DEPARTMENT OF ECOLOGY
State of Washington

Addendum to Quality Assurance Project Plan

Boss Well (Well No. 3) Testing

March 2025

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Data for this project will be available on Ecology's Environmental Information Management (EIM) website at EIM Database. Search Study ID WRYBIP-2325-00048.

Original Quality Assurance Project Plan:
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Quality Assurance Project Plan

Boss Well (Well No. 3) Testing

WRYBIP-2325-Moxeec-00048

by Ian Lauer, Derek Holom, and Tyson Carlson

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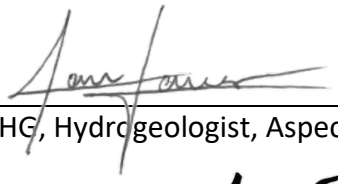
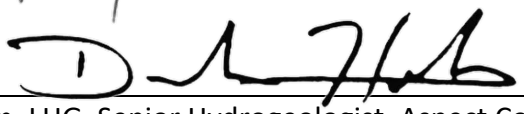
Signature: 	Date: 3/4/2025
Ian Lauer, LHG, Hydrogeologist, Aspect Consulting, Co-Author	
Signature: 	Date: 3/4/2025
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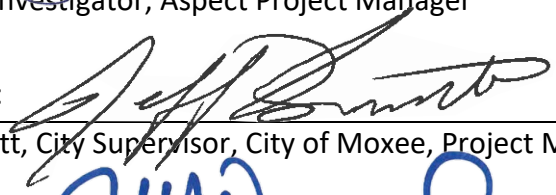
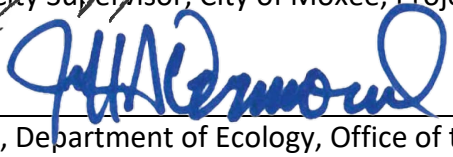
Signature: 	Date: 3/5/2025
Jeff Burkett, City Supervisor, City of Moxee, Project Manager	
Signature: 	Date: 3/6/2025
Jeff Dermond, Department of Ecology, Office of the Columbia River, Project Manager	
Signature: 	Date: 3/6/2025
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1.0 Table of Contents

Note: The numbered headings in this document correspond to the headings in the original QAPP. Only relevant sections are included here; therefore, some numbered headings may be missing.

No tasks from the original project QAPP will be eliminated. This addendum substitutes the proposed ASR candidate well from the Boss Well to the City of Moxee's Well No. 3. Except for descriptions of Boss Well's history, location, and construction, all references to the Boss Well in the original QAPP now refer to Well No. 3. Updates specific to Well No. 3 are described in the following sections.

3.2 Study area and surroundings

Updated to include a description of Well No. 3.

Well No. 3 was originally drilled sometime before the 1900s. The well is completed in the deep Ellensburg Aquifer with a 10-inch diameter casing set at a depth of 573 feet bgs and open hole to a total depth of 783 feet bgs. An original well log is not available, but video inspection performed by the City in 2009 confirmed well construction details. Recent testing indicates the well can produce about 400 gpm with 6 feet of drawdown and up to 700 gpm with 15 feet of drawdown. The artesian well has a static shut-in pressure of 10 psi. The pumping capacity is 558 gpm at 160 feet of head. The pump is a 3 stage 8-inch submersible turbine pump, with a 40-horsepower motor set at a depth of 105 feet. The flow meter is an 8-inch electromagnetic flow meter located inside the well house.

The well makes an ideal candidate for ASR testing due to sharing similar completions with the existing City wells and its proximity to nearby surface water supply from the Selah-Moxee Irrigation District (SMID) ditch, which is located 1350 feet to the east.

5.4 Proposed project schedule

Updated Tables 3 – 5 list key activities, due dates, and lead staff for this project. Field work scheduling and subsequent deliverables are dependent on contractor availability.

Table 1. Schedule for completing field and laboratory work

Task	Anticipated Due date	Duration (weeks)	Lead staff
Field work	February 2025	2	Ian Lauer
Data analyses	March 2025	4	Ian Lauer

Table 2. Schedule for data entry

Task	Anticipated Due date	Duration (weeks)	Lead staff
EIM data loaded	May 2025	-	Lea Beard

EIM: Environmental Information Management System

Table 3. Schedule for final report

Task	Anticipated Due date	Duration (weeks)	Lead staff
Draft to supervisor	March 2025	2	Ian Lauer
Draft to client/ peer reviewer	April 2025	2	Derek Holom
Draft to external reviewers	April 2025	2	Tyson Carlson
Final draft to external reviewers	May 2025	4	Tyson Carlson
Final report due on web	June 2025	4	Tyson Carlson

8.2.5 Aquifer and Well Testing

Updates specific to Well No. 3 for the proposed step-rate pumping test include the following:

Step-Rate Pumping Tests

The anticipated duration and rates for the step-rate pumping test are summarized in Table 7.

Table 4. Anticipated Step-rate Pumping Test Rates, 1-hour per step

Step No.	Pumping Rate (% sustainable production)	Anticipated Pumping Rate (gpm)
1	50	150
2	75	225
3	100	300
4	125	375

Based on the existing information and pump configuration, the sustainable production capacity of Well No. 3 is anticipated to be in excess of 300 gpm. Pending available equipment and measured well production, the maximum pumping rate capability may be as much as 550 gpm. Actual pumping rates will be determined while conducting the test to ensure that four evenly spaced steps can be accommodated with the existing capabilities of the well and equipment as shown in Table 7. The first step will be performed at the minimum pumping rate of the installed pump. The final (maximum) pumping rate will be the maximum rate that is sustainable for approximately 1 hour (note that this duration differs from Ecology's Aquifer Test Procedures [Ecology, 2023a]). Based on the observed specific capacity of 60+ gpm/foot (Appendix A), the aquifer is expected to be highly transmissive, and testing will likely be limited by the available pump and casing diameter.

No change in the constant rate pumping test methodology is anticipated.