ENVIRONMENTAL ASSESSMENT

Proposed Revision and Renewal of Permit WA0007D for Resumption of Mining

John Henry No. 1 Coal Mine

Pacific Coast Coal Company

King County, Washington

Prepared by

The Office of Surface Mining Reclamation and Enforcement

Western Region

Denver, Colorado

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ENVIRONMENTAL ASSESSMENT

PROJECT NAME: JOHN HENRY NO. 1 MINE – SIGNIFICANT PERMIT REVISION APPLICATION
LOCATION: KING COUNTY, WASHINGTON
APPLICANT: PACIFIC COAST COAL COMPANY

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A. LIST OF ACRONYMS

Army Corps of Engineers	USACE
Approximate Original Contour	AOC
Best Available Control Technology	BACT
Clean Air Act	CAA
Council on Environmental Quality	CEQ
Cumulative Hydrologic Impact Assessment	CHIA
Environmental Assessment	EA
United States Environmental Protection Agency	EPA
Final Environmental Impact Statement	FEIS
Geographic Information System	GIS
Growth Management Act	GMA
Master Planned Development	MPD
Mine Safety and Health Administration	MSHA
National Ambient Air Quality Standards	NAAQS
National Environmental Policy Act	NEPA
National Marine Fisheries Service	NMFS
National Pollutant Discharge Elimination System	NPDES
New Source Performance Standards	NSPS
Office of Surface Mining, Reclamation and Enforcement	OSMRE
Permit Application Package	PAP
Pacific Coast Coal Company	PCCC
Probable Hydrologic Consequences	PHC
Priority Habitat and Species	PHS
Puget Sound Air Pollution Control Agency	PSAPCA
Puget Sound Clean Air Agency	PSCAA
Run-of-Mine	ROM
Small Operators Assistance Program	SOAP
Threatened and Endangered	T&E
Total Maximum Daily Load	TMDL
Total Suspended Particulates	TSP
United States Fish and Wildlife Service	USFWS
Washington Department of Fish and Wildlife	WDFW
Washington Department of Natural Resources	WDNR
Washington Department of Ecology	WDOE

B. DESCRIPTION OF THE PROPOSED ACTION

Pacific Coast Coal Company (PCCC) has submitted a Revision Application to the Office of Surface Mining, Reclamation and Enforcement (OSMRE) to revise the currently-approved permit to allow the resumption of surface coal mining operations at the John Henry No. 1 Coal Mine, located in King County, Washington, near the City of Black Diamond. PCCC has not engaged in active coal mining operations since 1999 and has since been conducting mine maintenance and minor reclamation activities. PCCC proposes to resume mining predominantly in Pit 2, the location of which is shown on Figure 2 of this document. The proposed mining conducted over a six-year period would remove 740,000 short tons of minable coal reserves and would be followed by a one-year period of reclamation-only actions.. After cleaning and processing the mined coal, PCCC would then possess 450,000 short tons of saleable coal for market.

PCCC has also submitted an Application for Permit Renewal of surface coal mining operations at John Henry No. 1 Coal Mine. The surface coal mining actions proposed in the Revision Application would continue through the current permit term and PCCC would need to renew the John Henry No. 1 Coal Mine surface coal mining permit under the mine plan proposed in the Revision Application. The Surface Mining Control and Reclamation Act (SMCRA) provides surface coal mining operators the right to successively renew an approved surface coal mining permit under terms of the approved surface coal mining permit.

Upon completion of the review of the proposed permit revision, OSMRE will either approve or disapprove the Revision Application and Application for Permit Renewal.

1. PURPOSE AND NEED FOR PROPOSED ACTION

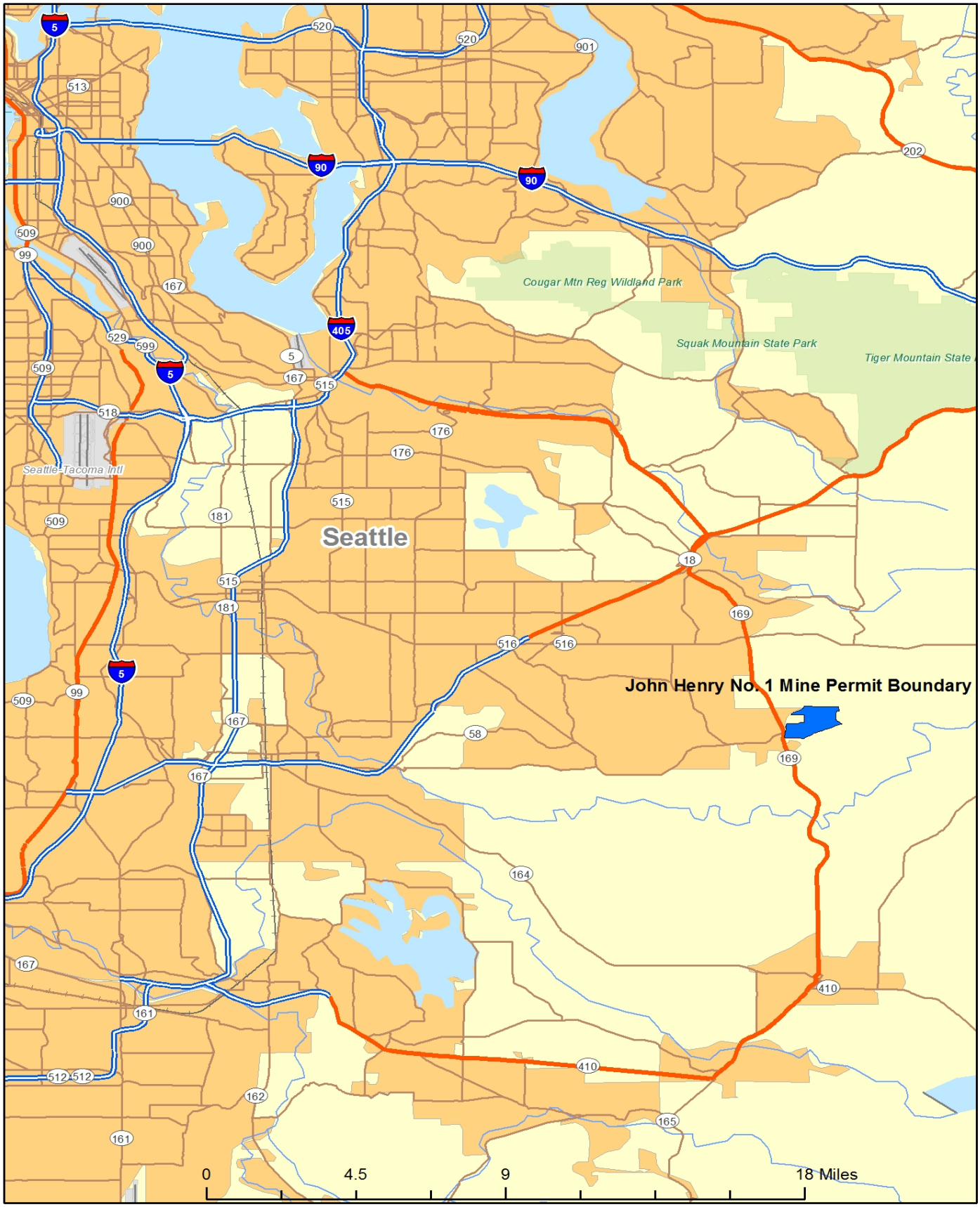
The purpose of the proposed action is to recover additional coal reserves located on the John Henry No. 1 Mine site. PCCC states that these coal reserves have become economically recoverable due to changes in market prices and other factors that improved PCCC's competitive position in the regional coal marketplace. PCCC submitted a permit Revision Application for the John Henry No. 1 Mine, Federal Permit No. WA-0007D, dated April 18, 2011. OSMRE determined that the Revision Application was administratively complete on April 28, 2011 and began a technical review of the application. OSMRE determined that the Revision Application should be designated as a significant permit revision and that an Environmental Assessment (EA) was required under the National Environmental Policy Act (NEPA). Factors considered in determining that the Revision Application was significant included: changes in coal production; public interest in the operation; and resumption of blasting operations.

2. BACKGROUND INFORMATION

The John Henry No. 1 Mine consists of approximately 480 acres located in south King County, Washington adjacent to the City of Black Diamond. It was first permitted in 1986 and operated through the late 1990's. The permit was renewed in five-year increments with the most recent renewal approved December 7, 2006. The general location of the property is shown on Figure 1. The John Henry No. 1 Mine received funds from OSMRE's Small Operator Assistance Program (SOAP) in the 1980's. This program was developed by OSMRE to provide financial assistance to

small coal operators to help them generate specific environmental information required as part of the permitting process.

Figure 1: Vicinity Map of the John Henry No. 1 Mine in Black Diamond, Washington



The John Henry Mine No. 1 Permit Application Package (PAP) contains a mining operations and reclamation plan that includes a worst-case final reclamation scenario that was used to calculate the amount of the reclamation cost estimate. OSMRE set the value of the reclamation bond based upon the worst-case reclamation cost estimate. In April 2009 OSMRE issued a permit revision order that required PCCC to either begin mining or commence final reclamation according to the reclamation plan in the PAP. OSMRE also required PCCC to demonstrate that it had a market for its coal through evidence of a sales contract. PCCC negotiated and signed a coal supply contract in April 2011 and submitted the Revision Application along with a copy of the signed coal supply contract. PCCC proposes in the Revision Application to mine at the rate of approximately 90,000 clean short tons of coal per year. PCCC has added a new Section 3.7 to the reclamation plan in Chapter III which states that PCCC will commence reclamation in the first quarter following the first year of inactivity in accordance with its approved reclamation plan. Also, PCCC submitted a reclamation schedule that shows that backfilling will be completed within two years of commencement of backfilling activities.

OSMRE previously concluded that the environmental impacts of continued mining at the site were adequately analyzed in the Final Environmental Impact Statement (FEIS) for the John Henry No. 1 Mine permit application dated June 12, 1986. OSMRE determined that prior permit renewal approvals would not change the environmental impacts. This EA references that FEIS and also provides a clear and concise description of the project and the environmental conditions and impacts as described in the PAP and the FEIS. Where changes have occurred since 1986 they are noted and discussed.

3. PROPOSED ACTION ALTERNATIVE

The proposed action alternative is for OSMRE to approve PCCC's Revision Application for resumption of mining at the John Henry No. 1 Mine and to renew the John Henry No. 1 Mine surface coal mining permit. This action will allow recovery of approximately 450,000 clean short tons of mineable coal in the Franklin No. 10 and 12 seams and the Big Dirty seam for a six-year operating life when the mine is at full production. Coal reserves would be primarily mined in Pit 2; however, a small portion of Pit 1 would be mined as well. OSMRE notes that the mining operations and reclamation plan proposed in the Revision Application is substantively identical to the operations and reclamation plan that was originally evaluated in the FEIS with the exception being that in the Revision Application PCCC proposes a lower annual coal production rate and proposes to avoid mining through the large Mud Lake wetland. PCCC also shows in the Revision Application a schedule of mining and reclamation actions projected beyond the current permit term and extends through the entire John Henry No. 1 Mine life-of-mine operation.

The Revision Application also is similar to the operations and reclamation plan that was originally evaluated in the FEIS in that backfill and topsoil material stockpiles would be located in a manner that reduces material haul distances and reclamation-related disturbance in order to facilitate final reclamation in the most efficient and cost effective manner following the completion of mining operations. The projected environmental impacts from actions described in the FEIS are summarized in the following section of this EA below and any changes not described in the FEIS are also noted and discussed. A map showing the mining and reclamation plans are provided in Figure 2.

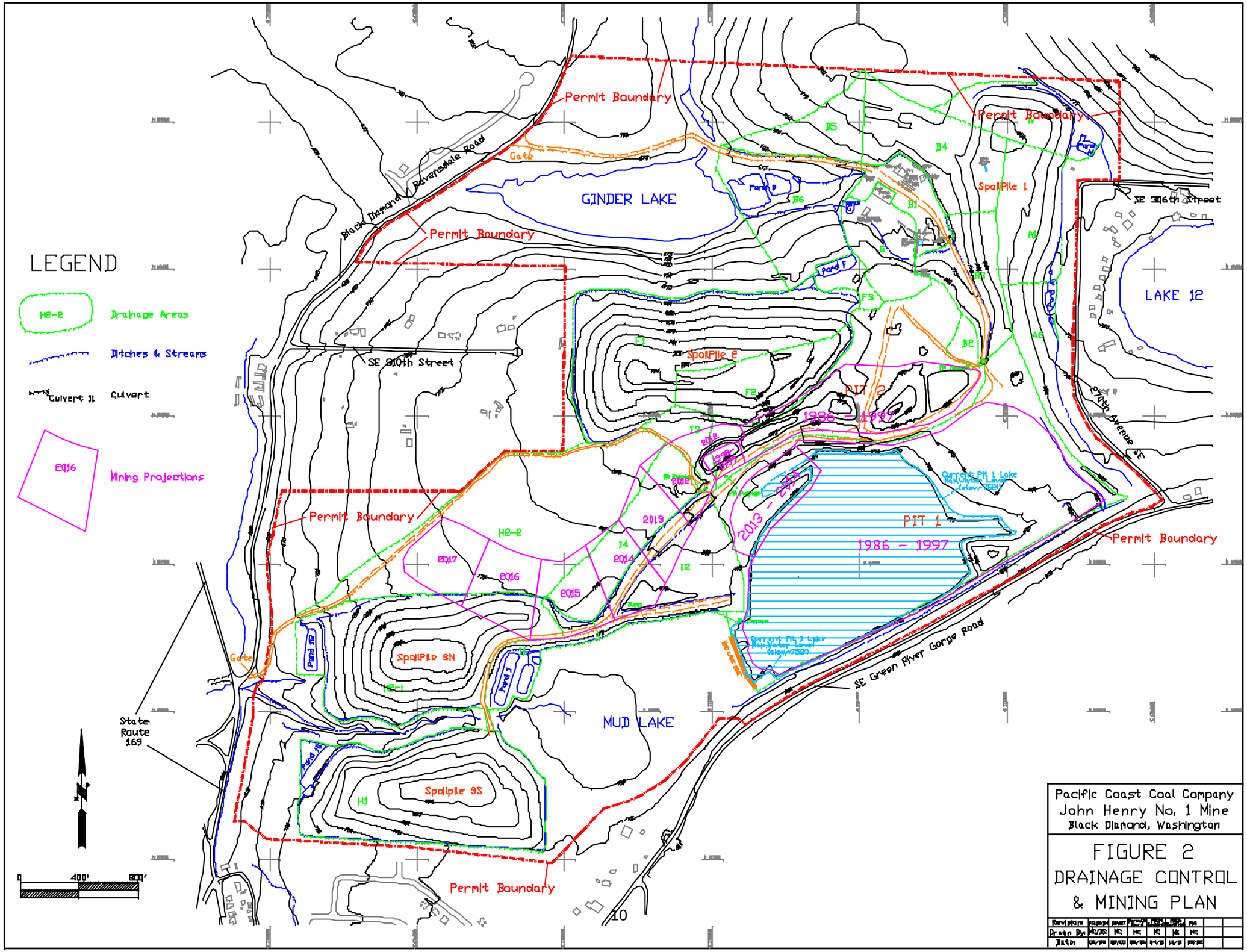
4. NO ACTION ALTERNATIVE

In accordance with NEPA and the Council on Environmental Quality (CEQ) regulations, which require that a No Action Alternative be presented in all environmental analyses in order to serve as a base line from which to compare all proposed action alternatives. Under the No Action Alternative, the proposed Revision Application to resume and complete mining would not be approved. PCCC would

commence final reclamation of the mine site including the backfill of Pits 1 and 2 according to the reclamation plan in the currently-approved PAP. Under the No Action Alternative, there would continue to be some surface disturbance as reclamation actions are completed according to the worst-case reclamation scenario detailed in the reclamation plan. In present condition, John Henry No. 1 Mine is in the state of the worst-case scenario, as detailed in the currently-approved reclamation plan. In its current state, the distances that PCCC would need to haul and grade backfill and topsoil materials to complete reclamation actions are their longest when compared to the mining scenario proposed in the Revision Application. The No Action Alternative would cause greater impacts due to disturbance associated with longer haul distances from backfill and topsoil stockpiles, the need for more heavy construction equipment to move these materials, and the fact that reclamation actions would be completed in a shortened time frame when compared to the Proposed Action Alternative.

5. OTHER ALTERNATIVES CONSIDERED BUT NOT EVALUATED

OSMRE has decided after reviewing the current status, permit and compliance history, and the current permit application of the John Henry No. 1 Mine that there are no other reasonable alternatives than the Proposed Action Alternative and No Action Alternative.


LEGEND
HE-2
Drainage Areas
Ditches & Streams
Culvert 31
Culvert
2016
Mining Projections
Permit Boundary
Gate
GINDER LAKE
Black Diamond Ravensdale Road
SE 310th Street
SE 316th Street
LAKE 12
SpoilPile 1
SpoilPile 2
SpoilPile 3N
SpoilPile 3S
PIT 2
1988 - 1997
PIT 1
1986 - 1997
2013 - 2
2013
2014
2015
2016
2017
Pond F
Pond J
MUD LAKE
State Route 169
SE Green River Gorge Road
210th Avenue SE
400'
800'
10
Pacific Coast Coal Company
John Henry No. 1 Mine
Black Diamond, Washington
FIGURE 2
DRAINAGE CONTROL
& MINING PLAN

C. SCOPING AND IDENTIFIED ISSUES

Public comments on the Proposed Action Alternative were solicited from the general public and surrounding communities via public notice as required under CFR 30 Part 947.774.13. OSMRE received one comment letter from a citizen of Black Diamond regarding PCCC's Permit Renewal Application. All identified concerns have been addressed by OSMRE in either this EA or the Cumulative Hydrologic Impact Assessment (CHIA). OSMRE also coordinated with other federal, state and local agencies. One response was received from the Mine Safety and Health Administration (MSHA) related to PCCC's ground control plan. MSHA concluded that the changes proposed are minor in scope. It also noted that PCCC must monitor and inspect the final cut lake to insure compatibility with the approved ground control plan. PCCC met on June 28, 2011 with OSMRE and the U.S. Army Corps of Engineers (USACE) who requested an updated wetlands delineation study. The study was prepared by a third-party consultant and submitted to the USACE along with PCCC's Pre-Construction Notice. The City of Black Diamond submitted comments on the proposed action that sought clarification related to water quality, traffic and land-use issues. PCCC will not mine within the Black Diamond city limits but will operate within the city limits to reclaim two spoil piles to approximate original contour (AOC.) This is true under both the Proposed Action Alternative and No Action Alternative. PCCC has responded directly to the City to address those concerns. The City is now requiring that PCCC obtain a grading permit prior to the disturbance and reclamation of spoil piles located within the city limits. These two spoil piles, Spoil Pile 3 North and Spoil Pile 3 South, will be reclaimed in accordance with the reclamation plan in the approved PAP. PCCC will begin the grading permit application process in 2014 in order to allow sufficient time for the City to review and act upon the application prior to final reclamation activities.

D. AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION MEASURES

This section examines how the alternatives may impact the natural, cultural, and socioeconomic resources associated with the John Henry mine site and surrounding area. Resources include ecosystem components (such as air quality, water/hydrology, soils, wildlife, etc.) and human uses and values (such as land use, recreation, cultural, socioeconomic, etc.). This section also discusses and reviews the current conditions and elements of relevant resources, as specified by law, statute, regulation, Executive Order, policy, or guideline, followed by a discussion of potential environmental impacts and proposed mitigation measures.

Environmental Impact Analysis

Within each resource area, the applicable types of impacts – direct, indirect, and short or long term duration were evaluated to determine potential environmental impacts. Impacts are generally assumed to be localized and are not evaluated on a regional or national level due to the nature of the operation. Comparison of future impacts is intended to provide an impartial assessment to help inform the decision-maker and the public. The impact analysis does not imply or assign a value or numerical ranking to impacts. Actions resulting in adverse impacts to one resource may impart a beneficial impact to other resources. In general, adverse impacts described in this chapter are considered important if they result from, or relate to, the implementation of any of the alternatives. These impacts are defined as follows:

Direct impacts -- impacts that are caused by the action and that occur at the same time and in the same general location as the action.

Indirect impacts -- impacts that occur at a different time or in a different location than the action to which the impacts are related.

Short- or long-term impacts -- When applicable, the short-term or long-term aspects of impacts are described. For the purposes of this EA, short-term impacts occur during or after the activity or action and may continue for up to two (2) years. Long-term impacts occur beyond the first two (2) years.

To be consistent, this environmental assessment is structured to address the same resource areas that were reviewed and analyzed in OSMRE's 1985 FEIS, which analyzed the impacts associated with the production of 350,000 run of mine (ROM) short tons per year. This is in contrast to the proposed action alternative which analyzes the impacts associated with mining 134,000 ROM short tons per year. With the exception of the evaluation of green house gases and climate change, there have been no new resource areas added to this proposal that weren't covered in the FEIS.

Affected Resources include:

- Topography
- Geology
- Water Resources/Hydrology
- Climate and Climate Change
- Air Quality
- Soils
- Vegetation
- Wildlife
- Land Use
- Socioeconomics
- Transportation
- Recreation
- Noise and Vibration
- Visual Resources
- Cultural Resources

Table 14 provides a summary of the designated impacts on each affected resource.

1. TOPOGRAPHY

Affected Environment

Surface elevations in the permit area range from a maximum of 840 feet above mean sea level in the center to a minimum of approximately 670 feet at Ginder Lake near the mine entrance. Ground elevations within the mining area are generally flat with little relief.

Environmental Consequences/Mitigation Measures

The one significant difference between the approved permit and the plan proposed in the Revision Application is that only 303 acres would be disturbed in the proposed plan compared to 363 acres anticipated in the FEIS. This is due to a decision by PCCC not to mine Pit 1 through the Mud Lake wetland area. Key topographic parameters are summarized:

	Units	Initial Plan	Proposed Plan
Area Disturbed	Acres	363	303
Final Cut Lake Area	Acres	32.5	33.7
Final Cut Lake Volume	Acre – Feet	2100	1450
Final Cut Lake Depth	Feet	250	105
Number of Spoil Piles		1	4
Total Spoil Pile Volume	Cubic Yards	3,500,000	4,637,000
Spoil Pile Elevation Change from Base	Feet	100	20

Proposed Action Alternative

Impacts and mitigating measures related to the final mine topography have been established through numerous permit revisions and renewals. At the time the FEIS was completed, PCCC anticipated one large spoil pile that would fall under the excess spoil regulations (30 CFR 816.71). It was later determined that the spoil pile would have to be reclaimed to approximate original contour (30 CFR 816.102(a)(1). At the same time it was determined that economically mineable coal in Pit 1 could be recovered to a depth of 300 feet. This required additional spoil pile capacity. The adverse impacts from one large permanent spoil pile were mitigated by revising the mining and reclamation plan to include four smaller external piles that will be reclaimed to AOC. Pit 1 will be reclaimed to a final cut lake using overburden mined from Pit 2 and from stockpile material in Spoil Pile 2 and Spoil Pile 1. Pit 2 will be reclaimed to AOC by complete backfilling from Spoil Pile 2, Spoil Pile 3S and Spoil Pile 3N. Because the topography will be reclaimed to AOC, this constitutes a direct, long-term, minor impact.

No Action Alternative

In terms of topography there is no difference between the Proposed Action Alternative and the No Action Alternative. The lake dimensions will remain the same, as will the final topography of the spoil piles. The difference is the source of the spoil. Under the No Action Alternative, the relatively small void in Pit 2 will be filled with material from Spoil Pile 2. To achieve AOC of Spoil Pile 3S and Spoil Pile 3N, spoil will be hauled to Pit 1. The amount of backfill in Pit 1 and lake depth will be the same in either the Proposed or No Action Alternatives.

2. GEOLOGY

Affected Environment

The coal seams are contained within the Eocene Puget formation. Coal is interbedded with shale, siltstone, and sandstone units. In Pit 2 most of the overburden is sandstone. Vashon till generally

overlays the entire property and ranges in thickness from 10-70 feet. This till is generally referred to as hardpan and must be ripped or blasted to gain access to the underlying bedrock. The underlying Puget formation strata in Pit 2 dips to the north with dips ranging from 25 to 45 degrees. The steepest dips are in the eastern end of Pit 2. Mining from 1986-1997 was focused in Pit 1. This was a large open pit that followed an anticline with an east-to-west axis. The strata dipped north and south approximately 45 degrees. In this pit, the Franklin No. 7, 8, 9, 10 and 410 seams were mined. Initial spoil from Pit 1 was placed in spoil piles. Direct backfilling of Pit 1 began in 1992. In total 3,047,000 ROM tons were processed and 14,729,000 cubic yards of overburden removed to uncover the coal. ROM tons represent the tonnage of the coal before it is washed and cleaned of impurities. This was all accomplished using off highway trucks and shovels or front-end loaders. The prior mining allows for a quick development of remaining reserves in Pit 2 where the Franklin No. 12 seam is currently exposed. Plant fossils are abundant in the Puget formation shale and siltstone units and were observed during mining operations.

Environmental Consequences/Mitigation Measures

Because PCCC decided not to surface mine coal beneath the Mud Lake wetlands, the total coal to be removed is 3.75 million ROM tons versus 5.32 million ROM tons addressed in the FEIS and to a maximum depth (in Pit 1) of 300 feet versus 250 feet anticipated. The current remaining reserves are approximately 740,000 ROM tons of which 697,000 tons are contained in Pit 2. Pit 1 will not be expanded.

Proposed Action Alternative

Under the Proposed Action Alternative PCCC will surface mine 740,000 ROM tons of coal mostly from Pit 2. The actual tonnage may vary slightly depending on economic conditions and the economic stripping ratio threshold. The effect on the geology of the area is negligible.

No Action Alternative

Under the No Action Alternative PCCC will not mine 740,000 ROM tons of coal.

3. WATER RESOURCES/HYDROLOGY

Affected Environment

The water resources for the John Henry No. 1 Mine and the immediate vicinity are discussed in Chapter VI of the PAP. A series of studies were conducted to assess the hydrologic aspects of the proposed mining, including a determination of Probable Hydrologic Consequences (PHC) by Systems Architects Engineers, Inc.; reports on groundwater by GeoEngineers; and additional analysis under OSMRE's SOAP contracts by Rindahl and Associates. These SOAP studies were incorporated into a Cumulative Hydrologic Impact Assessment (CHIA) by Simons, Li and Associates. Since mining commenced in 1986, both surface and ground water have been monitored continuously under both the OSMRE water monitoring program and a National Pollutant Discharge Elimination System (NPDES) permit administered by the Washington State Department of Ecology (WDOE).

A.) SURFACE WATER

Affected Environment

Section 6.2 of the PAP discusses the surface water resources in detail. To summarize, the mining area is located in three subwatersheds: Ginder Lake, Mud Lake, and Lake No. 12. Ginder Lake and Mud Lake both drain to the west via correspondingly named creeks, eventually flowing to Rock Creek and then into Lake Sawyer. Lake No. 12 is situated just east of the permit area and discharges to the east through a wetland area, eventually flowing to the Green River.

Lake Sawyer is a lake adjacent to the city of Black Diamond that offers significant recreational and other values to the local community. It is approximately 280 acres in size and has an upstream watershed of 8,130 acres which drain into it. The John Henry Mine lease area occupies 480 acres or 6% of the total watershed area. The lake's main inlets are Ravensdale Creek and Rock Creek which enter from the south and the main outlet is Covington Creek which drains to the west.

Lake Sawyer has had significant water quality problems since the 1970s related to eutrophication, with phosphorous thought to be the main cause. Naturally occurring phosphate loading, in addition to the gradual urbanization of the area, prompted the WDOE in 1991 to conduct a study on the Lake and institute a Total Maximum Daily Load (TMDL) for phosphorous on the incoming streams. The TMDL was instituted so that the lake would have a target phosphate concentration no greater than 16 µg/L. A water quality model was built by OSMRE staff and included in the 2013 John Henry No. 1 Mine CHIA to try and understand the mechanisms controlling phosphorous loading in the lake. The findings from this exercise are discussed further in the Cumulative Impacts section.

Environmental Consequences/Mitigation Measures

Sections 6.2.4 and 6.2.5 of the PAP discuss the impacts and mitigating measures related to surface water resources. The potential impacts were identified as affecting surface water quantity and quality.

Impacts to the volumes of the surface water flows are estimated to be minimal, due mostly to changes in the surface areas of the drainage basins. Removal of vegetation and mining related disturbance of the land could result in changes in transpiration, infiltration, and runoff. Mitigation measures include limiting vegetation clearing and removal to only those areas immediately required for mining, re-establishing vegetative cover on disturbed areas as quickly as possible by grass seeding and planting trees, and controlling runoff by developing and implementing a drainage control plan. Potential impacts to surface water quality include increases in sediment load and in certain chemical parameters of the stormwater runoff.

Sediment load is mitigated by the institution of a Drainage and Sedimentation Control Plan (Appendix VI-9 of the PAP). All surface water runoff from disturbed areas of the mine is captured by drainage ditches and conveyed to one of several sedimentation ponds before being discharged from the permit area. These ponds are designed to contain the 10-year, 24-hour storm event, and to reduce the sediment load by providing sufficient detention time and volume to allow the sediment to settle. The drainage control plan map is shown in Figure 2.

The treatment capabilities of the sedimentation ponds have been improved by adopting a variety of additional enhancements including constructing sumps just before the ponds, adding polymers to the water to aid in settling the sediment, placing gravel packs around the discharge standpipes, and equipping the discharge pipes with butterfly valves to help control the outflow volumes.

Surface water quality is monitored under sampling programs established by both OSMRE and WDOE through the OSMRE water monitoring program and the NPDES permit. NPDES permits are issued under the Clean Water Act by WDOE to regulate discharges and set numerical and other limitations on water quality to control pollution. From June 1992 through February 2008, OSMRE and WDOE programs both monitored surface water discharges at the same monitoring points as they leave the permit area, according to the following schedules:

Discharge Locations: (001) – Ginder Lake (Ponds B, F & G)

(002) – Mud Lake Creek (Ponds H1, H2 & I)

(003) – Unnamed tributary to Lake 12 (Pond A)

(008/010) – Unnamed tributary to Lake 12 (Pond A')

Table 1: OSMRE Surface Water Monitoring

Discharge Point	001	002	003	008/010	OSMRE Reference (Ginder Creek)
Parameter					
Flow	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
pH	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Specific Conduct.	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Iron	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Manganese	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Phosphorous	Annual	Annual	Annual	Annual	Annual
Zinc	Annual	Annual	Annual	Annual	Annual
Arsenic	Annual	Annual	Annual	Annual	Annual
Chromium	Annual	Annual	Annual	Annual	Annual
Copper	Annual	Annual	Annual	Annual	Annual
Calcium	Annual	Annual	Annual	Annual	Annual
Sodium	Annual	Annual	Annual	Annual	Annual
Magnesium	Annual	Annual	Annual	Annual	Annual
Potassium	Annual	Annual	Annual	Annual	Annual
Chloride	Annual	Annual	Annual	Annual	Annual
Sulfate	Annual	Annual	Annual	Annual	Annual
Nitrate	Annual	Annual	Annual	Annual	Annual
Carbonate	Annual	Annual	Annual	Annual	Annual
Bicarbonate	Annual	Annual	Annual	Annual	Annual

Table 2: 1992-2008 NPDES Surface Water Monitoring

Discharge Point	001	002	003	008/010
Parameter				
Flow	Daily	Daily	Monthly	Monthly
PH	Daily	Daily	Monthly	Monthly
Specific Conduct.	Daily	Daily	Monthly	Monthly
TSS	Monthly	Monthly	Monthly	Monthly
Phosphorous	Monthly	Monthly	Quarterly	Quarterly
Hardness	Quarterly	Quarterly	2/year	2/year
Iron	Quarterly	Quarterly	2/year	2/year
Zinc	Quarterly	Quarterly	2/year	2/year
Arsenic	Quarterly	Quarterly	N/A	N/A
Chromium	Quarterly	Quarterly	N/A	N/A
Copper	Quarterly	Quarterly	N/A	N/A

In March 2008, WDOE implemented a new NPDES permit which mandated an event-driven sampling program (first two storm events of greater than 0.5” rainfall each month) directly sampling the discharge from each sediment pond on the active portion of the permit.

Table 3: 2008 –Current NPDES Surface Water Monitoring

Discharge Point	Pond B	Pond F&G	Pond H1	Pond H2	Pond I
Parameter					
Flow	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
PH	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Specific Conduct.	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Turbidity	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Dissolved Oxy.	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Oil Sheen	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Phosphorous	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Lead*	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Zinc*	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Arsenic*	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Chromium*	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall
Copper*	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall	0.5”Rainfall

* Maximum of one sample per month

Table 4: NPDES Effluent Limitations

Parameter	Effluent Limitations	
Phosphorous	Monthly Average	Maximum Daily
	41 µg/L	82 µg/L
pH	6.5-8.5	
Turbidity	Turbidity in the receiving water shall not exceed 5 NTU over background when background turbidity is 50 NTU or less, and shall not exceed background turbidity by more than 10% when background turbidity exceeds 50 NTU	
Dissolved Oxygen	Minimum 9.5 mg/L	
Total Petroleum Hydrocarbons (TPH)	5 mg/L	
Hexavalent Chromium	15.3 µg/L	
Copper	5.5 µg/L	

The results of these monitoring programs, summarized in the charts below, have shown that mining activities have had minor long term impacts on surface water resources. The pH appears to be slightly higher, although still within the limits set by WDOE in the NPDES permit (6.5-8.5).

Exceedances of water quality limits have been limited to turbidity, total suspended solids (TSS), phosphorous, oil and grease, and copper. The principle water quality parameter to show an effect is water clarity (as measured by turbidity), specifically during significant storm events. This is due to the increased sediment load caused by erosion, and can be mitigated through the Drainage and Sedimentation Control Plan. The oil and grease and copper exceedences generally have been isolated occurrences. Most of the phosphorous exceedances were above the allowable monthly average, but below the maximum allowable value.

Impacts to surface water quantity during the mining phase of operations have been variable. The de-watering of mine pits and pumping of water throughout the mine site has had an impact on discharge in the Mud Creek and Ginder Creek sub-watersheds. Discharge from the mine was higher during the mining years (up to 1999) than during the 2000-2011 timeframe, though the large-scale effects of runoff variations at the John Henry Mine are minimal. The resumption of mining at the John Henry Mine will likely result in a similar scenario as was observed in the previous mining phase. For a more in depth discussion of water quality and quantity impacts, please see the 2013 John Henry No. 1 Mine CHIA.

Proposed Action Alternative

Although the impacts of the Proposed Action Alternative on surface water will increase from the conditions experienced during the recent period of inactivity, the impacts will be less than those experienced during prior periods of active mining. This is due both to the more limited scope of mining currently planned in the Revision Application and also due to PCCC having gained experience in controlling and treating the surface water runoff. The reduced coal production also allows for

mining activities to be concentrated during the drier months, further reducing impacts to the roads and sediment control structures.

No Action Alternative

The impacts of the No Action Alternative on surface water will be greater than the Proposed Action Alternative on a short term basis, as the volumes of material and distance to be moved will be greater over a much shorter period of time. Additionally, the requirement to conduct reclamation activities on a year-round basis will adversely impact the roads and drainage ditches, resulting in an increased sediment load being delivered to the ponds, especially during rainy seasons.

B.) GROUND WATER

Affected Environment

Section 6.1.2 of the PAP and the John Henry No. 1 Mine CHIA describe the current status of ground water resources in detail. The baseline studies indicated that there was no regional aquifer and that the glacial drift covering the area also served to limit groundwater movement. The Puget Group bedrock in the area is described as having poor water-bearing characteristics and being a very heterogeneous aquifer, with generally poor permeability. Groundwater quality in the area is characterized as relatively high pH (7.7-8.9), presumably due to high bicarbonate concentrations. PCCC's mining activities since 1986 confirmed that there is little groundwater resource in the Puget formation.

Environmental Consequences/Mitigation Measures

Sections 6.1.4 and 6.1.5 of the PAP discuss in details the impacts and mitigating measures related to ground water resources. Due to the low permeability of the bedrock, little impact was anticipated when mining commenced and little was experienced throughout the active mining period. Some small temporary drawdown of local wells was anticipated due to mine dewatering activities as mining progressed through their potential recharge area. Only the Reichert and PCCC wells have shown appreciable drawdown since mining commenced at the John Henry No. 1 Mine. The PCCC well shows greater depth to water prior to 2001, then a rapid rise as usage decreased and mining ceased. The Reichert well shows more gradual changes that don't coincide with mining periods during which more groundwater is utilized.

Seepage into the mining pits was projected to be between 3 and 5 gpm; actual mining of the two pits demonstrated that even these projections were overstated, as Pit 1 was excavated to a depth of over 325 ft with only a few minor wet spots apparent on the pit walls and no measurable flow.

The quality of groundwater in an area adjacent to mining activity can potentially be affected from mining due to the addition of various chemical constituents from exposed surface area of the spoil material. This process is dependent on the solubility of the minerals in the disturbed overburden. The majority of the strata in the John Henry No. 1 Mine area are alkaline, which limits the potential for additional dissolved metals in the groundwater. Groundwater monitoring of wells within the permit and adjacent area has been conducted at the mine since it was permitted in 1986. No NPDES water quality violations have occurred for the mine regarding groundwater quality. However, the NPDES permit is written so that additional monitoring is required if a water quality constituent exceeds a

certain limitation. Additional monitoring has frequently been required for manganese and mercury due to exceedances of water quality criteria.

Overall, the measured impacts to groundwater quality in the area surrounding the John Henry No. 1 Mine have been minor. In the baseline study conducted for the 1984 CHIA, it was demonstrated that the groundwater conditions within the Puget Group are highly heterogeneous and a high degree of natural variability is present in terms of water quality parameter concentrations. To date, significant impacts regarding water quality have not been observed in any of the wells listed in the OSMRE or NPDES monitoring programs.

Ground water is monitored under sampling programs established by both OSMRE and WDOE (through the NPDES permit).

Table 5: OSMRE Groundwater Monitoring

STATION NAME	REICHERT WELL	PCCC WELL	12-4 WELL
PARAMETER			
WATER LEVEL	QUARTERLY	QUARTERLY	QUARTERLY
SPECIFIC COND.	QUARTERLY	QUARTERLY	QUARTERLY
HARDNESS	QUARTERLY	QUARTERLY	QUARTERLY
pH	QUARTERLY	QUARTERLY	QUARTERLY
ARSENIC	QUARTERLY	QUARTERLY	QUARTERLY
IRON	QUARTERLY	QUARTERLY	QUARTERLY
MANGANESE	QUARTERLY	QUARTERLY	QUARTERLY
LEAD	ANNUAL	ANNUAL	ANNUAL
MERCURY	ANNUAL	ANNUAL	ANNUAL
CHROMIUM	ANNUAL	ANNUAL	ANNUAL
CALCIUM	ANNUAL	ANNUAL	ANNUAL
SODIUM	ANNUAL	ANNUAL	ANNUAL
MAGNESIUM	ANNUAL	ANNUAL	ANNUAL
POTASSIUM	ANNUAL	ANNUAL	ANNUAL
CHLORIDE	ANNUAL	ANNUAL	ANNUAL
SULFATE	ANNUAL	ANNUAL	ANNUAL
NITRATE	ANNUAL	ANNUAL	ANNUAL
CARBONATE	ANNUAL	ANNUAL	ANNUAL
BICARBONATE	ANNUAL	ANNUAL	ANNUAL

Table 6: WDOE Groundwater Monitoring

STATION NAME	REICHERT WELL	PCCC WELL	12-4 WELL	PIT 2
PARAMETER				
WATER LEVEL	MONTHLY	MONTHLY	MONTHLY	N/A
SPECIFIC COND.	MONTHLY	MONTHLY	MONTHLY	MONTHLY
HARDNESS	QUARTERLY	QUARTERLY	QUARTERLY	QUARTERLY
pH	MONTHLY	MONTHLY	MONTHLY	MONTHLY
ARSENIC	QUARTERLY	QUARTERLY	QUARTERLY	QUARTERLY
IRON	QUARTERLY	QUARTERLY	QUARTERLY	QUARTERLY
MANGANESE	QUARTERLY	QUARTERLY	QUARTERLY	QUARTERLY
LEAD	2/YEAR	2/YEAR	2/YEAR	QUARTERLY
MERCURY	2/YEAR	2/YEAR	2/YEAR	QUARTERLY
CHROMIUM	2/YEAR	2/YEAR	2/YEAR	QUARTERLY

Table 7: Triggering Limits for Additional Groundwater Monitoring (NPDES Permit)

Triggering Limits for Additional Groundwater Monitoring				
Parameter	Reichert Well	PCCC Well	12-4 Well	Pit 2
pH	6.5 to 8.5			
Arsenic	0.05 mg/L	0.05 mg/L	0.122 mg/L	0.05 mg/L
Lead	0.05 mg/L	0.05 mg/L	0.05 mg/L	0.05 mg/L
Chromium	0.05 mg/L	0.05 mg/L	0.05 mg/L	0.05 mg/L
Mercury	0.002 mg/L	0.002 mg/L	0.002 mg/L	0.002 mg/L
Manganese	0.05 mg/L	0.05 mg/L	0.05 mg/L	0.05 mg/L
Visible Sheen	No Sheen	No Sheen	No Sheen	No Sheen

WDOE requires monitoring of the water in Pit 2 as potential discharge to ground water. OSMRE does not consider the water in the mining pits to be ground water and therefore does not require monitoring. There has been no change in ground water monitoring requirements or limits from the old 1992 NPDES permit to the new 2008 permit, which is still in effect today.

A final cut lake in Pit 1 was initially proposed as a final reclamation option in the FEIS. The approved reclamation plan calls for leaving a 33.7 acre final cut lake in Pit 1. Even though there is very little infiltration of pit water into the ground and ultimately the final cut lake will discharge to Mud Lake, the water quality in the lake has been addressed as ground water, in keeping with WDOE's categorization of the water retained in Pit 2.

Proposed Action Alternative

Mining activities to date have had little to no effect on ground water. The Proposed Action Alternative may have a minor impact on water levels in wells at residences on SE 310th Street, according to GeoEngineers. They estimated that water levels in these wells could drop 5 to 15 feet as mining in Pit 2 advances through the recharge area. This and other effects to water resources would constitute a short term, minor impact if they were to occur.

No Action Alternative

The No Action Alternative would not have a significant impact on ground water resources.

4. CLIMATE AND CLIMATE CHANGE

Affected Environment

The climate in the area is moderate with relatively cool summers and mild winters. Rainfall is expected to average 45 inches per year. Measurements at the mine since 1982 indicate an average rainfall of about 51 inches per year. In 1986 climate change was not an issue of concern.

According to the U.S. Global Change Research Program (2009), the global warming that has occurred over the past 50 years is primarily human-caused. Standardized protocols designed to measure factors that may contribute to climate change, and to quantify climatic impacts, are presently unavailable. As a consequence, impact assessment of specific impacts related to anthropogenic activities on global climate change cannot be accurately estimated. Moreover, specific levels of significance have not yet been established by regulatory agencies. Therefore, climate change analysis for the purpose of this environmental assessment is limited to accounting for greenhouse gas emission changes that could contribute incrementally to climate change. Qualitative and quantitative evaluations of potential contributing factors are included where appropriate and practicable.

Environmental Consequences/Mitigation Measures

The impacts of previous mining at John Henry Mine No. 1 have been insignificant with respect to climate and it is expected that proposed mining will have insignificant impacts to climate. In 1986 climate change was not an issue. The local climate has not changed perceptively since 1986.

The primary greenhouse gases associated with coal mining are CO_2 as a result of coal combustion and use of heavy diesel equipment and methane as a result of coal mining.

PCCC has a contract to sell coal to a cement plant located in Richmond, British Columbia, Canada and a smaller amount may be sold to a cement plant located in Seattle Washington. Therefore it is possible to calculate CO_2 emissions, if the number of tons of coal produced per year from the mine, and the heat content of that coal in British thermal units (BTUs) per ton, is known. Assuming the Proposed Action Alternative would generate 84,000 tons of high-quality low-sulfur bituminous coal per year, with an average heat content of 21.6 million BTUs per ton, nearly 181,000 tons of carbon dioxide equivalent (CO_2e) would be emitted. These calculations are based upon default emission factors for stationary combustion in the Energy Industries (Intergovernmental Panel on Climate Change (IPCC), 2006), assuming no other use of the coal and complete total combustion, and therefore represent a conservative estimate of potential CO_2 emissions.

Although coal cleaning plants emit no direct carbon dioxide, coal typically does degas some methane as it is being produced. Per the IPCC guidelines, Northwest coal in-situ methane is approximately 0.08 m^3/ton. Given a CO_2 equivalency of approximately 21 tons of CO_2 per ton of methane, potential greenhouse gases from coal mining and coal cleaning is 297 tons CO_2. Given actual expected production, greenhouse gases from coal mining and coal cleaning is 99 tons CO_2.

Proposed Action Alternative

The impact on the climate from the Proposed Action Alternative will be negligible. The effect on climate change from surface coal mining and coal processing at the level of 84,000 tons per year is insignificant. The end users of coal, in particular the cement manufacturing plant located in Richmond, British Columbia, will show no net increase in CO_2 emissions as PCCC's coal will displace coal from other sources. British Columbia assesses a carbon tax on the use of fossil fuels that is used, in part, to reduce CO_2 emissions in other sectors of the economy.

No Action Alternative

The impact on the climate from the No Action Alternative will be insignificant. Because no coal will be mined or consumed, there is no effect on climate change from the no action alternative other than very minor contributions from heavy equipment used for reclamation activities.

5. AIR QUALITY

Affected Environment

The regional air quality in the Black Diamond area was gradually deteriorating when the mine began operations in 1986 due to gradual suburbanization of the area. This has continued as the regional population increases. The Clean Air Act (CAA), which was last amended in 1990, requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) (40 CFR part 50) for pollutants considered harmful to public health and to the environment.

There are three air pollutants of major concern in the Puget Sound region:

- ***Carbon monoxide*** (CO), which is largely from motor vehicle exhaust.
- ***Ozone***, which is contributed by motor vehicles, as well as other sources.
- ***Particulate matter***, which includes both solid matter and liquid droplets suspended in the air. Exhaust from diesel-powered vehicles is a source of particulates, but the majority is from wood smoke and industrial sources.

The primary air pollutant from surface coal mining and processing is particulate matter. No toxic emission factors for coal dust were identified. Particulate matter emissions were modeled when the original notice of construction permit (NOC 2390) was issued in 1984 by the Puget Sound Clean Air Agency (PSCAA). Upon proposing to resume mining in 2010, PCCC applied to PSCAA for a permit to operate two coal crushers and associated coal processing equipment. That permit was granted on September 6, 2010.

In 1984, total suspended particulates (TSP) were modeled for both the mine and the coal cleaning plant and demonstrated compliance with the Washington State standards and NAAQS. No additional modeling was required by the Puget Sound Air Pollution Control Agency (PSAPCA) or PSCAA because the impacts were deemed insignificant when the mine was in full operation. At that time, the

only particulate matter standards were annual and 24-hr total suspended particulate standards. As part of the NOC permit review in 2010, PSCAA modeled concentrations presented using the original modeled TSP concentrations with the following modifications to adapt the results to the PM_{10} and $PM_{2.5}$ standards.

- 24-hr and 1-hr modeled concentrations were derived from the modeled annual concentrations using standard persistence factors.
- PM_{10} was derived using the PM_{15} size fraction presented in the original modeling. This should result in a conservatively high estimation of PM_{10}.
- $PM_{2.5}$ was derived using the $PM_{2.5}$ size fraction present in the original modeling.
- $PM_{2.5}$ background concentration was developed from the agency ambient monitor at Mud Mountain using 2006 data which appears to be the greatest in the dataset.
- PM_{10} background concentration was developed from the last agency PM_{10} monitoring conducted in Kent for 2006. 2006 was the last year the agency monitored for PM_{10}. It is expected that this value should be high in that the Kent monitor is located in an urban area near an intersection.

Currently there are four particulate matter (PM) ambient air standards of concern in addition to the TSP standards. There are two 24-hr standards – one for $PM_{2.5}$ (federal) and one for PM_{10} (state & federal). There are also two annual averaging period standards – one for $PM_{2.5}$ (federal) and one for PM_{10} (state). The original modeling for NOC 2390 as modified above by PSCAA resulted in ambient concentrations of particulate due to the proposed activity that were less than the ambient air quality standards for PM_{10} and $PM_{2.5}$. There has been no additional modeling required.

Federal Standards for Coal Processing Plants. 40 CFR 60 Subpart Y -- Standards of Performance for Coal Preparation and Processing Plants Subpart Y applies to the facility. PCCC's mine contains the following affected facilities: coal processing and conveying equipment, coal storage systems, coal transfer and loading systems that were constructed before April 28, 2008. The facility also contains open storage piles which are not affected facilities under the NSPS as they were constructed prior to May 27, 2009. If the open storage piles were to increase substantially in size and/or become relocated they could become affected facilities. The facility does not include any thermal dryers or pneumatic cleaning equipment.

The 2010 application NSPS emission standard (40 CFR 60.254), as facilities constructed before April 28, 2008, sets a limit of 20 percent opacity on: coal processing and conveying equipment (including breakers and crushers), coal storage systems, and transfer and loading systems. 40 CFR 60.255(a) requires a performance test of the limits (EPA Method 9) within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility (40 CFR 60.8). The following table summarizes the NSPS Subpart Y emission standards. Note that the highlighted portion shows the applicable Subpart Y emission standard for the applicable facilities present.

Table 8: Air Quality

Affected Facility	Description	Before April 28, 2008	After April 28, 2008	After May 27, 2009
Coal Processing and Conveying Equipment (including breakers and crushers)	Any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts. Equipment located at the mine face is not considered to be part of the coal preparation and processing plant.	20% Opacity	10% Opacity except for equipment used in the loading, unloading, and conveying operations of open storage piles. 0.01gr/dscf Mechanical Vent	
Coal Storage Systems	Any facility used to store coal except for open storage piles.			
Transfer and loading systems	Any facility used to transfer and load coal for shipment.			
Open storage piles	Any facility, including storage areas, that is not enclosed that is used to store coal, including the equipment used in the loading, unloading, and conveying operations of the facility.	NA		Prepare and operate in accordance with a submitted fugitive coal dust emissions control plan that is appropriate for the site conditions.

The State of Washington implements the NAAQS, and develops air quality attainment and maintenance plans, in order to keep Washington in compliance with the Federal NAAQS. The Puget Sound airshed has been in compliance with the annual $PM_{2.5}$ standard since the EPA promulgated it in 1997. The Black Diamond area is in compliance with the federal air quality standards for these pollutants.

Environmental Consequences/Mitigation Measures

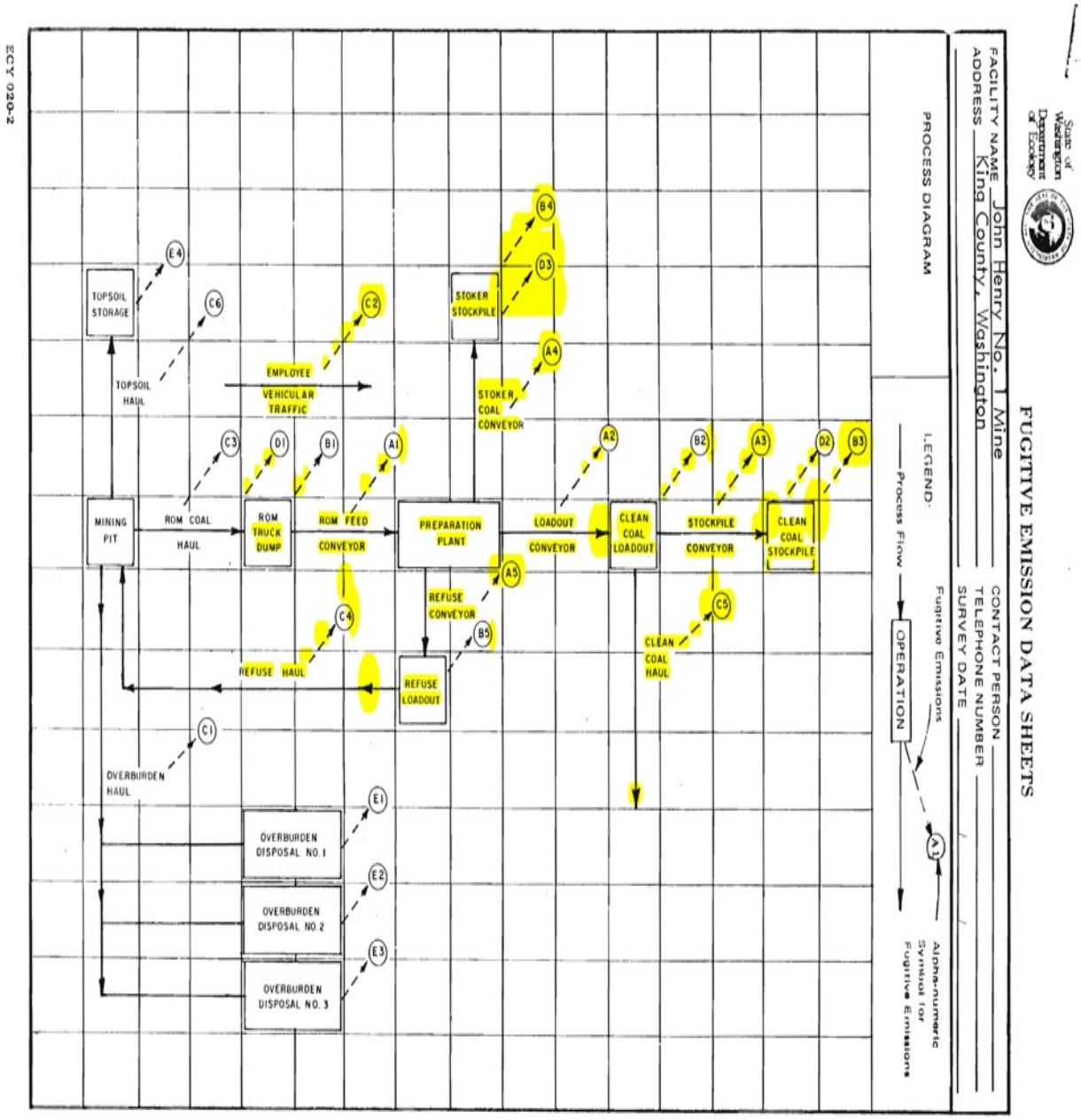
The original design capacity of the plant was 350,000 tons ROM coal per year. Current expected operation will be approximately 130,000 tons ROM coal per year. Emissions were evaluated in the original permit application for Order of Approval 2390. At that time emissions were evaluated as total suspended particulate (TSP).

For the 2010 NOC application the TSP emissions were converted to PM_{10} and $PM_{2.5}$ emissions for potential and actual expected operation of the preparation plant and mine. Actual emissions were estimated by multiplying the emissions by the ratio of 130/350.

For the purposes of determining Title V and Prevention of Significant Deterioration applicability as a major source the PSCAA followed the example given in EPA guidance dated March 6, 2003 and August 9, 2007. In the March 6, 2003 guidance it is determined that for a coal mine and associated coal cleaning plant the coal mining is the primary activity. However, because the coal cleaning plant is a listed source category, fugitive emissions only from the coal cleaning plant are used to determine if the source is a major stationary source. The August 8, 2007 guidance also clarifies that fugitive dust from haul roads associated with coal cleaning also count toward the major source thresholds.

Figure 3 shows the overall facility flow from the original application and the highlighted portions are those emission associated with the coal cleaning plant.

Figure 3: Fugitive Emissions Flow Chart



The following table shows estimated actual emissions for the coal cleaning plant including fugitive emissions.

Table 9: Emissions Sources and Rates

Emission Point	Description	TSP Emissions (lb/yr)	TSP Emissions (ton/yr)	PM-10 (ton/yr)	PM-2.5 (ton/yr)
A1	ROM crusher to plant, conveyor	6,760	3.4	1.43	0.08
A2	CC Plant to CC truck bin, conveyor	285	0.1	0.06	0.00
A3	CC Truck Bin to CC Stockpile,conveyor	30	0.0	0.01	0.00
A4	Plant to Stoker Stockpile, conveyor	3	0.0	0.00	0.00
A5	Plant to Refuse bin, conveyor	98	0.0	0.02	0.00
B1	Trucks to ROM truck bin	6,760	3.4	1.43	0.08
B2	CC trucks	760	0.4	0.16	0.01
B3	Stockpile conveyor to CC stockpile	600	0.3	0.13	0.01
B4	Stoker conveyor to stoker stockpile	59	0.0	0.01	0.00
B5	Refuse conveyor to refuse haul truck	261	0.1	0.06	0.00
C4	Refuse trucks	4,056	2.0	0.86	0.05
C5	Coal trucks	497	0.2	0.10	0.01
D1	ROM coal pile	9	0.0	0.00	0.00
D2	CC pile	111	0.1	0.02	0.00
D3	Stoker coal pile	3	0.0	0.00	0.00
		20,291	10.1	4.3	0.3

Note:

1. TSP emission estimates from original NOC 2390.

2. PM-10 and PM-2.5 fractions based on those used in original modeling of TSP.

Original modeling PM-15 treated as PM-10 for a conservatively high emission estimate.

3. Emission estimates based on approximate production of 130,000 tons of a maximum 350,000 tons per year.

This next table shows estimated actual emissions for the coal cleaning plant and the mine including fugitive emissions.

Table 10: Emission Sources and Rates

Emission Point	Description	TSP Emissions (lb/yr)	TSP Emissions (ton/yr)	PM-10 (ton/yr)	PM-2.5 (ton/yr)
A1	ROM crusher to plant, conveyor	6,760.0	3.4	1.43	0.08
A2	CC Plant to CC truck bin, conveyor	284.9	0.1	0.06	0.00
A3	CC Truck Bin to CC Stockpile, conveyor	30.1	0.0	0.01	0.00
A4	Plant to Stoker Stockpile, conveyor	3.0	0.0	0.00	0.00
A5	Plant to Refuse bin, conveyor	97.7	0.0	0.02	0.00
B1	Trucks to ROM truck bin	6,760.0	3.4	1.43	0.08
B2	CC trucks	759.9	0.4	0.16	0.01
B3	Stockpile conveyor to CC stockpile	599.9	0.3	0.13	0.01
B4	Stoker conveyor to stoker stockpile	59.4	0.0	0.01	0.00
B5	Refuse conveyor to refuse haul truck	260.7	0.1	0.06	0.00
C1	Rock trucks	69,492.8	34.7	14.66	0.87
C2	Employee vehicles	5,213.4	2.6	1.10	0.07
C3	Coal trucks	13,520.0	6.8	2.85	0.17
C4	Refuse trucks	4,056.0	2.0	0.86	0.05
C5	Coal trucks	496.6	0.2	0.10	0.01
C6	Topsoil Trucks	2,028.0	1.0	0.43	0.03
D1	ROM coal pile	8.5	0.0	0.00	0.00
D2	CC pile	111.4	0.1	0.02	0.00
D3	Stoker coal pile	3.0	0.0	0.00	0.00
E1	Spoil Pile No. 1	0.6	0.0	0.00	0.00
E2	Spoil Pile No. 2	0.7	0.0	0.00	0.00
E3	Spoil Pile No. 3	0.6	0.0	0.00	0.00
E4	Topsoil storage	0.5	0.0	0.00	0.00
		110,548	55.3	23.3	1.4

Note:

1. TSP emission estimates from original NOC 2390.

2. PM-10 and PM-2.5 fractions based on those used in original modeling of TSP.

Original modeling PM-15 treated as PM-10 for a conservatively high emission estimate.

3. Emission estimates based on approximate production of 350,000 tons per year.

Note that the current plant as configured does not have the clean coal load out and thus emission points B2 and C5 are not present. However, coal and trucks which are not sent to the load out would be sent to the stockpile so overall emissions should be essentially unchanged. For the purposes of the emission inventory presented points B2 and C5 are still included. Another minor change in the

facility since the original emission estimate is that refuse exits the building in separate fine and coarse streams. The fine refuse stream is sent to a small sump of about twenty tons; as the material entering the sump is very wet emissions are expected to be negligible.

One high-volume air sampler was used at the proposed John Henry No. 1 Mine to monitor the effects of mining and initial construction. The high-volume sampler consisted of a fan and motor, which draws a known volume of air through a filter media for a specific time period. The filter media traps dust particles in the air and the amount of particulate trapped is determined by gravimetric analysis.

The sampler was located at Lake 12, at the eastern permit boundary. Sampling was conducted for a 3 year period from September 1986 through August 1989. Analyses were performed by the PSCAA. Results, found in Appendix X-1 of the PAP show that actual fugitive dust emissions were significantly less than expected from the modeling.

OSMRE did not evaluate emissions generated by the transporting of or the use of coal once it leaves the mine site. Although there is a contract to use the coal by a cement plant, once the coal enters the market it will likely also be utilized in other ways. It could be utilized overseas, in a power plant, in another cement plant, or for any other number of purposes. Therefore, any estimate of downstream impacts caused by coal mining at the John Henry No. 1 Mine would likely be inaccurate, and is therefore not considered in this document.

Proposed Action Alternative

Mining at the historic rate of 350,000 ROM tons per year showed negligible impacts on local or regional air quality. Under the Proposed Action Alternative mining at the proposed rate of 130,000 ROM tons would have even lower impacts. PCCC is not required to implement an air quality monitoring program, but does maintain a dust control program.

All active roads within the mine site are watered as necessary during dry or dusty conditions. The temporary spoil piles were covered with topsoil, seeded and revegetated. Coal waste is mixed with overburden in the backfill area and not stored separately. Coal stockpiles are watered as necessary, but this is not frequent due to relatively damp weather conditions. As topsoil is spread it is immediately reseeded and with ideal growing conditions grass is established quickly. This has proven an effective means of controlling dust emissions. No thermal dryers are used, but the preparation plant feed hopper and the crushers at the coal preparation plant are equipped with water spray devices to minimize dust. The blast hole drill also uses water to minimize dust from the drilling operations. Disturbed acreage is kept to a minimum, and is topsoiled and seeded as soon as possible to eliminate possible sources of dust.

Best Available Control Technology (BACT) is applied where required at the coal processing plant. BACT helps to attain limits for Coal Processing and Conveying Equipment (including breakers and crushers), coal storage systems, transfer and loading systems, open storage piles (of processed coal and refuse), and associated equipment. PCCC's plant operating and maintenance plan targets no visible emissions from coal processing and conveying equipment (including crushers), coal storage systems, transfer and loading systems, open storage piles (of processed coal and refuse), and associated equipment. Specifically:

- The enclosed crusher with water sprays is BACT;
- If the material was dry, fully enclosed conveyors would be BACT, in this case given the wetness of handled product conveyor covers are BACT;
- Enclosed coal preparation plant is BACT;

No Action Alternative

Under the No Action Alternative the coal processing plant is not operated and no emissions occur from that source. No coal mining takes place so emissions from mining would not occur.

The No Action Alternative reclamation plan requires longer haul distances and a larger truck fleet for haulage of backfill and topsoil materials for final reclamation thereby increasing dust emissions compared to the Proposed Action Alternative which uses dozers and shorter truck hauls more extensively. Fugitive dust from long truck hauls would need to be controlled with water spray trucks during dry conditions.

*6. **SOILS***

Affected Environment

The soils within the mine site are similar to surrounding areas and are well developed given the relatively large amount of rainfall. There is no historical use of the soil for crop land although some of the soil units have potential for cropland. Most of the soils on the site have a well developed A horizon that is high in organic matter and ranges from 1-2 feet in thickness. This topsoil in the disturbed area has been removed and either stockpiled or re-spread in the backfill area of Pit 1 or on the spoil piles.

The overburden units of the Puget formation consist of sandstone, shale and siltstone. This is overlaid by Vashon till that is irregular in thickness. The till is mostly consolidated and compressed sand and gravel with a clay matrix. Small pockets of unconsolidated sand and gravel are sometimes encountered. No toxic microelements or acid forming materials were anticipated when mining began in 1986 and none were encountered during mining.

Environmental Consequences/Mitigation Measures

When mining began in 1986 the Mud Lake wetland area had been scheduled for mining and it was anticipated that a replacement wetland would be constructed as a replacement. PCCC would not disturb Mud Lake wetland under either the Proposed Action Alternative or the No Action Alternative and a large replacement wetland would not be required.

The USACE required a new wetlands delineation study which was completed September 1, 2011. This study indentified 13 wetlands within the permit area. These are summarized:

Table 11: Wetland Classification Summary

Wetland Classification Summary				
Wetland Name	Size (acres)	Cowardin Class[1]	HGM Class[2]	Ecology Category[3]
Mud Lake	22.74	PEM/PSS/PFO	Depressional	II
IB Wetland	0.33	PEM	Slope	IV
Pit 1 Berm	1.14	PEM/PSS	Depressional	III
Pit 2 Fringe	2.19	PEM/PSS	Depressional	III
Wetland A	0.22	PSS	Depressional	III
Wetland B	0.06	PEM	Slope	IV
Ginder Lake	15.99	PUB, PEM, PSS, PFO	Depressional	I
Wetland C	1.54	PUB, PEM, PSS, PFO	Depressional	I
Wetland D	0.36	PEM/PSS	Slope	III
Wetland E	0.01	PSS	Depressional	III
Wetland F	0.30	PSS/PEM	Depressional	III
Wetland G	0.03	PSS	Depressional	IV
Wetland Mitigation	0.31	PSS/PFO	Depressional	III

1–Classification according to Cowardin et al. (1979) where PUB is palustrine unconsolidated bottom, PEM is palustrine emergent, PSS is palustrine scrub/shrub, and PFO is palustrine forested.

2–Hydrogeomorphic classes according to Brinson (1993).

3–Wetland category according to Washington Department of Ecology (Hruby, 2004).

The study showed that several small wetlands have established themselves within the drainage system constructed to convey and treat stormwater runoff from the disturbed area of the mine. It also confirmed that PCCC would impact these wetlands during reclamation but would not disturb additional wetlands by planned mining. The study was submitted to the USACE. The USACE responded by requesting additional information from PCCC. PCCC completed the additional field work in November 2011, and submitted the supplemental information to the USACE on December 12, 2011. Two larger wetlands, Mud Lake and Ginder Lake, will not be disturbed by mining or reclamation. Mitigation of potential impacts is accomplished by avoidance.

By letter dated June 6, 2013, the USACE notified PCCC of its determination that the wetlands impacted by the proposed mining activities are not waters of the U.S. and therefore, no permit is required for the additional mining activities in these areas. Also, in the same June 6, 2013, letter, the USACE determined that the spillway between the final cut lake and the Mud Lake wetlands, as proposed by PCCC, would not include any placement of fill material into the wetlands and therefore no additional USACE permit would be required.

In 1986 there was concern over the productivity of topsoil that is removed ahead of mining and then stored. This is no longer a concern as alder trees, which are nitrogen fixing have grown over the major topsoil stockpile. Such topsoil was both stored and was also applied directly over the temporary spoil piles to prevent erosion. Native vegetation has been established on the stored topsoil piles and Douglas fir was planted on the external piles for additional erosion control. This has resulted in healthy and sustained vegetative growth. No additional mitigating measures are needed or anticipated. Commercially harvestable trees will be removed by the landowners from the spoil piles and topsoil piles as required for final reclamation. The remaining vegetation will be cleared and grubbed to the extent necessary to allow reclamation in accordance with the approved plan.

Proposed Action Alternative

Under the Proposed Action Alternative an additional 27.9 acres will be disturbed for mining. Topsoil will be removed ahead of mining and immediately redistributed to areas in Pit 1 and Pit 2 that have been backfilled and final graded. No additional topsoil stockpiles are planned. As Pit 2 advances, Spoil Pile 2 will be dozed into Pit 2 and the topsoil stockpiled on top of Spoil Pile 2 will be dozed down the slope and then reapplied over the spoil pile once it reaches AOC. Because the existing topsoil is utilized and all areas will be reclaimed using either suitable material or topsoil, this constitutes a negligible impact to soils within the permit area.

A similar procedure will occur at the end of mining as the other three spoil piles are reclaimed to AOC. The main topsoil stockpile, located near the facilities area will be used as required for final reclamation.

No Action Alternative

No additional topsoil will be removed as mining does not take place. The impacts and mitigating measures for final reclamation under this alternative are identical to the Proposed Action Alternative but occur more quickly.

7. VEGETATION

Affected Environment

There are 13 plant associations identified within the permit area. These include:

Red alder-big leaf maple/Salmonberry/Sword fern (Open)

Red alder-big leaf maple/Salmonberry/Sword fern (Closed)

Red alder/Salmonberry/Sword fern

Red alder-western hemlock/Sword fern

Big leaf maple/Salmonberry/Western Starflower

Grass clearing

Residential housing

Pipeline right-of-way

Clearcut

Open Water

Cat tail

Red Alder –willow/Hardhack

Hardhack/Sedge

Eleven of these 13 are the result of timber harvesting. Historically, much of the lease site supported Douglas fir, Western red cedar, and possibly Sitka spruce as well as Western hemlock. The site was initially logged in the 1880's for Douglas fir timbers to be used in subterranean mining operations going on at that time. Logging continued on the site until 1971, when the last of the timber harvesting was done. Today, Bigleaf maple and Red alder dominate most of the areas previously dominated by coniferous species.

In February 2012, OSMRE generated a U.S. Fish and Wildlife Service (USFWS) list of federally endangered, threatened, candidate, or sensitive plants for King County, Washington that included the Whitebark pine (*Pinus albicaulis*), a candidate species, and the following species of concern: Valley silverspot (*Speyeria zerene bremeri*), White-top aster (*Aster curtus*), Stalked moonwort (*Botrychium pedunculosum*), and Tall bugbane (*Cimicifuga elata*). There are no Federal or State listed endangered, threatened, candidate, or sensitive plant species known to exist on the mine site according to a Washington Department of Fish and Wildlife (WDFW) Priority Habitat and Species Report that was queried on February 2, 2012, by OSMRE. This Geographic Information System (GIS) based report uses USFWS polygons to identify important fish and wildlife species and habitats for specific geographic locations within King County, Washington. Additionally, OSMRE received a section 7 concurrence from USFWS on February 27, 2001 (FWS Reference # 1-3-01-I-0902) stating that mining and reclamation operations associated with the John Henry No. 1 Mine will have no impact on the Whitebark pine (*Pinus albicaulis*), Valley silverspot (*Speyeria zerene bremeri*), White-topo aster (*Aster curtus*), Stalked moonwort (*Botrychium pedunculosum*), or the Tall bugbane (*Cimicifuga elata*). This 2001 USFWS concurrence letter is applicable to the significant revision proposal at John Henry No. 1 Mine since the proposed action falls within the USFWS parameters discussed within the above referenced concurrence letter.

PCCC conducted a field survey to identify Federal or State listed endangered, threatened, or sensitive plant species that are listed on Washington Department of Natural Resources (WDNR) Natural Heritage Program database and the USFWS listing and determined that there were no listed species on John Henry No. 1 Mine. OSMRE agreed with the findings of the WDNR and USFWS surveys and approved the addition of this information to the PAP, Wetland Resources, Inc. conducted vegetative field surveys on behalf of the City of Black Diamond in 2005 and 2007 for an adjacent property development. No Federal or State listed endangered, threatened, or sensitive plants species were found during Wetland Resources field surveys. The broader WDNP list of endangered, threatened and sensitive plants for King County are presented in the table below. This list was updated in 2008 and did not change. There have been no additional updates since 2008. Based on habitat preferences in Pojar and MacKinnon (1994) and these relatively recent field surveys, OSMRE believes that it is unlikely that the site contains any of the endangered, threatened, or sensitive plants on the WDNR rare plants list for King County, due to the lack of preferred habitats located on site.

Table 12: List of Known Occurrences of Rare Plants in King County, Washington

Scientific Name	Common Name	Status
Arenaria curtus	Swamp Sandwort	X (H) LE
Botrychium pedunculosum	Stalked Moonwort	S SC
Campanula lasiocarpa	Alaska Harebell	S
Carex comosa	Bristly Sedge	S
Carex macrochaeta	Large-awn Sedge	T (H)
Carex pauciflora	Few-flowered Sedge	S
Carex stylosa	Long-styled Sedge	S
Cassiope lycopodioides	Clubmoss Cassiope	T
Castilleja levisecta	Golden Paintbrush	E (H) LT
Chrysolepis chrysophylla	Golden Chinquapin	S
Cimicifuga elata var. elata	Tall Bugbane	S SC
Dryopteris carthusiana	Toothed Wood Fern	R1
Fritillaria camschatcensis	Black Lily	S
Hypericum majus	Canadian St. John's-wort	S
Linaria Canadensis var. texana	Texas toadflax	R1 (H)
Lobelia dortmanna	Water Lobelia	T
Lycopodiella inundata	Bog Clubmoss	S (H)
Lycopodium dendroideum	Treelike Clubmoss	S
Meconella oregana	White Meconella	T (H) SC
Montia diffusa	Branching Montia	S (H)
Platanthera chorisiana	Choris' Bog Orchid	T
Sericocarpus rigidus	White-top Aster	S SC
Spiraea splendens	Subalpine Spiraea	S (H)
Utricularia intermedia	Flat-leaved Bladderwort	S
Utricularia minor	Lesser Bladderwort	R1

Codes:

State Status:

E = Endangered

T = Threatened

S = Sensitive

X = Possibly extinct or extirpated from Washington

R1 = Review group 1. Of potential concern

H = indicates most recent sighting in the county is before 1977.

Federal Status:

LE = Listed Endangered

LT = Listed Threatened

SC = Species of Concern

There are nine (9) federally listed species:

Status	Species
T	Catchfly, Spalding's (Silene spaldingii)
T	Checker-mallow, Nelson's (Sidalcea nelsoniana)
E	Checkermallow, Wenatchee Mountains (Sidalcea oregana var. calva)
E	Desert-parsley, Bradshaw's (Lomatium bradshawii)
T	Howellia, Water (Howellia aquatilis)
T	Ladies'-tresses, Ute (Spiranthes diluvialis)
T	Lupine, Kincaid's (Lupinus sulphureus (=oreganus) ssp. kincaidii (=var. kincaidii))
T	Paintbrush, Golden (Castilleja levisecta)
E	Stickseed, Showy (Hackelia venusta)

Environmental Consequences/Mitigation Measures

Since mining began in 1986 the only additional field surveys of vegetation within the permit was the recently completed wetland delineation study. The initial study was completed on September 6, 2011 and was revised to include additional information collected on November 8, 2011. That study did not identify any endangered or threatened plant species on the mine site. The most significant mitigation measure that occurred since 1986 was PCCC's decision to not mine through the Mud Lake wetlands as was anticipated when mining began in 1986.

Proposed Action Alternative

The resumption of mining as proposed in the Revision Application will disturb an additional 29.9 acres in the Pit 2 area. This disturbance would affect third-growth forest of alder with some maple. Reclamation would occur contemporaneously as outlined in the reclamation plan in the PAP. As noted above, the proposed reclamation plan includes direct backfilling, and placement of topsoil on the graded backfill. Topsoil is generally placed during the drier summer months. The replaced topsoil is immediately seeded and planted with Douglas fir the following year depending on weather conditions.

Final reclamation includes a similar schedule whereby the spoil piles are used to backfill the pits in accordance with the approved PAP. Once AOC is achieved, topsoil is replaced over the final graded area and seeded immediately. Douglas firs are planted the following season depending on weather conditions. This constitutes a minor, direct, short-term impact to vegetation in the permit area.

No Action Alternative

The disturbance of vegetation in an additional 29.9 acres would not take place. Final reclamation is substantively the same as the Proposed Action Alternative.

8. WILDLIFE

Affected Environment

Priority Habitat and Species (PHS) maps and information for the region are available from the Washington Department of Fish and Wildlife (WDFW). The WDFW defines priority habitat as “a habitat type with unique or significant value to many species” and priority species as “fish and wildlife species requiring protective measures and/or management guidelines to ensure their perpetuation.” The WDFW maps show locations for current WDFW records of priority habitats and species on the John Henry mine site and in the surrounding areas.

Endangered, Threatened, and Sensitive Species

The WDFW PHS maps do not indicate any records of endangered, threatened, or sensitive amphibian, reptile, bird, or mammal species on the John Henry No. 1 Mine or within a half mile of the permit boundary. There is a WDFW record from 2001 of a bald eagle nesting site adjacent to Lake Sawyer, approximately one mile northwest of the John Henry mine site project. Bald eagles are a state listed threatened species. According to the WDFW information, this nesting site was located at the southern end of Lake Sawyer and contained two nests located in a group of two old trees, thirty feet down from the treetops. The John Henry mine site does not contain any large conifers adjacent to lakes or large creeks that bald eagles prefer for perching and nesting. No bald eagles or their nests were sighted on the John Henry mine site property during our surveys, though bald eagles might occasionally fly over the site. Spotted frogs are a state listed endangered species. WDFW has no records of spotted frogs on or near the subject property. Historically spotted frogs were more widespread throughout the Puget Sound region. Due to pollution, habitat loss, and the introduction of non-native predatory fish and bullfrogs, spotted frogs have nearly disappeared from Washington State. Only three small local populations are known to exist in Washington, none of which are in King County (McAllister 1997). It is therefore unlikely that spotted frogs exist on the John Henry mine site. The western pond turtle is a state listed endangered species. Historically, the western pond turtle was widespread in the Puget Sound region. Overharvesting and the introduction of non-native fish and the

bullfrog have contributed to the turtle's decline. The western pond turtle has been nearly extirpated from Washington State and is only known to occur in four small, localized populations in Klickitat and Thurston County (Hallock 2005). It is very unlikely that western pond turtles occur on the John Henry mine site.

In February 2012, OSMRE reviewed the USFWS list of federally endangered, threatened, candidate, sensitive species of concern, or critical habitat for King County, Washington. The USFWS list included the following listed species: Bull trout (*Salvelinus confluentus*), Canada lynx (*Lynx canadensis*), Gray wolf (*Canis lupus*), Grizzly bear (*Ursus arctos*), Marbled murrelet (*Brachyramphus marmoratus*), and the Northern spotted owl (*Strix occidentalis caurina*). Candidate species were the Fisher (*Martes pennanti*), North American wolverine (*Gulo gulo luteus*), Oregon spotted frog (*Rana pretiosa*), and the Yellow-billed cuckoo (*Coccyzus americanus*). The species of concern were the Bald eagle (*Haliaeetus leucocephalus*), Beller's ground beetle (*Agonum belleri*), Cascades frog (*Rana cascadae*), Hatch's click beetle (*Eanus hatchi*), Larch Mountain salamander (*Plethodon larselli*), Long-eared myotis (*Myotis evotis*), Long-legged myotis (*Myotis volans*), Northern goshawk (*Accipiter gentilis*), Northern sea otter (*Enhydra lutris kenyoni*), Northwestern pond turtle (*Emys marmorata marmorata*), Olive-sided flycatcher (*Contopus cooperi*), Pacific lamprey (*Lampetra tridentate*), Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), Peregrine falcon (*Falco pergrinus*), River lamprey (*Lampetra ayresi*), Tailed frog (*Ascaphus truei*), and the Western toad (*Bufo boreas*). Additionally, the critical habitats for Bull trout (*Salvelinus confluentus*), Marbled murrelet (*Brachyramphus marmoratus*), and the Northern spotted owl (*Strix occidentalis caurina*) were designated for King County, Washington.

OSMRE queried the WDFW Priority Habitat and Species database on February 2, 2012, and found that none of the USFWS listed species, candidate species, species of concern, or critical habitats are found on or adjacent to the revision proposal site. This Geographic Information System (GIS) based report uses USFWS polygons to identify important fish and wildlife species and habitats for specific geographic locations within King County, Washington. Therefore, mining and reclamation operations associated with the John Henry No. 1 Mine will have no impacts that exceed the parameters discussed within the USFWS's "may affect, not likely to adversely affect" concurrence letter dated February 27, 2001 (FWS Reference # 1-3-01-I-0902), for the Bull trout (*Salvelinus confluentus*) and Bald eagle (*Haliaeetus leucocephalus*), or result in the destruction or adverse modification of the Bull trout (*Salvelinus confluentus*) critical habitat. Also, there will be no impacts on the following listed species: Canada lynx (*Lynx canadensis*), Gray wolf (*Canis lupus*), Grizzly bear (*Ursus arctos*), Marbled murrelet (*Brachyramphus marmoratus*), or the Northern spotted owl (*Strix occidentalis caurina*). There will be no impacts to the following candidate species: Fisher (*Martes pennanti*), North American wolverine (*Gulo gulo luteus*), Oregon spotted frog (*Rana pretiosa*), or the Yellow-billed cuckoo (*Coccyzus americanus*). The species of concern: Beller's ground beetle (*Agonum belleri*), Cascades frog (*Rana cascadae*), Hatch's click beetle (*Eanus hatchi*), Larch Mountain salamander (*Plethodon larselli*), Long-eared myotis (*Myotis evotis*), Long-legged myotis (*Myotis volans*), Northern goshawk (*Accipiter gentilis*), Northern sea otter (*Enhydra lutris kenyoni*), Northwestern pond turtle (*Emys marmorata marmorata*), Olive-sided flycatcher (*Contopus cooperi*), Pacific lamprey (*Lampetra tridentate*), Pacific Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), Peregrine falcon (*Falco pergrinus*), River lamprey (*Lampetra ayresi*), Tailed Frog (*Ascaphus truei*), and the Western toad (*Bufo boreas*) will not be impacted. Additionally, the critical habitats for Marbled murrelet (*Brachyramphus marmoratus*), and the Northern spotted owl (*Strix occidentalis caurina*) will not be impacted.

OSMRE also queried (February 2012) the National Marine Fisheries Service (NMFS) Northwest Regional Office web page for the current listing data on the West Coast salmon and Steelhead

species that may be impacted by the project revision proposal in King County, Washington. The following species were either listed or considered a species of concern dependent on the water system (river, lake, fun, sound, or coast): Sockeye salmon (*Oncorhynchus nerka*), Chinook salmon (*Oncorhynchus tshawytscha*), Coho salmon (*Oncorhynchus kisutch*), and Steelhead (*Oncorhynchus mykiss*). Based on the mining and reclamation operations associated with the John Henry No. 1 Mine there will be no impact that exceeds the parameters discussed within the NMFS "may affect, not likely to adversely affect" concurrence letter dated June 28, 2001 (NMFS No. WSB-99-411). Also, OSMRE finds there to be no impacts on the following species: Sockeye salmon (*Oncorhynchus nerka*), Coho salmon (*Oncorhynchus kisutch*), and Steelhead (*Oncorhynchus mykiss*).

Environmental Consequences/Mitigation Measures

Much of the early land disturbances, especially the spoil piles, were topsoiled and revegetated, and Douglas fir was planted for temporary erosion control. Many of these trees are now over twenty years old and provide excellent wildlife habitat.

The FEIS noted that substantial impacts to aquatic wildlife communities would occur if the Mud Lake wetlands area was mined. As noted previously, the Mud Lake wetlands were not disturbed and will not be disturbed under the Proposed Action Alternative. Since mining began in 1986 an influx of beavers has occurred in Mud Lake. This has caused adverse impacts to PCCC's drainage control systems and requires periodic trapping and relocation of beaver by licensed trappers. The Mud Lake wetland area remains as habitat for aquatic wildlife including migratory birds.

Environmental protection measures that reduce the impact of the mining and coal washing operations include reclamation of disturbed sites following mining, minimizing the area of impact during the mining operation, and controlling runoff from the mine area. Sediment ponds were established to capture and treat surface runoff before it is returned to stream drainages. Disturbance from roads and equipment staging areas are kept as small as possible and dust control measures are used when necessary.

In 2000, as a result of the listing of the Puget Sound Chinook salmon as a threatened species, OSMRE was required to complete a Section 7 consultation with the NMFS. NMFS made the determination of "may affect, not likely to adversely affect" on the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), and its designated critical habitat on June 28, 2001; (NMFS No. WSB-99-411). Since 2000, there has been no further listing of fish species that are impacted by water flowing from the mine site. OSMRE reevaluated the Section 7 consultation and concurred with the 2001 NMFS determination of "may affect, not likely to adversely affect" on the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*), and its designated critical habitat.

PCCC completed a fish and wildlife review and conducted a more-detailed assessment of the likely impacts on threatened species from plans to construct a final-cut lake as part of the reclamation plan at John Henry No. 1 Mine. OSMRE agreed with the findings of the updated review and assessment and approved the addition of this information to the PAP. PCCC noted concerns about the potential impacts to the Puget Sound Chinook salmon from reduced downstream flow due to filling of the proposed final cut lake. This is no longer a concern; however those impacts are not significant. Under worst-case conditions downstream flow would only be reduced by 5% during lake filling. If it was demonstrated that a change in flow due to filling of the lake was of significance, then the impacts could be mitigated by redirecting a portion of surface water flow off Franklin Hill (south of the mine) to the Mud Lake wetlands which would then flow into Mud Lake. This would have the effect of

extending the time it takes to fill the lake. However, Pit 1 has already filled and would only be partially dewatered to recover remaining Franklin No. 10 seam reserves, as proposed in the Revision Application.

Proposed Action Alternative

Impacts to wildlife are both on- and off-site. The on-site impact is primarily loss of habitat. Although some forms of wildlife will undoubtedly benefit from surface mining and coal washing operations (e.g., rock dove, elk, house mice and barn swallows), during the initial mining phase there was a temporary net loss in faunal diversity and productivity. It was assumed that the displaced game would not survive because the adjacent areas are presumed to be at their carrying capacity (Zeigler, 1982). This loss was temporary but will continue as mining and reclamation operations resume for five years and until the impacts on the site are restored to their original productivity. However, a portion of the land use will be commercial timber production, thus that portion is unlikely to have its faunal diversity. Tree farms are intentionally monospecific and typically support less wildlife than mixed deciduous and conifer forests. In addition, the micro relief provided by downed logs and stumps creates sites for foraging and breeding for many species. These niches will not be created by the post-mining land use.

The off-site impact on wildlife is the presence of people and their machinery. Increased traffic to the mine site limits use of habitat along the highway corridor for nesting of birds.

The disturbed area, occupied by buildings, machinery, roads, and expanses of sparsely vegetated ground, provides a barrier to the movement and dispersal of vertebrates, such as deer. The loss of the broadleaf forests and wet habitats within those forests will be permanent on the land designated for commercial forest.

Disturbance of areas have been and will be minimized whenever possible. Disturbance from mining operations will follow the mining sequence. The integrity of the Mud Lake wetlands was protected based on PCCC's decision not to mine in that area. These areas serve as foraging habitat for deer and elk. Aquatic communities are protected by avoiding disturbance to Mud Lake Wetlands, Mud Lake Creek and Ginder Lake. Overall, this constitutes a direct and indirect, long-term, minor impact.

No Action Alternative

The projected impacts from the No Action Alternative are similar to the Proposed Action Alternative. However, because no mining occurs acreage would be disturbed over a shorter period of time due because the final reclamation schedule would be shortened and longer haul distances would be required to move backfill and topsoil materials.

9. LAND USE

Affected Environment

The City of Black Diamond, including the historic downtown, Morganville and various additional properties, was incorporated in 1959. Currently, John Henry No. 1 Mine extends into the City. The City completed its first Comprehensive Plan in 1980. That plan proposed future annexation of lands to the northwest, east, and southwest to the City. Subsequent annexations in 1985 and 1994 added lands to the northwest and southwest to the City. The portion of the John Henry No. 1 mine located in unincorporated King County was considered for annexation but that did not happen.

Washington State passed the Growth Management Act (GMA) in 1991. The primary purpose of the act was to prevent urban sprawl and focus growth in areas that had or could more easily develop infrastructure. This included incorporated cities like Black Diamond. The GMA is described more fully in Chapter IV of the PAP.

The City of Black Diamond completed its first GMA Comprehensive Plan in 1996. That same year, the City negotiated a "potential annexation area" agreement with King County and nearby property owners that was formalized as the "Black Diamond Urban Growth Area Agreement." Following execution of the Black Diamond Urban Growth Area Agreement, the City annexed an area around Lake Sawyer and the West Annexation Area to the City in 1998 and 2005.

Black Diamond started as a coal mining company town in the 1880s and has remained as such for much of its history. King County incorporated Black Diamond as a city in January 1959.

In 2005, the City adopted Master Planned Development (MPD) Ordinances (Ordinance No. 05-779 and Ordinance No. 05-796). These Ordinances establish the MPD zoning district, and its standards and MPD permit requirements for parcels or groups of parcels that are greater than 80 acres in size. In 2009, the City took several actions to update planning and environmental policies and procedures, including the Comprehensive Plan, MPD Ordinance, and the Sensitive Areas Ordinance. In 2010, the City approved two MPD's and work is currently underway on related permits and plans for the two MPD's.

The City's Comprehensive Plan includes a vision for what the City will become by 2025, and emphasizes:

- Historic heritage and natural setting
- Small-town atmosphere
- Balance of moderate growth and economic viability
- Economic base
- Mix of residential types, sizes and densities, clustered to preserve maximum open space
- Trails/bikeways/greenbelts connecting housing, shopping, employment and parks and recreation areas
- Active citizen participation in an effective and open government
- Adequate public services and environmental protection

At the time of the 1986 FEIS, the planned Tacoma pipeline was routed through the John Henry mine. Subsequently, when the pipeline was constructed in 2002 it was routed around Pit 1 adjacent to the Green River Gorge Road. The construction of the pipeline and related negotiation between Black Diamond and the City of Tacoma provided additional water to Black Diamond and has facilitated implementation of the MPD in the City.

At the time the FEIS was issued, a portion of the Permit Area located within the city limits was already zoned as Mineral Extraction/Forestry. However, 12 acres were later zoned residential R-2400 and 36 acres zoned residential RM-9600. This required a rezone to Mineral Extraction/Forestry to allow for the placement of Spoil Piles 3 North and 3 South. The applicant's rezone application was approved March 20, 1986 after hearings before the city's planning commission and council.

OSMRE solicited comments from the city as a result of PCCC's significant permit Revision Application to resume mining. The City of Black Diamond had no comments other than PCCC will be required to submit a grading plan application and obtain a grading permit for activities associated with Spoil Piles 3 North and 3 South, as they are located within the city limits.

Environmental Consequences/Mitigation Measures

Under the approved PAP, land uses that existed prior to mining are reestablished. That is, forestry for the upland areas and fish and wildlife habitat for the final cut lake. This land use re-establishment complies with the land use management intent of the primary surface landowner, Palmer Coking Coal Company. It is also consistent with permitted uses within the King County zoning classification and Black Diamond zoning classification and intended uses of the land after final reclamation.

Proposed Action Alternative

The Proposed Action Alternative will have no effect on the post-mining land use or any land use outside the permit area. This constitutes a negligible impact.

No Action Alternative

The effect of the No Action Alternative is identical to that of the Proposed Action Alternative with respect to land use.

10. SOCIOECONOMICS

Affected Environment

The City of Black Diamond had an estimated population of 4,151 in 2010, which was a five percent growth from 2000. This is the most recent population data available on the City's web site. The population has likely grown but it is not significant. The population is comprised of approximately equal numbers of men and women, a median age of 35.7 years, and an average household size of 2.7 people. King County, which includes the City of Black Diamond and the John Henry No. 1 mine, had a population of 1,909,300 in 2009, representing a 9.9 percent increase from 2000.

Black Diamond is still considered a residential community with little industry and direct employment. Most working-aged residents commute to jobs located in the Kent Valley or Seattle area.

At peak production the mine employed 75 people and was the major employer in the greater Black Diamond area.

Electrical power is provided by Puget Sound Energy through a privately owned high voltage power line. Subsequent to issuance of the FEIS PCCC constructed a septic system. These and other utilities are described:

- Pacific Coast Coal Company receives power from Puget Sound Energy. The load is 800 to 1,000 kilovolt-ampere (KVA).
- Underground transmission lines are built along the access road to the facilities area. The transmission line is owned by Pacific Coast Coal Company and provides electricity to the office, shop and preparation plant.
- Two ground-based step-down transformers were installed under Puget Sound Energy's supervision at Pacific Coast Coal Company's expense. One 300 KVA transformer provides 480-volt electricity to the preparation plant and the other 75 KVA transformer provides 480-volt electricity to the office and shop facilities.
- The John Henry No. 1 mine uses a well as a source of potable water.

- PCCC pumps make up water for the plant from Pit 2. PCCC also can also supply water from pond G or from Ginder Lake.
- Pacific Coast Coal installed a sewage system in 1991. The system has an approximate 2,500 lineal foot drain field and a septic tank total capacity of approximately 4,500 gallons.

PCCC utilizes a number of different mechanisms to ensure that public health and safety is adequately maintained throughout the mine's operations. Dust and debris on roads is reduced by the use of a wheel washing facility prior to trucks exiting the mine area. No trespassing signs are posted around the property to warn hikers and other people of the dangers within the mine site.

Potentially negative impacts from blasting are mitigated in a number of ways. Spoil Piles 3 North and 3 South and the berm along the eastern edge of the mine site act to reduce the impact of noise from blasting on the local community. Additionally, blasting operations are done in compliance with the Federal performance standards at 30 CFR 816.61 through 816.68.

Environmental justice describes the commitment of OSMRE to avoid placing disproportionately high and adverse effects on the human health and environment of minority or low-income populations. Only minor and/or negligible impacts are presumed to occur or could occur from the Proposed Action Alternative or No Action Alternative, making impacts to the environment from either of these alternatives not a significant concern. Additionally, there are no significant minority or low-income populations documented in the general vicinity of the mine in the City of Black Diamond.

Environmental Consequences/Mitigation Measures

As the mine will produce coal at approximately one third of the rate anticipated in the FEIS the socioeconomic impacts would be less than those projected in the FEIS. Specifically, it is expected that John Henry No. 1 Mine will employ about one half as many employees as it originally did during peak operation. Housing values did not decrease due to the construction of the mine as was anticipated and discussed in the FEIS.

Proposed Action Alternative

Overall, the operation has little impact on the City of Black Diamond and its residents and very little socioeconomic impact in general. Under the proposed alternative PCCC and its contractors will employ an average of about 30 people per day for seven years during mining and reclamation activities. The mine is self contained and will require no external utility services other than those discussed previously. Between the low level of employment in the community, the lack of minority populations, and the lack of any significant public health and safety concerns, the likely impact to Socioeconomics are negligible.

No Action Alternative

Under the No Action Alternative, PCCC and its contractors will employ an average of about 20 people for two years for reclamation-only operations. No additional outside services are required under this alternative compared to that discussed in the FEIS.

11. TRANSPORTATION

Affected Environment

Transportation was incorporated into the Socioeconomic discussion of the FEIS. It is a separate category in this EA.

State Route (SR) 169 is the only regional north-south roadway that connects areas with high levels of employment and services. As a result, a majority of commuters utilize SR 169 during some point of their trip. Peak hour traffic along SR 169 is highly “directional” because there is little employment in the Black Diamond area.

During the morning peak hour, approximately 72 percent of travel is northbound, compared to only 30 percent during the evening peak. SR 169 becomes moderately congested, due to the lack of alternative north-south routes and the highly directional distribution of traffic during the peak hours.

SR 516, SE Kent Kangley Road, Roberts Drive, and Lawson Street provide the primary east-west connections to SR 169. Despite having low roadway capacities and being affected by SR 169 operations, the relatively low volumes along these roadways results in low to moderate levels of congestion.

Environmental Consequences/Mitigation Measures

The proposed production rate described in the Revision Application is about a third of historic production at John Henry Mine No 1. Traffic impacts at the larger historic production level were not significant compared to other non-mining-related truck traffic in the area. At full historic production an average of 33 coal trucks would leave the mine each day. This compares to over 200 trucks per day of non-mining-related traffic, hauling sand and gravel for single large construction projects, for example. Under the Proposed Action Alternative average truck traffic is only ten (10) trucks per day and is relatively insignificant.

Proposed Action Alternative

Coal will be hauled out at the average rate of ten (10) trucks per day five days per week. Peak haulage may vary depending on PCCC’s coal delivery schedules. Subsequent to the issuance of the FEIS, PCCC was ordered by King County to construct a wheel wash to clean trucks leaving the mine site. As trucks travel through the wheel wash the truck drivers will either manually or electronically start a pump. This will be a manual process initially but will eventually be automated. The pump (enclosed in a steel cage) will pump water from the small sump through pipes to four nozzles strategically located to spray truck wheels. The number of nozzles may change to improve effectiveness. Dirt is removed both by the action of the truck driving through the wash and by the water sprays. The ultimate location and design of the nozzles may change to improve efficiency. Dirt will settle out in the wheel wash and water will flow back into the sump where it will be reused. Settling of mud and dirt will also occur in the sump.

PCCC will also mitigate truck traffic by scheduling coal haulage in off or non-peak hours whenever possible. Overall, this should cause a negligible impact on transportation in the area.

No Action Alternative

No coal will leave the mine site and impacts will be negligible.

12. RECREATION

There are no parks or recreational facilities in the mine area. The City of Black Diamond maintains a three-acre park in the middle of the city adjacent to the Black Diamond elementary school. This school is located approximately 5300 feet from the current location of Pit 2, and just over 4000 feet from Pit 2 at its closest approach, which is projected to occur in 2015. The school is approximately 2000 feet from the permit boundary. The school and the park provide for little league baseball and soccer and has basketball courts, tennis courts and a new skateboard arena. Impacts from either the Proposed Action Alternative or the No Action Alternative regarding recreation are negligible.

13. NOISE AND VIBRATION

Affected Environment

At the time the mine began production, noise was a significant concern for neighboring property owners and King County. The King County rezone ordnance required extensive noise monitoring. In the ten years that the mine operated at full production neither PCCC nor King County received noise complaints. The rock overburden must be blasted prior to haulage and backfilling. This is accomplished through a plan that must be approved by OSMRE. Holes are drilled in a fixed pattern to a depth of 25 feet. The holes are loaded with explosives and detonated in a predetermined sequence to minimize vibration and fly rock. Blasting occurs on a schedule that is published every twelve months in the local newspaper and only during daylight hours.

Environmental Consequences/Mitigation Measures

Noise mitigation berms including Spoil Pile 1, the berm along the east edge of the mine site, and Spoil Pile 3 South were constructed and have been effective. Vibration from blasting is controlled as required in the regulations. Although there have been complaints regarding noise, there have been no reported adverse impacts on nearby residences from vibrations.

Proposed Action Alternative

Mining and reclamation activities take place away from most surrounding residential areas. PCCC proposes to use smaller, less noisy equipment, which would reduce potential noise impacts. Blasting will occur but in a controlled manner that limits vibration. Blasts will be controlled and monitored as required by 30 CFR 816.67. Noise and vibration impacts are further mitigated by the operating hour restrictions imposed by the King County and Black Diamond rezone ordnances and grading permit. Likely impacts from noise and vibration are minor, long-term, direct impacts.

No Action Alternative

Reclamation activities take place away from most surrounding residential areas. The exception is the reduction in volume of Spoil Pile 1 near Lake 12 and Spoil Pile 3 South near Lawson Hills Estates. In each of those instances, most overburden removal activities will take place behind a temporary berm that will be reduced in size as the height of the spoil pile is reduced. Noise and vibration impacts are further mitigated by the operating hour restrictions imposed by the King County and Black Diamond rezone ordinances and grading permit. The No Action Alternative has the same impacts as the Proposed Action Alternative.

14. VISUAL RESOURCES

Affected Environment

As a condition of the King County rezone ordinance, PCCC was required to construct a wooden fence along the Green River Gorge Road. In 2003, subsequent to the construction of the Tacoma Pipeline along the Green River Gorge Road, King County allowed PCCC to remove the wooden fence and replace it with a vegetation barrier.

Environmental Consequences/Mitigation Measures

The vegetation barrier along the Green River Gorge Road has developed since planting in 2003 and is an effective visual barrier that separates the mine from a public road. King County required the planting of Douglas fir trees which were planted on approximately 8 feet centers along the relatively steep slope. The success rate after five years was about 90 percent and the trees are now 8-12 feet high. The success rate has not changed and the trees continue to grow today. In addition, normal natural revegetation of deciduous trees, including alder and maple occurred and supplement the fir plantings. Visual impacts from surrounding residences were mitigated once the spoil piles and noise mitigation berm were constructed. No new environmental consequences are expected.

Proposed Action Alternative

Mining and reclamation activities will not be observed from surrounding residential properties. During reclamation the height of Spoil Pile 1 and Spoil Pile 3 South are reduced and there may be some visual connection with external properties. This will be mitigated by sequencing spoil removal such that loading operations take place behind a berm. These effects constitute a minor, long-term, direct impact.

No Action Alternative

The No Action Alternative has the same impacts as the Proposed Action Alternative. No additional impacts are foreseeable

15. CULTURAL RESOURCES

Affected Environment

An archeological survey of the mine site was conducted in 1983 by Dr. Brian G. Holmes. No prehistoric sites were located but evidence of past underground mining was noted. No additional cultural resources were encountered since mining began in 1986. The Washington State Office of Archeology & Historic Preservation concluded that the mine will have no effect on known cultural resources included in or eligible for inclusion in the National Registry of Historic Places.

Environmental Consequences/Mitigation Measures

No environmental consequences or mitigation measures are necessary based on the information provided in the previous discussion.

Proposed Action Alternative

No additional consequences are listed or mitigation measures are required. Should unreported cultural resources be discovered such discovery will be reported and work will cease in the area until the discovery can be evaluated. The impact to such resources is negligible.

No Action Alternative

No additional consequences or mitigation measures are required.

E. CUMULATIVE IMPACTS

Cumulative impacts are the environmental impacts that could result from the implementation of the Proposed Action Alternative, when added to the impacts from all other past, present, and reasonably foreseeable activities, regardless of who is conducting such activities. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

Large-scale residential development within Black Diamond is scheduled but is not expected to begin for several years and most likely after the John Henry mine is reclaimed. Specifically, there is a potential for a subdivision to be developed at Logan Hill as well as the possibility that the John Henry No. 1 Mine could be developed as a residential neighborhood for its post-mining land use. Cumulative impacts from these activities are not anticipated.

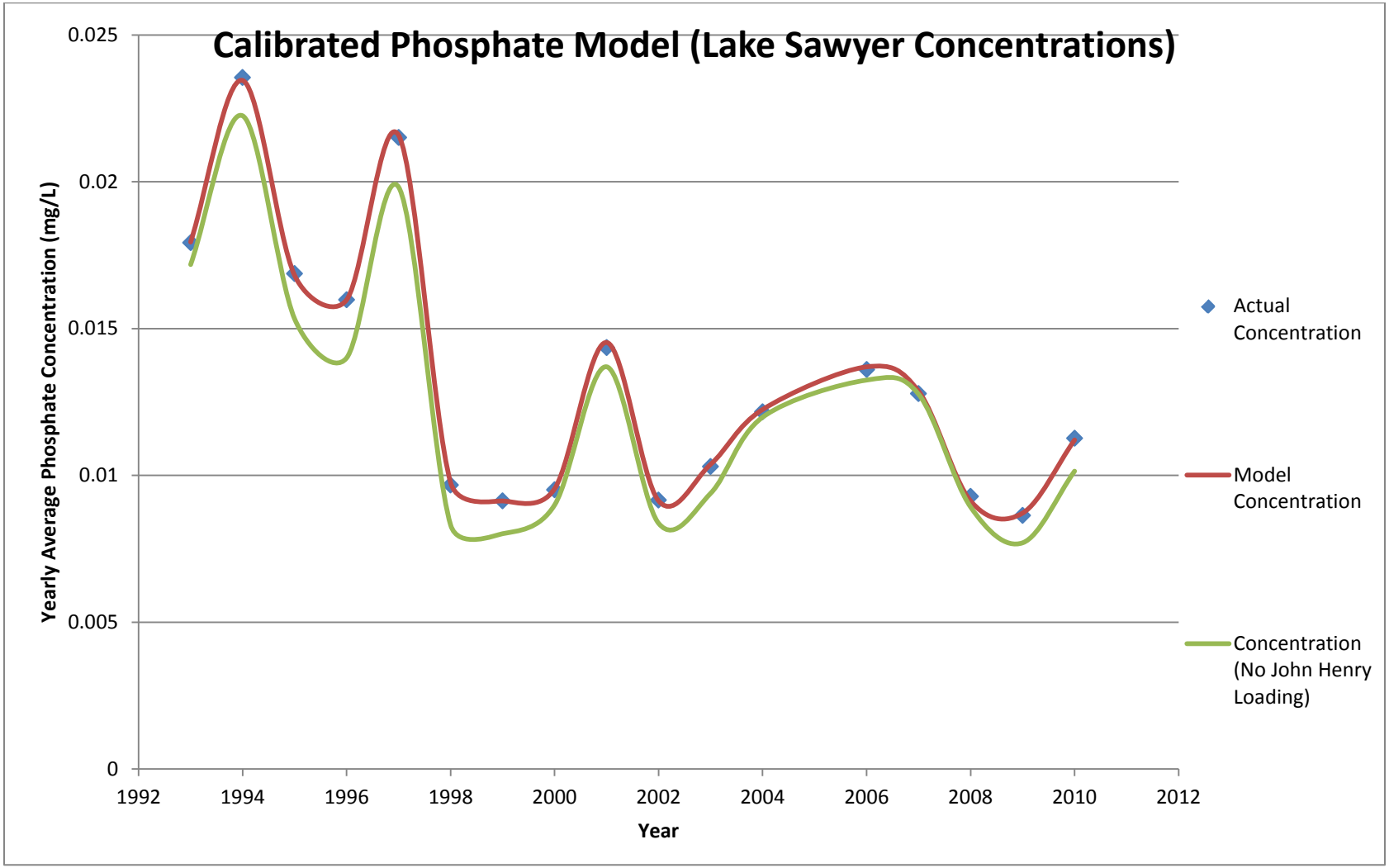
As noted, truck transportation of coal from the mine site will average ten (10) truck trips per day five days per week. Truck trips from the Palmer sand and gravel mine have historically ranged and are expected to continue to range between 120 - 340 truck trips per day. The cumulative impact of adding ten (10) additional trucks to the traffic from the John Henry No. 1 Mine is negligible.

There are possible cumulative impacts to Lake Sawyer from phosphorous loading when considering the impacts of both the John Henry mining activity with all the other sources of phosphorous in the watershed. A water quality loading model was generated by OSMRE staff and included in the 2013 John Henry CHIA to determine the effect that coal mining and reclamation at the John Henry Mine has had and could potentially have on the phosphorous concentrations in nearby Lake Sawyer. The goal of the model was to determine whether the proposed resumption of mining would have a significant effect on the lake. It was determined from the model that phosphorous loading from the John Henry Mine is higher during periods of active mining, but also that a wide degree of natural variation is present. See the 2013 John Henry No. 1 Mine CHIA for more details. A cumulative impact to phosphorous concentration in Lake Sawyer from the John Henry No. 1 Mine is a minor, long-term, direct impact. The calibrated model is shown in Figure 4.

PCCC's John Henry mine is the only operating coal mine in the area so there are no cumulative impacts related to other coal mines, only direct impacts from surface coal mining. However, Palmer Coking Coal Company operates a 220 acre sand and gravel mine that is located about a mile to the west of the permit boundary. The sand and gravel mine represents a potential mining-related contribution of phosphorous to Lake Sawyer. This site does not have an industrial NPDES permit with numerical limits on phosphorous and associated recorded data to analyze. Rather, it is covered under the Sand and Gravel General Permit issued by WDOE which includes it and other similar operations throughout the state. No NPDES data is collected from the sand and gravel mine, but turbidity is limited to 50 nephelometric turbidity units for discharge from John Henry No. 1 which should likely reduce phosphorous loading to Lake Sawyer. Since there is no data on phosphorous concentrations and flow related to discharge from the Palmer Coking Coal sand and gravel operation,

it is impossible to ascertain numerically how it could contribute to a cumulative impact to Lake Sawyer.

Figure 4: Phosphate Loading TMDL Model



Resource		Water Resources and Hydrology	Topography	Geology	Climate and Climate Change	Air Quality	Soils	Vegetation	Wildlife
Assessment Approach		Evaluation of Historic Data; Water Quality Modeling of Phosphate	Evaluation of Final Mine Topography and Required Spoil Movement Associated with each Alternative	Evaluation of the Mining Plan and Coal Extraction Associated with each Alternative	Evaluation of Greenhouse Gas Emissions	Evaluation of Carbon Monoxide, Ozone, and Particulate Matter	Evaluation of the Proposed Mining and Reclamation Plans	Evaluation of T&E Plant Species and the Mining ad Reclamation Plans	Evaluation of T&E Species and other Wildlife
Impact Designation and Assessment	**Direct or Indirect Impact**	Direct	Direct	N/A	N/A	N/A	N/A	Direct	Direct and Indirect
	Short or Long Term	Short	Long	N/A	N/A	N/A	N/A	Short	Long
	Minor, Moderate, Major, or Negligible	Minor	Minor	Negligible	Negligible	Negligible	Negligible	Minor	Minor
Impact Mitigation Techniques		Contemporaneous reclamation; maintenance of sedimentation structures, proper handling of spoil, topsoil, and coal processing waste materials	Contemporaneous reclamation; reclamation to approximate original contour (AOC)	Contemporaneous reclamation	N/A	Watering mine roads for dust suppression; cleaning trucks leaving the permit area	Use of 4 feet of topsoil or suitable material as a plant growth medium for reclamation	Timely seeding and revegetation of disturbed areas	Minimizing the amount of disturbed area; preservation of Mud Lake Wetlands

Table 13: Impact Designation and Assessment of the Proposed Action Alternative

Resource		Land Use	Socioeconomics	Transportation	Recreation	Noise and Vibration	Visual Resources	Cultural Resources	Cumulative Impacts
Assessment Approach		Evaluation of Pre and Post Mining Land Uses	Evaluation of Potential Mine Employment, Public Health and Safety, and Environmental Justice	Evaluation of Potential Coal Truck and Other Traffic	Evaluation of the Proposed Action's Effects on Recreation in the Area	Evaluation of Previous Noise and Vibration Complaints	Evaluation of the Mining and Reclamation Plans	Archaeological Survey	Water Quality Loading Model to Lake Sawyer
Impact Designation and Assessment	**Direct or Indirect Impact**	N/A	N/A	N/A	N/A	Direct	Direct	N/A	Direct
	Short or Long Term	N/A	N/A	N/A	N/A	Long	Long	N/A	Long
	Minor, Moderate, Major, or Negligible	Negligible	Negligible	Negligible	Negligible	Minor	Minor	Negligible	Minor
Impact Mitigation Techniques		Reestablishment of land uses that existed prior to mining	N/A	Use of wheel washers prior to trucks exiting the mine site	N/A	Use of noise mitigation berms, following the performance standards 30 CFR 816.	Sequencing spoil movement, utilizing berms and other barriers	N/A	NPDES Permit, Use of Flocculents

PERSONS / AGENCIES CONSULTED

See Chapter 5 of the FEIS for a list of persons and agencies consulted for the FEIS. Additional, more recent references used in this EA are listed below. Many of the past references are baseline studies that are still relevant to assessing environmental impacts and mitigating measures. For the permit Revision Application, which was deemed significant by OSMRE, PCCC ran a newspaper notice as required by 30 CFR 947.773.13. This was run in the "Voice of the Valley" for four consecutive weeks beginning May 24, 2011. The only comments received were from the Mine Health and Safety Administration concluding that the revision was minor in scope and that the Pit 1 final cut lake would have to be inspected and monitored to ensure compatibility with the approved ground control plan. In conjunction with the Proposed Action Alternative, OSMRE consulted with the USACE.

INTERDISCIPLINARY REVIEW

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Matthew Hulbert, Civil Engineer

Foster Kirby, Archeologist

Dawn Pacula, Natural Resources Specialist

Glenn Waugh, Sr. Regulatory Program Specialist

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INTERAGENCY CONSULTATION

U.S. Department of Labor, Mine Safety and Health Administration

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

Washington Department of Ecology

City of Black Diamond

King County Department of Development and Environmental Services

Department of Archeology and Historic Preservation

Washington Department of Natural Resources, Division of Geology and Earth Sciences

Washington Department of Fish and Wildlife

Muckleshoot Indian Tribe

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