From: Halah Voges <hvoges@anchorqea.com>
Sent: Thursday, March 5, 2020 4:54 PM
To: BAYUK Dana <<u>Dana.BAYUK@state.or.us</u>>
Cc: NELSON Heidi <<u>Heidi.NELSON@state.or.us</u>>; LARSEN Henning <<u>Henning.LARSEN@state.or.us</u>>;
Jen Mott <<u>imott@anchorqea.com</u>>
Subject: RE: NW Natural, LNG Basin Removal Action Planning

Hi Dana – attached are the figures we showed during our Webex meeting. Hope you enjoy a nice 3-day weekend!

Halah M. Voges, P.E. Anchor QEA, LLC D 206.903.3303

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C 206.462.9572

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Jen Mott <<u>jmott@anchorqea.com</u>>
Subject: RE: NW Natural, LNG Basin Removal Action Planning

Apologies for this 2nd email. For DEQ to provide feedback on running simulations to assess capture zone development times, we'll need the figures from today's presentation.

Thanks, Dana

Mr. Dana Bayuk Cleanup Program Project Manager/Hydrogeologist Oregon Department of Environmental Quality Northwest Region 700 NE Multnomah Street, Suite 600 Portland, OR 97232-4100

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From: BAYUK Dana
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Subject: NW Natural, LNG Basin Removal Action Planning

Hello Halah.

Henning, Heidi, and I are available to further discuss the LNG Basin removal action anytime next Wednesday except between 10 and 1130 a, and have availability on Thursday after 3p.

Thanks again for today's presentation and discussions.

Dana

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	Average Condition	Wet Season	Dry Season
River Stage (ft COP)	8.84	10.20	7.19
Rainfall			0.95
(inches/month)	3.9	7.2	
50-ft Long Trench	Trench Extraction Rate = 8.6 gpm	Trench Extraction Rate = 16 gpm	Trench Extraction Rate = 1.7 gpm
100-ft Long Trench	Trench Extraction Rate = 12 gpm	Trench Extraction Rate = 22 gpm	Trench Extraction Rate = 3.0 gpm
150-ft Long Trench	Trench Extraction Rate = 15 gpm	Trench Extraction Rate = 27 gpm	Trench Extraction Rate = 4.3 gpm

Figure 1

Simulated Capture Zones LNG Basin Interim Measure NW Natural Gasco Site



Figure 2

Overlay of Simulated Capture Zone with Fill WBZ Potentiometric Surface Contours

LNG Basin Interim Measure

NW Natural Gasco Site