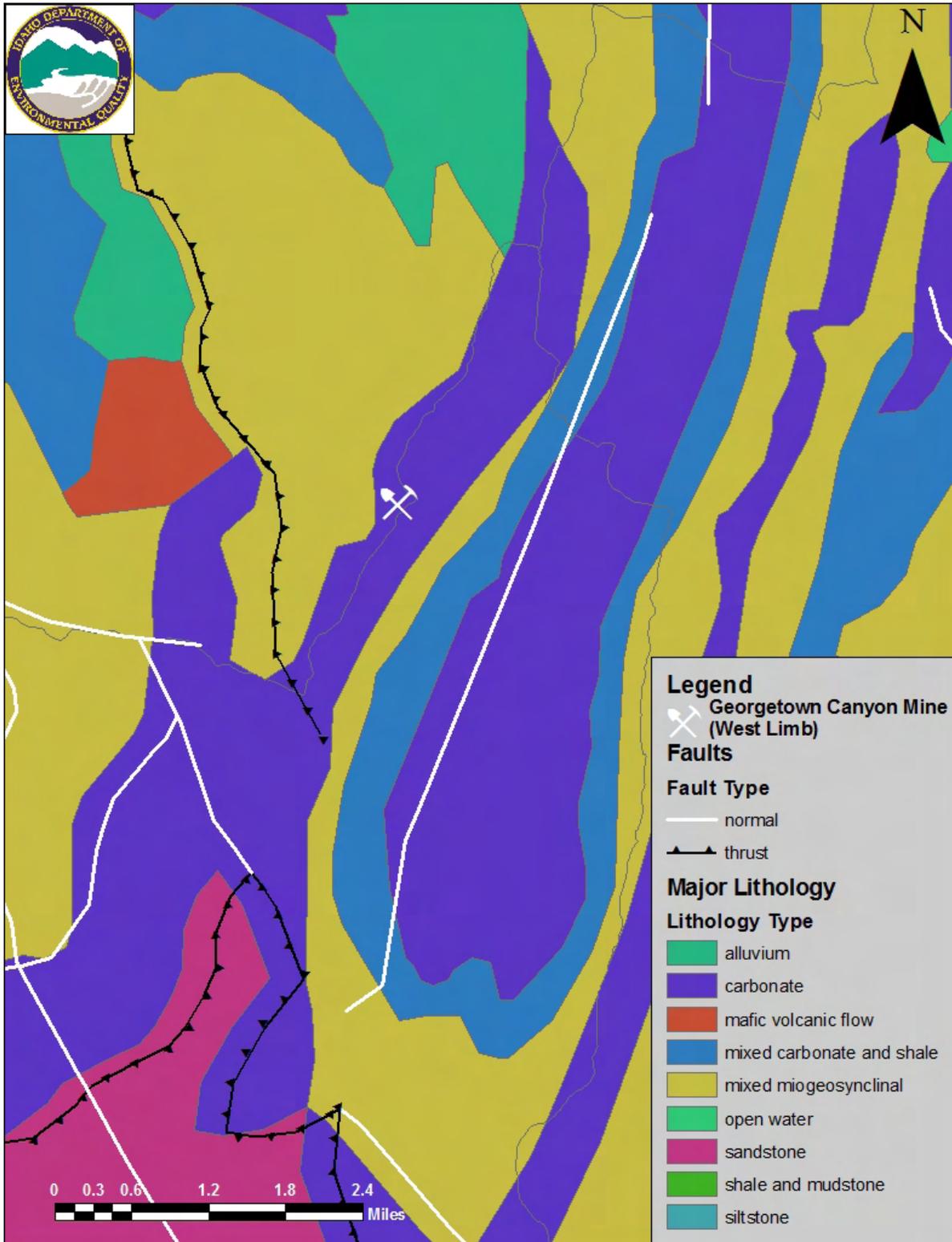
Map 1. Location of Georgetown Canyon Mine. West Limb is located on the left side of the map within boundary of yellow oval. (Map Source: USGS 24k Quads, provided by James Williams)

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Map 2. Close-up of Georgetown Canyon Mine (West Limb) with Sample Locations and Site Features (Map Source: 2009 Natural Color 1-meter NAIP Idaho Map)

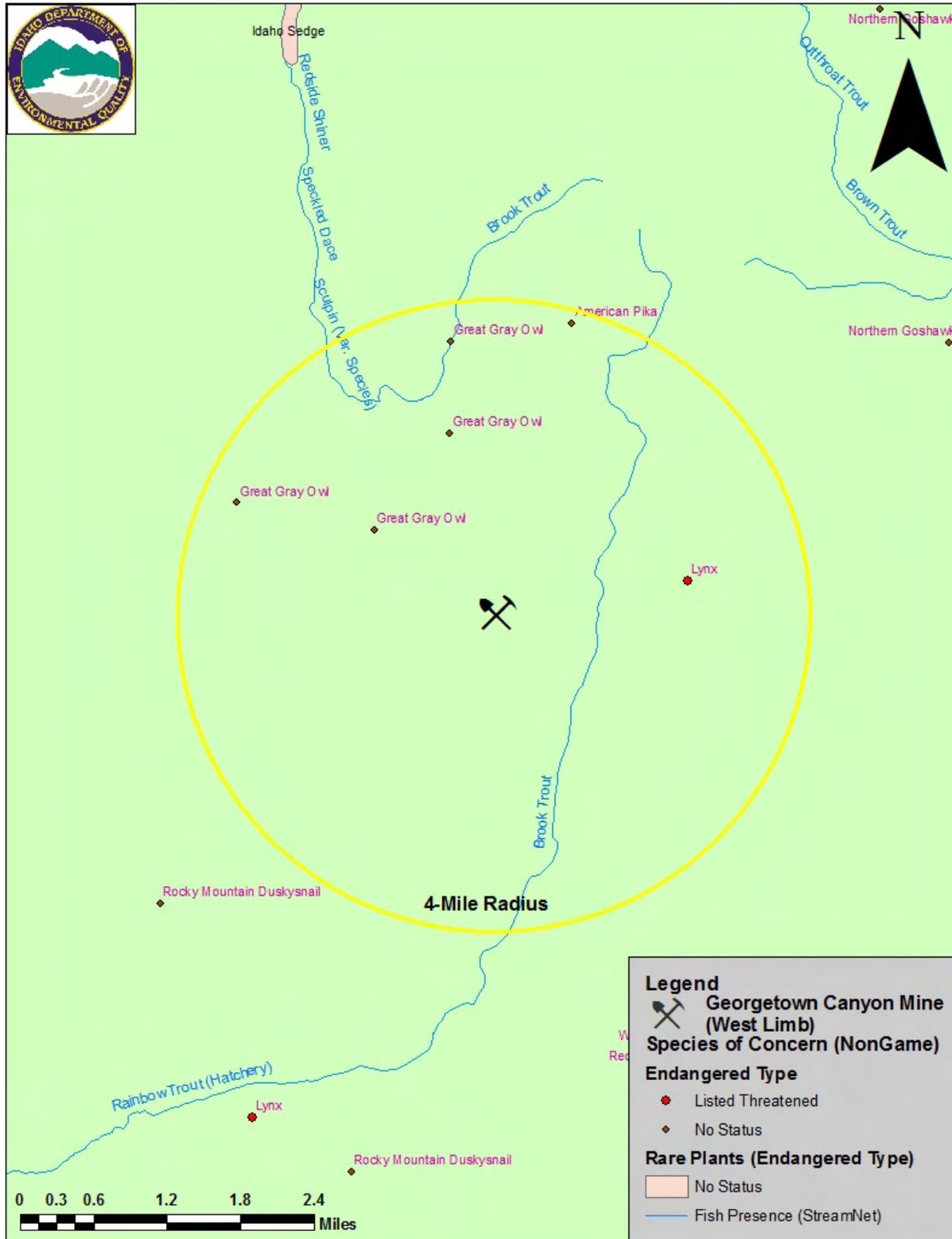
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Map 3. Major Lithology of Georgetown Canyon Mine (West Limb) and Surrounding Area (Map Sources: SDE Feature Class, USGS 1995, and Idaho DEQ GIS ArcSDE 9.2 Geodatabase)

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Map 5. Sensitive Species within Four Mile Radius and Surrounding Area. Species of Concern: Non-Game Animals and Plants. (Map Sources: SDE Feature Dataset, Animal Conservation Database and Idaho DEQ GIS ArcSDE 9.2 Geodatabase)

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