

I certify that I am a Professional Geologist, having met the educational requirements and professional work experience required by C.R.S. § 23-41-208(b). I certify that the Geologic Hazard Plan described herein is, to the best of my knowledge, accurate and complete.

Signature: *Christopher Slack* Date: 4/19/2023

Christopher Slack, P.G., C.E.G. CA (PG 8994, CEG 2638)



Currier BCU 0993-16-07
 Geologic Hazard Plan
 SWNE, Section 16, T.9 S., R 93W., 6th P.M.

Laramie Energy, LLC



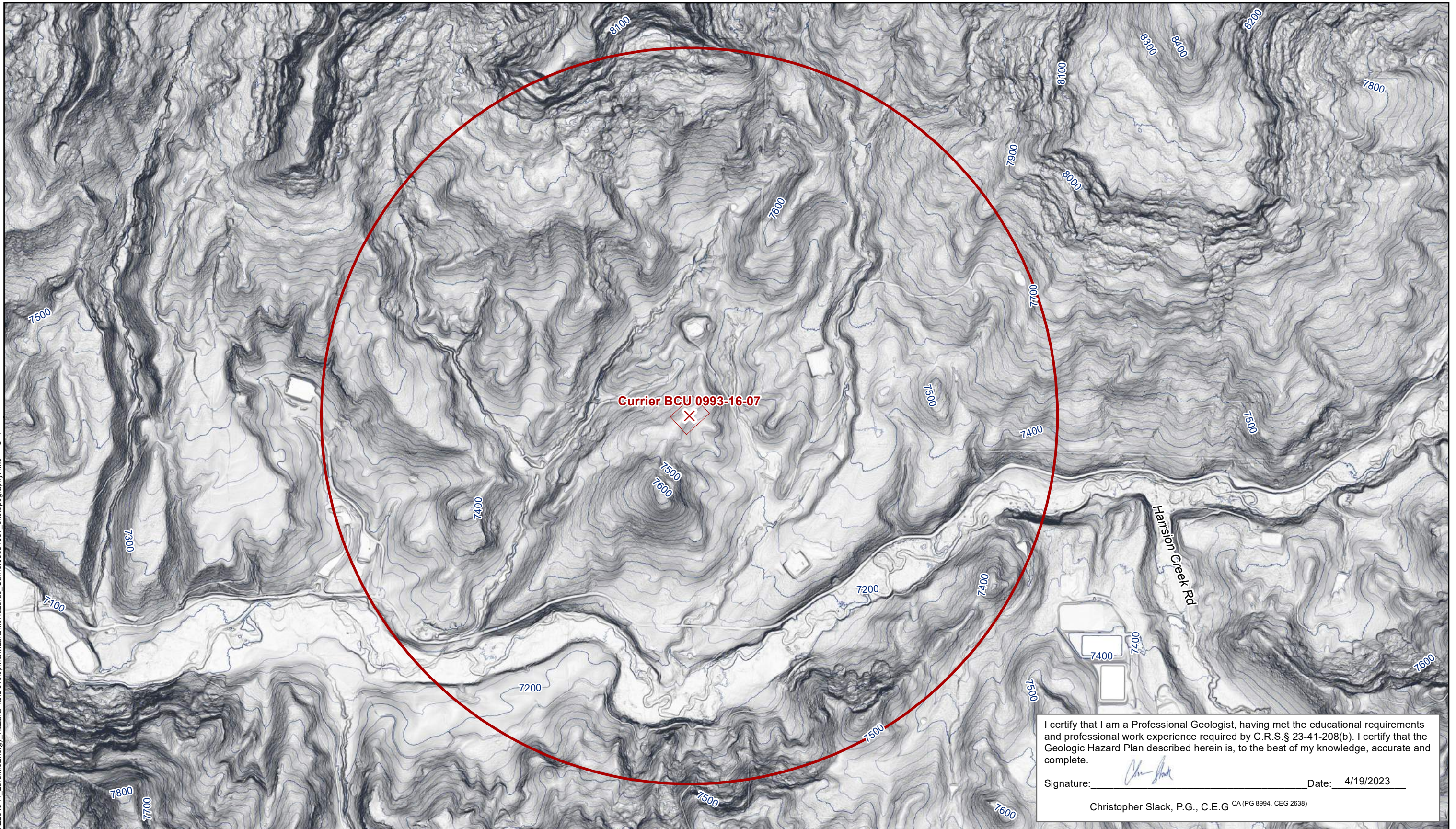
CURRIER BCU 0993-16-07
WELL PAD LOCATION AND VICINITY

April 2023


Figure 1

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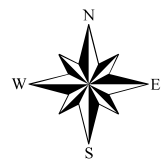
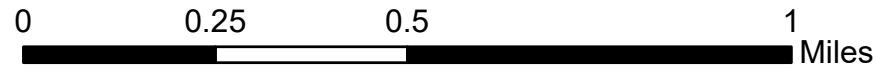
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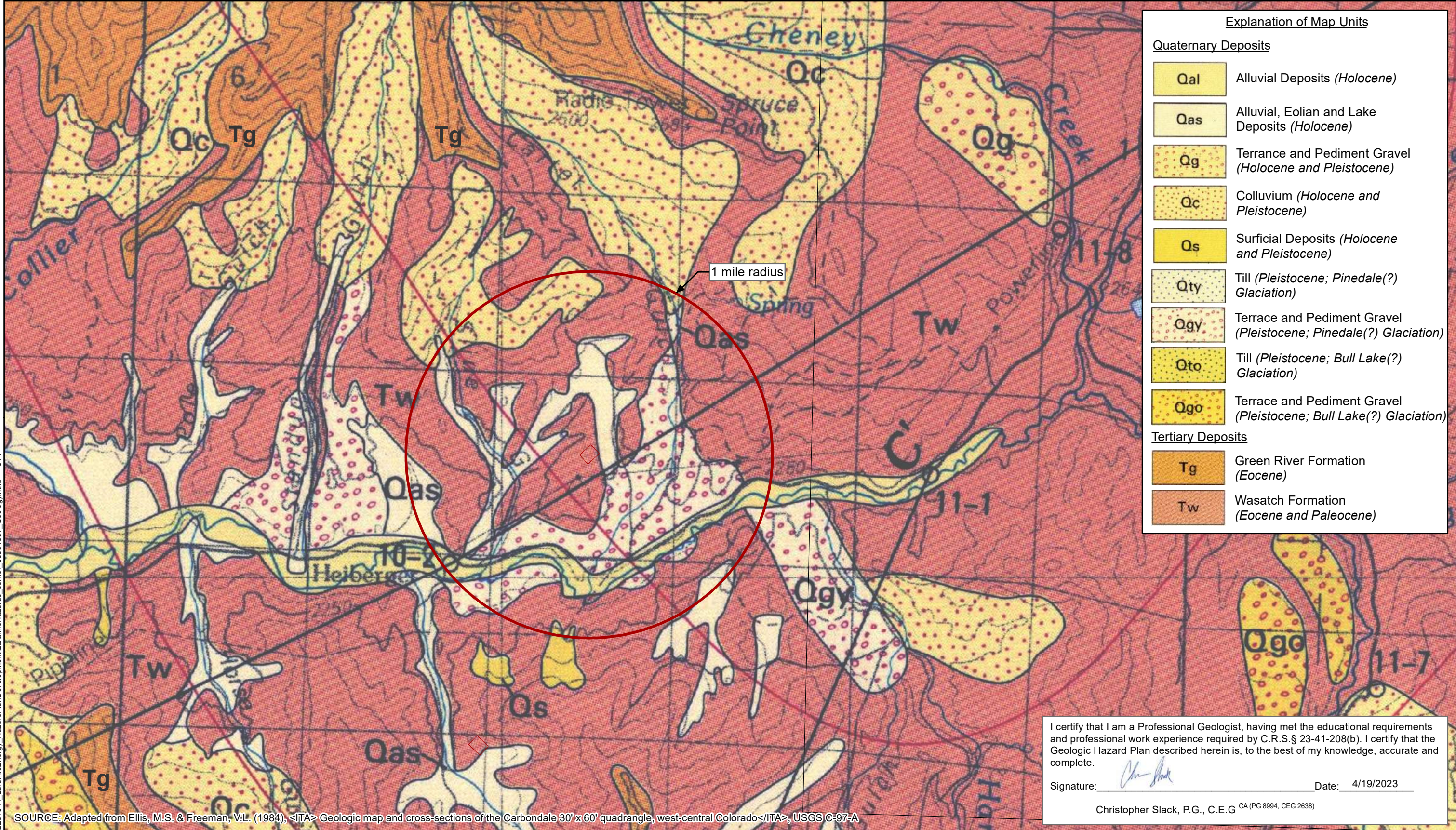
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SITE TOPOGRAPHY

Figure 2



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SOURCE: Adapted from Ellis, M.S. & Freeman, V.L. (1984), <ITA> Geologic map and cross-sections of the Carbondale 30' x 60' quadrangle, west-central Colorado </ITA>, USGS C-97-A

19-Apr-2023 Z:\Projects\2201944_LaramieEnergy_HazardPlanDevelopment\LaramieHazards_currier_09931607_Geology.mxd STY

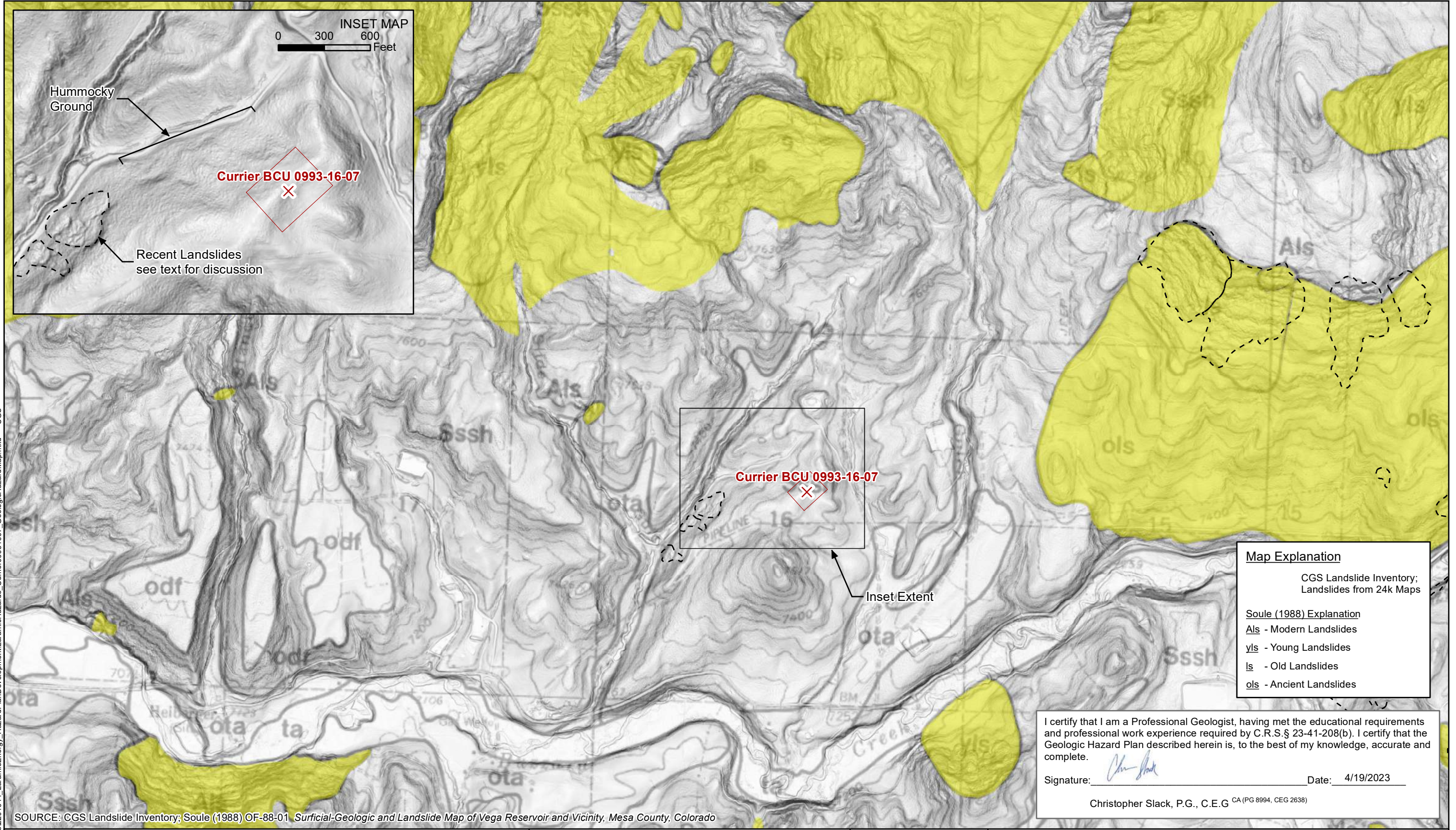


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 GEOLOGIC MAP**

April 2023 Figure 3



19-Apr-2023 Z:\Projects\2201944_LaramieEnergy_HazardPlanDevelopment\LaramieHazards_Currier09931607_GeologicHazardMap.mxd CGS

SOURCE: CGS Landslide Inventory; Soule (1988) OF-88-01 *Surficial-Geologic and Landslide Map of Vega Reservoir and Vicinity, Mesa County, Colorado*


Map Explanation

CGS Landslide Inventory;
Landslides from 24k Maps

Soule (1988) Explanation

- AIs - Modern Landslides
- YIs - Young Landslides
- OIs - Old Landslides
- ols - Ancient Landslides

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0 0.25 0.5 1 Miles



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LANDSLIDE HAZARD MAP**

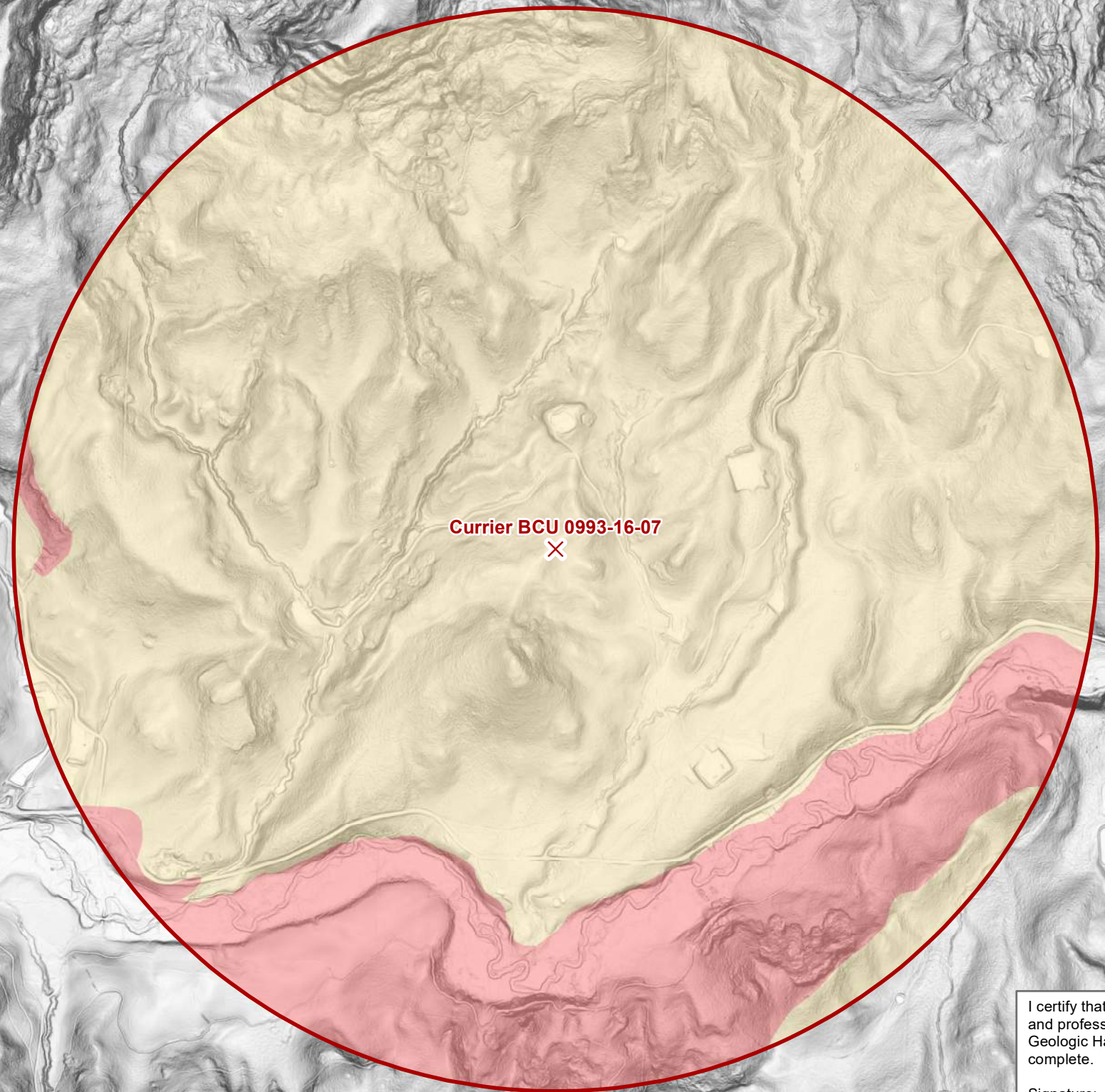
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Figure 4

Map Explanation

Risk of Corrosion to Steel

- High
- Moderate



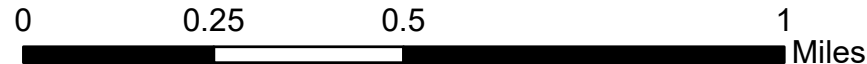
Currier BCU 0993-16-07
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SOURCE: Soil Survey Geographic (SSURGO) Database (via Web Soil Survey)



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RISK OF CORROSION TO STEEL

April 2023

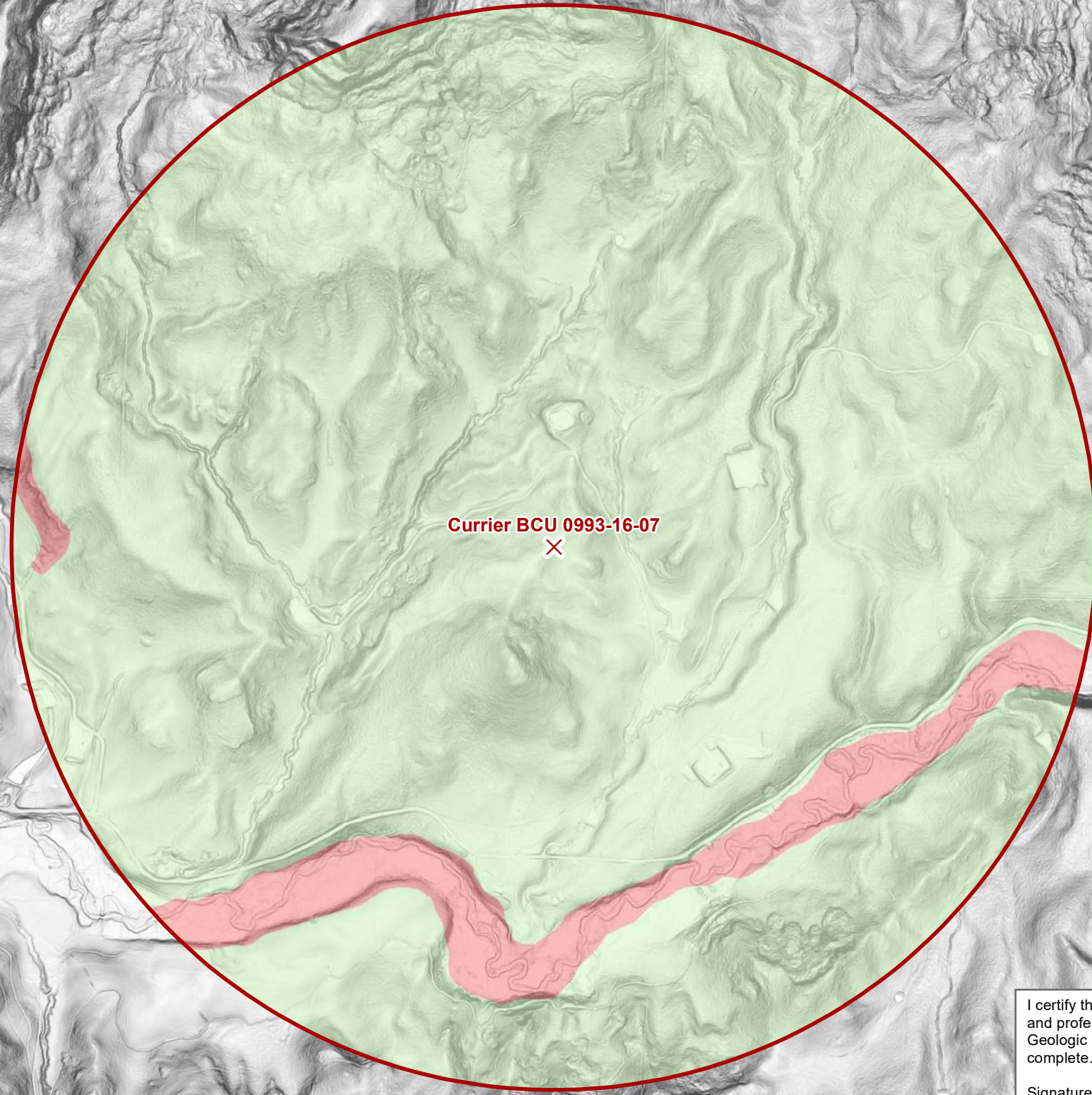
Figure 5

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Map Explanation


Risk of Corrosion to Concrete

- Low
- Moderate



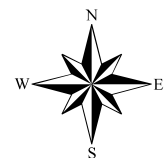
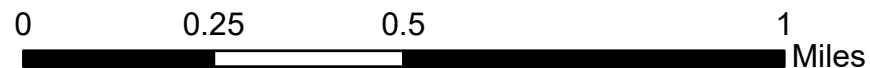
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RISK OF CORROSION TO CONCRETE

Figure 6

Christopher Slack, P.G. C.E.G.
Senior Engineering Geologist



GEI Consultants, Inc.
6915 S. Macadam Ave. Suite 130
Portland, Oregon 97219

PROFESSIONAL BIOGRAPHY

Christopher Slack currently holds a position as a Senior Engineering Geologist at GEI Consultants in Portland, OR, USA. He is part of a geosciences department that interacts across disciplines with geotechnical and civil engineering teams to develop scopes of work, conduct site investigations, interpret data, generate conclusions, and provide recommendations. Mr. Slack articulates geologic and geotechnical data to a varied audience and clientele. Throughout each phase of a project, he provides up-to-date observations from the geohazards team to the engineering design team. Mr. Slack's projects have involved characterizing site stratigraphy, soils analyses, geomorphology, and geology for seismic hazard analysis, slope stability analysis, surface fault rupture, seismic shaking, liquefaction, and soils hazards. His client industry needs have included: nuclear, oil and gas, hydro power, and water conveyance infrastructure.

EDUCATION

M.S., Environmental Systems: Geology, Humboldt State University, Arcata, CA, 2009

B.S., Environmental Geology, minor Marine Studies, Northeastern University, Boston, MA, 2004

PROFESSIONAL EXPERIENCE

GEI Consultants, Inc. (GEI), Senior Engineering Geologist, 2016 to Present

AMEC Geomatrix, Inc. (GMX), Staff to Senior Geologist, 2008 to 2016

Busch Geotechnical Consultants (BGC), Arcata, CA, Field Assistant, 2006 to 2008

Boston Water and Sewer Commission (BWSC), Boston, MA, Intern (field tech.), 2002

McPhail Geotechnical Consultants (MGC), Cambridge, MA, Intern (field tech.), 2001

CERTIFICATIONS

Certified Engineering Geologist (CA) #2638, 2015

Certified Engineering Geologist (OR) #E2634, 2019

Licensed Engineering Geologist (WA) #21031244, 2021

Professional Geologist (CA) #8994, 2012

Registered Geologist (OR) #2634, 2018

Society of Professional Rope Access Technicians (SPRAT) Level 1, 2015

OSHA 40-Hour HAZWOPER Training, 2008