

AQRP Monthly Technical Report

PROJECT TITLE	Evaluating Methods for Determining the Vapor Pressure of Heavy Refinery Liquids	PROJECT #	16-007
PROJECT PARTICIPANTS	UT Austin	DATE SUBMITTED	April 10, 2017
REPORTING PERIOD	From: March 1, 2017 To: March 31, 2017	REPORT #	05

A Financial Status Report (FSR) and Invoice will be submitted separately from each of the Project Participants reflecting charges for this Reporting Period. I understand that the FSR and Invoice are due to the AQRP by the 15th of the month following the reporting period shown above.

Detailed Accomplishments by Task

During the month of February, the project team (PT) made progress on the following activities:

Task 4.2 Project reports and presentation

The February Monthly Technical Report and the February Quarterly Update were prepared and submitted.

Task 4.3 Purchase and receipt of Automated Mini-method Instrument

Discussions continue regarding provision of one or both company's instruments for the project. In principle, a loan agreement and MOU were drafted and are being reviewed by UT's attorneys and business office for use of the Grabner instrument for the study for only the cost of shipping to/from the Grabner plant. Eralytics has not yet submitted a proposal for use of their instrument.

Task 4.4 Identify labs to conduct the ASTM D2879, E1719, and D323 testing

All labs to be used by the project have been identified.

Task 4.5 Obtain Materials for testing and Material Safety Data Sheets

A site visit was made to the Bostco terminal in Houston, Texas to tour the terminal and to obtain four quarts of No. 6 oil. This tour and sample was arranged by John McDonald and was very productive and successful.

4.6 Remove Identifying and VP Information from MSDSs, Prepare Samples, and Send First Stage Samples with "Sanitized" MSDSs to Labs for Testing

Work on assembly the sample-dispensing system continued.

Task 4.7 For first stage of samples, UT Austin measures VP of materials using Automated Mini-method and reports results; Commercial labs conduct their sample measurements of first stage samples and report results

No work performed on this task during the reporting period.

Task 4.8 Conduct study of activity model binary interaction parameters to gain insight into the applicability of using light end composition and Raoult’s Law to estimate the vapor pressure of heavy refinery liquids

The expanded NIST-modified UNIFAC model for VP predictions was tested for possible errors.

Task 4.9 Analyze and Assess the VP Measurements for First Stage Samples

No work performed on this task during the reporting period.

Task 4.10 Remove Identifying and VP Information from MSDSs, Prepare Samples, and Send Second Stage Samples with “Sanitized” MSDSs to Labs for Testing

No work performed on this task during the reporting period.

Task 4.11 For the Second Stage of Samples, Test Samples Using an Automated Mini-method Designed to Measure the VP of Low Volatility Materials (e.g., the Grabner MINIVAP VPXpert-L); Commercial Labs Conduct their Sample Measurements of First Stage Samples and Report Results

No work performed on this task during the reporting period.

Preliminary Analysis

None performed during the report period.

Data Collected

None collected during the report period.

Identify Problems or Issues Encountered and Proposed Solutions or Adjustments

A request for a project budget reallocation was submitted and approved during the reporting period. This budget reallocation was needed because none of the instruments will need to be purchased as originally proposed so this money can now be used for additional sample analysis costs and to make VP measurements using two autosamplers in stead of one as originally proposed.

Goals and Anticipated Issues for the Succeeding Reporting Period

None to report at this time.

Detailed Analysis of the Progress of the Task Order to Date

Do you have any publications related to this project currently under development? If so, please provide a working title, and the journals you plan to submit to.

Yes No

Do you have any publications related to this project currently under review by a journal? If so, what is the working title and the journal name? Have you sent a copy of the article to your AQR Project Manager and your TCEQ Liaison?

Yes No

Do you have any bibliographic publications related to this project that have been published? If so, please list the reference information. List all items for the lifetime of the project.

Yes No

Do you have any presentations related to this project currently under development? If so, please provide working title, and the conference you plan to present it (this does not include presentations for the AQRW Workshop).

Yes No

Do you have any presentations related to this project that have been published? If so, please list reference information. List all items for the lifetime of the project.

Yes No

Submitted to AQRW by

Principal Investigator Vincent M. Torres