APPENDIX B

Reserve Silica Reclamation Site – Historical Coal Facilities - Aspect Consulting Memo

Appendix B: Reserve Silica Reclamation Site – Historical Coal Facilities - Aspect Consulting Memo

Appendix B presents a memorandum prepared by Aspect Consulting (Aspect) on behalf of Reserve Silica Corporation for the Reserve Silica Reclamation Site. This memorandum was presented to the Washington State Department of Ecology (Ecology) in response to Ecology's requests for additional evidence to support that Cement Kiln Dust (CKD) related hazardous do not overlap with the historical coal mining and processing activities that occurred on the Preliminary Site.

This memorandum discusses Aspect's evaluation of the locations of historical coal mining and processing related activities in relation to the nature and extent of impacts determined during the RI. The evaluation determines that, outside of the permitted CKD disposal that occurred within the Dale Strip Pit (DSP) and the mine portal water, which has been sampled for over 20 years and is not impacted, there is no overlap between the historical coal mining/processing and the CKD impacted areas.

MEMORANDUM

Project No. 160315-A

March 17, 2025

To: Alan Noell, PhD, PE, Washington State Department of Ecology, Northwest Regional Office

cc: Marisa Floyd, Reserve Industries

From:

Carla E. Brock, LHG
Principal Geologist
cbrock@aspectconsulting.com

Re: **Reserve Silica Reclamation Site – Historical Coal Facilities**

Aspect Consulting, LLC (Aspect) has prepared this memorandum on behalf of Reserve Silica Corporation, property owner and signatory to Agreed Order No. DE 16052 for the Reserve Silica Reclamation Site in Ravensdale, Washington. The Agreed Order provides requirements for remedial action at the Reclamation Site to evaluate cement kiln dust (CKD)-related hazardous substance releases associated with the Lower Disposal Area (LDA) and Dale Strip Pit (DSP). The LDA and DSP are former surface strip pits that were mined for silica sand and coal, respectively, where CKD was placed during reclamation in the 1970s and 1980s. Historical operations in the vicinity of the Reclamation Site have included coal and sand mining and processing.[1]

This memorandum addresses an outstanding data gap identified by the Washington State Department of Ecology (Ecology) related to historical coal facilities, which consist of historical surface structures and operational areas associated with historical coal mining operations[2].

The Agreed Order indicates that potential hazardous substance releases from coal and sand processing facilities are not addressed under the Order because the sources and types of contamination at those facilities are distinct from, and do not overlap with, the CKD-related hazardous substance releases. However, Ecology has requested additional information pertaining to the potential overlap of historical coal facilities with CKD-related hazardous substances releases. To address this request, the Remedial Investigation/Feasibility Study Work Plan, which was approved by Ecology in July 2021, stated the following:

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[1] Golder Associates, Inc., 2021, Remedial Investigation/Feasibility Study Work Plan, Reserve Silica Reclamation Site, July 22, 2021.

[2] Coal is a naturally occurring substance that does not meet the WAC 173-340-200 definition of a hazardous substance, so the focus of this memorandum is the historical mining and processing facilities themselves.

> *Once the Site has been defined, its areal extent will be evaluated against the locations of historical coal facilities and visual surveillance will be completed to survey for potential releases of hazardous substances associated with those facilities. If there are visual indications of releases attributable to former coal mining facilities, additional work may be necessary to evaluate them.*

Based on the results of the remedial investigation (RI) work completed to date, the preliminary Site extent is depicted on Figures 1 and 2 and is based on areas where CKD is present (the LDA and DSP) and/or where data from monitoring wells has delineated the extent of CKD-related hazardous substances in shallow groundwater. There is no indication that the Site boundary will expand to the northeast (towards the historical coal facilities).

As depicted on the attached figures, the only location where the Site overlaps with historical coal facilities is near the mine portal, which has been extensively observed and studied for decades (Golder, 2021). There are no visual indications of releases attributable to former coal mining facilities in this portion of the Reclamation Site. Based on these results, no further work is necessary to evaluate potential releases of hazardous substances associated with historical coal facilities at the Reclamation Site.

Limitations

Work for this project was performed for the Reserve Silica Corporation (Client), and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This memorandum does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Client apply only to the services described in the Agreement(s) with the Client. Any use or reuse by any party other than the Client is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

Attachments: Figure 1 – Historical Coal Mining Features
Figure 2 – Dale Coal Mine Surface Structures

FIGURES

GIS Path: G:\projects\ReserveSilica_160315\ReserveSilica.aprx || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 3/17/2025 || User: Willie.Longmire || Print Date: 3/17/2025

Ravensdale Lake

Ravensdale Mine No. 1 Workings

Tipple & Washery

PLANT SITE

Portal

CLOSED LANDFILL
KING COUNTY TAX PARCEL 3622069038

Dale Tunnel

Lower Disposal Area

North Pit

Tan Sand Pit

Upper Pit

Dale Strip Pit

CLOSED LANDFILL

Dale No. 7 Seam

INSERT WASTE LANDFILL
KING COUNTY
TAX PARCEL
0121069011

Dale Mine No. 1 Workings

McKay Workings

Middle Pit

Lower Pit

BLACK DIAMOND-RAVENSDALE RD SE

Dale No. 4 Seam

Preliminary Site Boundary

Plant Site

Reclamation Site

Historical Coal and/or Sand Mine Pit Extent

Conceptual Cross Section (reference Figure X-3)

Historical Mining Features

Locations are approximate

Area of Chutes and Pillars

Underground Mine Portal

Surface Structure

Underground Tunnel

Surface Tram/Rail

0 300 600

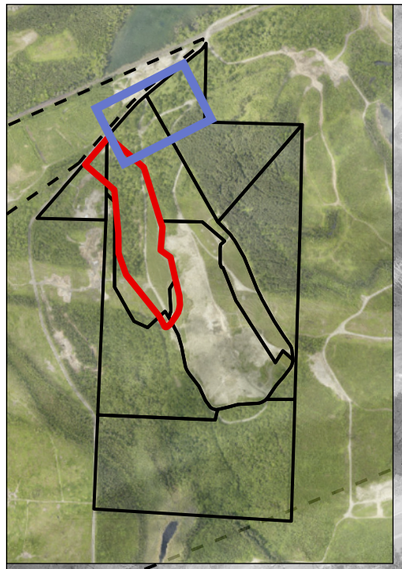
Feet

Historical Coal Mining Features

Historical Coal Facilities Memorandum
Reserve Silica
Ravensdale, Washington

Aspect CONSULTING	JAN-2020	BY: ALC / RAP	FIGURE NO. 1
	PROJECT NO. 160315	REVISED BY: WBL	

Basemap Layer Credits || Image:



Pump House
Transformers
Coal Bunkers
Wash
Tipple
Washery & Bunkers
Drying Room
Cooler
Slack/ Rock Dump
Trestle E
Generator Room
Sulphur Storage
Machine Shop & BLSM
Office
Portal

Historical Mining Features

- Area of Chutes and Pillars
- Underground Mine Portal
- Surface Structure
- Underground Tunnel
- Surface Tram/Rail
- Plant Site
- Reclamation Site
- Preliminary Site Boundary

N

0 80 160
Feet

Dale Coal Mine Surface Structures

Historical Coal Facilities Memorandum
Reserve Silica
Ravensdale, Washington

Aspect CONSULTING

MAR-2025	BY: EAC / RAP	FIGURE NO. 2
PROJECT NO. 160315	REVISED BY: WBL	

Basemap Layer Credits || KingCo_Aerial_2017: Pictometry, King County Image:

GIS Path: G:\projects\ReserveSilica_160315\ReserveSilica.aprx || Coordinate System: NAD 1983 StatePlane Washington North FIPS 4601 Feet || Date Saved: 3/17/2025 || User: Willie.Longmire || Print Date: 3/17/2025