

MEMO

Date **January 2, 2020**
To **Nevada Environmental Response Trust**
From **John Pekala, Scott Warner, and Chris Ritchie**
Copy to **Nevada Division of Environmental Protection**
United States Environmental Protection Agency
Subject **Las Vegas Wash ZVI-Enhanced Bioremediation Treatability**
Study Monthly Progress Report

TASK PROGRESS UPDATE: NOVEMBER 2019

At the direction of the Nevada Environmental Response Trust (NERT or Trust), Ramboll US Corporation (Ramboll) has prepared this memorandum which summarizes Ramboll's progress during November 2019 toward successfully implementing the Las Vegas Wash Zero-Valent Iron (ZVI)-Enhanced Bioremediation Treatability Study, formerly known as the Galleria Drive ZVI-Enhanced Bioremediation Treatability Study.

TASK M18 – LAS VEGAS WASH ZVI-ENHANCED BIOREMEDIATION TREATABILITY STUDY

- Task Leaders – Scott Warner / Chris Ritchie
- Current Status
 - As previously reported, Phase 1 of the treatability study was completed in June 2019. Phase 2 (design and implementation of a field test) is planned to be completed in the vicinity of Las Vegas Wash Transect 1A (Transect 1A) pending completion of a data gap evaluation in accordance with Treatability/Pilot Study Modification No. 9, which was submitted to Nevada Division of Environmental Protection (NDEP) on October 8, 2019 and approved by NDEP on October 14, 2019.
 - Field activities associated with the implementation of Treatability/Pilot Study Modification No. 9 commenced in November 2019 and included the installation and development of three monitoring wells in Transect 1A, as shown on Figure 1. Well construction details are provided in Table 1. Survey data for these wells are anticipated to be collected in December 2019.
 - UIC Form U240, requesting authorization to use deionized water as a tracer for hydraulic testing in Transect 1A, was submitted to NDEP Bureau of Water Pollution Control (BWPC) on November 4, 2019 and was pending BWPC approval in November.
- Schedule and Progress Updates
 - The following Transect 1A field activities, as described in Treatability/Pilot Study Modification No. 9, are anticipated to commence in December 2019:
 - Survey of new monitoring wells;

- Groundwater sampling; and
 - Aquifer testing, pending BWPC approval of UIC Form U240.
- Streamlined bench-scale testing associated with the implementation of Treatability/Pilot Study Modification No. 9 is anticipated to commence in December 2019. Data from bench-scale testing activities will be summarized in forthcoming progress reports.
- A Stakeholder Roundtable is anticipated to be scheduled in second quarter 2020 to present Phase 1 field and laboratory/bench-scale data and Phase 2 details of the treatability study.
- Health and Safety
 - There were no safety incidents during November 2019.

ATTACHMENTS

Figure 1: Transect 1A Monitoring Well Locations

Table 1: Transect 1A Monitoring Well Installation Summary

Las Vegas Wash ZVI-Enhanced Bioremediation Treatability Study Progress Update

Nevada Environmental Response Trust Site (Former Tronox LLC Site) Henderson, Nevada

Nevada Environmental Response Trust (NERT) Representative Certification

I certify that this document and all attachments submitted to the Division were prepared at the request of, or under the direction or supervision of NERT. Based on my own involvement and/or my inquiry of the person or persons who manage the system(s) or those directly responsible for gathering the information or preparing the document, or the immediate supervisor of such person(s), the information submitted and provided herein is, to the best of my knowledge and belief, true, accurate, and complete in all material respects.

Office of the Nevada Environmental Response Trust

Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

Signature:

Jay A. Steinberg not individually, but solely as President

Name:

Jay A. Steinberg, not individually, but solely in his representative capacity as President of the Nevada Environmental Response Trust Trustee

Title:

Solely as President and not individually

Company:

Le Petomane XXVII, Inc., not individually, but solely in its representative capacity as the Nevada Environmental Response Trust Trustee

Date:

11/2/20

Las Vegas Wash ZVI-Enhanced Bioremediation Treatability Study Progress Update

Nevada Environmental Response Trust Site (Former Tronox LLC Site) Henderson, Nevada

Responsible Certified Environmental Manager (CEM) for this project

I hereby certify that I am responsible for the services described in this document and for the preparation of this document. The services described in this document have been provided in a manner consistent with the current standards of the profession and, to the best of my knowledge, comply with all applicable federal, state and local statutes, regulations and ordinances.



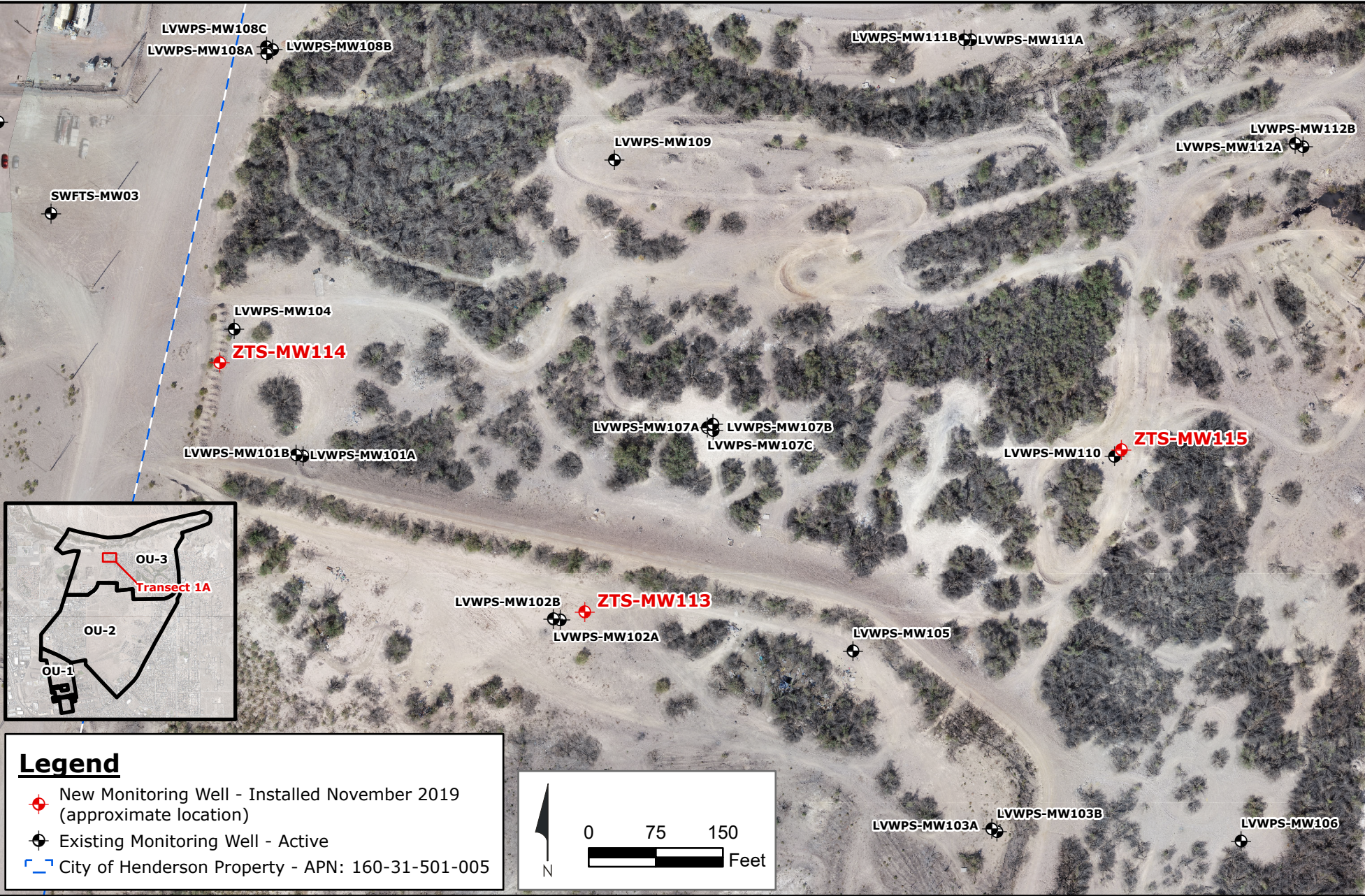
John M. Pekala, PG
Principal

January 2, 2020

Date

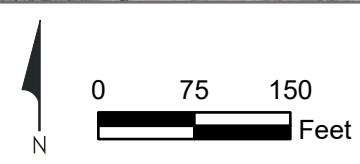
Certified Environmental Manager
Ramboll US Corporation
CEM Certificate Number: 2347
CEM Expiration Date: September 20, 2020

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Legend

- ◆ New Monitoring Well - Installed November 2019 (approximate location)
- ⊕ Existing Monitoring Well - Active
- City of Henderson Property - APN: 160-31-501-005



Transect 1A Monitoring Well Locations
 Nevada Environmental Response Trust Site
 Henderson, Nevada

Figure
1

TABLE 1: TRANSECT 1A MONITORING WELL INSTALLATION SUMMARY

Nevada Environmental Response Trust Site

Henderson, Nevada

Monitoring Well ID	Installation Date	Northing (meters)	Easting (meters)	Elevation (ft amsl)	Total Depth (ft bgs)	Screen Length (ft)	Screened Interval (ft)	Depth to Groundwater (ft)
ZTS-MW113	11/23/2019	TBD	TBD	TBD	30	10	20 to 30	19.65*
ZTS-MW114	11/21/2019	TBD	TBD	TBD	70	20	50 to 70	10.60*
ZTS-MW115	11/22/2019	TBD	TBD	TBD	30	10	20 to 30	21.70*

Notes:

*Depth to water data were collected after completion of well installation and prior to well development.

ft - feet

ft bgs - feet below ground surface

ft amsl - feet above mean sea level

TBD - To be determined (survey data pending)