June 29, 2023

Anthony Seach
General Counsel
Ameredev II, LLC
2901 Via Fortuna
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Re: NMED's Administrative Compliance Order for Ameredev II, LLC

Dear Anthony Seach,

Attached to this letter is an Administrative Compliance Order issued against Ameredev II, LLC by the New Mexico Environment Department.

Thank you,

Christopher J. Vigil
Digitally signed by Christopher J. Vigil
Date: 2023.06.29 13:26:23 -06'00'

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STATE OF NEW MEXICO
BEFORE THE SECRETARY OF ENVIRONMENT

NEW MEXICO ENVIRONMENT DEPARTMENT

Complainant,

v. **No. AQCA 2023_____(CO)**

AMEREDEV II, LLC,

Respondent.

ADMINISTRATIVE COMPLIANCE ORDER

Pursuant to Section 74-2-12 of the New Mexico Air Quality Control Act ("Act"), NMSA Sections 74-2-1 through -17 (as amended through 2021), the Environmental Protection Division ("Division") of the New Mexico Environment Department ("Department" or "NMED") issues this Administrative Compliance Order ("Order") to Ameredev II, LLC ("Ameredev") to require compliance and assess a civil penalty for violations of the Act, violations of the Air Quality Regulations at Title 20, Part 2 ("Regulations") of the New Mexico Administrative Code ("NMAC"), and violations of air quality permits at the following central tank battery ("CTB") facilities: Amen Corner CTB, Azalea CTB, Firethorn CTB, Nandina CTB, and Red Bud CTB (collectively, the "Facilities").

As set forth in the detailed allegations below, during 2019 and 2020 Ameredev violated multiple air quality permit regulations and conditions of their permits. A summary of these violations is set forth in Table 1 below and described in further detail in Sections I through VIII of this Order.

Table 1: Summary of Ameredev Violations

Violation Number	Permit Conditions Violated	Violation Description	Facilities in Violation
1	General Construction Permit-6 ("GCP-6") General Condition B101.A or General Construction Permit-Oil &Gas ("GCP-O&G"), Specific Condition A100	Failure to construct or modify and operate as represented in Application or Registrations, modifying five facilities without approval	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB
2	GCP-6 General Condition C101.D(1) or GCP-O&G General Condition C101.C(1)	Failure to obtain a regular, individual construction permit from the Department before modifying five Facilities	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB
3	GCP-O&G Specific Condition A209.A	Failure to operate and control tank emissions with the Vapor Recovery Unit ("VRU") as represented in the GCP-O&G #8189 Registration	Nandina CTB
4	GCP-O&G Specific Condition A209.A	Failure to complete and/or record monthly inspections of the VRUs used to control tank emissions	Azalea CTB
5	GCP-6 Specific Condition A107.A	Failure to complete and/or record monthly inspections of the VRUs used to control tank emissions	Amen Corner CTB
6	GCP-6 Specific Condition A106.D or GCP-O&G Specific Condition A106.C	Failure to limit pound per hour emission rates from each Facility's flare, unit FL-1, to the limits required by each permit	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB
7	GCP-6 Specific Condition A108.A or GCP-O&G, Specific Condition A207.B	Failure to comply with operational requirements for each Facility flare, Unit FL1	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB
8	GCP-6 General	Failure to submit	Amen Corner CTB

Table 1: Summary of Ameredev Violations

Violation Number	Permit Conditions Violated	Violation Description	Facilities in Violation
	Condition B110.B(1) or GCP-O&G General Condition B110.B(1)	notifications of the anticipated date of initial startup no less than 30 days prior to the date	Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB

This Order addresses the seriousness of these violations and the necessary corrective actions required to address them.

FACTUAL BACKGROUND

1. Ameredev owns and operates the Amen Corner CTB, Azalea CTB, Firethorn CTB, Nandina CTB, and Red Bud CTB which are located approximately four (4) to eight (8) miles west and southwest of Bennett and Jal in Lea County, New Mexico.

2. Ameredev's operations may occur on New Mexico State Trust Land under the jurisdiction and authority of the New Mexico State Land Office.

3. At the time the violations described in this Order occurred, Ameredev was authorized to operate the Amen Corner CTB under air quality permit GCP-6, Registration #7835, issued May 31, 2018. **[NMED Exhibit 1]**

4. At the time the violations described in this Order occurred, Ameredev was authorized to operate the Azalea CTB, GCP-O&G, Registration #7601M1, issued October 3, 2019. **[NMED Exhibit 2]**

5. At the time the violations described in this Order occurred, Ameredev was authorized to operate the Firethorn CTB, GCP-O&G, Registration #7836M1, issued October 2, 2019. **[NMED Exhibit 3]**

6. At the time the violations described in this Order occurred, Ameredev was

authorized to operate the Nandina CTB, GCP-O&G, Registration #8189, issued February 28, 2019. **[NMED Exhibit 4]**

7. At the time the violations described in this Order occurred, Ameredev was authorized to operate the Red Bud CTB, GCP-O&G, Registration #7839M1 issued October 3, 2019. **[NMED Exhibit 5]**

8. Each of the five (5) Facilities is an oil and gas CTB that operates in the oil and gas production industry.

9. Each of the Facilities receives mixed streams of natural gas, water, and crude oil from surrounding oil and gas wells.

10. The Facilities separate the mixed streams into natural gas and crude oil for sale and produced water for disposal. The separated crude oil and produced water are temporarily stored at each of the Facilities in storage tanks.

11. According to General Construction Permit registration records at the time the violations occurred, natural gas emissions from storage tanks and separating tanks were to be either re-routed back to a facility inlet or routed to a facility flare, unit FL-1. **[NMED Exhibit 6].**

12. The natural gas separated at each facility inlet was to be sent downstream to a third-party gas processor via a sales gas pipeline. **[NMED Exhibit 6].**

13. The mixed natural gas and crude oil streams would pass through heater treaters and vapor recovery towers ("VRT") separating the gas and oil, and the separated gas was to be captured via Vapor Recovery Units ("VRU") and routed downstream via the sales gas pipeline. **[NMED Exhibit 6].**

14. Ameredev started operating each of the Facilities and immediately began to exceed permitted pollution limits on the following dates: Amen Corner CTB November 28, 2019; Azalea

CTB December 27, 2018; Firethorn CTB March 14, 2019; Nandina CTB July 29, 2019; and Red Bud CTB March 7, 2019. **[NMED Exhibit 7; NMED Exhibit 8]**.

15. On August 12, 2019, the Air Quality Bureau ("AQB") received a citizen complaint about increased flaring at a facility meeting the location information for Azalea CTB. **[NMED Exhibit 9]**.

16. On September 9, 2019, an AQB inspector received another complaint about large amounts of flaring being done by Ameredev. **[NMED Exhibit 9]**.

17. On September 9, 2019, the AQB inspector contacted Ameredev, notified Ameredev of the complaint, and informed Ameredev of the requirement to submit excess emissions reports pursuant to 20.2.7 NMAC.

18. On November 7, 2019, AQB personnel and Ameredev representatives met in Santa Fe, New Mexico to discuss the ongoing concerns. At the meeting, Ameredev explained the cause of their excessive flaring and presented a long-term plan to stop it.

19. On December 20, 2019, the Department's Office of General Counsel received a further complaint about high quantities of very sour gas being flared from different facilities owned by Ameredev.

20. On December 30-31, 2019, AQB personnel conducted an on-site investigation of the Facilities and produced an inspection report resulting in three Post-Inspection Notifications. **[NMED Exhibit 10; NMED Exhibit 27]**.

21. On January 2, 7, and 16, 2020 and February 21, 2020, AQB requested from Ameredev permit records and other information for the five Facilities. **[NMED Exhibit 11]**.

22. On January 2, 7, and 17, 2020 and on February 24, 2020, Ameredev responded to AQB's records requests. Ameredev's responses relative to each violation are described in Sections

I through VIII below.

23. On January 20 and 28, 2020, Ameredev submitted "Voluntary Disclosures of Violations" to AQB. **[NMED Exhibit 12]**.

24. AQB determined that Ameredev's disclosures failed to meet multiple conditions of the NMED-AQB Civil Penalty Policy ("Policy"), Appendix D, including Condition D.2 - *Voluntary Discovery* of violations, Condition D.3 - *Prompt Disclosure* of violations, and Condition D.4 - *Prompt Correction and Remediation* of violations. **[NMED Exhibit 13]**.

25. According to Ameredev's excess emissions reports, it took the following number of days from the reported discovery date before ending the excess emissions events:

- 129 days at Amen Corner CTB
- 158 days at Azalea CTB
- 166 days at Red Bud CTB
- 198 days at Nandina and Firethorn CTBs **[NMED Exhibit 7]**

26. Based on on-site inspections of the Facilities and review of Ameredev's records submittals, AQB identified violations of multiple air quality regulations and conditions of the Facilities' permits.

27. On January 10, March 16, and April 8, 2020, AQB issued to Ameredev post-inspection notifications ("PIN") listing potential air quality violations occurring at the five Facilities. **[NMED Exhibit 10]**.

28. On August 17, 2022, AQB issued Notice of Violation ("NOV") No. AMDV-Multi-2001 alleging eight (8) violations described further in Sections I through VIII of this Order. **[NMED Exhibit 14]**.

29. On September 2 and 15, 2022, Ameredev responded to the NOV, providing requested information, arguing the regulatory basis or number of claims of some alleged violations,

and requesting penalty reductions based on facility environmental audits or past emissions related projects. **[NMED Exhibit 15]**.

30. On May 18, 2023, AQB requested additional records from Ameredev to evaluate current compliance status. **[NMED Exhibit 16]**.

31. On May 31, 2023, Ameredev provided records in response to the May 18, 2023, request. AQB's review of Ameredev's records submittal identified current potential compliance issues at some of the Ameredev Facilities.

VIOLATIONS

Violation 1:

Failure of Ameredev to construct or modify and operate five Facilities in accordance with representations in and as specified in the current application or registration forms pursuant to GCP-6, General Condition B101-A – *Legal,* and to GCP-O&G Specific Condition A100 – *Introduction and Applicability*

Violation 1 Background

32. GCP-6, General Condition B101.A, *Legal*, states in part:

> Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the current application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards.

[NMED Exhibit 20 at 16-17].

33. GCP-O&G, Specific Condition A100, *Introduction and Applicability*, states in part: "F. The Facility shall operate as specified in the Registration Form. The emission limits and equipment specified in the Registration Form are federally enforceable and shall become the terms and conditions of this Permit." **[NMED Exhibit 21 at 4]**.

34. During the December 30-31, 2019, on-site investigations, AQB inspectors

observed multiple pieces of equipment at each of the Facilities that were not included in Ameredev's certified and approved General Construction Permit ("GCP") Application or Registration Forms.

35. On January 7, 2020, Ameredev provided to AQB a list of all equipment located at each of the Facilities. The list verified the unregistered equipment identified by AQB and identified additional unregistered equipment at all five Facilities. Table 2 lists the unauthorized equipment located at each facility. **[NMED Exhibit 17]**.

Table 2: Unauthorized Equipment

Facility	**Unreported and Unauthorized Equipment**
Amen Corner CTB	6 crude oil tanks, 1 gun barrel tank, 1 3-phase separator, 2 2-phase separators, 3 combustors, 1 generator engine
Azalea CTB	1 3-phase inlet: separator, 1 2-phase inlet separator, 1 combustor, 1 generator
Firethorn CTB	3-phase inlet separator, 2-phase inlet separator, combustor, generator
Nandina CTB	6 crude oil tanks, 1 gun barrel tank, 6 3-phase inlet separators, 2 2-phase inlet separators, 3 combustors, 1 flare
Red Bud CTB	1 3-phase inlet separator, 2 2-phase inlet separators, 1 combustor, 1 flare

36. Ameredev delayed submitting Registrations for the unauthorized modifications for three (3) to five (5) months after AQB's January 1, 2020 PIN notifying Ameredev of the unauthorized equipment. Table 3 lists the GCP numbers and issue dates authorizing the existing, unpermitted equipment.

Table 3: Summary of GCPs Correcting Regulated Equipment

Facility	**GCP #**	**Registration Received**	**GCP issued**
Amen Corner CTB	GCP-O&G #7835M1	May 8, 2020	June 5, 2020
Azalea CTB	GCP-O&G #7601M2	May 15, 2020	June 12, 2020
Firethorn CTB	GCP-O&G #7836M2	April 24, 2020	May 22, 2020
Nandina CTB	GCP-O&G #8189M1	March 25, 2020	April 24, 2020
Red Bud CTB	GCP-O&G #7839M2	April 15, 2020	May 15, 2020

Violation 1 Summary

37. Ameredev violated GCP-6 General Condition B101.A and GCP-O&G Specific Condition A100 when it unlawfully constructed and operated at the Facilities, multiple unreported and unauthorized pieces of equipment that were sources of regulated air pollutants.

38. Ameredev had, among other unlawful changes to the Facilities, doubled the crude oil storge capacity at the Amen Corner and Nandina CTBs, installed combustors and/or a second flare at each of the five Facilities, and installed generator engines at Amen Corner, Azalea, and Firethorn CTBs.

39. NMED observed five (5) occurrences at the Amen Corner CTB, Azalea CTB, Firethorn CTB, Nandina, CTB, and Red Bud CTB of this violation for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 2:

Failure of Ameredev to obtain a regular, individual construction permit for each Facility from the Department before modifying and operating five Facilities above GCP thresholds pursuant to GCP-6, General Condition C101.D(1) and GCP-O&G, General Condition C101.C(1)

Violation 2 Background

40. GCP-6, General Condition C101 – *Revision Process*, D(1) *Changes that Prevent Meeting General Permit Limits*, states:

> "Changes or equipment additions that prevent the Facility from meeting the requirements of GCP-6 shall not occur before the owner or operator applies for and is issued an individual construction permit under 20.2.72.200 NMAC."

[NMED Exhibit 20 at 27].

41. GCP-6, Specific Condition A100 – *Description*, Paragraph E states, in relevant parts:

"The potential emission rate (PER) of the permitted Facility . . . shall not exceed the total potential emission rates in Table 100.A and Table 100.B. . . . Any Facility with a PER greater than the amounts in Table 100.A or Table 100.B does not qualify for GCP-6."

[NMED Exhibit 20 at 3].

42. GCP-6, Table 100.A provides GCP-6 PER limits as follows:

Table 100.A: Potential Emission Rate (PER) of the Facility

Pollutant*	Emissions (pounds per hour)	Emissions (tons per year)
Nitrogen Oxides (NOx)	less than 10	less than 25
Carbon Monoxide (CO)	less than 10	less than 25
Volatile Organic Compounds (VOCs) from Storage Vessels or Truck Loading	**	No PER Limit
Sulfur Dioxide (SO2)	less than 10	less than 25
Total Suspended Particulates (TSP)	less than 2.5	less than 25
Particulate Matter less than 10 microns (PM10)	less than 2.5	less than 25
Particulate Matter less than 2.5 microns (PM2.5)	less than 2.5	less than 25
Hydrogen Sulfide (H2S)	less than 0.5	less than 5
Lead	less than 10	less than 5

[Id.].

43. GCP-O&G, General Condition C101 – *Revision Process*, C(1) *Changes that Prevent Meeting General Permit Limits* states:

"Changes or equipment additions that prevent the Facility from meeting the requirements of GCP-Oil and Gas shall not occur before the owner or operator applies for and is issued an individual construction permit under 20.2.72.200 NMAC."

[NMED Exhibit 21 at 47-48].

44. GCP-O&G, Specific Condition A106.A – *Facility: Allowable Emissions* states, in relevant part: "In order to qualify for this permit, the Facility's annual emissions may not exceed those amounts in Table 106." **[NMED Exhibit 21 at 7]**.

45. GCP-O&G, Table 106 provides the maximum emission rates as follows:

Table 106: Maximum Eligible Emission Rates to Register Under this Permit

Pollutant	Tons per Year (tpy)
Nitrogen Oxides (Nox)	95 tpy
Carbon Monoxide (CO)	95 tpy
Volatile Organic Compounds (VOC)* (non-fugitive)	95 tpy
Sulfur Dioxide	95 tpy
Hydrogen Sulfide	25 tpy
Total Suspended Particulates (TSP)	25 tpy
Particulate Matter less than 10 Microns (PM10)	25 tpy
Particulate Matter less than 2.5 Microns (PM2.5)	25 tpy
Any Individual Hazardous Air Pollutant (HAP)	< 10 tpy
Total HAP	< 25 tpy

[Id.]

46. New Mexico's Regulations state:

> "For those modifications for which the source will not continue to meet the conditions of the general construction permit after such modification, obtain a construction permit from the department under this part prior to the modification."

20.2.72.220.D(2) NMAC.

47. Between October 25, 2019, and April 27, 2020, Ameredev submitted ten (10) final excess emissions reports ("EER") pertaining to the five Facilities through the AQB Compliance Reporting ("AQBCR") system. Each EER reported emission rates of regulated air pollutants from each facility flare exceeding one to five of the ton per year ("tpy") permit thresholds allowed by the GCP-6 and the GCP-O&G. **[NMED Exhibit 22]**.

48. In the Final EERs, Ameredev described the cause of each excess emission event as an emergency, lasting from 66 to 6300 hours, because their downstream third-party gas processor was not accepting their produced gas. None of Ameredev's GCP Applications or Registrations requested nor authorized flaring of any produced gas at the Facilities. Produced gas was to be routed offsite through a sales gas pipeline. **[NMED Exhibit 6]**.

49. EERs and other Ameredev records indicate that on the day of or day after starting

operations at each of the Facilities, Ameredev was unlawfully routing all produced gas to each facility flare, unit FL-1, for combustion, which resulted in exceeding the GCP thresholds. Table 4 lists each facility startup date and the earliest excess emissions start date.

Table 4: Dates of Facility Startup and Earliest Excess Emission Event Per Ameredev

Facility	**Facility Startup**	**Earliest reported excess emission start dates**
Amen Corner CTB	11-28-2019	11-28-2019
Azalea CTB	12-26-2018	12-27-2018
Firethorn CTB	3-14-2019	3-14-2019
Nandina CTB	7-29-2019	7-29-2019
Red Bud CTB	3-7-2019	3-7-2019

50. Pursuant to 20.2.7.113 NMAC, *Affirmative Defense for an Emergency*, Ameredev submitted Affirmative Defense Demonstrations ("ADD") for six of the excess emissions events. **[NMED Exhibit 28]**. In relevant part, NMAC 20.2.7.113.B states:

> An emergency constitutes an affirmative defense to an action brought for noncompliance with the technology-based emission limitation if the owner or operator of the source demonstrates through properly signed, contemporaneous operating logs, or other relevant evidence that: … (2) the source was at the time being properly operated; (3) during the period of the emergency the owner or operator took all reasonable steps to minimize levels of emissions that exceeded the technology-based emission limitation . . .

51. Pursuant to 20.2.7.115 NMAC, AQB evaluated and denied five (5) of Ameredev's ADD claims. AQB determined that the excess emissions were not caused by emergencies since Ameredev continued to flare for several months after becoming aware of the excess emissions and failed to take all reasonable steps to minimize excess emissions. **[NMED Exhibit 18]**.

52. On September 2, 2022, in response to the NOV, Ameredev stated:

> "[w]here actual emissions exceed what was reasonably expected, a permittee must only 're-evaluate permit applicability' – not immediately apply for an individual construction permit. Put differently, actual emissions need not be directly relevant to the CTBs' potential

to emit for permitting purposes."

[NMED Exhibit 15].

53. However, both permit conditions and 20.2.72 NMAC state that the requirement is to apply for an individual construction permit before making modifications to a facility, not after.

Violation 2 Summary

54. Ameredev violated 20.2.72.220.D(2) NMAC, GCP-6 General Condition C101.D(1) at Amen Corner CTB and GCP-O&G General Condition C101.C(1) at Azalea CTB, Firethorn CTB, Nandina CTB, and Red Bud CTB when it unlawfully operated the Facilities over GCP thresholds before obtaining pre-approval through a regular construction permit.

55. NMED observed five (5) occurrences at the Amen Corner CTB, Azalea CTB, Firethorn CTB, Nandina, CTB, and Red Bud CTB, of this violation for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 3:

Failure of Ameredev to operate and control tank emissions with the Vapor Recovery Unit (VRU) as represented in the GCP-O&G #8189 for the Nandina CTB pursuant to GCP-O&G, Specific Condition A209.A *Vapor Recovery Unit or Department Approved Equivalent*

Violation 3 Background

56. GCP-O&G, Specific Condition A209A, *Vapor Recovery Unit or Department-approved Equivalent*, states in relevant part:

> "The permittee shall at all times operate the VRU as a closed vent system that captures and routes all VOC and HAP emissions …back to the process stream or to a sales pipeline and does not vent to the atmosphere."

[NMED Exhibit 21 at 28].

57. Ameredev's GCP-O&G Registration #8189 emissions calculation form for the Nandina CTB (Air Emissions Calculation Tool, dated Jan 21, 2019) states: "Emissions will be

captured by the VRU at 95% efficiency with 100% control." **[NMED Exhibit 4 at PDF 32]**.

58. In the response to "Tanks VOC Control Method, Represent VRU/ULPC Downtime Emissions at the Tank," Ameredev indicated "NA" (i.e. "not applicable"). **[NMED Exhibit 4 at PDF 32]**.

59. During the onsite inspection of the Nandina CTB on December 31, 2019, AQB personnel observed that the VRUs required to control emissions at the Nandina CTB were not operating. **[NMED Exhibit 10 at 2; NMED Exhibit 27]**.

60. Ameredev personnel stated that all gas from the tanks was being sent to an unregistered flare located at Nandina CTB. In addition, according to the VRU maintenance records from Ameredev, between September 19, 2019, and December 16, 2019, the VRUs were shut down for maintenance at least one day per month. **[NMED Exhibit 23]**.

61. The GCP-O&G emissions calculations for the Nandina CTB represented tank emissions 100% controlled with capture by the VRU. Ameredev did not report a flare nor request emission limits for a flare in the Nandina GCP Registration. **[NMED Exhibit 4 at PDF 7-8]**.

62. The Nandina CTB was modified when Ameredev routed tank emissions to an unregistered flare for combustion instead of through a closed vent system that captures and routes 100% of tank emissions back to the process stream or to a sales pipeline.

Violation 3 Summary

63. New Mexico's Regulations state:

> "For those modifications for which the source will not continue to meet the conditions of the general construction permit after such modification, obtain a construction permit from the department under this part prior to the modification."

20.2.72.220.D(2) NMAC.

64. Ameredev violated GCP-O&G, Specific Condition A209.A at the Nandina CTB,

when it failed to control tank emissions with VRUs and a closed vent system, as represented in the GCP Registration, and instead routed tank emissions to an unauthorized flare for combustion.

65. NMED observed one (1) occurrence of this violation for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 4:

Failure of Ameredev to complete and/or record inspections of the Azalea CTB vapor recovery units (or "VRUs") and associated piping from the controlled units pursuant to GCP-O&G, Specific Condition A209.A *Vapor Recovery Unit or Department-approved Equivalent*

Violation 4 Background

66. GCP-O&G, A209.A, *Vapor Recovery Unit or Department-approved Equivalent* states, in pertinent part:

> "Monitoring: At least once per month, the permittee shall inspect the VRU and associated piping from the controlled units, and blowback vessels, for defects that could result in air emissions. . . Recordkeeping: The permittee shall record the results of the VRU inspections. . . . Reporting: The permittee shall report in accordance with Section B110."

[NMED Exhibit 21 at 28].

67. On January 2, 2020, AQB personnel requested that Ameredev provide VRU inspection records for the Azalea CTB during operations from December 30, 2017 to December 30, 2019. **[NMED Exhibit 11]**.

68. On January 7, 2020, Ameredev responded via email with a table of responses. For the Azalea CTB, the response to this request states, "No responsive records." **[NMED Exhibit 19, row 22]**.

Violation 4 Summary

69. Ameredev violated GCP-O&G, Specific Condition A209.A, when it failed to complete and/or record any monthly inspections of the VRUs used to control air emissions from

the Azalea CTB vapor recovery towers (VRTs) that recover emissions from Facility storage tanks.

70. NMED observed one (1) occurrence of this violation at Nandina CTB, for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 5:

Failure of Ameredev to perform monthly VRU inspections as of January 7, 2020, used to control air emissions from the Amen Corner CTB VRTs pursuant to GCP-6, Specific Condition A107.A *Vapor Recovery Unit (VRU) or Ultra Low-Pressure Separators (ULPS) and Compressor Operation*

Violation 5 Background

71. GCP-6, Specific Condition A107–A - *Vapor Recovery Unit (VRU) or Ultra Low-Pressure Separators (ULPS) and Compressor* states in relevant part:

> "Monitoring: The permittee shall conduct the following monitoring monthly: 1) inspect for proper routing to the VRU . . . 2) inspect each Storage Vessel, VRU ... and associated piping for defects that could result in emissions... , and 3) monitor for proper operation per manufacturer's specifications . . . Recordkeeping: The permittee shall record the results of the VRU inspections..."

[NMED Exhibit 20 at 11].

72. On January 2, 2020, AQB personnel requested VRU inspection records from Ameredev personnel for the Amen Corner CTB for operations from December 30, 2017 to December 30, 2019. **[NMED Exhibit 11]**.

73. On January 7, 2020, Ameredev stated in their response to the request that there were no records of VRU inspections at Amen Corner CTB as of December 30, 2019. **[NMED Exhibit 26]**.

Violation 5 Summary

74. Ameredev violated GCP-O&G, Specific Condition A209.A, when it failed to complete and/or record monthly inspections, as of December 30, 2019, of the VRUs used to control

air emissions from the Amen Corner CTB vapor recovery towers (VRTs) that recover emissions from that facility's storage tanks.

75. NMED observed one (1) occurrence of this violation at Amen Corner CTB for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 6:

Failure of Ameredev to limit each of the Facilities pph and tpy emission rates to the facility-specific emission limits listed in each certified and approved Application and Registration form pursuant to GCP-6, Specific Condition A100.D, *Part A Facility Specific Requirements* and GCP-O&G, Specific Condition A106.C *Allowable Hourly and Annual Emissions*

Violation 6 Background

76. GCP-6, Specific Condition A100.D – *Description* states:

> "The allowable VOC emissions from each Storage Vessel, including fugitive, startup, shutdown, and maintenance emissions, shall not exceed the total requested allowable emissions in the current Application Form (registration form)."

[NMED Exhibit 20 at 1].

77. GCP-O&G, Specific Condition A106.C. – *Facility: Allowable Emissions – Allowable Hourly and Annual Emission Limits* states in relevant part:

> "Requirement: For each regulated emission unit in the Registration Form, the emissions specified in the Registration Form shall be the allowable emission limits in this Permit."

[NMED Exhibit 21 at 7].

78. At the time the violations occurred, there were no requested or authorized emission limits for produced gas flaring at any of the Facilities; emission limits for combustion of produced gas were zero.

79. Between October 25, 2019, and April 27, 2020, AQB received ten (10) final EERs from Ameredev pertaining to the Facilities, through the AQBCR system. Each EER reported emission rates for Facility flare, unit FL-1, exceeding its zero pound per hour ("pph") and tons per

year ("tpy") emission limits required by their GCPs from produced gas flaring. Ameredev reported each excess emission event as an emergency that lasted from 66 to 6300 hours. Overall, Ameredev emitted through its operations at the Facilities 7,648,210 total pounds of excess emissions of the regulated air pollutants nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), sulfur dioxide (SO_2), and hydrogen sulfide (H_2S). **[NMED Exhibits 8]**. AQB denied all Affirmative Defense Demonstration ("ADD") claims submitted by Ameredev for these excess emissions. **[NMED Exhibit 18]**.

80. On September 2, 2022 in response to the NOV, Ameredev provided (confidential) records documenting that Ameredev started drilling and routing produced oil and gas to all of the Facilities, before the contractual In-Service Date, or deadline for Ameredev's third-party gas processor to start accepting and processing Ameredev's produced gas, containing up to 20,000 parts per million by volume ("ppmv") of H_2S.

81. To start drilling and production, Ameredev combusted 100% of its produced sour gas through facility flares and continued to drill knowing they would need to illegally flare the produced gas. **[NMED Exhibit 15]**.

Violation 6 Summary

82. Ameredev violated its pph and tpy permitted emissions limits pursuant to GCP-6, Specific Condition 100.D and GCP-O&G, Specific Condition A106 when it unlawfully routed all produced sour gas to Facility flares for combustion.

83. NMED alleges the total quantity of excess emissions, 7,648,210 total pounds of nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), sulfur dioxide (SO_2), and hydrogen sulfide (H_2S) combined from these violations for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 7:

Failure of Ameredev to comply with operational requirements and representations made in permit Application and Registrations for each Facility flare, unit FL-1, pursuant to GCP-6, Specific Condition A108.A - *Flare Operation;* and GCP-O&G, Specific Condition A207.B – *Pilot Flame, Visible Emissions, and Operational Requirements* and General Condition B101.A – *Legal*

Violation 7 Background

84. GCP-6, Part A – *Facility Specific Requirements*, Specific Condition A108.A – *Flare Operation* states in relevant part:

> Requirement: . . . 4) The flare shall be equipped with a system to ensure that it is operated with a flame present at all times . . . Monitoring: The permittee shall continuously monitor the presence of the flare pilot flame using a thermocouple equipped with a continuous recorder and alarm to detect the presence of a flame.

[NMED Exhibit 20 at 12]

85. GCP-O&G, Specific Condition A207.B – *Pilot Flame, Visible Emissions, and Operational Requirements*, states in pertinent part:

> Requirement: Compliance with the allowable emission limits for flare(s) in the Registration Form shall be demonstrated by the following: . . . 2) The flare shall combust only gas streams represented in the Registration Form . . . 4) For flares with a continuous pilot flame or an auto-igniter, the flare shall be equipped with a system to ensure that the flare is operated with a flame present at all times that gas is sent the flare . . . 8) The flare shall be operated with no visible emissions except for periods not to exceed a total of sixty (60) seconds during any fifteen (15) consecutive minutes . . . Monitoring: 1) For flares with a continuous pilot or an auto igniter, the permittee shall continuously monitor the presence of a flare pilot flame using a thermocouple equipped with a continuous recorder and alarm to detect the presence of a flame . . . . 3) When any visible emissions are observed, the permittee shall perform a Method 22 observation while the flare pilot flame is present to certify compliance with the visible emission requirements."

[NMED Exhibit 21 at 24-25].

86. GCP-6, General Condition B101.A – *Legal* states in relevant part:

> Unless modified by conditions of this permit, the permittee shall construct or modify and operate the Facility in accordance with all representations of the current

> application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards.

[NMED Exhibit 20 at 16].

87. Ameredev's audit disclosure letter received by the AQB on January 28, 2020, stated in part:

> The alarm systems are not set up to continuously record alarms, which is a monitoring and recordkeeping requirement. Also, with respect to each of the tank batteries, the flares did not only combust gas streams represented in the registration forms. As previously disclosed, the flares have been used to combust associated gas shut-in by Salt Creek Midstream. With respect to Nandina tank battery, Ameredev is aware of instances during which the flare operated with visible emissions, but Ameredev did not conduct Method 22 inspections.

[NMED Exhibit 12 at PDF 9].

Violation 7 Summary

88. Ameredev violated GCP-6, Specific Condition A108.A at the Amen Corner CTB by failing to equip the flare pilot monitoring equipment with an alarm system and violated GCP-6, General Condition B101.A by failing to combust only gas streams that were represented in the Application / Registration Form.

89. Ameredev violated GCP-O&G, Specific Condition A207.B(2) at the Azalea, Firethorn, Nandina and Red Bud CTBs when it combusted gas streams in the flare that were not represented in the Application / Registration Forms for each facility.

90. Ameredev violated GCP-O&G, Specific Condition A207.B(4) at the Azalea, Firethorn, Nandina and Red Bud CTBs when it failed to equip the flare pilot monitoring equipment with an alarm system.

91. Ameredev violated GCP-O&G, Specific Condition A207.B(8) at the Nandina CTB by operating a flare with visible emissions without keeping records of any Method 22 observations.

92. NMED observed eleven (11) occurrences of this violation: two (2) for Amen Corner CTB, two (2) for Azalea, two for Firethorn, two for Red Bud, and three (3) for Nandina for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

Violation 8:

Failure of Ameredev to submit notifications of the anticipated date of initial startup not less than 30 days prior to the date pursuant to GCP-6 and GCP-O&G, General Condition B110.B(1) *General Reporting Requirements*

Violation 8 Background

93. GCP-6 and GCP-O&G General Condition B110.B - *General Reporting Requirements* states:

> The permittee shall notify the Air Quality Bureau's Compliance and Enforcement Section using the current Submittal Form posted to NMED's Air Quality web site under Compliance and Enforcement/Submittal Forms in writing of, or provide the Department with (20.2.72.212.A and B): (1) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date. Notification may occur prior to issuance of the permit, but actual startup shall not occur earlier than the permit issuance date.

[NMED Exhibit 20 at 22-23; NMED Exhibit 21 at 38].

94. Based on a review of records provided by Ameredev on January 17, 2020, AQB determined that Ameredev did not notify the Department of the initial startup of any of the Facilities. Notifications submitted by Ameredev on March 6, 2020, reported the following start-up dates: Amen Corner CTB –November 28, 2019; Azalea CTB – December 26, 2018; Firethorn CTB – March 14, 2019; Nandina CTB – July 29, 2019; and Red Bud CTB – March 7, 2019. **[NMED Exhibit 24].**

Violation 8 Summary

95. Ameredev violated GCP-6 and GCP-O&G, General Condition B110.B(1) when it

failed to notify the Department of the anticipated startup dates of five Facilities, information for which the Department relies on to meet its enforcement obligations.

96. NMED observed five (5) occurrences at the Amen Corner CTB, Azalea CTB, Firethorn CTB, Nandina CTB, and Red Bud CTB, of this violation for which Ameredev is subject to penalties pursuant to the NMED-AQB Civil Penalty Policy.

EFFECTIVE DATE

97. The Effective Date of this Order shall be the date upon which this Order is signed by the NMED Secretary or designee.

COMPLIANCE ORDERS

98. NMSA 1978, § 74-2-12(A) authorizes the New Mexico Secretary of Environment ("Secretary") to issue a compliance order requiring compliance with a regulation or permit.

99. Pursuant to the NMED Delegation Order dated March 24, 2023, the Environmental Protection Division Director may approve the commencement of a civil enforcement action with concurrence by the Secretary.

100. The Secretary has concurred with this enforcement action.

101. Ameredev is ordered to take the following corrective actions for the violations specified in Sections I through VIII above.

Order 1:

Cease and Desist Excess Emissions at All Ameredev Facilities Located in New Mexico

102. Ameredev shall cease and desist from excess emissions that do not qualify for an affirmative defense pursuant to 20.2.7.111 NMAC; 20.2.7.112. NMAC; and 20.2.7.113 NMAC.

103. Beginning no later than 30 days from the Effective Date, Ameredev shall calculate and submit by the 15th of each month, reports of actual pph and tpy emission rates from each

emissions unit at each Ameredev facility operating in New Mexico. Calculations shall be submitted in sortable and editable Excel spreadsheets and in PDF. Reports shall be submitted for two years from the Effective Date.

104. For flares, tpy emission rates shall be reported as daily rolling 365-day totals. For all other equipment, tpy emission rates shall be reported as monthly rolling 12-month totals.

105. Ameredev shall initiate prompt corrective action for any exceedances and report according to 20.2.7 NMAC.

Order 2: Submit Construction Permit Applications

106. Within 60 days of the Effective Date, Ameredev shall apply for non-GCP construction permits pursuant to 20.2.72, 20.2.74, or 20.2.79 NMAC as applicable to replace GCP-O&G permits for Amen Corner, Azalea, Firethorn, Nandina, and Red Bud CTBs.

107. Upon issuance or denial of each construction permit, the Department will cancel each existing GCP-O&G.

108. For any canceled permits, Ameredev shall remove or decommission equipment from the facility not permitted by a new construction permit. "Decommission" and "Decommissioning" applies to units left on site (not removed) and is defined as the complete disconnecting of equipment, emission sources or activities from the process by disconnecting all connections necessary for operation (i.e., piping, electrical, controls, ductwork, etc.).

109. Each permit application shall include the following:

a. Facility-wide tpy emission limit caps of NOx, CO, SO_2, VOC, $PM_{2.5}$, and H_2S, including emissions from exempt standby generators (20.2.72.202.B(3) NMAC); fire pump engines (20.2.72.202.A(4) NMAC); emissions units or activities with a potential emission rate of no more than ½ tpy (20.2.72.202.B(5)

NMAC); and from routine or predictable startup, shutdown, and maintenance activities (20.2.7 NMAC);

b. Permit requirements for standby or emergency generators and fire pump engines;

c. Production limits corresponding to assumptions used in emissions calculations and limits;

d. Compliance with 40 CFR § 60, Subpart OOOOa of all existing and future tanks, including the assessment of covers and closed vent systems used to control tank emissions pursuant to 40 CFR § 60.5411a(d)(a)(i) and (ii);

e. Compliance with 40 CFR § 60.18 of all existing and future flares and submittal of manufacturer specifications for each flare and the applicable evaluation pursuant to 40 CFR § 60.18(c) through (f); and

f. Daily rolling 365-day total tpy emissions calculations and records for flares.

Order 3: Conduct Third-Party Audit of all other Ameredev New Mexico Faciltites

110. Ameredev shall hire an independent, third-party contractor to complete an audit of all New Mexico facilities not subject to this enforcement action owned and/or operated by Ameredev.

111. AQB shall approve the contractor selected by Ameredev for this purpose.

112. The contractor shall have experience in the oil and gas industry, have not completed any work for Ameredev in the past five (5) years and shall certify that no other work will be performed for Ameredev facilities in the three (3) years following the audit.

113. The audit shall start within 60 days of the Effective Date, shall be completed within nine (9) months of the Effective Date, and a final, certified report submitted to AQB within ten

(10) months of the Effective date.

114. Ameredev facilities subject to the third-party audit shall minimally include all tank batteries, all gas processing facilities, all compressor stations, all power generating stations, all water treatment facilities, all well sites, and all associated gathering lines and piping.

115. The third-party audit shall include the following for each of the Ameredev facilities audited:

a. Facility name, location, and any current AQB notices of intent (NOI) or permit numbers.

b. A current list of and status of all wells sending produced oil, associated gas, and other hydrocarbons to each facility.

c. A list of all stationary equipment, regardless of exemption status, that are sources of regulated air pollutants including unit number, description, make, model, serial number, capacity, construction and manufacture dates, and dates of initial startup.

d. For all equipment, the regulatory citations of all applicable emissions standards, notifications, records, and reporting required in 40 CFR § 60 and 40 CFR § 63.

e. A list and information of all control equipment, including capture efficiency, control efficiency, make, model, maintenance requirements and other processes to which emissions from regulated sources are routed to or controlled by.

f. The calculations of the potential to emit (PTE), as defined at 20.2.74.7.AO NMAC, of each emissions source and of each facility.

Order 4: Propose Mitigation Projects for NMED Approval

116. Within 30 days of the Effective Date, Ameredev shall propose, subject to NMED

approval, projects to mitigate excess emissions that occurred between 2019-2020. Costs of such projects shall not be creditable toward the assessed civil penalties and shall be borne solely by Ameredev. "Mitigation project" shall mean a project or projects to remedy, reduce, or offset past excess emissions resulting from Ameredev's alleged violations of the Act, Regulations, and/or permits in this matter.

CIVIL PENALTIES

117. Section 74-2-12(A) of the Act authorizes the Secretary to issue a compliance order assessing a civil penalty for a violation of the Act, the Regulations, or a condition of a permit issued under the Act.

118. Section 74-2-12(B) of the Act authorizes the Secretary to assess a civil penalty of up to fifteen thousand dollars ($15,000.00) per day of non-compliance for each violation under Section 74-2-12(A).

119. Pursuant to the NMED Delegation Order dated March 24, 2023, the Environmental Protection Division Director may approve the commencement of a civil enforcement action with concurrence by the Secretary.

120. The Secretary has concurred with this enforcement action.

121. For the violations described in Sections I through VIII, the Department has calculated, and hereby assesses, a civil penalty of $40,336,818.00 consistent with the NMED-AQB Civil Penalty Policy. **[NMED Exhibit 13].** Table 5 lists the violations, subject Facilities, and penalty per violation.

Violation	Facilities	Penalty Amount
Failure to construct or modify and operate as represented in Applications or Registrations, modifying five facilities	Amen Corner CTB Azalea CTB Firethorn CTB	$75,370.00

Violation	Facilities	Penalty Amount
without approval pursuant to GCP-6 General Condition B101.A or GCP-O&G, Specific Condition A100	Nandina CTB Red Bud CTB	
Failure to obtain a regular, individual construction permit from the Department before modifying five Facilities pursuant to GCP-6 General Condition C101.D(1) or GCP-O&G General Condition C101.C(1)	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB	$207,069.00
Failure to operate and control tank emissions with the Vapor Recovery Unit (VRU) as represented in the GCP-O&G #8189 Registration pursuant to Specific Condition A209.A	Nandina CTB	$153,720.00
Failure to complete and/or record monthly inspections of the VRUs used to control tank emissions pursuant to GCP-O&G, Specific Condition A209.A	Azalea CTB	$75,600.00
Failure to complete and/or record monthly inspections of the VRUs used to control tank emissions pursuant to GCP-6, Specific Condition A107.A	Amen Corner CTB	$25,200.00
Failure to limit pound per hour emission rates from each Facility's flare, unit FL-1, to the limits required by each permit pursuant to GCP-6, Specific Condition A106.D or GCP-O&G, Specific Condition A106.C	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB	$38,913,811.00
Failure to comply with operational requirements for each Facility flare, Unit FL1,	Amen Corner CTB	$848,548.00

Violation	Facilities	Penalty Amount
pursuant to GCP-6, Specific Condition A108.A or GCP-O&G, Specific Condition A207.B	Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB	
Failure to submit notifications of the anticipated date of initial startup no less than 30 days prior to the date pursuant to GCP-6, General Condition B110.B(1) or GCP-O&G General Condition B110.B(1)	Amen Corner CTB Azalea CTB Firethorn CTB Nandina CTB Red Bud CTB	$37,500.00

122. Within thirty (30) days of the Effective Date, Ameredev shall pay a civil penalty of $40,336,818.00.

123. Payment shall be made to the ***State of New Mexico General Fund, NMED-Air Quality Bureau, 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico, 87505*** by certified or corporate check, or by wire transfer (ACH deposit). On the date that delivery of funds is initiated, notify the Air Quality Bureau Enforcement Manager by email at ENV-AQB.Settlement.Notification@state.nm.us and notify the Enforcement Specialist at cember.hardison@env.nm.gov

Certified or corporate checks must be sent to the following address:

New Mexico Environment Department
Air Quality Bureau
c/o Compliance and Enforcement Manager
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87505

Wire transfers must be made to Wells Fargo Bank as follows:

Wells Fargo Bank, N.A.
100 W Washington Street, Floor 20
Phoenix, AZ 85003
Routing Transit Number: 121000248
Deposit Account Number: 4123107799
Descriptor: NMED-AQB-C&E

124. If Ameredev fails to make timely and complete payment of the civil penalty pursuant to Paragraphs 101 and 102, and unless the Department and Ameredev agree to extend the time for payment of the civil penalty, Ameredev shall pay a stipulated penalty of $1,500.00 per day for each day the payment is not timely or complete.

125. If Ameredev fails to complete the corrective actions pursuant to Paragraph 122, and unless the Department and Ameredev agree to extend the time for completion of the requirements, Ameredev shall pay a stipulated penalty of $1,500.00 per day for each day each requirement is not timely or complete.

ADMINISTRATIVE COMPLIANCE COSTS

126. The Department will invoice Ameredev in the amount of $412,960 for administrative compliance costs incurred to date that are associated with this matter. To the extent that Ameredev does not resolve this matter within thirty (30) days, including the payment of the civil penalty of $40,336,818.00, Ameredev will continue to accrue additional administrative compliance costs of up to $2,400 per day.

NOTICE OF OPPORTUNITY TO ANSWER AND REQUEST A HEARING

127. Pursuant to Section 74-2-12(C) of the Act and the Department's adjudicatory procedures at 20.1.5.200 NMAC, Ameredev may request a hearing by filing a written request for a public hearing with the hearing clerk no later than 30 days after receipt of this Order. The request

for hearing shall include an Answer:

a. Admitting or denying each allegation. Any allegation which is not specifically denied shall be deemed to be admitted. Ameredev may assert that it has insufficient knowledge of any alleged finding of fact, and such finding shall be deemed to be denied;

b. Asserting any affirmative defense upon which Ameredev intends to rely. Any affirmative defense not asserted in the Answer, except an affirmative defense asserting lack of subject matter jurisdiction, shall be deemed waived.

c. Signed under oath or affirmation that the information contained therein is true and correct to the best of the signatory's knowledge; and

d. Attaching a copy of this Order.

128. This Order shall become final upon Ameredev's receipt of the Order, unless Ameredev files a Request for Hearing and Answer as set forth above. Ameredev may file a Request for Hearing and Answer at the following address:

Madai Corral, Paralegal/Hearing Clerk
Office of Public Facilitation
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87505
Phone: 505-490-5803
Email: Madai.corral@env.nm.gov

129. The public hearing shall be governed by the Department's adjudicatory procedures at 20.1.5 NMAC, a copy of which is attached to this Order as NMED Exhibit 25.

SETTLEMENT CONFERENCE

130. Ameredev may confer with the Department regarding settlement at any time, but a settlement conference or request for a settlement shall not extend or waive the deadline for filing

a Request for Hearing or Answer. Ameredev may appear at a settlement conference either pro se or through legal counsel. The Secretary or an appropriate designee shall execute any settlement as part of a Stipulated Final Order. Any Stipulated Final Order shall resolve all issues raised in this Order, shall bind all parties to this Order, and shall not be appealable. To confer regarding settlement, contact:

Chris Vigil, Assistant General Counsel
New Mexico Environment Department
121 Tijeras Ave. NE, Ste. 1000
Albuquerque, New Mexico 87102
Phone: (505) 469-4696
Email: christopherj.vigil@env.nm.gov

TERMINATION

131. This Order shall terminate upon approval of the Secretary or an appropriate designee of a Stipulated Final Order.

NEW MEXICO ENVIRONMENT DEPARTMENT

BY: Michelle Miano Digitally signed by Michelle Miano Date: 2023.06.29 13:18:34 -06'00' **DATE:** _____
Michelle Miano, Director
Environmental Protection Division
New Mexico Environment Department

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of June 2023, a copy of the foregoing Administrative Compliance Order was mailed via certified mail-return receipt requested and by email to:

Anthony Seach, General Counsel
Ameredev II, LLC
2901 Via Fortuna, Suite 600
Austin, TX 78746
aseach@ameredev.com

/s/ Chris Vigil
Chris Vigil, Assistant General Counsel
New Mexico Environment Department

FLATROCK
ENGINEERING & ENVIRONMENTAL

CORPORATE OFFICE
18615 TUSCANY STONE, STE 380
SAN ANTONIO, TEXAS 78258
OFFICE (210) 568-1861

Via Certified Mail 7017 2680 0001 1536 2751

May 3, 2018

Mr. Ted Schooley – Permit Programs Manager
New Mexico Environment Department – Air Quality Bureau
525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816

RE: Ameredev II, LLC
Amen Corner CTB
GCP-6 Application for Registration

To Whom It May Concern:

Flatrock Engineering and Environmental respectfully submits the enclosed registration for General Construction Permit GCP-6 on behalf of Ameredev II, LLC (Ameredev) to authorize the construction and operation of the Amen Corner CTB in Lea County. The facility will consist of two (2) 0.75-mmBtu/hr heater treaters, six (6) 400-bbl oil tanks, six (6) 400-bbl produced water tanks, one (1) 1,000-bbl gunbarrel tank, one (1) 750-bbl skim tank, one (1) flare, two (2) vapor recovery towers, two (2) vapor recovery units, oil and produced water loading, and fugitive emissions.

Enclosed with this letter are the GCP-6 Application for Registration form, emissions calculations, CD, and support documents along with the permit fee. If there are any questions please feel free to contact me at (405) 602-1874 or Kristin.ikard@flatrockenergy.net.

Sincerely,

Kristin Ikard
Senior Project Manager

Enclosures: Original, One (1) Copy, CD, Check

DALLAS
17304 Preston Rd, Suite 1075
Dallas, Texas 75252
Office (469) 426-2039

OKLAHOMA CITY
5509 Main Street, Suite 105
Del City, Oklahoma 73115
Office (405) 602-1874

NMED Exhibit 1

[redacted]

1025

30-9/1140
01

CHECK AMOUNT

FLATROCK ENGINEERING
& ENVIRONMENTAL LTD - AIR PERMITS
18615 TUSCANY STONE SUITE 200
SAN ANTONIO, TX 78258
210-569-6746

04/26/2018

PAY TO THE ORDER OF New Mexico Environment Department

$ **4,000.00**

Four Thousand Dollars

DOLLARS

Photo Safe Deposit®

Details on Back.

New Mexico Environment Department
United States

AUTHORIZED SIGNATURE

MEMO Ameredev - Amen Corner GCP-6 Construction

[redacted]

FLATROCK ENGINEERING & ENVIRONMENTAL LTD - AIR PERMITS 1025

V000811--New Mexico Environment Department
Print As: New Mexico Environment Department

[redacted]

Date: 04/26/2018

Date	Bill #	Reference Number			
Acct	*Memo*	*Department ID*	*Location*	*Amount Entered*	*Amount Paid*
04/26/2018	Ameredev-100022-1--Amen Corner CTB				
5110--Licenses and Fees	*GCP-6 Construction Permit*	*FEE_AIR*	*FEE*	*$4,000.00*	*$4,000.00*
Net Amount:					$4,000.00

Page 1 of 1

FLATROCK ENGINEERING & ENVIRONMENTAL LTD - AIR PERMITS 1025

V000811--New Mexico Environment Department
Print As: New Mexico Environment Department

[redacted]

Date: 04/26/2018

Date	Bill #	Reference Number			
Acct	*Memo*	*Department ID*	*Location*	*Amount Entered*	*Amount Paid*
04/26/2018	Ameredev-100022-1--Amen Corner CTB				
5110--Licenses and Fees	*GCP-6 Construction Permit*	*FEE_AIR*	*FEE*	*$4,000.00*	*$4,000.00*
Net Amount:					$4,000.00

Page 1 of 1

NMED Exhibit 1

Company Name | Facility Name | Application Date

Mail Application To:		For Department use only:
New Mexico Environment Department Air Quality Bureau Technical Services Unit 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone (505) 476-4300 Fax (505) 476-4375 www.env.nm.gov/aqb		AIRS #: AI #:

General Construction Permit (GCP-6)

Storage Vessels

Application Form (Registration Form)

(Locating outside of Bernalillo County, Tribal Lands, and City of Sunland Park)

This application is being submitted as (check all that apply)**:**

☒ A new GCP-6 Application Form.
☐ An update to a GCP-6 Application Form currently under NMED review. This page and all pages that are being updated are included.
☐ A notification of an administrative change to a GCP-6 Facility including: a change of owner/operator or change of contact information for any person identified in the Application Form. (Complete and submit Sections 1 and 15). No public notification is required, and no filing fees or permit fees apply.
☐ A notification of a modification to a GCP-6 Facility that includes any physical change in, or change in the method of operation of, a stationary source which results in an increase in the potential emission rate (PER) of any regulated air contaminant emitted by the source or which results in the emission of any regulated air contaminant not previously emitted. See definition of PER in Section 2 line 4 of this Application Form. (Complete and submit Sections 1, 2, 5, 6, 7, 8, 9, 10, 11, 13, 14, and 15). No public notification is required, and no filing fees or permit fees apply.

Construction Status: ☒ Not Constructed ☐ Existing Permitted (or NOI) Facility ☐ Existing Non-Permitted (or NOI) Facility

Acknowledgements:

☒ I acknowledge that a pre-application meeting is available to me upon request.

☒ Only Storage Vessels and methods of reducing VOC emissions from Storage Vessels are allowed under the GCP-6. I acknowledge any equipment at the facility other than equipment authorized under the GCP-6 may require its own Notice of Intent (NOI) or permit under 20.2.72 NMAC. If a NOI or 20.2.72 NMAC permit is required, a separate NOI application or permit application that includes the requested allowable emissions from this GCP-6 must be submitted for the entire facility.

☒ The original signed and notarized Certification for Submittal Under GCP-6 is included.

☒ Proof of public notice is included.

☐ **This facility qualifies to receive assistance from the Small Business Environmental Assistance program (SBEAP) and qualifies for 50% of the current application and permit fees.** To see if you qualify for SBEAP assistance and a fee reduction go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html

☐ **This facility qualifies to receive assistance from the Small Business Environmental Assistance Program (SBEAP) but does not qualify for 50% of the current application and permit fees.** To see if you qualify for SBEAP assistance go to https://www.env.nm.gov/aqb/sbap/small_business_criteria.html

☐ **I have enclosed a check for the initial GCP-6 application fee of $4,000.** For facilities qualifying as a "small business" under 20.2.75.7.F NMAC, these fees are $2,000, provided that NMED has a Small Business Certification Form from your company on file. This form can be found at: http://www.env.nm.gov/aqb/sbap/Small_Business_Forms.html

Provide your Check Number: #1025 and Amount: $4,000.00.

NMED Exhibit 1

1) Company Information		AI # (if known):	If updating, provide Permit/NOI #:
1	Facility Name: Amen Corner CTB	Plant primary SIC Code (4 digits): 1311	
a	Facility Street Address (If no facility street address, check here ☒ and provide directions in Section 4):		
2	Plant Operator Company Name: Ameredev II, LLC	Phone/Fax: 737-300-4700	
a	Plant Operator Address: 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735		
3	Plant Owner(s) name(s): Same as Above	Phone/Fax:	
a	Plant Owner(s) Mailing Address(s):		
4	Bill To (Company): Same as Above	Phone/Fax:	
a	Mailing Address:	E-mail:	
5	☐ Preparer: ☐ Consultant: Flatrock Engineering and Environmental Ltd.	Phone/Fax: 405-602-1874	
a	Mailing Address: 5509 Main Street, Suite 105, Del City, OK 73115	E-mail: Kristin.ikard@flatrockenergy.net	
6	Plant Operator Contact: Same as Plant Operator	Phone/Fax:	
a	Mailing Address:	E-mail:	
7	Air Permit Contact: Kristin Ikard	Title: Sr. Project Manager	
a	E-mail: Kristin.ikard@flatrockenergy.net	Phone/Fax: 405-602-1874	
b	Mailing Address: 5509 Main Street, Suite 105, Del City, OK 73115		
8	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and NOI or permit number (if known) of the other facility?		

2) Applicability		
1	Is the facility located in Bernalillo County, on tribal lands, or in the city of Sunland Park?	☒**No** ☐**Yes**
If you answered ***Yes*** to the question above, your facility **does not** qualify for this general construction permit.		
2	Is the facility's SIC code 1311, 4922, or 1321?	☐**No** ☒**Yes**
3	Does the regulated equipment under this GCP-6 application include any combination of Allowable Equipment listed in Table 102.A of the GCP-6 and Allowable Methods of Reducing VOC Emissions listed in Table 102.B of the GCP-6, and no others?	☐**No** ☒**Yes**
4	Can the regulated equipment under this GCP-6 application comply with the total potential emission rates in Tables 100.A and 100.B of the GCP-6? Layman's definition: Potential Emission Rate (PER) is the amount of emissions a facility could emit if it did not have a permit to legally limit its emissions to reduced amounts. The legal definition of PER can be found at 20.2.72.7 NMAC.	☐**No** ☒**Yes**
5	Can the regulated equipment under this GCP-6 application comply with the allowable annual total VOC emission limits in Table 102.A of the GCP-6?	☐**No** ☒**Yes**
6	If using flare(s) or thermal oxidizer(s) in this Application Form for use under this GCP-6, are they in compliance with the minimum height and velocity requirements as established in Table 102.C of the GCP-6?	☐**No** ☒**Yes**
If you answered ***NO*** to any of questions 2-6, your facility **does not** qualify for this general construction permit.		

3) Current Facility Status			
1	Has this facility already been constructed? ☐Yes ☒No	If yes, is it currently operating in New Mexico? ☐ Yes ☐ No	
2	Does this facility currently have a construction permit or Notice of Intent (20.2.72 NMAC or 20.2.73 NMAC)? ☐Yes ☒No	If yes, the permit No. or NOI No., and whether it will remain active or not	
3	Is this application in response to a Notice of Violation (NOV)? ☐Yes ☒No If so, provide current permit #:	If yes, NOV date:	NOV Tracking No.

NMED Exhibit 1

4) Facility Location Information

Please use Montana's Graphical Locater to convert Lat/Long to UTM systems, found at: http://www.esg.montana.edu/gl/trs-data.html

1	a) Section: 22	b) Range: 36E	c) Township: 26S	d) County: Lea	e) Elevation (ft): 2908 ft
2	a) UTM Zone: ☐12 or ☒13	b) UTME (to nearest 0.01 km): 661749	c) UTMN (to nearest 0.01 km): 3550319		
	d) Specify which datum is used: ☐ NAD 27 ☐ NAD 83 ☐ WGS 84 See this link for more info. http://en.wikipedia.org/wiki/North_American_Datum				
AND	Latitude (deg., min., sec.): 32° 1'24.0"N	Longitude (deg., min., sec.): 103°15'27.7"W			
3	Name and zip code of nearest New Mexico town and/or tribal community: Jal 88252				
4	Detailed Driving Instructions including direction and distance from nearest NM town and/or tribal community (attach a road map if necessary). If there is no street address, provide public road mileage marker: Head east toward S 3rd Street in Jal, NM, turn right onto S 3rd Street, continue 1.3 miles. Continue onto NM-205 S/Frying Pan Rd and continue 6.5 miles. Continue 118 ft to facility on right.				
5	The facility is 7.6 (distance) miles SW (direction) of Jal (nearest town).				
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military				

5) Operational Options

1	**Malfunction Emissions Option:** Checking "yes" for this option indicates this facility shall have a federally enforceable 10 VOC tpy malfunction emission limit. The permittee shall meet the malfunction emission requirements described in Condition A104.A of GCP-6. The malfunction emissions should be entered in Table 10. This option is highly recommended as it has the potential of greatly reducing the number of excess emissions reports required for this facility.	☐No ☐Yes
2	**Redundancy Option:** Checking "yes" for this option indicates that the Storage Vessels listed on Table 9 that have a requested redundant method of reducing VOC emissions will have associated federally enforceable limits and requirements in the GCP-6 permit. For these Storage Vessels, the permittee shall meet the redundancy requirements in Condition A105.B of GCP-6.	☐No ☐Yes
3	**Truck Loading Option:** Checking "yes" for this option indicates this facility shall have a federally enforceable condition for reducing emissions during truck loading, and the permittee shall meet the truck loading requirements in Condition A106.A of GCP-6. The resulting reduced truck loading emissions should be entered in Table 10. If "no" is selected, truck loading emissions should be entered as unreduced emissions in Table 10.	☐No ☐Yes
4	**LACT Unit Option:** Checking "yes" for this option indicates this facility operates a LACT unit and shall not vent emissions to the atmosphere under normal operation of the LACT unit, and the permittee shall meet the LACT unit requirements in Condition A106.B of GCP-6. Routine and predictable truck loading emissions that occur when the LACT unit is not operating should be entered in Table 10. Select "no" if there is not a LACT unit at this facility.	☒No ☐Yes

6) Other Facility Information

1	Maximum proposed annual throughput	**bbl/yr: 730,000 or MMscf/yr:**
2	The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes.	☐No ☒Yes

7) Submittal Requirements

1	Include one hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except landscape tables, which should be head-to-head. If 'head-to-toe printing' is not possible, print single sided. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process.	☐No ☒Yes
2	Include one working hard **copy** for Department use. This copy does not need to be 2-hole punched.	☐No ☒Yes
3	The entire application package should be submitted electronically on one compact disk (CD). Include a single PDF document of the entire application as submitted and the individual documents comprising	☐No ☒Yes

NMED Exhibit 1

	the application. The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc.), submit these items in hard copy format. Spreadsheets must be unlocked since we must be able to review the formulas and inputs.	

8) Storage Vessel Information (Use additional sheets if necessary)									
Storage Vessel No.	Requesting Emissions Reduction? Yes or No	Materials Stored	Date Installed (MM/DD/YY)	Capacity (bbl)	Diameter (M)	Height (M)	True Vapor Pressure (kPa)	Annual Throughput (gal/yr)	Annual Turnovers
TK-1	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-2	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-3	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-4	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-5	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-6	Yes	Crude Oil	04/2018	500	4.724	4.8768	4.4024	5,110,000	241.35
TK-7	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-8	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-9	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-10	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-11	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-12	Yes	Prod. Water	04/2018	500	4.724	4.8768	0.3931	5,110,000	238.26
TK-13	No	Crude Oil	04/2018	1,000	4.724	9.144	4.4024	30,660,000	749.01
TK-14	No	Crude Oil	04/2018	750	4.724	7.3152	4.4024	30,660,000	944.40

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9) Emission Reduction Method Selection Table and Calculation Tool for Storage Vessels

Section 9: Emission Reduction Calculation Table

Version: 11/21/2013

Add Del Row	Unit No.	Program Used	Calculated Emission Rate (TPY)	Primary Reduction Device (PRD)	Primary Reduction %	Redundant Reduction Device (RRD)	Redundant Reduction % (if Selected)	VOC Emission Limit (TPY)
+ -	TK-1	HYSIS	42.2	Flare with 98% reduction efficiency*	98	Flare with 98% reduction efficiency*	98	0.844
+ -	TK-7	HYSIS	0.13	Flare with 98% reduction efficiency*	98	Flare with 98% reduction efficiency*	98	0.0026
+ -	TK-1	HYSIS	28.98	Flare with 98% reduction efficiency*	98	Flare with 98% reduction efficiency*	98	0.5796
+ -	TK-1	HYSIS	23.4	Flare with 98% reduction efficiency*	98	Flare with 98% reduction efficiency*	98	0.468
							Total	1.8942

Notes: Calculation assumes that the PRD is operating 95% of the time (8,322 hours/year) and if a RRD is present, it is operating only when the PRD is down (5% of the time (438 hours/year)).

* Requires documentation supporting 98% reduction efficiency

NMED Exhibit 1

10) Annual Total Emissions For Storage Vessels that have an emissions reduction device(s), enter the requested allowable emissions limit (the reduced emissions) in this table. For Storage Vessels that do not have a reduction device, enter unreduced emissions in this table. For all emission reduction devices, enter the emissions in this table. If the Malfunction Option was selected in Section 5, enter a unit "Malf" with a limit of 10 tons per year (no lb/hr). If the Truck Loading Option was selected in Section 5, enter the reduced truck loading emissions as calculated in the All Calculation Section of this application. (If the Truck Loading Option was not selected, enter the unreduced truck loading emissions here.) If the LACT Unit Option was selected in Section 5, enter truck loading emissions that occur when the LACT unit is not operating. Total all values in the bottom row of this table. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Please do not change the column widths on this table.

☒ The annual total VOC emission limit in the bottom row is less than 79 tpy for the combined total VOC allowable emission rate from all Storage Vessels and truck loading.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
HEAT-1	0.07	0.32	0.06	0.27	<0.01	0.02	<0.01	<0.01	0.01	0.02	0.01	0.02	0.01	0.02	-	-	-	-
HEAT-2	0.07	0.32	0.06	0.27	<0.01	0.02	<0.01	<0.01	0.01	0.02	0.01	0.02	0.01	0.02	-	-	-	-
TK-1 – TK-6	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-7 – TK-12	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-13	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-14	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
LOAD-1	-	-	-	-	39.1	51.0	-	-	-	-	-	-	-	-	-	-	-	-
FL-1	0.53	0.63	2.4	2.8	7.2	6.2	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-
FUG-1	-	-	-	-	2.8	12.2	-	-	-	-	-	-	-	-	-	-	-	-
MSS-1	-	-	-	-	93.6	0.61	-	-	-	-	-	-	-	-	-	-	-	-
*Tank emissions represented at the flare.																		
Totals	0.67	1.3	2.5	3.4	142.9	71.2	<0.01	<0.01	0.01	0.05	0.01	0.05	0.01	0.05	-	-	-	-

[1] **Significant Figures Examples**: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4

[2] **Condensables**: Include condensable particulate matter emissions in particulate matter calculations.

NMED Exhibit 1

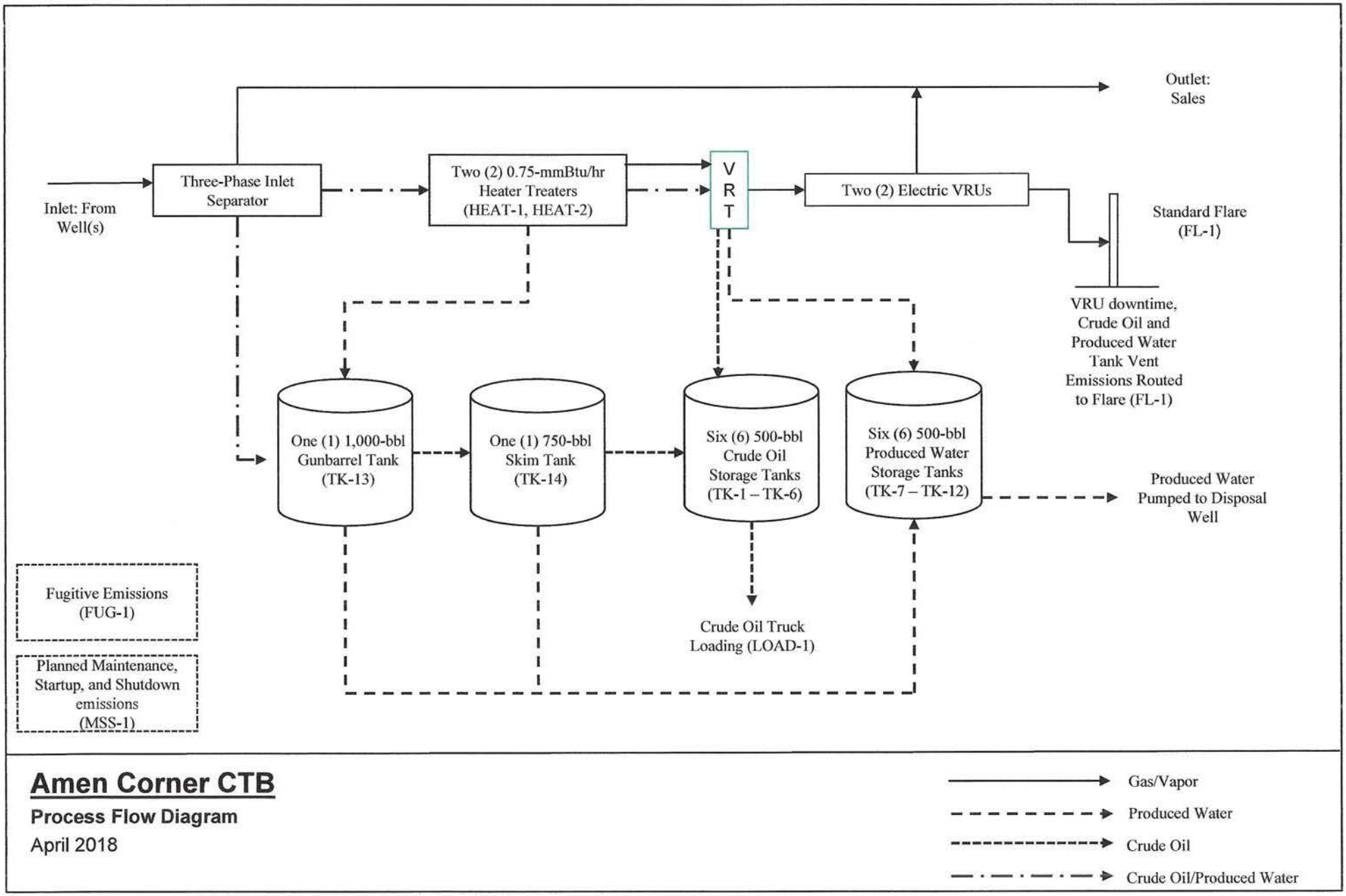
11) Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a brief description of the facility and its process. Also, describe how each piece of equipment will be operated, how methods of reducing VOC emissions will be used, the fate of both the products and emissions generated, and the air quality permit numbers associated with this site. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

Ameredev II, LLC (Ameredev) submits this General Construction Permit (GCP-6) application pursuant to 20.2.72 NMAC for the construction of the Amen Corner CTB in Lea County. The facility will consist of two (2) 0.75-mmBtu/hr heater treaters, six (6) 500-bbl condensate tanks, six (6) 500-bbl produced water tanks, one (1) 1,000-bbl gunbarrel storage tank, one (1) 750-bbl skim tank, one (1) flare for tank control, two (2) electric-driven vapor recovery units, two (2) vapor recovery towers, condensate truck loading, fugitive emissions, and planned maintenance, startup, and shutdown (MSS) emissions.

A description of the facility process is as follows: The inlet stream from area well(s) enters the facility through a three-phase inlet separator. Gas from the separator exits the facility via pipeline, a produced water and crude oil stream is routed to the gunbarrel tank and a crude oil and gas is routed to the heater treaters. Gas and crude oil from the heater treaters passes through the vapor recovery towers with emissions controlled by the vapor recovery units. Crude oil and produced water from the inlet separator, vapor recovery towers, the skim tank, and the gunbarrel tank are stored in six (6) 500-bbl crude oil storage tanks and six (6) 500-bbl produced water storage tanks. Tank emissions are routed to the flare for control with 98% destruction efficiency.

Truck loading for the crude oil also takes place at the facility, as well as emissions from fugitive sources and maintenance, startup, and shutdown.



NMED Exhibit 1

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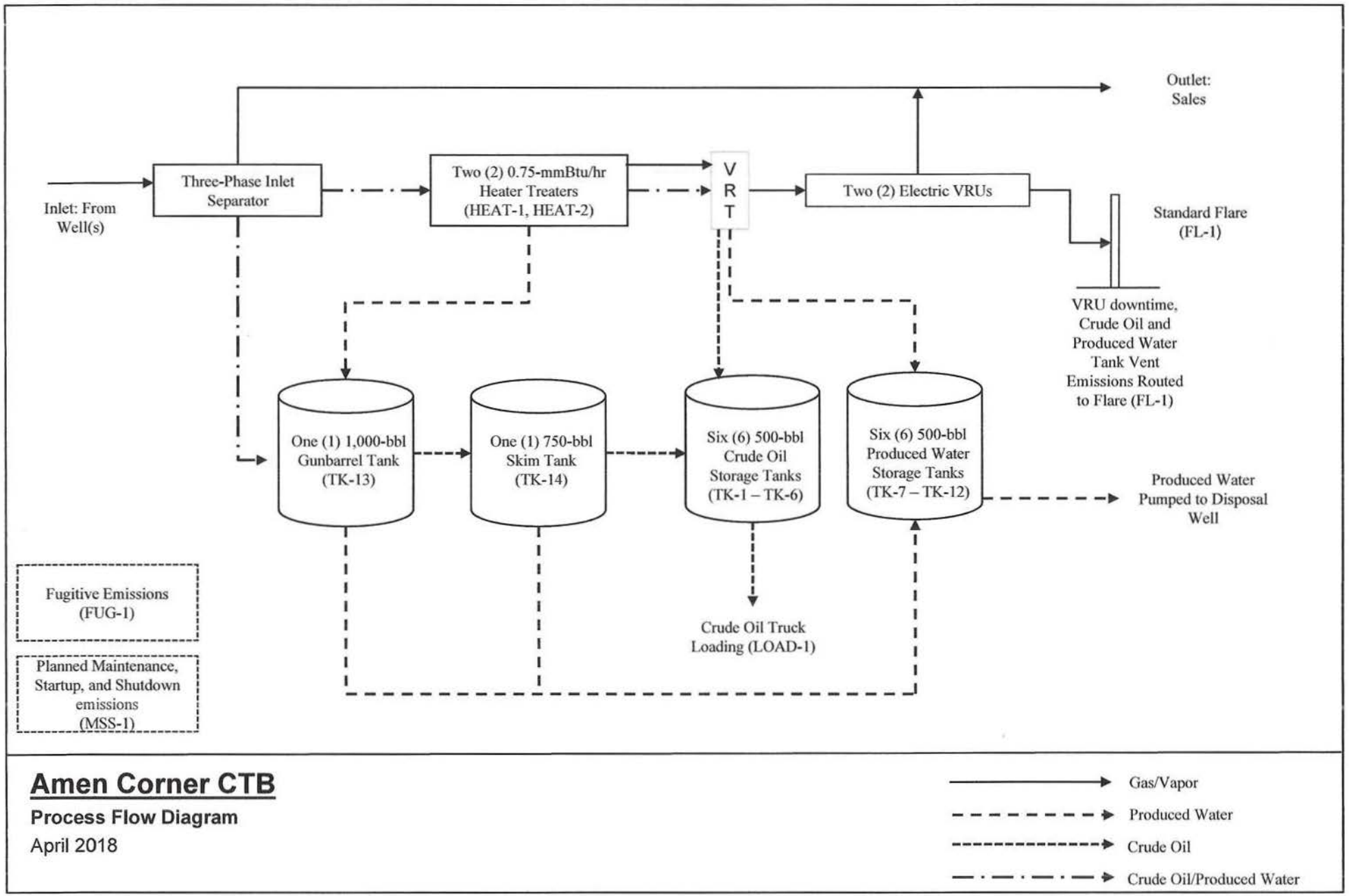

Amen Corner CTB

Process Flow Diagram

April 2018

Gas/Vapor

Produced Water

Crude Oil

Crude Oil/Produced Water

NMED Exhibit 1

12) Proof of Public Notice

General Posting of Notice

I, Shane McNeely, the undersigned, certify that on 5/5/18 (DATE), I posted a true and correct copy of the attached Public Notice in a publicly accessible and conspicuous place, visible from the nearest public road, at the entrance of the property on which the facility is, or is proposed to be, located.

Signed this 5th day of May, 2018.

Signature — Date: 5/5/18

Shane McNeely — Printed Name

Engineer — Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

Newspaper Publication of Notice

☐ An original or copy of the actual newspaper advertisement is attached. The original or copy of the advertisement includes the header showing the date and newspaper or publication title.

OR

☑ An affidavit from the newspaper or publication stating that the advertisement was published is attached. The affidavit includes the date of the advertisement's publication, and a legible photocopy of the entire ad.

Signature — Date: 5/5/18

Shane McNeely — Printed Name

Engineer — Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

NMED Exhibit 1

GCP-6 PUBLIC NOTICE

20.2.72 NMAC – General Permits, Section 220.A(2)(b)ii

NOTICE

Ameredev II, LLC announces its intent to apply to the New Mexico Environment Department for an air quality General Construction Permit, (GCP-6 Tank Battery). The name of this facility is Amen Corner CTB. The expected date of the submittal of our application for an air quality permit to the Air Quality Bureau is April 2018. This notice is a requirement according to New Mexico air quality regulations.

The exact location of the facility is/will be UTM Zone 13N, UTM Easting 661749, UTM Northing 3550319. The approximate location of this site is 7.6 miles southwest of Jal, New Mexico in Lea County. The standard operating schedule of this facility will be continuous.

Air emissions of any regulated air contaminant will be less than or equal to:

	Tons Per Year (TPY)
1. Nitrogen Oxides (NO_x)	25
2. Carbon Monoxide (CO)	25
3. Volatile Organic Compounds (VOC)	79
4. Particulate Matter (PM10)	25
5. Particulate Matter (PM2.5)	25
6. Total Suspended Particulates	25
7. Sulfur Dioxide (SO_2)	25
8. Hydrogen Sulfide (H2S)	5
9. Any one (1) Hazardous Air Pollutant (HAP)	10
10. Sum of all Hazardous Air Pollutants (HAPs)	25

The owner and/or operator of the Plant is:
Ameredev II, LLC, 5707 Southwest Parkway, Building 1, Suite 275, Austin, TX 78735

If you have any questions or comments about construction or operation of above facility, and want your comments to be made as a part of the permit review process, you must submit your comments in writing to the address below:

New Mexico Environment Department
Air Quality Bureau
Technical Services Unit
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505
Phone (505) 476-4300
Fax (505) 476-4375 www.env.nm.gov/aqb
Other comments and questions may be submitted verbally.

Please refer to the company name and site name, as used in this notice or send a copy of this notice along with your comments, since the Department may not have received the permit application at the time of this notice.

Este es un aviso de la Agencia de Calidad de Aire del Departamento de Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor de comunicarse con la oficina de Calidad de Aire al teléfono 505-476-5557.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non- discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above or visit our website at https://www.env.nm.gov/NMED/EJ/index.html to learn how and where to file a complaint of discrimination.

NMED Exhibit 1

Affidavit of Publication

STATE OF NEW MEXICO
COUNTY OF LEA

I, Daniel Russell, Publisher of the Hobbs News-Sun, a newspaper published at Hobbs, New Mexico, solemnly swear that the clipping attached hereto was published in the regular and entire issue of said newspaper, and not a supplement thereof for a period of 1 issue(s).

Beginning with the issue dated
April 25, 2018
and ending with the issue dated
April 25, 2018.

Publisher

Sworn and subscribed to before me this 25th day of April 2018.

Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937 and payment of fees for said

LEGAL NOTICE
April 25, 2018

NOTICE

Ameredev II, LLC announces its intent to apply to the New Mexico Environment Department for an air quality General Construction Permit, (GCP-6 Tank Battery). The name of this facility is Amen Corner CTB. The expected date of the submittal of our application for an air quality permit to the Air Quality Bureau is April 2018. This notice is a requirement according to New Mexico air quality regulations.

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Este es un aviso de la Agencia de Calidad de Aire del Departamento de Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor de comunicarse con la oficina de Calidad de Aire al teléfono 505-476-5557.

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#32747

02108435 00210660

MARK MARTELLI
FLATROCK ENGINEERING & ENVIRON.
9341 E. LAKE HIGHLANDS DR.
DALLAS, TX 75218

NMED Exhibit 1

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Beginning with the issue dated
April 25, 2018
and ending with the issue dated
April 25, 2018.

Publisher

Sworn and subscribed to before me this 25th day of April 2018.

Business Manager

My commission expires
January 29, 2019
(Seal)

OFFICIAL SEAL
GUSSIE BLACK
Notary Public
State of New Mexico
My Commission Expires 1-29-19

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Air emissions of any regulated air contaminant will be less than or equal to:

Tons Pe

1. Nitrogen Oxides (NO_x)
2. Carbon Monoxide (CO)
3. Volatile Organic Compounds (VOC)
4. Particulate Matter (PM10)
5. Particulate Matter (PM2.5)
6. Total Suspended Particulates
7. Sulfur Dioxide (SO_2)
8. Hydrogen Sulfide (H2S)
9. Any one (1) Hazardous Air Pollutant (HAP)
10. Sum of all Hazardous Air Pollutants (HAPs)

The owner and/or operator of the Plant is:
Ameredev II, LLC, 5707 Southwest Parkway, Building 1, Suite 275, Austin, TX 78735

If you have any questions or comments about construction or operation of above facilit made as a part of the permit review process, you must submit your comments in writing tc

New Mexico Environment Department
Air Quality Bureau
Technical Services Unit
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico, 87505
Phone (505) 476-4300
Fax (505) 476-4375 www.env.nm.gov/aqb
Other comments and questions may be submitted verbally.

Please refer to the company name and site name, as used in this notice or send a copy of this since the Department may not have received the permit application at the time of this noti

Este es un aviso de la Agencia de Calidad de Aire del Departamento de Medio Ambien emisiones producidas por un establecimiento en esta área. Si usted desea información en con la oficina de Calidad de Aire al teléfono 505-476-5557.

Notice of Non-Discrimination
NMED does not discriminate on the basis of race, color, national origin, disability, ag programs or activities, as required by applicable laws and regulations. NMED is respons efforts and receipt of inquiries concerning non-discrimination requirements implemented VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the F Amendments of 1972. If you have any questions about this notice or any of NMED's n or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, N 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-7 you believe that you have been discriminated against with respect to a NMED program Discrimination Coordinator identified above or visit our website at https://www.env.1 how and where to file a complaint of discrimination.

You and each case on or before default and the re attorneys are Ten Mexico.

Witness the h day of March, 201

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Air emissions of a

1. Nitroge
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9. Any one
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The owner and/or Ameredev II, LLC

If you have any q and want your co submit your comr

New Mexico Envir Air Quality Bureau Technical Service 525 Camino de lo Santa Fe, New Me Phone (505) 476-4 Fax (505) 476-437 Other comments a

Please refer to the this notice along permit application

Este es un aviso d de Nuevo México área. Si usted des Calidad de Aire al

Notice of Non-Disc NMED does not di sex in the adminis regulations. NMEI nquiries concernir including Title VI Rehabilitation Act Amendments of 1 Amendments of 19 discrimination prog Discrimination Coo Suite N4050, P nd.coordinator@sta respect to a NME Coordinator https://www.env.nm. discrimination

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MARK MARTELLI
FLATROCK ENGINEERING & ENVIRON.
9341 E. LAKE HIGHLANDS DR.
DALLAS, TX 75218

NMED Exhibit 1

13) All Calculations

Show all calculations used to determine the total VOC allowable emission rate from all Storage Vessels. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula.

Storage Vessel Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate Storage Vessel flashing emissions, accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. Refer to Startup, Shutdown, and Scheduled Maintenance (SSM) in Permitting Section Guidance and Procedures (http://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions on calculating SSM emissions.

Significant Figures:
A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.
B. At least 5 significant figures shall be retained in all intermediate calculations.
C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

(1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
(2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
(3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
(4) The final result of the calculation shall be expressed in the units of the standard.

Methods of Reducing Emissions: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all methods of reducing emissions and list each pollutant reduced by the method regardless of whether the applicant takes credit for the reduction in emissions or not. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. This information is necessary to determine if federally enforceable conditions are necessary for the method of reducing emissions, and/or if the method produces its own regulated pollutants or increases emission rates of other pollutants.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Summary of Criteria Air Pollutant and H_2S Emissions

Equipment	Unit ID	NOx		CO		VOC[1]		SO_2		PM		H_2S	
		lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
0.75-mmBtu/hr Heated Separator	HEAT-1	0.07	0.32	0.06	0.27	<0.01	0.02	<0.01	<0.01	0.01	0.02	-	-
0.75-mmBtu/hr Heated Separator	HEAT-2	0.07	0.32	0.06	0.27	<0.01	0.02	<0.01	<0.01	0.01	0.02	-	-
Six (6) 500-bbl Crude Oil Storage Tanks	TK-1 - TK-6	-	-	-	-	*	*	-	-	-	-	-	-
Six (6) 500-bbl Produced Water Storage Tanks	TK-7 - TK-12	-	-	-	-	*	*	-	-	-	-	-	-
One (1) 1,000-bbl Gunbarrel Storage Tank	TK-13	-	-	-	-	*	*	-	-			-	-
One (1) 750-bbl Skim Tank	TK-14	-	-	-	-	*	*	-	-			-	-
Crude Oil Truck Loading	LOAD-1	-	-	-	-	39.09	51.03	-	-	-	-	-	-
Standard Flare	FL-1	0.53	0.63	2.40	2.84	7.39	7.26	<0.01	<0.01	<0.01	<0.01	-	-
Fugitive Emissions	FUG-1	-	-	-	-	2.80	12.24	-	-	-	-	-	-
Planned Maintenance, Startup, Shutdown (MSS) Activities	MSS-1	-	-	-	-	93.61	0.61	-	-	-	-	-	-
	Total =	**0.67**	**1.28**	**2.52**	**3.38**	**142.89**	**71.17**	**<0.01**	**<0.01**	**0.01**	**0.05**	**-**	**-**

**Crude oil and produced water storage tanks' emissions are routed to and reported under FL-1.*

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Summary of Hazardous Air Pollutants

Equipment	Unit ID	Estimated Emissions (lb/hr)										
		Acetalde-hyde	Acrolein	Benzene	Ethyl-benzene	Formalde-hyde	Methanol	n-Hexane	Toluene	Xylenes	Other HAP	Total HAP
0.75-mmBtu/hr Heated Separator	HEAT-1	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01
0.75-mmBtu/hr Heated Separator	HEAT-2	-	-	<0.01	-	<0.01	-	<0.01	<0.01	-	<0.01	<0.01
Six (6) 500-bbl Crude Oil Storage Tanks	TK-1 - TK-6	-	-	*	*	-	-	*	*	*	*	*
Six (6) 500-bbl Produced Water Storage Tanks	TK-7 - TK-12	-	-	*	*	-	-	*	*	*	*	*
One (1) 1,000-bbl Gunbarrel Storage Tank	TK-13	-	-	*	*	-	-	*	*	*	*	*
One (1) 750-bbl Skim Tank	TK-14	-	-	*	*	-	-	*	*	*	*	*
Crude Oil Truck Loading	LOAD-1	-	-	0.11	0.01	-	-	0.92	0.24	0.15	0.06	1.49
Standard Flare	FL-1	-	-	0.06	0.02	-	-	0.32	0.08	0.04	<0.01	0.52
Fugitive Emissions	FUG-1	-	-	0.02	0.03	-	-	0.08	0.06	0.08	<0.01	0.26
Planned Maintenance, Startup, Shutdown (MSS) Activities	MSS-1	-	-	0.88	0.24	-	-	4.49	1.19	0.54	0.02	7.36
	Total =	**-**	**-**	**1.07**	**0.29**	**<0.01**	**-**	**5.80**	**1.58**	**0.81**	**0.08**	**9.63**

Equipment	Unit ID	Estimated Emissions (tons/yr)										
		Acetalde-hyde	Acrolein	Benzene	Ethyl-benzene	Formalde-hyde	Methanol	n-Hexane	Toluene	Xylenes	Other HAP	Total HAP
0.75-mmBtu/hr Heated Separator	HEAT-1	-	-	<0.01	-	<0.01	-	0.01	<0.01	-	<0.01	0.01
0.75-mmBtu/hr Heated Separator	HEAT-2	-	-	<0.01	-	<0.01	-	0.01	<0.01	-	<0.01	0.01
Six (6) 500-bbl Crude Oil Storage Tanks	TK-1 - TK-6	-	-	*	*	-	-	*	*	*	*	*
Six (6) 500-bbl Produced Water Storage Tanks	TK-7 - TK-12	-	-	*	*	-	-	*	*	*	*	*
One (1) 1,000-bbl Gunbarrel Storage Tank	TK-13	-	-	*	*	-	-	*	*	*	*	*
One (1) 750-bbl Skim Tank	TK-14	-	-	*	*	-	-	*	*	*	*	*
Crude Oil Truck Loading	LOAD-1	-	-	0.15	0.01	-	-	1.20	0.31	0.19	0.08	1.94
Standard Flare	FL-1	-	-	0.02	0.03	-	-	0.41	0.05	0.02	0.02	0.55
Fugitive Emissions	FUG-1	-	-	0.07	0.13	-	-	0.34	0.26	0.35	<0.01	1.15
Planned Maintenance, Startup, Shutdown (MSS) Activities	MSS-1	-	-	0.01	<0.01	-	-	0.03	0.01	<0.01	<0.01	0.05
	Total =	**-**	**-**	**0.25**	**0.17**	**<0.01**	**-**	**1.99**	**0.62**	**0.57**	**0.10**	**3.70**

**Crude oil and produced water storage tanks' emissions are routed to and reported under FL-1.*

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Heater Emissions Calculations - Criteria Air Pollutants

Equipment Information

Unit ID:	HEAT-1	HEAT-2
Description:	Heater Treater	Heater Treater
Combustor Type:	Uncontrolled	Uncontrolled
Burner Design (mmBtu/hr):	0.75	0.75
Annual Fuel Use (mmscf)	5.28	5.28
Fuel HHV (Btu/scf):	1,243	1,243
Annual Operating Hours:	8,760	8,760

Criteria Air Pollutant Emissions

Unit ID:	HEAT-1		HEAT-2	
Pollutant	**lb/hr**	**tons/yr**	**lb/hr**	**tons/yr**
NOx	0.07	0.32	0.07	0.32
CO	0.06	0.27	0.06	0.27
VOC	<0.01	0.02	<0.01	0.02
SO_2	<0.01	<0.01	<0.01	<0.01
$PM_{10/2.5}$	<0.01	0.02	<0.01	0.02
PM_{COND}	<0.01	0.01	<0.01	0.01
PM_{TOT}	0.01	0.02	0.01	0.02

AP-42 Emission Factors for Units <100 mmBtu/hr (lb/mmBtu)[1, 2]

	Uncontrolled
Pollutant	**1.4-1, -2 (7/98)**
NOx	9.80E-02
CO	8.24E-02
VOC	5.39E-03
SO_2	5.88E-04
$PM_{10/2.5}$	5.59E-03
PM_{COND}	1.86E-03
PM_{TOT}	7.45E-03

Notes:

1) To account for variation in fuel higher heating value (HHV), published AP-42 factors have been converted to lb/mmBtu by dividing by AP-42 average HHV of 1,020 Btu/scf.

2) All PM (total, condensable and filterable) is assumed to be <1 micrometer in diameter. Total PM is the sum of filterable PM and condensable PM.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Heater Emissions Calculations - Hazardous Air Pollutants

Equipment Information

Unit ID:	HEAT-1	HEAT-2
Description:	Heater Treater	Heater Treater
Combustor Type:	Uncontrolled	Uncontrolled
Burner Design (mmBtu/hr):	0.75	0.75
Annual Fuel Use (mmscf)	5.28	5.28
Fuel HHV (Btu/scf):	1,243	1,243
Annual Operating Hours:	8,760	8,760

Hazardous Air Pollutant Emissions

Unit ID:	HEAT-1		HEAT-2	
Pollutant	**lb/hr**	**tons/yr**	**lb/hr**	**tons/yr**
Benzene	<0.01	<0.01	<0.01	<0.01
Formaldehyde	<0.01	<0.01	<0.01	<0.01
n-Hexane	<0.01	0.01	<0.01	0.01
Toluene	<0.01	<0.01	<0.01	<0.01
Other HAP	<0.01	<0.01	<0.01	<0.01
Total HAP =	**<0.01**	**0.01**	**<0.01**	**0.01**

AP-42 Emission Factors (lb/mmBtu)[1]

Pollutant	1.4-3 (7/98)
Benzene	2.06E-06
Formaldehyde	7.35E-05
n-Hexane	1.76E-03
Toluene	3.33E-06
Other HAP	1.86E-06

Notes:

1) To account for variation in fuel higher heating value (HHV), published AP-42 factors have been converted to lb/mmBtu by dividing by AP-42 average HHV of 1,020 Btu/scf.

2) Published AP-42 emission factors may be converted to other heating values by multiplying the given emission factor by the ratio of the specified heating value to the average heating value.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Tank Emissions Calculations - Criteria Air Pollutants

Equipment Information

Unit ID:	TK-1 - TK-6	TK-7 - TK-12	TK-13	TK-14
Contents[1]:	Crude Oil	Produced Water	Curde Oil (Gunbarrel)	Crude Oil (Skim Tank)
Number of Tanks:	6	6	1	1
Modeled Tank Color:	Gray/Light	Gray/Medium	Gray/Medium	Gray/Medium
Capacity (bbl):	500	500	1,000	750
Capacity (gal):	21,000	21,000	42,000	31,500
Total:				
Annual Throughput (bbl/yr):	730,000	730,000	730,000	730,000
Annual Throughput (gal/yr):	30,660,000	30,660,000	30,660,000	30,660,000
Daily Throughput (bbl/d):	2,000.00	2,000.00	2,000.00	2,000.00
Per Tank:				
Annual Throughput (bbl/yr):	121,667	121,667	730,000	730,000
Annual Throughput (gal/yr):	5,110,000	5,110,000	30,660,000	30,660,000
Daily Throughput (bbl/d):	333.33	333.33	2,000.00	2,000.00
TANKS 4.0.9d Working Losses (lb/yr):	10,597.83	200.69	45,175.53	43,364.57
TANKS 4.0.9d Breathing Losses (lb/yr):	3,051.37	67.33	3,628.13	3,441.06
Control Type:	FL-1	FL-1	FL-1	FL-1
Capture Efficiency:	100%	100%	100%	100%
Control Efficiency	98%	98%	98%	98%

Uncontrolled VOC Emissions[2]

Unit ID:	TK-1 - TK-6		TK-7 - TK-12		TK-13		TK-14	
Emissions	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**
Working	7.26	31.79	0.14	0.60	5.16	22.59	4.95	21.68
Breathing	2.09	9.15	0.05	0.20	0.41	1.81	0.39	1.72
Flashing	48.46	212.24	-	-	1.05	4.58	-	-
Total =	**57.80**	**253.19**	**0.18**	**0.80**	**6.62**	**28.98**	**5.34**	**23.40**
Per Tank =	**9.63**	**42.20**	**0.03**	**0.13**	**6.62**	**28.98**	**5.34**	**23.40**

Controlled VOC Emissions

Unit ID:	TK-1 - TK-6		TK-7 - TK-12		TK-13		TK-14	
Emissions	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**	**Avg. lb/hr[3]**	**tons/yr**
Working	0.15	0.64	<0.01	0.01	0.10	0.45	0.10	0.43
Breathing	0.04	0.18	<0.01	<0.01	0.01	0.04	0.01	0.03
Flashing	0.97	4.24	-	-	0.02	0.09	-	-
Total =	**1.16**	**5.06**	**<0.01**	**0.02**	**0.13**	**0.58**	**0.11**	**0.47**
Per Tank =	**0.19**	**0.84**	**<0.01**	**<0.01**	**0.13**	**0.58**	**0.11**	**0.47**

Notes:
1) Produced water is conservatively assumed to contain 1% crude oil modeled as Gasoline RVP 7.
2) Working and breathing calculated using EPA TANKS 4.0.9d. Flashing calculated with process simulation software. Produced Water flashing represented at the Gunbarrel Tank; Crude Oil flashing represented at the Crude Oil Tanks.
3) Due to variable short-term emission rates, average lb/hr based on annual emissions shown for reference only.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Tank Emissions Calculations - Hydrogen Sulfide and Hazardous Air Pollutants

Equipment Information

Unit ID:	TK-1 - TK-6	TK-7 - TK-12	TK-13	TK-14
Contents:	Crude Oil	Produced Water	Curde Oil (Gunbarrel)	Crude Oil (Skim Tank)
Number of Tanks:	6	6	1	1
Capacity (bbl):	500	500	1,000	750
Capacity (gal):	21,000	21,000	42,000	31,500
Total:				
Annual Throughput (bbl/yr):	730,000	730,000	730,000	730,000
Annual Throughput (gal/yr):	30,660,000	30,660,000	30,660,000	30,660,000
Daily Throughput (bbl/d):	2,000.00	2,000.00	2,000.00	2,000.00
Per Tank:				
Annual Throughput (bbl/yr):	121,667	121,667	730,000	730,000
Annual Throughput (gal/yr):	5,110,000	5,110,000	30,660,000	30,660,000
Daily Throughput (bbl/d):	333.33	333.33	2,000.00	2,000.00
Control Type:	FL-1	FL-1	FL-1	FL-1
Capture Efficiency:	100%	100%	100%	100%
Control Efficiency	98%	98%	98%	98%
Tank Vapor VOC% [3]:	78.16%	78.16%	78.16%	78.16%

Uncontrolled Hydrogen Sulfide and Hazardous Air Pollutant Emissions[1]

Unit ID:	TK-1 - TK-6		TK-7 - TK-12		TK-13		TK-14	
Pollutant	**Avg. lb/hr[2]**	**tons/yr**	**Avg. lb/hr[2]**	**tons/yr**	**Avg. lb/hr[4]**	**tons/yr**	**Avg. lb/hr[2]**	**tons/yr**
Total Tank Vapors =	**73.96**	**323.93**	**0.23**	**1.03**	**8.47**	**37.08**	**6.84**	**29.94**
Total VOC =	**57.80**	**253.19**	**0.18**	**0.80**	**6.62**	**28.98**	**5.34**	**23.40**
Hydrogen Sulfide	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
n-Hexane	1.36	5.95	<0.01	0.02	0.16	0.68	0.13	0.55
Benzene	0.17	0.73	<0.01	<0.01	0.02	0.08	0.02	0.07
Toluene	0.36	1.56	<0.01	<0.01	0.04	0.18	0.03	0.14
Ethylbenzene	0.01	0.05	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Xylenes	0.22	0.95	<0.01	<0.01	0.02	0.11	0.02	0.09
2,2,4-Trimethylpentane	0.09	0.40	<0.01	<0.01	0.01	0.05	0.01	0.04
Total HAP =	**2.20**	**9.65**	**0.01**	**0.03**	**0.25**	**1.10**	**0.20**	**0.89**
Per Tank =	**0.37**	**1.61**	**<0.01**	**0.01**	**0.04**	**0.18**	**0.20**	**0.89**

Estimated H_2S and HAP Composition (% by Weight)

Pollutant	Wt%
Hydrogen Sulfide	0.0000%
n-Hexane	1.8360%
Benzene	0.2265%
Toluene	0.4817%
Ethylbenzene	0.0161%
Xylenes	0.2938%
2,2,4-Trimethylpentane	0.1239%
Total HAP =	**2.9781%**

Notes:
1) VOC emissions calculated in Criteria Air Pollutant calculations.
2) Due to variable short-term emission rates, average lb/hr based on annual emissions shown for reference only.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Flashing Emissions - Process Simulation

Aspen HYSYS Results[1]

Pollutant	Weight Fraction	2000.00 bbl/day Flash Stream		2000.00 bbl/day VRT Stream	
		lb/hr	TPY	lb/hr	TPY
Water	0.0186	0.94	4.10	7.57	33.13
Hydrogen Sulfide	0.0000	0.00	0.00	0.00	0.00
Carbon Dioxide	0.0000	0.00	0.00	0.00	0.00
Nitrogen	0.0000	0.00	0.00	0.00	0.00
Helium	0.0000	0.00	0.00	0.00	0.00
Oxygen	0.0000	0.00	0.00	0.00	0.00
Methane	0.0000	0.00	0.00	0.36	1.56
Ethane	0.0173	0.87	3.81	6.78	29.71
Propane	0.1271	6.39	27.98	42.16	184.67
Isobutane	0.0507	2.55	11.16	15.96	69.92
n-Butane	0.1922	9.66	42.32	59.87	262.24
Isopentane	0.0965	4.85	21.25	29.54	129.39
n-Pentane	0.1127	5.66	24.80	34.39	150.63
Cyclopentane	0.0000	0.00	0.00	0.00	0.00
n-Hexane	0.0470	2.36	10.34	14.26	62.45
Cyclohexane	0.0000	0.00	0.00	0.00	0.00
Other Hexanes	0.2001	10.06	44.04	60.82	266.39
Heptanes	0.0739	3.72	16.27	22.42	98.21
Benzene	0.0093	0.47	2.04	2.81	12.33
Toluene	0.0125	0.63	2.75	3.79	16.61
Ethylbenzene	0.0026	0.13	0.56	0.78	3.40
Xylenes	0.0058	0.29	1.27	1.75	7.68
Octanes	0.0210	1.06	4.62	6.38	27.94
2,2,4-Trimethylpentane	0.0000	0.00	0.00	0.00	0.00
Nonanes	0.0074	0.37	1.63	2.25	9.85
Decanes+	0.0054	0.27	1.18	1.64	7.19
Total =	**1.0000**	**50.26**	**220.14**	**313.54**	**1,373.30**
Total VOC =	**0.9641**	**48.46**	**212.24**	**298.83**	**1,308.89**
Total HAP =	**0.0771**	**3.88**	**16.97**	**23.39**	**102.46**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Flashing Emissions - Process Simulation

Aspen HYSYS Results[1] - Produced Water (1% Crude Oil) Flash Calculation

Pollutant	Weight Fraction	2000.00 bbl/day PW Flash Stream	
		lb/hr	TPY
Water	0.0992	0.12	0.54
Hydrogen Sulfide	0.0000	0.00	0.00
Carbon Dioxide	0.0000	0.00	0.00
Nitrogen	0.0000	0.00	0.00
Helium	0.0000	0.00	0.00
Oxygen	0.0000	0.00	0.00
Methane	0.0064	0.01	0.04
Ethane	0.0535	0.07	0.29
Propane	0.1383	0.17	0.75
Isobutane	0.0137	0.02	0.07
n-Butane	0.1448	0.18	0.79
Isopentane	0.0373	0.05	0.20
n-Pentane	0.0965	0.12	0.53
Cyclopentane	0.0000	0.00	0.00
n-Hexane	0.0384	0.05	0.21
Cyclohexane	0.0000	0.00	0.00
Other Hexanes	0.2749	0.34	1.50
Heptanes	0.0469	0.06	0.26
Benzene	0.0125	0.02	0.07
Toluene	0.0167	0.02	0.09
Ethylbenzene	0.0034	<0.01	0.02
Xylenes	0.0077	0.01	0.04
Octanes	0.0084	0.01	0.05
2,2,4-Trimethylpentane	0.0000	0.00	0.00
Nonanes	0.0014	<0.01	0.01
Decanes+	0.0001	<0.01	<0.01
Total =	**1.0000**	**1.24**	**5.45**
Total VOC =	**0.8408**	**1.05**	**4.58**
Total HAP =	**0.0788**	**0.10**	**0.43**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Truck Loading Emissions Calculations - Criteria and Hazardous Air Pollutants

Equipment Information

Unit ID:	**LOAD-1**
Contents Loaded:	Crude Oil
Fill Method:	Submerged
Type of Service:	Dedicated
Mode of Operation:	Normal
Saturation Factor:	0.6
Annual Throughput (1000 gal):	30,660.000
Short-Term Emission Factor (lb/1000 gal)[1]:	6.25
Annual Emission Factor (lb/1000 gal)[1]:	4.26
Maximum Loading Rate (gal/hr):	8,000
Control Type:	N/A
Vapor Capture Efficiency:	0.00%
Captured Vapors Routed to:	N/A

Annual Loading Loss (lb/1000 gal) = 12.46 *S*P_{AVG}*M/T, where:

P = True vapor pressure of liquid loaded (avg. psia)	4.4024
M = Molecular weight of vapor (lb/lb-mol)	68
T = Temperature of bulk liquid loaded (average °F)	65.52
T = Temperature of bulk liquid loaded (°F + 460 = °R)	525.52

Short-term Loading Loss (lb/1000 gal) = 12.46 *S*P_{MAX}*M/T, where:

P = True vapor pressure of liquid loaded (max. psia)	6.4631
M = Molecular weight of vapor (lb/lb-mol)	68
T = Temperature of bulk liquid loaded (average °F)	65.52
T = Temperature of bulk liquid loaded (°F + 460 = °R)	525.52

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Truck Loading Emissions Calculations - Criteria and Hazardous Air Pollutants (cont.)

Uncontrolled VOC and HAP Emissions[3]

Unit ID: **LOAD-1**

Pollutant	Weight %	lb/hr	tons/yr
Loading Losses from Organic Compounds =		**50.02**	**65.29**
Component	**Flash Gas Speciation**	-	-
Water	0.00%	0.00	0.00
Carbon Dioxide	1.24%	0.62	0.81
Nitrogen	0.10%	0.05	0.06
Helium	0.00%	0.00	0.00
Oxygen	0.00%	0.00	0.00
Methane	2.51%	1.26	1.64
Ethane	17.99%	9.00	11.75
Propane	29.10%	14.56	19.00
Isobutane	9.73%	4.87	6.35
n-Butane	19.24%	9.62	12.56
Isopentane	6.62%	3.31	4.32
n-Pentane	4.66%	2.33	3.04
n-Hexane	1.84%	0.92	1.20
Other Hexanes	3.09%	1.54	2.01
Heptanes	1.68%	0.84	1.10
Benzene	0.23%	0.11	0.15
Toluene	0.48%	0.24	0.31
Ethylbenzene	0.02%	0.01	0.01
Xylenes	0.29%	0.15	0.19
Octanes	0.95%	0.48	0.62
2,2,4-Trimethylpentane	0.12%	0.06	0.08
Nonanes	0.11%	0.05	0.07
Decanes+	0.00%	<0.01	<0.01
Total =	**100.00%**	**50.02**	**65.29**
Total VOC =	**78.16%**	**39.09**	**51.03**
Total HAPs =	**2.98%**	**1.49**	**1.94**
Total CO2e =	**64.04%**	**32.03**	**41.81**

Notes:
1) AP-42 5.2-4 Eq.1: Loading Loss (lb/1000 gal) = 12.46 *S*P*M/T. Properties based on EPA TANKS 4.0.9d.
2) Loading Loss speciated based on flash analysis data.
3) Due to variable short-term emission rates, maximum lb/hr rate shown for reference only.

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Flare Emissions Calculations - Summary of Emissions

Unit ID	Pollutant	Emission Factors [1]	Emissions	
			lb/hr	tons/yr
FL-1	NOx	-	0.53	0.63
(Flare + Pilot)	CO	-	2.40	2.84
	VOC	-	7.39	7.26
	PM_{TOT}		<0.01	<0.01
	H_2S	-	0.00	0.00
	SO_2	-	<0.01	<0.01
FL-1	NOx	0.068	0.53	0.62
(Flare Stream)	CO	0.31	2.39	2.83
	VOC	Mass Balance [2]	7.39	7.26
	H_2S	Mass Balance [2]	0.00	0.00
	SO_2	Stoichiometric	0.00	0.00
FL-1	NOx	100	<0.01	0.01
(Pilot Gas)	CO	84	<0.01	0.01
	VOC	5.5	<0.01	<0.01
	PM_{TOT}	7.6	<0.01	<0.01
	SO_2	Mass Balance	<0.01	<0.01

Flare Stream [2]:	369.44	VOC to flare from all sources (lb/hr)[3]
	3,028	Flare Stream Heat Content (Btu/ft^3)
	2,086,196	Flare Stream Avg. Net Btu Value (Btu/hr)
	7,721,732	Flare Stream Max Net Btu Value (Btu/hr)
	8,760	Flare Hours/Yr
	98.00%	Flare Control Efficiency
	98.00%	Propane Control Efficiency
Pilot:	1,243	Pilot Stream Heat Content (Btu/ft^3) - Fuel Gas
	25	Pilot Gas Flow Rate (scfh)
	0.03	Pilot Gas Capacity (mmBtu/hr)
	8,760	Pilot Hours/Yr

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Flare Emissions Calculations - Summary of Emissions

Velocity Calculation (40 CFR §60.18)	
Gas Tip Diameter (in):	6.00
scf/day:	61,194.07
scf/hr:	2,549.75
scf/s:	0.71
Tip Area (ft^2):	0.20
Velocity (fps):	**3.61**
Compliant (YES/NO):	**YES**

Notes:

1) Flare NOx and CO emission factors (lb/mmBtu): AP-42 Chapter 13.5: Table 13.5-1 & 13.5-2 (12/16). Pilot NOx, CO and VOC emission factors (lb/mmscf): AP-42 Table 1.4-1, -2 (7/98) SO_2: Mass balance assuming fuel sulfur content of 1 grain sulfur per 100 standard cubic feet of fuel.

2) Flare stream includes crude oil tank vapors, as well as purge gas used to prevent air impingement in the process header where there is little or no process flow going to the flare.

3) VOC and H_2S emissions estimated based on all streams routed to flare and 98% efficiency (99% for propane).

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Flare Emissions Calculations - Flare Stream Analysis

		Purge Gas		Crude Oil Storage Tanks, Skim Tank, and Gunbarrel Tank Working, Breathing + Flashing Emissions TK-1 - TK-6, TK-13, TK-14			Produced Water Storage Tanks Working, Breathing + Flashing Emissions TK-7 - TK-12			VRT Stream - During VRU Downtime		Total Streams Burned in Flare					Component Net Heating Value	Max Net Btu Value Rate	Average Net Btu Value Rate
		30	scfh		89.26	390.95		0.23	1.03	Downtime (hr/yr):	438	Uncontrolled Emissions			Controlled Emissions				
Components	Mol Wt	Mole%	lb/hr	Weight%	lb/hr	TPY	Weight%	lb/hr	TPY	lb/hr	TPY	lb/hr	tons/yr	scfh	lb/hr	tons/yr	Btu/scf	Btu/hr	Btu/hr
Water	18.015	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0	0
Hydrogen Sulfide	34.076	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	637.11	0	0
Carbon Dioxide	44.010	0.231%	0.01	1.237%	1.10	4.84	1.237%	<0.01	0.01	0.00	0.00	1.12	4.89	10	1.12	4.89	0.00	0	0
Nitrogen	28.013	1.358%	0.03	0.096%	0.09	0.38	0.096%	<0.01	<0.01	0.00	0.00	0.12	0.51	2	0.12	0.51	0.00	0	0
Helium	4.003	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	0.08	0	0.00	0.08	0.00	0	0
Oxygen	15.999	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	1.49	0	0.00	1.49	0.00	0	0
Methane	16.042	71.391%	0.91	2.512%	2.24	9.82	2.512%	0.01	0.03	0.36	0.08	3.51	23.05	83	0.07	0.46	919.00	76,302	114,368
Ethane	30.069	12.045%	0.29	17.993%	16.06	70.35	17.993%	0.04	0.19	6.78	1.49	23.17	75.28	292	0.46	1.51	1,619.00	473,354	351,107
Propane	44.096	7.733%	0.27	29.105%	25.98	113.79	29.105%	0.07	0.30	42.16	9.23	68.48	128.38	589	1.37	2.57	2,315.00	1,363,967	583,800
Isobutane	58.122	1.103%	0.05	9.728%	8.68	38.03	9.728%	0.02	0.10	15.96	3.50	24.72	44.82	161	0.49	0.90	3,000.00	484,094	200,403
n-Butane	58.122	2.983%	0.14	19.235%	17.17	75.20	19.235%	0.05	0.20	59.87	13.11	77.22	83.53	504	1.54	1.67	3,011.00	1,517,793	374,834
Isopentane	72.149	0.841%	0.05	6.624%	5.91	25.90	6.624%	0.02	0.07	29.54	6.47	35.52	26.18	187	0.71	0.52	3,699.00	690,877	116,243
n-Pentane	72.149	0.868%	0.05	4.659%	4.16	18.21	4.659%	0.01	0.05	34.39	7.53	38.61	21.60	203	0.77	0.43	3,707.00	752,628	96,141
Cyclopentane	70.100	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	3,512.10	0	0
n-Hexane	86.175	0.214%	0.01	1.836%	1.64	7.18	1.836%	<0.01	0.02	14.26	3.12	15.92	20.58	70	0.32	0.41	4,404.00	308,595	91,104
Cyclohexane	84.160	0.000%	0.00	0.000%	0.00	0.00	0.000%	0.00	0.00	0.00	0.00	0.00	4.91	0	0.00	0.10	4,179.70	0	21,124
Other Hexanes	86.175	0.924%	0.06	3.085%	2.75	12.06	3.085%	0.01	0.03	60.82	13.32	63.64	12.99	280	1.27	0.26	4,404.00	1,234,009	57,485
Heptanes (as n-Heptane)	100.202	0.099%	0.01	1.684%	1.50	6.58	1.684%	<0.01	0.02	22.42	4.91	23.94	7.46	91	0.48	0.15	5,100.00	462,228	32,910
Benzene	78.114	0.048%	<0.01	0.226%	0.20	0.89	0.226%	<0.01	<0.01	2.81	0.62	3.02	1.07	15	0.06	0.02	3,590.90	52,676	4,263
Toluene	92.141	0.041%	<0.01	0.482%	0.43	1.88	0.482%	<0.01	<0.01	3.79	0.83	4.23	2.29	17	0.08	0.05	4,273.60	74,378	9,180
Ethylbenzene	106.167	0.002%	<0.01	0.016%	0.01	0.06	0.016%	<0.01	<0.01	0.78	0.17	0.79	1.46	3	0.02	0.03	4,970.50	14,036	5,926
Xylenes	106.500	0.010%	<0.01	0.294%	0.26	1.15	0.294%	<0.01	<0.01	1.75	0.38	2.02	1.16	7	0.04	0.02	4,957.10	35,607	4,659
Octanes (as n-Octane)	114.229	0.069%	0.01	0.951%	0.85	3.72	0.951%	<0.01	0.01	6.38	1.40	7.24	4.25	24	0.14	0.08	4,273.60	102,733	13,767
2,2,4-Trimethylpentane	114.230	0.039%	<0.01	0.124%	0.11	0.48	0.124%	<0.01	<0.01	0.00	0.00	0.11	0.86	<1	<0.01	0.02	4,943.70	1,879	3,226
Nonanes (as n-Nonane)	128.255	0.000%	0.00	0.108%	0.10	0.42	0.108%	<0.01	<0.01	2.25	0.49	2.35	0.92	7	0.05	0.02	6,493.00	45,054	4,024
Decanes+ (as n-Decane)	142.282	0.000%	0.00	0.003%	<0.01	0.01	0.003%	<0.01	<0.01	1.64	0.36	1.64	0.37	4	0.03	0.01	7,190.00	31,522	1,530
	Total =	100.000%	1.89	100.000%	89.26	390.95	100.000%	0.23	1.03	305.97	67.01	397.35	468.11	2,550	9.15	16.18	Btu/hr	7,721,732	2,086,196
	Total VOC =	14.975%	0.66	78.161%	69.77	305.57	78.161%	0.18	0.80	298.83	65.44	369.44	362.82	-	7.39	7.26	Heat Value (Btu/scf)	3,028	
											Total HAP =	33.32	31.66	-	0.52	0.55			
											Total H_2S =	0.00	0.00	-	0.00	0.00			
													MW (Stream) =	59.13					

Note: VRT stream routed to the flare during VRU downtime (5%).

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Fugitive Emissions Calculations

Equipment Information

Source Type/Service	Number of Sources	Em. Factor (lb/hr/source)[1]	LDAR?	Control Efficiency	TOC lb/hr	TOC tons/yr	VOC Wt %
Valves - Gas	39	9.92E-03	No	0.00%	0.387	1.695	35.537%
Flanges - Gas	0	8.60E-04	No	0.00%	0.000	0.000	35.537%
Connectors - Gas	72	4.41E-04	No	0.00%	0.032	0.139	35.537%
Other - Gas	0	1.94E-02	No	0.00%	0.000	0.000	35.537%
Open-Ended Lines - Gas	3	4.41E-03	No	0.00%	0.013	0.058	35.537%
Pump Seals - Gas	0	5.29E-03	No	0.00%	0.000	0.000	35.537%
				Total TOC (Gas Components) =	**0.432**	**1.892**	-
Valves - Light Oil	154	5.51E-03	No	0.00%	0.849	3.718	99.941%
Flanges - Light Oil	28	2.43E-04	No	0.00%	0.007	0.030	99.941%
Connectors - Light Oil	308	4.63E-04	No	0.00%	0.143	0.625	99.941%
Other - Light Oil	70	1.65E-02	No	0.00%	1.157	5.069	99.941%
Open-Ended Lines - Light Oil	28	3.09E-03	No	0.00%	0.086	0.379	99.941%
Pump Seals - Light Oil	14	2.87E-02	No	0.00%	0.401	1.757	99.941%
				Total TOC (Liquid Components) =	**2.643**	**11.577**	-

Proposed Emissions

Source Type/Service	VOC		CH_4		CO_2	
	lb/hr	tons/yr	lb/hr	tons/yr	lb/hr	tons/yr
Valves - Gas	0.14	0.60	0.19	0.83	<0.01	0.01
Flanges - Gas	0.00	0.00	0.00	0.00	0.00	0.00
Connectors - Gas	0.01	0.05	0.02	0.07	<0.01	<0.01
Other - Gas	0.00	0.00	0.00	0.00	0.00	0.00
Open-Ended Lines - Gas	<0.01	0.02	0.01	0.03	<0.01	<0.01
Pump Seals - Gas	0.00	0.00	0.00	0.00	0.00	0.00
Total (Gas Components) =	**0.15**	**0.67**	**0.21**	**0.93**	**<0.01**	**0.01**
Valves - Light Oil	0.85	3.72	<0.01	<0.01	0.00	0.00
Flanges - Light Oil	0.01	0.03	<0.01	<0.01	0.00	0.00
Connectors - Light Oil	0.14	0.62	<0.01	<0.01	0.00	0.00
Other - Light Oil	1.16	5.07	<0.01	<0.01	0.00	0.00
Open-Ended Lines - Light Oil	0.09	0.38	<0.01	<0.01	0.00	0.00
Pump Seals - Light Oil	0.40	1.76	<0.01	<0.01	0.00	0.00
Total (Liquid Components) =	**2.64**	**11.57**	**<0.01**	**<0.01**	**0.00**	**0.00**
Total (All Components) =	**2.80**	**12.24**	**0.21**	**0.93**	**<0.01**	**0.01**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Fugitive Emissions Calculations

Proposed Hazardous Air Pollutant (HAP) Emissions (lb/hr)

Source Type/Service	n-Hexane	Benzene	Toluene	Ethylbenzene	Xylenes	2,2,4-Trimeth.	Total
Valves - Gas	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Flanges - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Connectors - Gas	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open-Ended Lines - Gas	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pump Seals - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (Gas Components) =	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**0.01**
Valves - Light Oil	0.02	0.01	0.02	0.01	0.03	0.00	0.08
Flanges - Light Oil	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	<0.01
Connectors - Light Oil	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.01
Other - Light Oil	0.03	0.01	0.03	0.01	0.03	0.00	0.11
Open-Ended Lines - Light Oil	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	0.01
Pump Seals - Light Oil	0.01	<0.01	0.01	<0.01	0.01	0.00	0.04
Total (Liquid Components) =	**0.07**	**0.02**	**0.06**	**0.03**	**0.08**	**0.00**	**0.26**
Total (All Components) =	**0.08**	**0.02**	**0.06**	**0.03**	**0.08**	**<0.01**	**0.26**

Proposed Hazardous Air Pollutant (HAP) Emissions (tons/yr)

Source Type/Service	n-Hexane	Benzene	Toluene	Ethylbenzene	Xylenes	2,2,4-Trimeth.	Total
Valves - Gas	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Flanges - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Connectors - Gas	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Other - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open-Ended Lines - Gas	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pump Seals - Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (Gas Components) =	**0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**<0.01**	**0.03**
Valves - Light Oil	0.10	0.02	0.08	0.04	0.11	0.00	0.36
Flanges - Light Oil	<0.01	<0.01	<0.01	<0.01	<0.01	0.00	<0.01
Connectors - Light Oil	0.02	<0.01	0.01	0.01	0.02	0.00	0.06
Other - Light Oil	0.14	0.03	0.11	0.06	0.15	0.00	0.49
Open-Ended Lines - Light Oil	0.01	<0.01	0.01	<0.01	0.01	0.00	0.04
Pump Seals - Light Oil	0.05	0.01	0.04	0.02	0.05	0.00	0.17
Total (Liquid Components) =	**0.32**	**0.07**	**0.25**	**0.13**	**0.35**	**0.00**	**1.12**
Total (All Components) =	**0.34**	**0.07**	**0.26**	**0.13**	**0.35**	**<0.01**	**1.15**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Fugitive Emissions Calculations

Speciated Site Gas Analysis

Component	Molecular Weight	Mole %	Equiv. Wt. Basis	Weight %	HC Weight %	lb/hr	tons/yr
Water	18.015	0.000%	0.000	0.000%	-	0.00	0.00
Hydrogen Sulfide	34.082	0.000%	0.000	0.000%	-	0.00	0.00
Carbon Dioxide	44.010	0.231%	0.102	0.426%	-	<0.01	0.01
Nitrogen	28.013	1.358%	0.380	1.594%	-	0.01	0.03
Helium	4.003	0.000%	0.000	0.000%	-	0.00	0.00
Oxygen	31.999	0.000%	0.000	0.000%	-	0.00	0.00
Methane	16.042	71.391%	11.452	47.985%	48.975%	0.21	0.93
Ethane	30.069	12.045%	3.622	15.176%	15.489%	0.07	0.29
Propane	44.096	7.733%	3.410	14.287%	14.582%	0.06	0.28
i-Butane	58.122	1.103%	0.641	2.687%	2.742%	0.01	0.05
n-Butane	58.122	2.983%	1.734	7.264%	7.414%	0.03	0.14
i-Pentane	72.149	0.841%	0.606	2.541%	2.594%	0.01	0.05
n-Pentane	72.149	0.868%	0.626	2.625%	2.679%	0.01	0.05
Cyclopentane	70.100	0.000%	0.000	0.000%	0.000%	0.00	0.00
n-Hexane	86.175	0.214%	0.184	0.773%	0.789%	<0.01	0.01
Cyclohexane	84.160	0.000%	0.000	0.000%	0.000%	0.00	0.00
Other Hexanes	86.175	0.924%	0.796	3.336%	3.405%	0.01	0.06
Heptanes (as n-Heptane)	100.202	0.099%	0.100	0.417%	0.426%	<0.01	0.01
Benzene	78.114	0.048%	0.037	0.157%	0.160%	<0.01	<0.01
Toluene	92.141	0.041%	0.038	0.159%	0.162%	<0.01	<0.01
Ethylbenzene	106.167	0.002%	0.002	0.009%	0.009%	<0.01	<0.01
Xylenes	106.167	0.010%	0.011	0.046%	0.047%	<0.01	<0.01
Octanes (as n-Octane)	114.229	0.069%	0.079	0.332%	0.339%	<0.01	0.01
2,2,4-Trimethylpentane	114.230	0.039%	0.044	0.185%	0.189%	<0.01	<0.01
Nonanes (as n-Nonane)	128.255	0.000%	0.000	0.000%	0.000%	0.00	0.00
Decanes (as n-Decane)	142.282	0.000%	0.000	0.000%	0.000%	0.00	0.00
	TOTAL =	100.000%	23.867	100.000%	100.000%	0.44	1.93
		TOTAL HC =	23.384	TOTAL VOC =	35.537%	0.15	0.67
				TOTAL HAP =	1.168%	0.01	0.03

Speciated Site Liquids Analysis

Component	Molecular Weight	Mole %	Equiv. Wt. Basis	Weight %	HC Weight %	lb/hr	TPY
Water	18.015	0.000%	0.000	0.000%	-	0.00	0.00
Hydrogen Sulfide	34.082	0.000%	0.000	0.000%	-	0.00	0.00
Carbon Dioxide	44.010	0.000%	0.000	0.000%	-	0.00	0.00
Nitrogen	28.013	0.000%	0.000	0.000%	-	0.00	0.00
Helium	4.003	0.000%	0.000	0.000%	-	0.00	0.00
Oxygen	31.999	0.000%	0.000	0.000%	-	0.00	0.00
Methane	16.042	0.016%	0.003	0.002%	0.002%	<0.01	<0.01
Ethane	30.069	0.211%	0.064	0.056%	0.056%	<0.01	0.01
Propane	44.096	1.478%	0.652	0.579%	0.579%	0.02	0.07
i-Butane	58.122	0.737%	0.428	0.381%	0.381%	0.01	0.04
n-Butane	58.122	3.479%	2.022	1.797%	1.797%	0.05	0.21
i-Pentane	72.149	2.778%	2.004	1.781%	1.781%	0.05	0.21
n-Pentane	72.149	3.994%	2.882	2.562%	2.562%	0.07	0.30
Cyclopentane	70.100	0.000%	0.000	0.000%	0.000%	0.00	0.00
n-Hexane	86.175	3.621%	3.120	2.773%	2.773%	0.07	0.32
Cyclohexane	84.160	3.900%	3.282	2.917%	2.917%	0.08	0.34
Other Hexanes	86.175	5.953%	5.130	4.560%	4.560%	0.12	0.53
Heptanes (as n-Heptane)	100.202	12.735%	12.761	11.343%	11.343%	0.30	1.31
Benzene	78.114	0.872%	0.681	0.605%	0.605%	0.02	0.07
Toluene	92.141	2.674%	2.464	2.190%	2.190%	0.06	0.25
Ethylbenzene	106.167	1.214%	1.289	1.146%	1.146%	0.03	0.13
Xylenes	106.167	3.179%	3.375	3.000%	3.000%	0.08	0.35
Octanes (as n-Octane)	114.229	8.361%	9.551	8.489%	8.489%	0.22	0.98
2,2,4-Trimethylpentane	114.230	0.000%	0.000	0.000%	0.000%	0.00	0.00
Nonanes (as n-Nonane)	128.255	6.715%	8.613	7.655%	7.655%	0.20	0.89
Decanes (as n-Decane)	142.282	38.082%	54.184	48.162%	48.162%	1.27	5.58
	TOTAL =	100.000%	112.505	100.000%	100.000%	2.64	11.58
		TOTAL HC =	112.505	TOTAL VOC =	99.941%	2.64	11.57
				TOTAL HAP =	9.715%	0.26	1.12

Notes:
1) EPA-453/R-95-017 Emission Factors

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Maintenance, Startup, and Shutdown (MSS) Emission Calculations - Maintenance Events

MSS Event Information

Description	Equipment	
	Tank Degassing	PIG MSS
Number of Events per Year	4	12
Number of Events per hour [1]	0.25	1
Volume per Event, scf	2,246	160
Stream Specific Gravity	1.5171	0.7690
Air MW, lb/mol	28.96	28.96
Fuel Stream Density, lb/scf [2]	0.116	0.059
Captured/Controlled?	No	No
VOC Percentage in Gas Stream, wt%	98.182%	35.537%

Proposed Emissions[3,4]

Pollutant	Emissions					
	Tank Degassing		PIG MSS		Total Maintenance Emissions	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
VOC	63.84	0.51	3.35	0.02	67.19	0.53
Hydrogen Sulfide	0.00	0.00	0.00	0.00	0.00	0.00
Carbon Dioxide	0.00	0.00	0.04	<0.01	0.04	<0.01
Methane	0.03	<0.01	4.61	0.03	4.65	0.03
n-Hexane	3.12	0.02	0.07	<0.01	3.19	0.03
Benzene	0.61	<0.01	0.02	<0.01	0.63	0.01
Toluene	0.83	0.01	0.02	<0.01	0.85	0.01
Ethylbenzene	0.17	<0.01	<0.01	<0.01	0.17	<0.01
Xylenes	0.38	<0.01	<0.01	<0.01	0.38	<0.01
2,2,4-Trimethylpentane	0.00	0.00	0.02	<0.01	0.02	<0.01
Total HAP =	**5.11**	**0.04**	**0.13**	**<0.01**	**5.24**	**0.04**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Maintenance, Startup, and Shutdown (MSS) Emission Calculations - Maintenance Events
Residue Gas Analysis

Component	Molecular Weight	Mole %	Equiv. Wt. Basis	Weight %	HC Weight %	lb/hr	TPY
Water	18.015	0.000%	0.000	0.000%	-	0.00	0.00
Hydrogen Sulfide	34.082	0.000%	0.000	0.000%	-	0.00	0.00
Carbon Dioxide	44.010	0.231%	0.102	0.426%	-	0.04	<0.01
Nitrogen	28.013	1.358%	0.380	1.594%	-	0.15	0.01
Helium	4.003	0.000%	0.000	0.000%	-	0.00	0.00
Oxygen	31.999	0.000%	0.000	0.000%	-	0.00	0.00
Methane	16.042	71.391%	11.452	47.985%	48.975%	4.61	0.37
Ethane	30.069	12.045%	3.622	15.176%	15.489%	1.46	0.12
Propane	44.096	7.733%	3.410	14.287%	14.582%	1.37	0.11
i-Butane	58.122	1.103%	0.641	2.687%	2.742%	0.26	0.02
n-Butane	58.122	2.983%	1.734	7.264%	7.414%	0.70	0.06
i-Pentane	72.149	0.841%	0.606	2.541%	2.594%	0.24	0.02
n-Pentane	72.149	0.868%	0.626	2.625%	2.679%	0.25	0.02
Cyclopentane	70.100	0.000%	0.000	0.000%	0.000%	0.00	0.00
n-Hexane	86.175	0.214%	0.184	0.773%	0.789%	0.07	0.01
Cyclohexane	84.160	0.000%	0.000	0.000%	0.000%	0.00	0.00
Other Hexanes	86.175	0.924%	0.796	3.336%	3.405%	0.32	0.03
Heptanes (as n-Heptane)	100.202	0.099%	0.100	0.417%	0.426%	0.04	<0.01
Benzene	78.114	0.048%	0.037	0.157%	0.160%	0.02	<0.01
Toluene	92.141	0.041%	0.038	0.159%	0.162%	0.02	<0.01
Ethylbenzene	106.167	0.002%	0.002	0.009%	0.009%	<0.01	<0.01
Xylenes	106.167	0.010%	0.011	0.046%	0.047%	<0.01	<0.01
Octanes (as n-Octane)	114.229	0.069%	0.079	0.332%	0.339%	0.03	<0.01
2,2,4-Trimethylpentane	114.230	0.039%	0.044	0.185%	0.189%	0.02	<0.01
Nonanes (as n-Nonane)	128.255	0.000%	0.000	0.000%	0.000%	0.00	0.00
Decanes (as n-Decane)	142.282	0.000%	0.000	0.000%	0.000%	0.00	0.00
TOTAL =		**100.000%**	**23.867**	**100.000%**	**100.000%**	**9.61**	**0.78**
TOTAL HC =		**98.411%**	**23.384**	**97.980%**	**100.000%**	**9.42**	**0.76**
TOTAL VOC =		**14.975%**	**8.310**	**34.819%**	**35.537%**	**3.35**	**0.27**
				TOTAL HAP =	**1.356%**	**0.13**	**0.01**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Maintenance, Startup, and Shutdown (MSS) Emission Calculations - Maintenance Events

Crude Oil Flash Gas Analysis

Component	Molecular Weight	Mole %	Equiv. Wt. Basis	Weight %	HC Weight %	lb/hr	TPY
Water	18.015	0.065	1.173	1.893%	-	1.23	0.01
Hydrogen Sulfide	34.082	0.000	0.000	0.000%	-	0.00	0.00
Carbon Dioxide	44.010	0.000	0.000	0.000%	-	0.00	0.00
Nitrogen	28.013	0.000	0.000	0.000%	-	0.00	0.00
Helium	4.003	0.000	0.000	0.000%	-	0.00	0.00
Oxygen	31.999	0.000	0.000	0.000%	-	0.00	0.00
Methane	16.042	0.002	0.032	0.052%	0.052%	0.03	<0.01
Ethane	30.069	0.036	1.095	1.766%	1.766%	1.15	0.01
Propane	44.096	0.182	8.039	12.973%	12.973%	8.44	0.07
i-Butane	58.122	0.055	3.208	5.178%	5.178%	3.37	0.03
n-Butane	58.122	0.209	12.153	19.614%	19.614%	12.75	0.10
i-Pentane	72.149	0.085	6.104	9.851%	9.851%	6.41	0.05
n-Pentane	72.149	0.099	7.121	11.492%	11.492%	7.47	0.06
n-Hexane	86.175	0.035	2.973	4.798%	4.798%	3.12	0.02
Other Hexanes	86.175	0.147	12.650	20.416%	20.416%	13.27	0.11
Heptanes (as n-Heptane)	100.202	0.047	4.679	7.552%	7.552%	4.91	0.04
Benzene	78.114	0.008	0.586	0.945%	0.945%	0.61	<0.01
Toluene	92.141	0.009	0.792	1.279%	1.279%	0.83	0.01
Ethylbenzene	106.167	0.002	0.159	0.257%	0.257%	0.17	<0.01
Xylenes	106.167	0.003	0.361	0.583%	0.583%	0.38	<0.01
Octanes (as n-Octane)	114.229	0.012	1.325	2.138%	2.138%	1.39	0.01
2,2,4-Trimethylpentane	114.230	0.000	0.000	0.000%	0.000%	0.00	0.00
Nonanes (as n-Nonane)	128.255	0.003	0.372	0.600%	0.600%	0.39	<0.01
Decanes+ (as n-Decane)	142.282	0.002	0.313	0.505%	0.505%	0.33	<0.01
TOTAL =		**99.910%**	**61.963**	**100.000%**	**100.000%**	**65.02**	**0.52**
TOTAL HC =		**93.400%**	**61.963**	**100.000%**	**100.000%**	**65.02**	**0.52**
TOTAL VOC =		**89.560%**	**60.837**	**98.182%**	**98.182%**	**63.84**	**0.51**
				TOTAL HAP =	**7.862%**	**5.11**	**0.04**

Notes:

1) A single storage tank degassing event is assumed to take at least 4 hours to complete.

2) Gas stream density is calculated as follows:

(28.96 lb/mole) / (379 scf/mole) * (1.5171) = 0.116 lb/scf

3) Hourly emission rates are calculated as follows:

(1. event/hr) * (160 scf/event) * (0.059 lb/scf) * (35.54%) = 3.35 lb/hr

4) Annual emission rates are calculated as follows:

(12 event/yr) * (160 scf/event) * (0.059 lb/scf) * (35.54 %) / (2,000 lb/T) = 0.02 T/yr

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Maintenance, Startup, and Shutdown (MSS) Emission Calculations - Tank Cleaning

Material Collected by Vacuum Truck	Activity	Saturation Factor	Max. VP (psia)	Avg. VP (psia)	Vapor MW (lb/mole)	Temp. Bulk Liq. (°F)	Liquid Heel (% Vol. Tank)	Throughput (1,000 gal)	VOC Fraction	Max. Load (lb/1,000 gal)	Avg. Load (lb/1,000)	Safety Factor	Number of Activities per Year	VOC[1]	
														lb/hr	TPY
Crude Oil	Tank Cleanout	0.6	6.4631	4.4024	68.0000	65.52	0.2	4.20	0.98	6.25	4.26	1.00	6	25.78	0.08
Produced Water	Tank Cleanout	0.6	0.5713	0.3931	19.1254	65.52	0.2	4.20	0.98	0.16	0.11	1.00	6	0.64	<0.01
													Uncontrolled VOC Emissions =	**26.42**	**0.08**
													Proposed VOC Emissions =	**26.42**	**0.08**

Flash Gas Analysis and Emissions Speciation

						Uncontrolled		Proposed	
Component	Molecular Weight	Mole %	Equiv. Wt. Basis	Weight %	HC Weight %	lb/hr	TPY	lb/hr	TPY
Water	18.015	6.510%	1.173	1.893%	-	0.51	<0.01	0.51	<0.01
Hydrogen Sulfide	34.082	0.000%	0.000	0.000%	-	0.00	0.00	0.00	0.00
Carbon Dioxide	44.01	0.000%	0.000	0.000%	-	0.00	0.00	0.00	0.00
Nitrogen	28.0134	0.000%	0.000	0.000%	-	0.00	0.00	0.00	0.00
Helium	4.0026	0.000%	0.000	0.000%	-	0.00	0.00	0.00	0.00
Oxygen	31.9988	0.000%	0.000	0.000%	-	0.00	0.00	0.00	0.00
Methane	16.042	0.200%	0.032	0.052%	0.052%	0.01	<0.01	0.01	<0.01
Ethane	30.069	3.640%	1.095	1.766%	1.766%	0.48	<0.01	0.48	<0.01
Propane	44.096	18.230%	8.039	12.973%	12.973%	3.49	0.01	3.49	0.01
i-Butane	58.122	5.520%	3.208	5.178%	5.178%	1.39	<0.01	1.39	<0.01
n-Butane	58.122	20.910%	12.153	19.614%	19.614%	5.28	0.02	5.28	0.02
i-Pentane	72.149	8.460%	6.104	9.851%	9.851%	2.65	0.01	2.65	0.01
n-Pentane	72.149	9.870%	7.121	11.492%	11.492%	3.09	0.01	3.09	0.01
Cyclopentane	70.1	0.000%	0.000	0.000%	0.000%	0.00	0.00	0.00	0.00
n-Hexane	86.175	3.450%	2.973	4.798%	4.798%	1.29	<0.01	1.29	<0.01
Cyclohexane	84.16	0.000%	0.000	0.000%	0.000%	0.00	0.00	0.00	0.00
Other Hexanes	86.175	14.680%	12.650	20.416%	20.416%	5.49	0.02	5.49	0.02
Heptanes (as n-Heptane)	100.202	4.670%	4.679	7.552%	7.552%	2.03	0.01	2.03	0.01
Benzene	78.114	0.750%	0.586	0.945%	0.945%	0.25	<0.01	0.25	<0.01
Toluene	92.141	0.860%	0.792	1.279%	1.279%	0.34	<0.01	0.34	<0.01
Ethylbenzene	106.167	0.150%	0.159	0.257%	0.257%	0.07	<0.01	0.07	<0.01
Xylenes	106.167	0.340%	0.361	0.583%	0.583%	0.16	<0.01	0.16	<0.01
Octanes (as n-Octane)	114.229	1.160%	1.325	2.138%	2.138%	0.58	<0.01	0.58	<0.01
2,2,4-Trimethylpentane	114.23	0.000%	0.000	0.000%	0.000%	0.00	0.00	0.00	0.00
Nonanes (as n-Nonane)	128.255	0.290%	0.372	0.600%	0.600%	0.16	<0.01	0.16	<0.01
Decanes+ (as n-Decane)	142.282	0.220%	0.313	0.505%	0.505%	0.14	<0.01	0.14	<0.01
TOTAL =		**99.910%**	**61.963**	**100.000%**	**100.000%**	**26.91**	**0.08**	**26.91**	**0.08**
TOTAL HC =		**93.400%**	**61.963**	**100.000%**	**100.000%**	**26.91**	**0.08**	**26.91**	**0.08**
TOTAL VOC =		**89.560%**	**60.837**	**98.182%**	**98.182%**	**26.42**	**0.08**	**26.42**	**0.08**
TOTAL HAP =					**7.862%**	**2.12**	**0.01**	**2.12**	**0.01**

NMED Exhibit 1

Ameredev II, LLC
Amen Corner CTB
Maintenance, Startup, and Shutdown (MSS) Emission Calculations - Tank Cleaning

1) AP-42 5.2-4 Eq.1: Loading Loss (lb/1000 gal) = 12.46 *S*P*M/T. Properties based on EPA TANKS 4.0.9d.

Sample Calculations:
Maximum Loading Loss = 12.46 * Saturation Factor * Max. Vapor Pressure, psia * Vapor MW, lb/lb-mol/Temp. Bulk Liquid, R
Maximum Loading Loss = 12.46 * (0.6) * (6.46 psia) * (68.0 lb/lb-mol) / (65.5 + 460) R = 6.2521 lb/1,000 gal

Average Loading Loss = 12.46 * Saturation Factor * Avg. True Vapor Pressure, psia * Vapor MW, lb/lb-mol/Temp. Bulk Liquid, R
Average Loading Loss = 12.46 * (0.6) * (4.40 psia) * (68.0 lb/lb-mol) / (65.5 + 460) R = 4.2587 lb/1,000 gal

Hourly PTE = Amount Loaded, 1,000 gal/hr * Max. Loading Loss, lb/1,000 gal * VOC Fraction * Safety Factor
Hourly PTE = (4.20 1,000 gal/hr) * (6.2521 lb/1,000 gal) * (0.9818) * (1.00) = 25.78 lb/hr

Annual PTE = Hourly VOC PTE, lb/hr * Number of Events per year/2,000 lb/Ton
Annual PTE = (25.78 lb/hr) * (6 event) / (2,000 lb/T) = 0.08 TPY

14) Information Used to Determine Emissions

Information Used to Determine Emissions shall include the following:

- ☐ If manufacturer data are used, include specifications for emissions units and methods of reducing emissions, including control efficiencies, specifications, and sufficient engineering data for verification of proper operation of methods of reducing emissions, including design drawings, test reports, and design parameters that affect normal operation.
- ☐ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly affect emission rates.
- ☐ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
- ☐ If an older version of AP-42 is used, include a complete copy of the section.
- ☐ If an EPA document or other material is referenced, include a complete copy.
- ☐ Fuel specification sheet.
- ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For Storage Vessel flashing emissions, include a discussion of the method used to estimate Storage Vessel flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.

Attached:

TANKS 4.0.9d Summary Reports
Aspen HYSYS Simulation Report
Gas Analysis
Liquids Analysis
Tables 1.4-1, -2 of AP-42 Chapter 1, 7/1998
Page 5.2-4 of AP-42 Chapter 5, Section 2, 6/2008. (Loading Calculation)
Page 2-15, Table 2-4 of EPA/R-95-017: Protocol for Equipment Leak Emission Estimates, 11/1995.

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	One (1) 500-bbl Crude Oil Tank
City:	
State:	New Mexico
Company:	
Type of Tank:	Vertical Fixed Roof Tank
Description:	One (1) of Six (6) 500-bbl Crude Oil Tank RVP of 7; Throughput of

Tank Dimensions

Shell Height (ft):	16.00
Diameter (ft):	15.50
Liquid Height (ft) :	15.00
Avg. Liquid Height (ft):	8.00
Volume (gallons):	21,172.77
Turnovers:	241.35
Net Throughput(gal/yr):	5,110,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Midland-Odessa, Texas (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

One (1) 500-bbl Crude Oil Tank - Vertical Fixed Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 7)	All	71.74	60.33	83.15	65.52	4.4024	3.5080	5.4723	68.0000			92.00	Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

One (1) 500-bbl Crude Oil Tank - Vertical Fixed Roof Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 7)	10,597.83	3,051.37	13,649.19

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	One (1) 500-bbl Produced Water Tank
City:	
State:	New Mexico
Company:	
Type of Tank:	Vertical Fixed Roof Tank
Description:	One (1) of Six (6) 500-bbl Produced Water Tanks RVP 7; Assumed 1% Oil and 99% Water

Tank Dimensions

Shell Height (ft):	16.00
Diameter (ft):	15.60
Liquid Height (ft) :	15.00
Avg. Liquid Height (ft):	8.00
Volume (gallons):	21,446.85
Turnovers:	238.26
Net Throughput(gal/yr):	5,110,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Midland-Odessa, Texas (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

One (1) 500-bbl Produced Water Tank - Vertical Fixed Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Produced Water	All	71.74	60.33	83.15	65.52	0.3931	0.2655	0.5713	19.1254			18.17	
Gasoline (RVP 7)						4.4024	3.5080	5.4723	68.0000	0.0100	0.0786	92.00	Option 4: RVP=7, ASTM Slope=3
Water						0.3851	0.2591	0.5616	18.0200	0.9900	0.9214	18.02	Option 2: A=8.10765, B=1750.286, C=235

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

One (1) 500-bbl Produced Water Tank - Vertical Fixed Roof Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Produced Water	200.69	67.33	268.02
Water	184.91	62.03	246.94
Gasoline (RVP 7)	15.78	5.29	21.08

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	One (1) 1,000-bbl Gunbarrel Tank
City:	
State:	New Mexico
Company:	
Type of Tank:	Vertical Fixed Roof Tank
Description:	One (1) 1,000-bbl Gunbarrel Tank RVP of 7

Tank Dimensions

Shell Height (ft):	30.00
Diameter (ft):	15.50
Liquid Height (ft) :	29.00
Avg. Liquid Height (ft):	15.00
Volume (gallons):	40,934.03
Turnovers:	749.01
Net Throughput(gal/yr):	30,660,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Midland-Odessa, Texas (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

One (1) 1,000-bbl Gunbarrel Tank - Vertical Fixed Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 7)	All	71.74	60.33	83.15	65.52	4.4024	3.5080	5.4723	68.0000			92.00	Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

One (1) 1,000-bbl Gunbarrel Tank - Vertical Fixed Roof Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 7)	45,175.53	3,628.13	48,803.67

TANKS 4.0.9d
Emissions Report - Summary Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	One (1) 750-bbl Skim Tank
City:	
State:	New Mexico
Company:	
Type of Tank:	Vertical Fixed Roof Tank
Description:	One (1) 750-bbl Skim Tank RVP of 7

Tank Dimensions

Shell Height (ft):	24.00
Diameter (ft):	15.50
Liquid Height (ft) :	23.00
Avg. Liquid Height (ft):	12.00
Volume (gallons):	32,464.92
Turnovers:	944.40
Net Throughput(gal/yr):	30,660,000.00
Is Tank Heated (y/n):	N

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Cone
Height (ft)	0.00
Slope (ft/ft) (Cone Roof)	0.06

Breather Vent Settings

Vacuum Settings (psig):	-0.03
Pressure Settings (psig)	0.03

Meterological Data used in Emissions Calculations: Midland-Odessa, Texas (Avg Atmospheric Pressure = 13.28 psia)

TANKS 4.0.9d
Emissions Report - Summary Format
Liquid Contents of Storage Tank

One (1) 750-bbl Skim Tank - Vertical Fixed Roof Tank

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight.	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Gasoline (RVP 7)	All	71.74	60.33	83.15	65.52	4.4024	3.5080	5.4723	68.0000			92.00	Option 4: RVP=7, ASTM Slope=3

TANKS 4.0.9d
Emissions Report - Summary Format
Individual Tank Emission Totals

Emissions Report for: Annual

One (1) 750-bbl Skim Tank - Vertical Fixed Roof Tank

	Losses(lbs)		
Components	Working Loss	Breathing Loss	Total Emissions
Gasoline (RVP 7)	43,364.57	3,441.06	46,805.64

Material Stream: Inlet Oil

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

	Overall	Liquid Phase
Vapour / Phase Fraction	0.0000	1.0000
Temperature: (F)	150.0 *	150.0
Pressure: (psia)	32.20 *	32.20
Molar Flow (MMSCFD)	1.525	1.525
Mass Flow (lb/hr)	2.117e+004	2.117e+004
Std Ideal Liq Vol Flow (barrel/day)	2000 *	2000
Molar Enthalpy (Btu/lbmole)	-1.055e+005	-1.055e+005
Molar Entropy (Btu/lbmole-F)	47.05	47.05
Heat Flow (Btu/hr)	-1.766e+007	-1.766e+007
Liq Vol Flow @Std Cond (barrel/day)	1981 *	1981

PROPERTIES

	Overall	Liquid Phase
Molecular Weight	126.5	126.5
Molar Density (lbmole/ft3)	0.3406	0.3406
Mass Density (lb/ft3)	43.07	43.07
Act. Volume Flow (barrel/day)	2101	2101
Mass Enthalpy (Btu/lb)	-834.0	-834.0
Mass Entropy (Btu/lb-F)	0.3721	0.3721
Heat Capacity (Btu/lbmole-F)	68.84	68.84
Mass Heat Capacity (Btu/lb-F)	0.5444	0.5444
LHV Molar Basis (Std) (Btu/lbmole)	2.417e+006	2.417e+006
HHV Molar Basis (Std) (Btu/lbmole)	2.586e+006	2.586e+006
HHV Mass Basis (Std) (Btu/lb)	2.045e+004	2.045e+004

* Specified by user.

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Liquid Phase
CO2 Loading	---	---
CO2 App ML Con (lbmole/ft3)	0.0000	0.0000
CO2 App WT Con (lbmol/lb)	0.0000	0.0000
LHV Mass Basis (Std) (Btu/lb)	1.912e+004	1.912e+004
Phase Fraction [Vol. Basis]	0.0000	1.000
Phase Fraction [Mass Basis]	0.0000	1.000
Phase Fraction [Act. Vol. Basis]	0.0000	1.000
Partial Pressure of CO2 (psia)	0.0000	---
Cost Based on Flow (Cost/s)	0.0000	0.0000
Act. Gas Flow (ACFM)	---	---
Avg. Liq. Density (lbmole/ft3)	0.3578	0.3578
Specific Heat (Btu/lbmole-F)	68.84	68.84
Std. Gas Flow (MMSCFD)	1.522	1.522
Std. Ideal Liq. Mass Density (lb/ft3)	45.25	45.25
Act. Liq. Flow (USGPM)	61.28	61.28
Z Factor	1.445e-002	1.445e-002
Watson K	12.55	12.55
User Property	---	---
Partial Pressure of H2S (psia)	0.0000	---
Cp/(Cp - R)	1.030	1.030
Cp/Cv	1.246	1.246
Heat of Vap. (Btu/lbmole)	3.371e+004	---
Kinematic Viscosity (cSt)	0.6692	0.6692
Liq. Mass Density (Std. Cond) (lb/ft3)	45.69	45.69

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Liquid Phase			
Liq. Vol. Flow (Std. Cond)(barrel/day)	1981	1981			
Liquid Fraction	1.000	1.000			
Molar Volume (ft3/lbmole)	2.936	2.936			
Mass Heat of Vap. (Btu/lb)	266.5	---			
Phase Fraction [Molar Basis]	0.0000	1.0000			
Surface Tension (dyne/cm)	17.68	17.68			
Thermal Conductivity (Btu/hr-ft-F)	6.566e-002	6.566e-002			
Viscosity (cP)	0.4617	0.4617			
Cv (Semi-Ideal) (Btu/lbmole-F)	66.85	66.85			
Mass Cv (Semi-Ideal) (Btu/lb-F)	0.5287	0.5287			
Cv (Btu/lbmole-F)	55.25	55.25			
Mass Cv (Btu/lb-F)	0.4369	0.4369			
Cv (Ent. Method) (Btu/lbmole-F)	55.81	55.81			
Mass Cv (Ent. Method) (Btu/lb-F)	0.4413	0.4413			
Cp/Cv (Ent. Method)	1.233	1.233			
Reid VP at 37.8 C (psia)	7.522	7.522			
True VP at 37.8 C (psia)	9.549	9.549			
Liq. Vol. Flow - Sum(Std. Cond) (barrel/day)	1981	1981			
Viscosity Index	-2.911	---			
Mass Exergy (Btu/lb)	2.496	---			

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *
Methane	0.0261 *	0.0002 *	0.4190 *	0.0000 *	0.0958 *	0.0000 *
CO2	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *
Ethane	0.3538 *	0.0021 *	10.6382 *	0.0005 *	2.0480 *	0.0010 *
Propane	2.4746 *	0.0148 *	109.1241 *	0.0052 *	14.7471 *	0.0074 *
i-Butane	1.2341 *	0.0074 *	71.7330 *	0.0034 *	8.7403 *	0.0044 *
n-Butane	5.8244 *	0.0348 *	338.5399 *	0.0160 *	39.7460 *	0.0199 *
i-Pentane	4.6506 *	0.0278 *	335.5440 *	0.0158 *	36.8529 *	0.0184 *
n-Pentane	6.6879 *	0.0399 *	482.5377 *	0.0228 *	52.4682 *	0.0262 *
22-Mbutane	16.4960 *	0.0985 *	1421.5931 *	0.0671 *	149.1660 *	0.0746 *
n-Hexane	6.0625 *	0.0362 *	522.4561 *	0.0247 *	53.9852 *	0.0270 *
Benzene	1.4600 *	0.0087 *	114.0409 *	0.0054 *	8.8515 *	0.0044 *
n-Heptane	21.3231 *	0.1274 *	2136.6793 *	0.1009 *	213.0188 *	0.1065 *
Toluene	4.4770 *	0.0267 *	412.5100 *	0.0195 *	32.4647 *	0.0162 *
n-Octane	13.9995 *	0.0836 *	1599.1859 *	0.0755 *	155.2372 *	0.0776 *
E-Benzene	2.0335 *	0.0121 *	215.8839 *	0.0102 *	16.9904 *	0.0085 *
m-Xylene	5.3228 *	0.0318 *	565.1022 *	0.0267 *	44.6360 *	0.0223 *
n-Nonane	11.2437 *	0.0672 *	1442.1057 *	0.0681 *	137.0989 *	0.0685 *
n-Decane	12.7518 *	0.0762 *	1814.3837 *	0.0857 *	169.5543 *	0.0848 *
n-C11	7.6746 *	0.0458 *	1199.6337 *	0.0567 *	110.5778 *	0.0553 *
H2O	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
H2S	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *	0.0000 *
n-C12	5.4283 *	0.0324 *	924.6511 *	0.0437 *	84.2893 *	0.0421 *
n-C13	4.5583 *	0.0272 *	840.4047 *	0.0397 *	75.8353 *	0.0379 *
n-C14	33.3388 *	0.1991 *	6613.7528 *	0.3124 *	593.5963 *	0.2968 *
Total	167.4214	1.0000	21170.9192	1.0000	2000.0000	1.0000

Liquid Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0261	0.0002	0.4190	0.0000	0.0958	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.3538	0.0021	10.6382	0.0005	2.0480	0.0010
Propane	2.4746	0.0148	109.1241	0.0052	14.7471	0.0074
i-Butane	1.2341	0.0074	71.7330	0.0034	8.7403	0.0044
n-Butane	5.8244	0.0348	338.5399	0.0160	39.7460	0.0199
i-Pentane	4.6506	0.0278	335.5440	0.0158	36.8529	0.0184
n-Pentane	6.6879	0.0399	482.5377	0.0228	52.4682	0.0262
22-Mbutane	16.4960	0.0985	1421.5931	0.0671	149.1660	0.0746
n-Hexane	6.0625	0.0362	522.4561	0.0247	53.9852	0.0270
Benzene	1.4600	0.0087	114.0409	0.0054	8.8515	0.0044

* Specified by user.

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Liquid Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-Heptane	21.3231	0.1274	2136.6793	0.1009	213.0188	0.1065
Toluene	4.4770	0.0267	412.5100	0.0195	32.4647	0.0162
n-Octane	13.9995	0.0836	1599.1859	0.0755	155.2372	0.0776
E-Benzene	2.0335	0.0121	215.8839	0.0102	16.9904	0.0085
m-Xylene	5.3228	0.0318	565.1022	0.0267	44.6360	0.0223
n-Nonane	11.2437	0.0672	1442.1057	0.0681	137.0989	0.0685
n-Decane	12.7518	0.0762	1814.3837	0.0857	169.5543	0.0848
n-C11	7.6746	0.0458	1199.6337	0.0567	110.5778	0.0553
H2O	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	5.4283	0.0324	924.6511	0.0437	84.2893	0.0421
n-C13	4.5583	0.0272	840.4047	0.0397	75.8353	0.0379
n-C14	33.3388	0.1991	6613.7528	0.3124	593.5963	0.2968
Total	167.4214	1.0000	21170.9192	1.0000	2000.0000	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	0.0000	0.0000	---
CO2	---	---	---
Ethane	0.0000	0.0000	---

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Propane	0.0000	0.0000	---
i-Butane	0.0000	0.0000	---
n-Butane	0.0000	0.0000	---
i-Pentane	0.0000	0.0000	---
n-Pentane	0.0000	0.0000	---
22-Mbutane	0.0000	0.0000	---
n-Hexane	0.0000	0.0000	---
Benzene	0.0000	0.0000	---
n-Heptane	0.0000	0.0000	---
Toluene	0.0000	0.0000	---
n-Octane	0.0000	0.0000	---
E-Benzene	0.0000	0.0000	---
m-Xylene	0.0000	0.0000	---
n-Nonane	0.0000	0.0000	---
n-Decane	0.0000	0.0000	---
n-C11	0.0000	0.0000	---
H2O	---	---	---
H2S	---	---	---
n-C12	0.0000	0.0000	---
n-C13	0.0000	0.0000	---
n-C14	0.0000	0.0000	---

NMED Exhibit 1

Material Stream: Inlet Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

UNIT OPERATIONS

FEED TO		PRODUCT FROM	LOGICAL CONNECTION
Mixer:	MIX-100		

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

DYNAMICS

Pressure Specification	(Active):	32.20 psia *			
Flow Specification	(Active)	Molar: 1.525 MMSCFD	Mass: 2.117e+004 lb/hr	Std Ideal Liq Volume	2000 barrel/day *

User Variables

NOTES

Description

Material Stream: Flash to flare

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

		Overall	Vapour Phase	Liquid Phase		
Vapour / Phase Fraction		1.0000	1.0000	0.0000		
Temperature:	(F)	146.0	146.0	146.0		
Pressure:	(psia)	14.20	14.20	14.20		
Molar Flow	(MMSCFD)	4.640e-002	4.640e-002	0.0000		
Mass Flow	(lb/hr)	313.5	313.5	0.0000		
Std Ideal Liq Vol Flow	(barrel/day)	35.35	35.35	0.0000		
Molar Enthalpy	(Btu/lbmole)	-6.041e+004	-6.041e+004	-1.070e+005		
Molar Entropy	(Btu/lbmole-F)	42.52	42.52	47.36		
Heat Flow	(Btu/hr)	-3.078e+005	-3.078e+005	0.0000		
Liq Vol Flow @Std Cond	(barrel/day)	34.34 *	34.34	0.0000		

PROPERTIES

		Overall	Vapour Phase	Liquid Phase		
Molecular Weight		61.54	61.54	128.3		
Molar Density	(lbmole/ft3)	2.228e-003	2.228e-003	0.3377		
Mass Density	(lb/ft3)	0.1371	0.1371	43.32		
Act. Volume Flow	(barrel/day)	9775	9775	0.0000		
Mass Enthalpy	(Btu/lb)	-981.6	-981.6	-834.4		
Mass Entropy	(Btu/lb-F)	0.6909	0.6909	0.3691		
Heat Capacity	(Btu/lbmole-F)	26.27	26.27	69.49		
Mass Heat Capacity	(Btu/lb-F)	0.4269	0.4269	0.5416		
LHV Molar Basis (Std)	(Btu/lbmole)	1.171e+006	1.171e+006	2.451e+006		
HHV Molar Basis (Std)	(Btu/lbmole)	1.261e+006	1.261e+006	2.623e+006		
HHV Mass Basis (Std)	(Btu/lb)	2.048e+004	2.048e+004	2.044e+004		

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Liquid Phase
CO2 Loading	---	---	---
CO2 App ML Con (lbmole/ft3)	---	---	---
CO2 App WT Con (lbmol/lb)	---	---	---
LHV Mass Basis (Std) (Btu/lb)	1.903e+004	1.903e+004	1.911e+004
Phase Fraction [Vol. Basis]	1.000	1.000	---
Phase Fraction [Mass Basis]	1.000	1.000	0.0000
Phase Fraction [Act. Vol. Basis]	1.000	1.000	0.0000
Partial Pressure of CO2 (psia)	0.0000	---	---
Cost Based on Flow (Cost/s)	0.0000	0.0000	0.0000
Act. Gas Flow (ACFM)	38.11	38.11	---
Avg. Liq. Density (lbmole/ft3)	0.6160	0.6160	0.3539
Specific Heat (Btu/lbmole-F)	26.27	26.27	69.49
Std. Gas Flow (MMSCFD)	4.631e-002	4.631e-002	0.0000
Std. Ideal Liq. Mass Density (lb/ft3)	37.91	37.91	45.40
Act. Liq. Flow (USGPM)	---	---	---
Z Factor	---	0.9806	6.470e-003
Watson K	13.32	13.32	12.54
User Property	---	---	---
Partial Pressure of H2S (psia)	0.0000	---	---
Cp/(Cp - R)	1.082	1.082	1.029
Cp/Cv	1.089	1.089	1.244
Heat of Vap. (Btu/lbmole)	1.665e+004	---	---
Kinematic Viscosity (cSt)	3.803	3.803	0.6981
Liq. Mass Density (Std. Cond) (lb/ft3)	39.03	39.03	45.81

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Liquid Phase		
Liq. Vol. Flow (Std. Cond)(barrel/day)	34.34	34.34	0.0000		
Liquid Fraction	0.0000	0.0000	1.000		
Molar Volume (ft3/lbmole)	448.8	448.8	2.961		
Mass Heat of Vap. (Btu/lb)	270.6	---	---		
Phase Fraction [Molar Basis]	1.0000	1.0000	0.0000		
Surface Tension (dyne/cm)	---	---	18.21		
Thermal Conductivity (Btu/hr-ft-F)	1.055e-002	1.055e-002	6.677e-002		
Viscosity (cP)	8.352e-003	8.352e-003	0.4845		
Cv (Semi-Ideal) (Btu/lbmole-F)	24.29	24.29	67.50		
Mass Cv (Semi-Ideal) (Btu/lb-F)	0.3947	0.3947	0.5261		
Cv (Btu/lbmole-F)	24.14	24.14	55.85		
Mass Cv (Btu/lb-F)	0.3922	0.3922	0.4354		
Cv (Ent. Method) (Btu/lbmole-F)	---	---	56.49		
Mass Cv (Ent. Method) (Btu/lb-F)	---	---	0.4403		
Cp/Cv (Ent. Method)	---	---	1.230		
Reid VP at 37.8 C (psia)	75.13	75.13	5.852		
True VP at 37.8 C (psia)	100.8	100.8	7.685		
Liq. Vol. Flow - Sum(Std. Cond) (barrel/day)	34.34	34.34	0.0000		
Viscosity Index	-28.66	---	---		
Mass Exergy (Btu/lb)	3.824	---	---		

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0222	0.0044	0.3567	0.0011	0.0816	0.0023
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.2256	0.0443	6.7825	0.0216	1.3057	0.0369
Propane	0.9561	0.1877	42.1622	0.1345	5.6978	0.1612
i-Butane	0.2746	0.0539	15.9637	0.0509	1.9451	0.0550
n-Butane	1.0301	0.2022	59.8713	0.1910	7.0291	0.1988
i-Pentane	0.4094	0.0804	29.5420	0.0942	3.2446	0.0918
n-Pentane	0.4766	0.0936	34.3901	0.1097	3.7394	0.1058
22-Mbutane	0.7057	0.1385	60.8196	0.1940	6.3817	0.1805
n-Hexane	0.1654	0.0325	14.2580	0.0455	1.4733	0.0417
Benzene	0.0360	0.0071	2.8146	0.0090	0.2185	0.0062
n-Heptane	0.2238	0.0439	22.4221	0.0715	2.2354	0.0632
Toluene	0.0412	0.0081	3.7927	0.0121	0.2985	0.0084
n-Octane	0.0559	0.0110	6.3801	0.0203	0.6193	0.0175
E-Benzene	0.0073	0.0014	0.7756	0.0025	0.0610	0.0017
m-Xylene	0.0165	0.0032	1.7525	0.0056	0.1384	0.0039
n-Nonane	0.0175	0.0034	2.2486	0.0072	0.2138	0.0060
n-Decane	0.0079	0.0015	1.1236	0.0036	0.1050	0.0030
n-C11	0.0019	0.0004	0.2955	0.0009	0.0272	0.0008
H2O	0.4199	0.0824	7.5650	0.0241	0.5190	0.0147

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0006	0.0001	0.0997	0.0003	0.0091	0.0003
n-C13	0.0002	0.0000	0.0330	0.0001	0.0030	0.0001
n-C14	0.0005	0.0001	0.0894	0.0003	0.0080	0.0002
Total	5.0950	1.0000	313.5381	1.0000	35.3546	1.0000

Vapour Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0222	0.0044	0.3567	0.0011	0.0816	0.0023
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.2256	0.0443	6.7825	0.0216	1.3057	0.0369
Propane	0.9561	0.1877	42.1622	0.1345	5.6978	0.1612
i-Butane	0.2746	0.0539	15.9637	0.0509	1.9451	0.0550
n-Butane	1.0301	0.2022	59.8713	0.1910	7.0291	0.1988
i-Pentane	0.4094	0.0804	29.5420	0.0942	3.2446	0.0918
n-Pentane	0.4766	0.0936	34.3901	0.1097	3.7394	0.1058
22-Mbutane	0.7057	0.1385	60.8196	0.1940	6.3817	0.1805
n-Hexane	0.1654	0.0325	14.2580	0.0455	1.4733	0.0417
Benzene	0.0360	0.0071	2.8146	0.0090	0.2185	0.0062

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-Heptane	0.2238	0.0439	22.4221	0.0715	2.2354	0.0632
Toluene	0.0412	0.0081	3.7927	0.0121	0.2985	0.0084
n-Octane	0.0559	0.0110	6.3801	0.0203	0.6193	0.0175
E-Benzene	0.0073	0.0014	0.7756	0.0025	0.0610	0.0017
m-Xylene	0.0165	0.0032	1.7525	0.0056	0.1384	0.0039
n-Nonane	0.0175	0.0034	2.2486	0.0072	0.2138	0.0060
n-Decane	0.0079	0.0015	1.1236	0.0036	0.1050	0.0030
n-C11	0.0019	0.0004	0.2955	0.0009	0.0272	0.0008
H2O	0.4199	0.0824	7.5650	0.0241	0.5190	0.0147
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0006	0.0001	0.0997	0.0003	0.0091	0.0003
n-C13	0.0002	0.0000	0.0330	0.0001	0.0030	0.0001
n-C14	0.0005	0.0001	0.0894	0.0003	0.0080	0.0002
Total	5.0950	1.0000	313.5381	1.0000	35.3546	1.0000

Liquid Phase

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Liquid Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Ethane	0.0000	0.0008	0.0000	0.0002	0.0000	0.0004
Propane	0.0000	0.0093	0.0000	0.0032	0.0000	0.0046
i-Butane	0.0000	0.0059	0.0000	0.0027	0.0000	0.0035
n-Butane	0.0000	0.0295	0.0000	0.0134	0.0000	0.0167
i-Pentane	0.0000	0.0262	0.0000	0.0147	0.0000	0.0172
n-Pentane	0.0000	0.0383	0.0000	0.0215	0.0000	0.0249
22-Mbutane	0.0000	0.0931	0.0000	0.0625	0.0000	0.0697
n-Hexane	0.0000	0.0364	0.0000	0.0244	0.0000	0.0268
Benzene	0.0000	0.0084	0.0000	0.0051	0.0000	0.0042
n-Heptane	0.0000	0.1301	0.0000	0.1017	0.0000	0.1076
Toluene	0.0000	0.0272	0.0000	0.0195	0.0000	0.0163
n-Octane	0.0000	0.0860	0.0000	0.0766	0.0000	0.0790
E-Benzene	0.0000	0.0125	0.0000	0.0103	0.0000	0.0086
m-Xylene	0.0000	0.0327	0.0000	0.0271	0.0000	0.0227
n-Nonane	0.0000	0.0693	0.0000	0.0692	0.0000	0.0699
n-Decane	0.0000	0.0786	0.0000	0.0872	0.0000	0.0865
n-C11	0.0000	0.0473	0.0000	0.0577	0.0000	0.0565
H2O	0.0000	0.0012	0.0000	0.0002	0.0000	0.0001
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0335	0.0000	0.0445	0.0000	0.0430
n-C13	0.0000	0.0281	0.0000	0.0404	0.0000	0.0387

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Liquid Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-C14	0.0000	0.2057	0.0000	0.3180	0.0000	0.3031
Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	245.7	245.7	---
CO2	---	---	---
Ethane	58.96	58.96	---
Propane	20.13	20.13	---
i-Butane	9.111	9.111	---
n-Butane	6.844	6.844	---
i-Pentane	3.072	3.072	---
n-Pentane	2.443	2.443	---
22-Mbutane	1.488	1.488	---
n-Hexane	0.8929	0.8929	---
Benzene	0.8404	0.8404	---
n-Heptane	0.3374	0.3374	---
Toluene	0.2972	0.2972	---
n-Octane	0.1274	0.1274	---
E-Benzene	0.1149	0.1149	---

NMED Exhibit 1

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
m-Xylene	9.910e-002	9.910e-002	---
n-Nonane	4.969e-002	4.969e-002	---
n-Decane	1.972e-002	1.972e-002	---
n-C11	7.840e-003	7.840e-003	---
H2O	69.10	69.10	---
H2S	---	---	---
n-C12	3.430e-003	3.430e-003	---
n-C13	1.248e-003	1.248e-003	---
n-C14	4.300e-004	4.300e-004	---

UNIT OPERATIONS

FEED TO	PRODUCT FROM	LOGICAL CONNECTION
	Separator: Knockout Tank	

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

DYNAMICS

Pressure Specification	(Inactive)	14.20 psia			
Flow Specification	(Inactive)	Molar:	340e-002 MMSCFD	Mass: 313.5 lb/hr	Std Ideal Liq Volume: 35.35 barrel/day

Material Stream: Flash to flare (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

User Variables

NOTES

Description

Material Stream: Flash to Atm

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

	Overall	Vapour Phase	Liquid Phase		
Vapour / Phase Fraction	1.0000	1.0000	0.0000		
Temperature: (F)	145.3	145.3	145.3		
Pressure: (psia)	13.20	13.20	13.20		
Molar Flow (MMSCFD)	7.238e-003	7.238e-003	0.0000		
Mass Flow (lb/hr)	50.28	50.28	0.0000		
Std Ideal Liq Vol Flow (barrel/day)	5.645	5.645	0.0000		
Molar Enthalpy (Btu/lbmole)	-6.013e+004	-6.013e+004	-1.073e+005		
Molar Entropy (Btu/lbmole-F)	42.35	42.35	47.38		
Heat Flow (Btu/hr)	-4.779e+004	-4.779e+004	0.0000		
Liq Vol Flow @Std Cond (barrel/day)	5.499 *	5.499	0.0000		

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Liquid Phase
Molecular Weight	63.27	63.27	128.6
Molar Density (lbmole/ft3)	2.072e-003	2.072e-003	0.3371
Mass Density (lb/ft3)	0.1311	0.1311	43.36
Act. Volume Flow (barrel/day)	1639	1639	0.0000
Mass Enthalpy (Btu/lb)	-950.4	-950.4	-834.1
Mass Entropy (Btu/lb-F)	0.6694	0.6694	0.3684
Heat Capacity (Btu/lbmole-F)	26.93	26.93	69.60
Mass Heat Capacity (Btu/lb-F)	0.4257	0.4257	0.5411
LHV Molar Basis (Std) (Btu/lbmole)	1.210e+006	1.210e+006	2.457e+006
HHV Molar Basis (Std) (Btu/lbmole)	1.302e+006	1.302e+006	2.629e+006
HHV Mass Basis (Std) (Btu/lb)	2.058e+004	2.058e+004	2.044e+004
CO2 Loading	---	---	---
CO2 App ML Con (lbmole/ft3)	---	---	---
CO2 App WT Con (lbmol/lb)	---	---	---
LHV Mass Basis (Std) (Btu/lb)	1.912e+004	1.912e+004	1.911e+004
Phase Fraction [Vol. Basis]	1.000	1.000	---
Phase Fraction [Mass Basis]	1.000	1.000	0.0000
Phase Fraction [Act. Vol. Basis]	1.000	1.000	0.0000
Partial Pressure of CO2 (psia)	0.0000	---	---
Cost Based on Flow (Cost/s)	0.0000	0.0000	0.0000
Act. Gas Flow (ACFM)	6.392	6.392	---
Avg. Liq. Density (lbmole/ft3)	0.6019	0.6019	0.3532
Specific Heat (Btu/lbmole-F)	26.93	26.93	69.60
Std. Gas Flow (MMSCFD)	7.225e-003	7.225e-003	0.0000

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Liquid Phase
Std. Ideal Liq. Mass Density (lb/ft3)	38.08	38.08	45.42
Act. Liq. Flow (USGPM)	---	---	---
Z Factor	---	0.9810	6.031e-003
Watson K	13.26	13.26	12.54
User Property	---	---	---
Partial Pressure of H2S (psia)	0.0000	---	---
Cp/(Cp - R)	1.080	1.080	1.029
Cp/Cv	1.086	1.086	1.244
Heat of Vap. (Btu/lbmole)	1.621e+004	---	---
Kinematic Viscosity (cSt)	3.930	3.930	0.7026
Liq. Mass Density (Std. Cond) (lb/ft3)	39.09	39.09	45.82
Liq. Vol. Flow (Std. Cond)(barrel/day)	5.499	5.499	0.0000
Liquid Fraction	0.0000	0.0000	1.000
Molar Volume (ft3/lbmole)	482.5	482.5	2.966
Mass Heat of Vap. (Btu/lb)	256.2	---	---
Phase Fraction [Molar Basis]	1.0000	1.0000	0.0000
Surface Tension (dyne/cm)	---	---	18.27
Thermal Conductivity (Btu/hr-ft-F)	1.041e-002	1.041e-002	6.686e-002
Viscosity (cP)	8.254e-003	8.254e-003	0.4880
Cv (Semi-Ideal) (Btu/lbmole-F)	24.94	24.94	67.61
Mass Cv (Semi-Ideal) (Btu/lb-F)	0.3943	0.3943	0.5257
Cv (Btu/lbmole-F)	24.80	24.80	55.95
Mass Cv (Btu/lb-F)	0.3919	0.3919	0.4350
Cv (Ent. Method) (Btu/lbmole-F)	---	---	56.54

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

		Overall	Vapour Phase	Liquid Phase		
Mass Cv (Ent. Method)	(Btu/lb-F)	---	---	0.4396		
Cp/Cv (Ent. Method)		---	---	1.231		
Reid VP at 37.8 C	(psia)	68.00	68.00	5.606		
True VP at 37.8 C	(psia)	86.12	86.12	7.075		
Liq. Vol. Flow - Sum(Std. Cond)	(barrel/day)	5.499	5.499	0.0000		
Viscosity Index		-28.21	---	---		
Mass Exergy	(Btu/lb)	2.582	---	---		

COMPOSITION

Overall Phase

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0016	0.0020	0.0261	0.0005	0.0060	0.0011
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0289	0.0364	0.8689	0.0173	0.1673	0.0296
Propane	0.1449	0.1823	6.3882	0.1270	0.8633	0.1529
i-Butane	0.0438	0.0552	2.5484	0.0507	0.3105	0.0550
n-Butane	0.1662	0.2091	9.6615	0.1921	1.1343	0.2009
i-Pentane	0.0672	0.0846	4.8519	0.0965	0.5329	0.0944
n-Pentane	0.0785	0.0987	5.6629	0.1126	0.6157	0.1091
22-Mbutane	0.1167	0.1468	10.0550	0.2000	1.0551	0.1869
n-Hexane	0.0274	0.0345	2.3613	0.0470	0.2440	0.0432

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Benzene	0.0060	0.0075	0.4664	0.0093	0.0362	0.0064
n-Heptane	0.0371	0.0467	3.7156	0.0739	0.3704	0.0656
Toluene	0.0068	0.0086	0.6288	0.0125	0.0495	0.0088
n-Octane	0.0092	0.0116	1.0559	0.0210	0.1025	0.0182
E-Benzene	0.0012	0.0015	0.1284	0.0026	0.0101	0.0018
m-Xylene	0.0027	0.0034	0.2901	0.0058	0.0229	0.0041
n-Nonane	0.0029	0.0036	0.3715	0.0074	0.0353	0.0063
n-Decane	0.0013	0.0016	0.1852	0.0037	0.0173	0.0031
n-C11	0.0003	0.0004	0.0486	0.0010	0.0045	0.0008
H2O	0.0518	0.0651	0.9326	0.0185	0.0640	0.0113
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0001	0.0001	0.0164	0.0003	0.0015	0.0003
n-C13	0.0000	0.0000	0.0054	0.0001	0.0005	0.0001
n-C14	0.0001	0.0001	0.0146	0.0003	0.0013	0.0002
Total	0.7948	1.0000	50.2836	1.0000	5.6451	1.0000

Vapour Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0016	0.0020	0.0261	0.0005	0.0060	0.0011

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0289	0.0364	0.8689	0.0173	0.1673	0.0296
Propane	0.1449	0.1823	6.3882	0.1270	0.8633	0.1529
i-Butane	0.0438	0.0552	2.5484	0.0507	0.3105	0.0550
n-Butane	0.1662	0.2091	9.6615	0.1921	1.1343	0.2009
i-Pentane	0.0672	0.0846	4.8519	0.0965	0.5329	0.0944
n-Pentane	0.0785	0.0987	5.6629	0.1126	0.6157	0.1091
22-Mbutane	0.1167	0.1468	10.0550	0.2000	1.0551	0.1869
n-Hexane	0.0274	0.0345	2.3613	0.0470	0.2440	0.0432
Benzene	0.0060	0.0075	0.4664	0.0093	0.0362	0.0064
n-Heptane	0.0371	0.0467	3.7156	0.0739	0.3704	0.0656
Toluene	0.0068	0.0086	0.6288	0.0125	0.0495	0.0088
n-Octane	0.0092	0.0116	1.0559	0.0210	0.1025	0.0182
E-Benzene	0.0012	0.0015	0.1284	0.0026	0.0101	0.0018
m-Xylene	0.0027	0.0034	0.2901	0.0058	0.0229	0.0041
n-Nonane	0.0029	0.0036	0.3715	0.0074	0.0353	0.0063
n-Decane	0.0013	0.0016	0.1852	0.0037	0.0173	0.0031
n-C11	0.0003	0.0004	0.0486	0.0010	0.0045	0.0008
H2O	0.0518	0.0651	0.9326	0.0185	0.0640	0.0113
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0001	0.0001	0.0164	0.0003	0.0015	0.0003

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-C13	0.0000	0.0000	0.0054	0.0001	0.0005	0.0001
n-C14	0.0001	0.0001	0.0146	0.0003	0.0013	0.0002
Total	0.7948	1.0000	50.2836	1.0000	5.6451	1.0000

Liquid Phase

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0000	0.0006	0.0000	0.0001	0.0000	0.0003
Propane	0.0000	0.0085	0.0000	0.0029	0.0000	0.0042
i-Butane	0.0000	0.0057	0.0000	0.0026	0.0000	0.0033
n-Butane	0.0000	0.0287	0.0000	0.0129	0.0000	0.0162
i-Pentane	0.0000	0.0259	0.0000	0.0145	0.0000	0.0169
n-Pentane	0.0000	0.0380	0.0000	0.0213	0.0000	0.0246
22-Mbutane	0.0000	0.0928	0.0000	0.0622	0.0000	0.0693
n-Hexane	0.0000	0.0364	0.0000	0.0244	0.0000	0.0268
Benzene	0.0000	0.0084	0.0000	0.0051	0.0000	0.0042
n-Heptane	0.0000	0.1306	0.0000	0.1017	0.0000	0.1078
Toluene	0.0000	0.0273	0.0000	0.0195	0.0000	0.0163

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Liquid Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-Octane	0.0000	0.0864	0.0000	0.0767	0.0000	0.0791
E-Benzene	0.0000	0.0125	0.0000	0.0103	0.0000	0.0087
m-Xylene	0.0000	0.0328	0.0000	0.0271	0.0000	0.0227
n-Nonane	0.0000	0.0696	0.0000	0.0694	0.0000	0.0701
n-Decane	0.0000	0.0790	0.0000	0.0874	0.0000	0.0868
n-C11	0.0000	0.0476	0.0000	0.0578	0.0000	0.0566
H2O	0.0000	0.0009	0.0000	0.0001	0.0000	0.0001
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0336	0.0000	0.0446	0.0000	0.0432
n-C13	0.0000	0.0283	0.0000	0.0405	0.0000	0.0388
n-C14	0.0000	0.2067	0.0000	0.3188	0.0000	0.3040
Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	264.1	264.1	---
CO2	---	---	---
Ethane	63.18	63.18	---
Propane	21.52	21.52	---
i-Butane	9.722	9.722	---

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
n-Butane	7.299	7.299	---
i-Pentane	3.271	3.271	---
n-Pentane	2.599	2.599	---
22-Mbutane	1.582	1.582	---
n-Hexane	0.9477	0.9477	---
Benzene	0.8923	0.8923	---
n-Heptane	0.3573	0.3573	---
Toluene	0.3148	0.3148	---
n-Octane	0.1346	0.1346	---
E-Benzene	0.1214	0.1214	---
m-Xylene	0.1047	0.1047	---
n-Nonane	5.237e-002	5.237e-002	---
n-Decane	2.074e-002	2.074e-002	---
n-C11	8.226e-003	8.226e-003	---
H2O	74.21	74.21	---
H2S	---	---	---
n-C12	3.592e-003	3.592e-003	---
n-C13	1.304e-003	1.304e-003	---
n-C14	4.479e-004	4.479e-004	---

UNIT OPERATIONS

FEED TO	PRODUCT FROM	LOGICAL CONNECTION
	Separator: V-100	

NMED Exhibit 1

Material Stream: Flash to Atm (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

DYNAMICS

Pressure Specification (Inactive) 13.20 psia

Flow Specification (Inactive)	Molar:	:38e-003 MMSCFD	Mass:	50.28 lb/hr	Std Ideal Liq Volume	5.645 barrel/day

User Variables

NOTES

Description

Material Stream: Produced Water

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

		Overall	Vapour Phase	Aqueous Phase		
Vapour / Phase Fraction		0.0000	0.0000	1.0000		
Temperature:	(F)	149.9	149.9	149.9		
Pressure:	(psia)	13.20	13.20	13.20		

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

		Overall	Vapour Phase	Aqueous Phase		
Molar Flow	(MMSCFD)	14.74	0.0000	14.74		
Mass Flow	(lb/hr)	2.921e+004	0.0000	2.921e+004		
Std Ideal Liq Vol Flow	(barrel/day)	2006	0.0000	2006		
Molar Enthalpy	(Btu/lbmole)	-1.216e+005	-6.741e+004	-1.216e+005		
Molar Entropy	(Btu/lbmole-F)	15.41	43.41	15.41		
Heat Flow	(Btu/hr)	-1.967e+008	0.0000	-1.967e+008		
Liq Vol Flow @Std Cond	(barrel/day)	1972 *	0.0000	1972		

PROPERTIES

		Overall	Vapour Phase	Aqueous Phase		
Molecular Weight		18.05	49.90	18.05		
Molar Density	(lbmole/ft3)	3.374	2.045e-003	3.374		
Mass Density	(lb/ft3)	60.90	0.1020	60.90		
Act. Volume Flow	(barrel/day)	2050	0.0000	2050		
Mass Enthalpy	(Btu/lb)	-6736	-1351	-6736		
Mass Entropy	(Btu/lb-F)	0.8539	0.8699	0.8539		
Heat Capacity	(Btu/lbmole-F)	15.99	21.09	15.99		
Mass Heat Capacity	(Btu/lb-F)	0.8857	0.4226	0.8857		
LHV Molar Basis (Std)	(Btu/lbmole)	819.2	8.768e+005	819.2		
HHV Molar Basis (Std)	(Btu/lbmole)	1.850e+004	9.478e+005	1.850e+004		
HHV Mass Basis (Std)	(Btu/lb)	1025	1.899e+004	1025		
CO2 Loading		---	---	---		
CO2 App ML Con	(lbmole/ft3)	0.0000	---	0.0000		
CO2 App WT Con	(lbmol/lb)	0.0000	---	0.0000		

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase
LHV Mass Basis (Std) (Btu/lb)	45.39	1.757e+004	45.39
Phase Fraction [Vol. Basis]	---	---	1.000
Phase Fraction [Mass Basis]	0.0000	0.0000	1.000
Phase Fraction [Act. Vol. Basis]	0.0000	0.0000	1.000
Partial Pressure of CO2 (psia)	0.0000	---	---
Cost Based on Flow (Cost/s)	0.0000	0.0000	0.0000
Act. Gas Flow (ACFM)	---	---	---
Avg. Liq. Density (lbmole/ft3)	3.448	0.7640	3.448
Specific Heat (Btu/lbmole-F)	15.99	21.09	15.99
Std. Gas Flow (MMSCFD)	14.71	0.0000	14.71
Std. Ideal Liq. Mass Density (lb/ft3)	62.23	38.13	62.23
Act. Liq. Flow (USGPM)	59.80	---	59.80
Z Factor	---	0.9868	5.981e-004
Watson K	12.45	13.50	12.45
User Property	---	---	---
Partial Pressure of H2S (psia)	0.0000	---	---
Cp/(Cp - R)	1.142	1.104	1.142
Cp/Cv	1.200	1.110	1.200
Heat of Vap. (Btu/lbmole)	1.861e+004	---	---
Kinematic Viscosity (cSt)	0.4375	5.486	0.4375
Liq. Mass Density (Std. Cond) (lb/ft3)	63.32	40.52	63.32
Liq. Vol. Flow (Std. Cond)(barrel/day)	1972	0.0000	1972
Liquid Fraction	1.000	0.0000	1.000
Molar Volume (ft3/lbmole)	0.2964	489.0	0.2964

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase
Mass Heat of Vap. (Btu/lb)	1031	---	---
Phase Fraction [Molar Basis]	0.0000	0.0000	1.0000
Surface Tension (dyne/cm)	64.95	---	64.95
Thermal Conductivity (Btu/hr-ft-F)	0.3805	1.114e-002	0.3805
Viscosity (cP)	0.4268	8.967e-003	0.4268
Cv (Semi-Ideal) (Btu/lbmole-F)	14.00	19.11	14.00
Mass Cv (Semi-Ideal) (Btu/lb-F)	0.7757	0.3828	0.7757
Cv (Btu/lbmole-F)	13.32	19.00	13.32
Mass Cv (Btu/lb-F)	0.7382	0.3808	0.7382
Cv (Ent. Method) (Btu/lbmole-F)	12.23	---	12.23
Mass Cv (Ent. Method) (Btu/lb-F)	0.6777	---	0.6777
Cp/Cv (Ent. Method)	1.307	---	1.307
Reid VP at 37.8 C (psia)	10.98	123.1	10.98
True VP at 37.8 C (psia)	7.216	217.2	7.216
Liq. Vol. Flow - Sum(Std. Cond) (barrel/day)	1972	0.0000	1972
Viscosity Index	-11.50	---	---
Mass Exergy (Btu/lb)	3.949	---	---

COMPOSITION

Overall Phase

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

* Specified by user.

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Methane	0.0005	0.0000	0.0081	0.0000	0.0019	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0043	0.0000	0.1293	0.0000	0.0249	0.0000
Propane	0.0035	0.0000	0.1553	0.0000	0.0210	0.0000
i-Butane	0.0001	0.0000	0.0032	0.0000	0.0004	0.0000
n-Butane	0.0027	0.0000	0.1569	0.0000	0.0184	0.0000
i-Pentane	0.0002	0.0000	0.0170	0.0000	0.0019	0.0000
n-Pentane	0.0025	0.0000	0.1824	0.0000	0.0198	0.0000
22-Mbutane	0.7005	0.0004	60.3668	0.0021	6.3342	0.0032
n-Hexane	0.0008	0.0000	0.0720	0.0000	0.0074	0.0000
Benzene	0.0595	0.0000	4.6500	0.0002	0.3609	0.0002
n-Heptane	0.0005	0.0000	0.0519	0.0000	0.0052	0.0000
Toluene	0.0290	0.0000	2.6684	0.0001	0.2100	0.0001
n-Octane	0.0000	0.0000	0.0044	0.0000	0.0004	0.0000
E-Benzene	0.0023	0.0000	0.2480	0.0000	0.0195	0.0000
m-Xylene	0.0065	0.0000	0.6898	0.0000	0.0545	0.0000
n-Nonane	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000
n-Decane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	1617.4580	0.9995	29138.6687	0.9976	1999.2335	0.9965
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1618.2711	1.0000	29208.0724	1.0000	2006.3140	1.0000

Vapour Phase

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0000	0.0201	0.0000	0.0065	0.0000	0.0132
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0000	0.0888	0.0000	0.0535	0.0000	0.0919
Propane	0.0000	0.1564	0.0000	0.1382	0.0000	0.1666
i-Butane	0.0000	0.0117	0.0000	0.0137	0.0000	0.0149
n-Butane	0.0000	0.1243	0.0000	0.1448	0.0000	0.1516
i-Pentane	0.0000	0.0258	0.0000	0.0373	0.0000	0.0365
n-Pentane	0.0000	0.0667	0.0000	0.0964	0.0000	0.0935
22-Mbutane	0.0000	0.1592	0.0000	0.2749	0.0000	0.2572
n-Hexane	0.0000	0.0222	0.0000	0.0384	0.0000	0.0354
Benzene	0.0000	0.0080	0.0000	0.0126	0.0000	0.0087
n-Heptane	0.0000	0.0234	0.0000	0.0469	0.0000	0.0417

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Toluene	0.0000	0.0091	0.0000	0.0167	0.0000	0.0117
n-Octane	0.0000	0.0037	0.0000	0.0084	0.0000	0.0073
E-Benzene	0.0000	0.0016	0.0000	0.0034	0.0000	0.0024
m-Xylene	0.0000	0.0036	0.0000	0.0077	0.0000	0.0054
n-Nonane	0.0000	0.0005	0.0000	0.0014	0.0000	0.0012
n-Decane	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	0.0000	0.2748	0.0000	0.0992	0.0000	0.0607
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

Aqueous Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0005	0.0000	0.0081	0.0000	0.0019	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0043	0.0000	0.1293	0.0000	0.0249	0.0000

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Aqueous Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Propane	0.0035	0.0000	0.1553	0.0000	0.0210	0.0000
i-Butane	0.0001	0.0000	0.0032	0.0000	0.0004	0.0000
n-Butane	0.0027	0.0000	0.1569	0.0000	0.0184	0.0000
i-Pentane	0.0002	0.0000	0.0170	0.0000	0.0019	0.0000
n-Pentane	0.0025	0.0000	0.1824	0.0000	0.0198	0.0000
22-Mbutane	0.7005	0.0004	60.3668	0.0021	6.3342	0.0032
n-Hexane	0.0008	0.0000	0.0720	0.0000	0.0074	0.0000
Benzene	0.0595	0.0000	4.6500	0.0002	0.3609	0.0002
n-Heptane	0.0005	0.0000	0.0519	0.0000	0.0052	0.0000
Toluene	0.0290	0.0000	2.6684	0.0001	0.2100	0.0001
n-Octane	0.0000	0.0000	0.0044	0.0000	0.0004	0.0000
E-Benzene	0.0023	0.0000	0.2480	0.0000	0.0195	0.0000
m-Xylene	0.0065	0.0000	0.6898	0.0000	0.0545	0.0000
n-Nonane	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000
n-Decane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	1617.4580	0.9995	29138.6687	0.9976	1999.2335	0.9965
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

NMED Exhibit 1

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Aqueous Phase (continued)

Phase Fraction 1.000

Total	1618.2711	1.0000	29208.0724	1.0000	2006.3140	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	6.422e+004	---	6.422e+004
CO2	---	---	---
Ethane	3.344e+004	---	3.344e+004
Propane	7.188e+004	---	7.188e+004
i-Butane	3.501e+005	---	3.501e+005
n-Butane	7.450e+004	---	7.450e+004
i-Pentane	1.775e+005	---	1.775e+005
n-Pentane	4.268e+004	---	4.268e+004
22-Mbutane	367.7	---	367.7
n-Hexane	4.305e+004	---	4.305e+004
Benzene	218.2	---	218.2
n-Heptane	7.296e+004	---	7.296e+004
Toluene	506.1	---	506.1
n-Octane	1.549e+005	---	1.549e+005
E-Benzene	1106	---	1106
m-Xylene	902.5	---	902.5
n-Nonane	4.110e+005	---	4.110e+005
n-Decane	2.957e+006	---	2.957e+006

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
n-C11	1.170e+007	---	1.170e+007
H2O	0.2749	---	0.2749
H2S	---	---	---
n-C12	1.131e+008	---	1.131e+008
n-C13	4.835e+008	---	4.835e+008
n-C14	3.758e+009	---	3.758e+009

UNIT OPERATIONS

FEED TO	PRODUCT FROM	LOGICAL CONNECTION
	Separator: V-105	

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

DYNAMICS

Pressure Specification	(Inactive)	13.20 psia			
Flow Specification	(Inactive)	Molar: 14.74 MMSCFD	Mass: 2.921e+004 lb/hr	Std Ideal Liq Volume	2006 barrel/day

User Variables

NOTES

Material Stream: Produced Water (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

Description

Material Stream: Water Flash

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

	Overall	Vapour Phase	Aqueous Phase		
Vapour / Phase Fraction	1.0000	1.0000	0.0000		
Temperature: (F)	149.9	149.9	149.9		
Pressure: (psia)	13.20	13.20	13.20		
Molar Flow (MMSCFD)	2.271e-004	2.271e-004	0.0000		
Mass Flow (lb/hr)	1.244	1.244	0.0000		
Std Ideal Liq Vol Flow (barrel/day)	0.1395	0.1395	0.0000		
Molar Enthalpy (Btu/lbmole)	-6.741e+004	-6.741e+004	-1.216e+005		
Molar Entropy (Btu/lbmole-F)	43.41	43.41	15.41		
Heat Flow (Btu/hr)	-1681	-1681	0.0000		
Liq Vol Flow @Std Cond (barrel/day)	0.1313 *	0.1313	0.0000		

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase		
Molecular Weight	49.90	49.90	18.05		
Molar Density (lbmole/ft3)	2.045e-003	2.045e-003	3.374		
Mass Density (lb/ft3)	0.1020	0.1020	60.90		
Act. Volume Flow (barrel/day)	52.12	52.12	0.0000		

* Specified by user.

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase
Mass Enthalpy (Btu/lb)	-1351	-1351	-6736
Mass Entropy (Btu/lb-F)	0.8699	0.8699	0.8539
Heat Capacity (Btu/lbmole-F)	21.09	21.09	15.99
Mass Heat Capacity (Btu/lb-F)	0.4226	0.4226	0.8857
LHV Molar Basis (Std) (Btu/lbmole)	8.768e+005	8.768e+005	819.2
HHV Molar Basis (Std) (Btu/lbmole)	9.478e+005	9.478e+005	1.850e+004
HHV Mass Basis (Std) (Btu/lb)	1.899e+004	1.899e+004	1025
CO2 Loading	---	---	---
CO2 App ML Con (lbmole/ft3)	---	---	---
CO2 App WT Con (lbmol/lb)	---	---	---
LHV Mass Basis (Std) (Btu/lb)	1.757e+004	1.757e+004	45.39
Phase Fraction [Vol. Basis]	1.000	1.000	---
Phase Fraction [Mass Basis]	1.000	1.000	0.0000
Phase Fraction [Act. Vol. Basis]	1.000	1.000	0.0000
Partial Pressure of CO2 (psia)	0.0000	---	---
Cost Based on Flow (Cost/s)	0.0000	0.0000	0.0000
Act. Gas Flow (ACFM)	0.2032	0.2032	---
Avg. Liq. Density (lbmole/ft3)	0.7640	0.7640	3.448
Specific Heat (Btu/lbmole-F)	21.09	21.09	15.99
Std. Gas Flow (MMSCFD)	2.266e-004	2.266e-004	0.0000
Std. Ideal Liq. Mass Density (lb/ft3)	38.13	38.13	62.23
Act. Liq. Flow (USGPM)	0.0000	---	0.0000
Z Factor	---	0.9868	5.981e-004
Watson K	13.50	13.50	12.45

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase
User Property	---	---	---
Partial Pressure of H2S (psia)	0.0000	---	---
Cp/(Cp - R)	1.104	1.104	1.142
Cp/Cv	1.110	1.110	1.200
Heat of Vap. (Btu/lbmole)	1.939e+004	---	---
Kinematic Viscosity (cSt)	5.486	5.486	0.4375
Liq. Mass Density (Std. Cond) (lb/ft3)	40.52	40.52	63.32
Liq. Vol. Flow (Std. Cond)(barrel/day)	0.1313	0.1313	0.0000
Liquid Fraction	0.0000	0.0000	1.000
Molar Volume (ft3/lbmole)	489.0	489.0	0.2964
Mass Heat of Vap. (Btu/lb)	388.5	---	---
Phase Fraction [Molar Basis]	1.0000	1.0000	0.0000
Surface Tension (dyne/cm)	---	---	64.95
Thermal Conductivity (Btu/hr-ft-F)	1.114e-002	1.114e-002	0.3805
Viscosity (cP)	8.967e-003	8.967e-003	0.4268
Cv (Semi-Ideal) (Btu/lbmole-F)	19.11	19.11	14.00
Mass Cv (Semi-Ideal) (Btu/lb-F)	0.3828	0.3828	0.7757
Cv (Btu/lbmole-F)	19.00	19.00	13.32
Mass Cv (Btu/lb-F)	0.3808	0.3808	0.7382
Cv (Ent. Method) (Btu/lbmole-F)	---	---	12.23
Mass Cv (Ent. Method) (Btu/lb-F)	---	---	0.6777
Cp/Cv (Ent. Method)	---	---	1.307
Reid VP at 37.8 C (psia)	123.1	123.1	10.98
True VP at 37.8 C (psia)	217.2	217.2	7.216

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Aqueous Phase		
Liq. Vol. Flow - Sum(Std. Cond) (barrel/day)	0.1313	0.1313	0.0000		
Viscosity Index	-26.29	---	---		
Mass Exergy (Btu/lb)	9.381	---	---		

COMPOSITION

Overall Phase

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0005	0.0201	0.0080	0.0065	0.0018	0.0132
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0022	0.0888	0.0666	0.0535	0.0128	0.0919
Propane	0.0039	0.1564	0.1720	0.1382	0.0232	0.1666
i-Butane	0.0003	0.0117	0.0170	0.0137	0.0021	0.0149
n-Butane	0.0031	0.1243	0.1801	0.1448	0.0211	0.1516
i-Pentane	0.0006	0.0258	0.0464	0.0373	0.0051	0.0365
n-Pentane	0.0017	0.0667	0.1200	0.0964	0.0130	0.0935
22-Mbutane	0.0040	0.1592	0.3420	0.2749	0.0359	0.2572
n-Hexane	0.0006	0.0222	0.0478	0.0384	0.0049	0.0354
Benzene	0.0002	0.0080	0.0156	0.0126	0.0012	0.0087
n-Heptane	0.0006	0.0234	0.0583	0.0469	0.0058	0.0417
Toluene	0.0002	0.0091	0.0208	0.0167	0.0016	0.0117
n-Octane	0.0001	0.0037	0.0104	0.0084	0.0010	0.0073

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 1.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
E-Benzene	0.0000	0.0016	0.0042	0.0034	0.0003	0.0024
m-Xylene	0.0001	0.0036	0.0096	0.0077	0.0008	0.0054
n-Nonane	0.0000	0.0005	0.0017	0.0014	0.0002	0.0012
n-Decane	0.0000	0.0000	0.0001	0.0001	0.0000	0.0001
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	0.0069	0.2748	0.1234	0.0992	0.0085	0.0607
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0249	1.0000	1.2442	1.0000	0.1395	1.0000

Vapour Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0005	0.0201	0.0080	0.0065	0.0018	0.0132
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0022	0.0888	0.0666	0.0535	0.0128	0.0919
Propane	0.0039	0.1564	0.1720	0.1382	0.0232	0.1666
i-Butane	0.0003	0.0117	0.0170	0.0137	0.0021	0.0149

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-Butane	0.0031	0.1243	0.1801	0.1448	0.0211	0.1516
i-Pentane	0.0006	0.0258	0.0464	0.0373	0.0051	0.0365
n-Pentane	0.0017	0.0667	0.1200	0.0964	0.0130	0.0935
22-Mbutane	0.0040	0.1592	0.3420	0.2749	0.0359	0.2572
n-Hexane	0.0006	0.0222	0.0478	0.0384	0.0049	0.0354
Benzene	0.0002	0.0080	0.0156	0.0126	0.0012	0.0087
n-Heptane	0.0006	0.0234	0.0583	0.0469	0.0058	0.0417
Toluene	0.0002	0.0091	0.0208	0.0167	0.0016	0.0117
n-Octane	0.0001	0.0037	0.0104	0.0084	0.0010	0.0073
E-Benzene	0.0000	0.0016	0.0042	0.0034	0.0003	0.0024
m-Xylene	0.0001	0.0036	0.0096	0.0077	0.0008	0.0054
n-Nonane	0.0000	0.0005	0.0017	0.0014	0.0002	0.0012
n-Decane	0.0000	0.0000	0.0001	0.0001	0.0000	0.0001
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	0.0069	0.2748	0.1234	0.0992	0.0085	0.0607
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0249	1.0000	1.2442	1.0000	0.1395	1.0000

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Aqueous Phase

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Propane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
i-Butane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Butane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
i-Pentane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Pentane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
22-Mbutane	0.0000	0.0004	0.0000	0.0021	0.0000	0.0032
n-Hexane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Benzene	0.0000	0.0000	0.0000	0.0002	0.0000	0.0002
n-Heptane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Toluene	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001
n-Octane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
E-Benzene	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
m-Xylene	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Nonane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-Decane	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C11	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
H2O	0.0000	0.9995	0.0000	0.9976	0.0000	0.9965

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Aqueous Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	6.422e+004	---	6.422e+004
CO2	---	---	---
Ethane	3.344e+004	---	3.344e+004
Propane	7.188e+004	---	7.188e+004
i-Butane	3.501e+005	---	3.501e+005
n-Butane	7.450e+004	---	7.450e+004
i-Pentane	1.775e+005	---	1.775e+005
n-Pentane	4.268e+004	---	4.268e+004
22-Mbutane	367.7	---	367.7
n-Hexane	4.305e+004	---	4.305e+004
Benzene	218.2	---	218.2
n-Heptane	7.296e+004	---	7.296e+004

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Toluene	506.1	---	506.1
n-Octane	1.549e+005	---	1.549e+005
E-Benzene	1106	---	1106
m-Xylene	902.5	---	902.5
n-Nonane	4.110e+005	---	4.110e+005
n-Decane	2.957e+006	---	2.957e+006
n-C11	1.170e+007	---	1.170e+007
H2O	0.2749	---	0.2749
H2S	---	---	---
n-C12	1.131e+008	---	1.131e+008
n-C13	4.835e+008	---	4.835e+008
n-C14	3.758e+009	---	3.758e+009

UNIT OPERATIONS

FEED TO	PRODUCT FROM	LOGICAL CONNECTION
	Separator: V-105	

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

NMED Exhibit 1

Material Stream: Water Flash (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

DYNAMICS

Pressure Specification	(Inactive)	13.20 psia			
Flow Specification	(Inactive)	Molar:	271e-004 MMSCFD	Mass: 1.244 lb/hr	Std Ideal Liq Volu 1.1895 barrel/day

User Variables

NOTES

Description

Material Stream: Oil

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

		Overall	Vapour Phase	Liquid Phase		
Vapour / Phase Fraction		0.0000	0.0000	1.0000		
Temperature:	(F)	145.3	145.3	145.3		
Pressure:	(psia)	13.20	13.20	13.20		
Molar Flow	(MMSCFD)	1.469	0.0000	1.469		
Mass Flow	(lb/hr)	2.075e+004	0.0000	2.075e+004		
Std Ideal Liq Vol Flow	(barrel/day)	1953	0.0000	1953		
Molar Enthalpy	(Btu/lbmole)	-1.073e+005	-6.013e+004	-1.073e+005		
Molar Entropy	(Btu/lbmole-F)	47.38	42.35	47.38		
Heat Flow	(Btu/hr)	-1.731e+007	0.0000	-1.731e+007		

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

CONDITIONS

	Overall	Vapour Phase	Liquid Phase		
Liq Vol Flow @Std Cond (barrel/day)	1935 *	0.0000	1935		

PROPERTIES

	Overall	Vapour Phase	Liquid Phase		
Molecular Weight	128.6	63.27	128.6		
Molar Density (lbmole/ft3)	0.3371	2.072e-003	0.3371		
Mass Density (lb/ft3)	43.36	0.1311	43.36		
Act. Volume Flow (barrel/day)	2045	0.0000	2045		
Mass Enthalpy (Btu/lb)	-834.1	-950.4	-834.1		
Mass Entropy (Btu/lb-F)	0.3684	0.6694	0.3684		
Heat Capacity (Btu/lbmole-F)	69.60	26.93	69.60		
Mass Heat Capacity (Btu/lb-F)	0.5411	0.4257	0.5411		
LHV Molar Basis (Std) (Btu/lbmole)	2.457e+006	1.210e+006	2.457e+006		
HHV Molar Basis (Std) (Btu/lbmole)	2.629e+006	1.302e+006	2.629e+006		
HHV Mass Basis (Std) (Btu/lb)	2.044e+004	2.058e+004	2.044e+004		
CO2 Loading	---	---	---		
CO2 App ML Con (lbmole/ft3)	0.0000	---	0.0000		
CO2 App WT Con (lbmol/lb)	0.0000	---	0.0000		
LHV Mass Basis (Std) (Btu/lb)	1.911e+004	1.912e+004	1.911e+004		
Phase Fraction [Vol. Basis]	---	---	1.000		
Phase Fraction [Mass Basis]	0.0000	0.0000	1.000		
Phase Fraction [Act. Vol. Basis]	0.0000	0.0000	1.000		
Partial Pressure of CO2 (psia)	0.0000	---	---		
Cost Based on Flow (Cost/s)	0.0000	0.0000	0.0000		

* Specified by user.

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

	Overall	Vapour Phase	Liquid Phase
Act. Gas Flow (ACFM)	---	---	---
Avg. Liq. Density (lbmole/ft3)	0.3532	0.6019	0.3532
Specific Heat (Btu/lbmole-F)	69.60	26.93	69.60
Std. Gas Flow (MMSCFD)	1.466	0.0000	1.466
Std. Ideal Liq. Mass Density (lb/ft3)	45.42	38.08	45.42
Act. Liq. Flow (USGPM)	59.66	---	59.66
Z Factor	---	0.9810	6.031e-003
Watson K	12.54	13.26	12.54
User Property	---	---	---
Partial Pressure of H2S (psia)	0.0000	---	---
Cp/(Cp - R)	1.029	1.080	1.029
Cp/Cv	1.244	1.086	1.244
Heat of Vap. (Btu/lbmole)	3.446e+004	---	---
Kinematic Viscosity (cSt)	0.7026	3.930	0.7026
Liq. Mass Density (Std. Cond) (lb/ft3)	45.82	39.09	45.82
Liq. Vol. Flow (Std. Cond)(barrel/day)	1935	0.0000	1935
Liquid Fraction	1.000	0.0000	1.000
Molar Volume (ft3/lbmole)	2.966	482.5	2.966
Mass Heat of Vap. (Btu/lb)	268.0	---	---
Phase Fraction [Molar Basis]	0.0000	0.0000	1.0000
Surface Tension (dyne/cm)	18.27	---	18.27
Thermal Conductivity (Btu/hr-ft-F)	6.686e-002	1.041e-002	6.686e-002
Viscosity (cP)	0.4880	8.254e-003	0.4880
Cv (Semi-Ideal) (Btu/lbmole-F)	67.61	24.94	67.61

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

PROPERTIES

		Overall	Vapour Phase	Liquid Phase		
Mass Cv (Semi-Ideal)	(Btu/lb-F)	0.5257	0.3943	0.5257		
Cv	(Btu/lbmole-F)	55.95	24.80	55.95		
Mass Cv	(Btu/lb-F)	0.4350	0.3919	0.4350		
Cv (Ent. Method)	(Btu/lbmole-F)	56.54	---	56.54		
Mass Cv (Ent. Method)	(Btu/lb-F)	0.4396	---	0.4396		
Cp/Cv (Ent. Method)		1.231	---	1.231		
Reid VP at 37.8 C	(psia)	5.606	68.00	5.606		
True VP at 37.8 C	(psia)	7.075	86.12	7.075		
Liq. Vol. Flow - Sum(Std. Cond)	(barrel/day)	1935	0.0000	1935		
Viscosity Index		-2.086	---	---		
Mass Exergy	(Btu/lb)	2.108	---	---		

COMPOSITION

Overall Phase

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0013	0.0000	0.0201	0.0000	0.0046	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0928	0.0006	2.7910	0.0001	0.5373	0.0003
Propane	1.3662	0.0085	60.2465	0.0029	8.1417	0.0042
i-Butane	0.9153	0.0057	53.2008	0.0026	6.4823	0.0033
n-Butane	4.6224	0.0287	268.6701	0.0129	31.5430	0.0162

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Overall Phase (continued)

Vapour Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
i-Pentane	4.1730	0.0259	301.0867	0.0145	33.0684	0.0169
n-Pentane	6.1286	0.0380	442.1824	0.0213	48.0802	0.0246
22-Mbutane	14.9691	0.0928	1290.0098	0.0622	135.3591	0.0693
n-Hexane	5.8683	0.0364	505.7171	0.0244	52.2556	0.0268
Benzene	1.3583	0.0084	106.0942	0.0051	8.2347	0.0042
n-Heptane	21.0611	0.1306	2110.4314	0.1017	210.4019	0.1078
Toluene	4.3998	0.0273	405.3994	0.0195	31.9051	0.0163
n-Octane	13.9342	0.0864	1591.7351	0.0767	154.5140	0.0791
E-Benzene	2.0226	0.0125	214.7277	0.0103	16.8994	0.0087
m-Xylene	5.2970	0.0328	562.3602	0.0271	44.4194	0.0227
n-Nonane	11.2233	0.0696	1439.4837	0.0694	136.8496	0.0701
n-Decane	12.7426	0.0790	1813.0747	0.0874	169.4320	0.0868
n-C11	7.6724	0.0476	1199.2896	0.0578	110.5461	0.0566
H2O	0.1416	0.0009	2.5506	0.0001	0.1750	0.0001
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	5.4276	0.0336	924.5350	0.0446	84.2787	0.0432
n-C13	4.5581	0.0283	840.3663	0.0405	75.8318	0.0388
n-C14	33.3383	0.2067	6613.6489	0.3188	593.5870	0.3040
Total	161.3137	1.0000	20747.6211	1.0000	1952.5469	1.0000

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0000	0.0020	0.0000	0.0005	0.0000	0.0011
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0000	0.0364	0.0000	0.0173	0.0000	0.0296
Propane	0.0000	0.1823	0.0000	0.1270	0.0000	0.1529
i-Butane	0.0000	0.0552	0.0000	0.0507	0.0000	0.0550
n-Butane	0.0000	0.2091	0.0000	0.1921	0.0000	0.2009
i-Pentane	0.0000	0.0846	0.0000	0.0965	0.0000	0.0944
n-Pentane	0.0000	0.0987	0.0000	0.1126	0.0000	0.1091
22-Mbutane	0.0000	0.1468	0.0000	0.2000	0.0000	0.1869
n-Hexane	0.0000	0.0345	0.0000	0.0470	0.0000	0.0432
Benzene	0.0000	0.0075	0.0000	0.0093	0.0000	0.0064
n-Heptane	0.0000	0.0467	0.0000	0.0739	0.0000	0.0656
Toluene	0.0000	0.0086	0.0000	0.0125	0.0000	0.0088
n-Octane	0.0000	0.0116	0.0000	0.0210	0.0000	0.0182
E-Benzene	0.0000	0.0015	0.0000	0.0026	0.0000	0.0018
m-Xylene	0.0000	0.0034	0.0000	0.0058	0.0000	0.0041
n-Nonane	0.0000	0.0036	0.0000	0.0074	0.0000	0.0063
n-Decane	0.0000	0.0016	0.0000	0.0037	0.0000	0.0031
n-C11	0.0000	0.0004	0.0000	0.0010	0.0000	0.0008
H2O	0.0000	0.0651	0.0000	0.0185	0.0000	0.0113

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Vapour Phase (continued)

Phase Fraction 0.0000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	0.0000	0.0001	0.0000	0.0003	0.0000	0.0003
n-C13	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001
n-C14	0.0000	0.0001	0.0000	0.0003	0.0000	0.0002
Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

Liquid Phase

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
Nitrogen	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Methane	0.0013	0.0000	0.0201	0.0000	0.0046	0.0000
CO2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ethane	0.0928	0.0006	2.7910	0.0001	0.5373	0.0003
Propane	1.3662	0.0085	60.2465	0.0029	8.1417	0.0042
i-Butane	0.9153	0.0057	53.2008	0.0026	6.4823	0.0033
n-Butane	4.6224	0.0287	268.6701	0.0129	31.5430	0.0162
i-Pentane	4.1730	0.0259	301.0867	0.0145	33.0684	0.0169
n-Pentane	6.1286	0.0380	442.1824	0.0213	48.0802	0.0246
22-Mbutane	14.9691	0.0928	1290.0098	0.0622	135.3591	0.0693
n-Hexane	5.8683	0.0364	505.7171	0.0244	52.2556	0.0268
Benzene	1.3583	0.0084	106.0942	0.0051	8.2347	0.0042

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

COMPOSITION

Liquid Phase (continued)

Phase Fraction 1.000

COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
n-Heptane	21.0611	0.1306	2110.4314	0.1017	210.4019	0.1078
Toluene	4.3998	0.0273	405.3994	0.0195	31.9051	0.0163
n-Octane	13.9342	0.0864	1591.7351	0.0767	154.5140	0.0791
E-Benzene	2.0226	0.0125	214.7277	0.0103	16.8994	0.0087
m-Xylene	5.2970	0.0328	562.3602	0.0271	44.4194	0.0227
n-Nonane	11.2233	0.0696	1439.4837	0.0694	136.8496	0.0701
n-Decane	12.7426	0.0790	1813.0747	0.0874	169.4320	0.0868
n-C11	7.6724	0.0476	1199.2896	0.0578	110.5461	0.0566
H2O	0.1416	0.0009	2.5506	0.0001	0.1750	0.0001
H2S	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
n-C12	5.4276	0.0336	924.5350	0.0446	84.2787	0.0432
n-C13	4.5581	0.0283	840.3663	0.0405	75.8318	0.0388
n-C14	33.3383	0.2067	6613.6489	0.3188	593.5870	0.3040
Total	161.3137	1.0000	20747.6211	1.0000	1952.5469	1.0000

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Nitrogen	---	---	---
Methane	264.1	264.1	---
CO2	---	---	---
Ethane	63.18	63.18	---

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

K VALUE

COMPONENTS	MIXED	LIGHT	HEAVY
Propane	21.52	21.52	---
i-Butane	9.722	9.722	---
n-Butane	7.299	7.299	---
i-Pentane	3.271	3.271	---
n-Pentane	2.599	2.599	---
22-Mbutane	1.582	1.582	---
n-Hexane	0.9477	0.9477	---
Benzene	0.8923	0.8923	---
n-Heptane	0.3573	0.3573	---
Toluene	0.3148	0.3148	---
n-Octane	0.1346	0.1346	---
E-Benzene	0.1214	0.1214	---
m-Xylene	0.1047	0.1047	---
n-Nonane	5.237e-002	5.237e-002	---
n-Decane	2.074e-002	2.074e-002	---
n-C11	8.226e-003	8.226e-003	---
H2O	74.21	74.21	---
H2S	---	---	---
n-C12	3.592e-003	3.592e-003	---
n-C13	1.304e-003	1.304e-003	---
n-C14	4.479e-004	4.479e-004	---

NMED Exhibit 1

Material Stream: Oil (continued)

Fluid Package: PENG-ROB
Property Package: Kabadi-Danner

UNIT OPERATIONS

FEED TO	PRODUCT FROM	LOGICAL CONNECTION
	Separator: V-100	

UTILITIES

(No utilities reference this stream)

PROCESS UTILITY

DYNAMICS

Pressure Specification	(Inactive)	13.20 psia			
Flow Specification	(Inactive)	Molar: 1.469 MMSCFD	Mass: 2.075e+004 lb/hr	Std Ideal Liq Volume	1953 barrel/day

User Variables

NOTES

Description

NMED Exhibit 1

Natural Gas Analysis Report
AKM Measurement Services

Sample Information

	Sample Information
Sample Name	BOYD 11-10H (90-301-01)
Sample Date	6/8/17
Meter ID	90-301-01
Technician Name	C GOMEZ
Lab Technician	C HEWITT
Method Name	AKM (2).met
Injection Date	2017-06-09 09:08:11

Component Results

Component Name	Raw Amount	Norm%	GPM (Dry) (Gal. / 1000 cu.ft.)
Nitrogen	1.3750	1.3581	0.000
Methane	72.2780	71.3906	0.000
CO2	0.2340	0.2311	0.000
Ethane	12.1950	12.0453	3.236
H2S	0.0000	0.0000	0.000
Propane	7.8290	7.7329	2.140
iso-Butane	1.1170	1.1033	0.363
n-Butane	3.0200	2.9829	0.945
iso-Pentane	0.8510	0.8406	0.309
n-Pentane	0.8790	0.8682	0.316
Hexanes Plus	1.4650	1.4470	0.631
Water	0.0000	0.0000	0.000
Total:	101.2430	100.0000	7.939

Results Summary

Result	Dry	Sat.
Total Raw Amount	101.2430	
Pressure Base (psia)	14.730	
Flowing Temperature (Deg. F)	111.0	
Flowing Pressure (psia)	61.0	
Gross Heating Value (BTU / Real cu.ft.)	1414.7	1390.7
Relative Density (G), Real	0.8296	0.8264
Total GPM	7.939	7.905
Total Molecular Weight	23.923	23.820

NMED Exhibit 1

MITCHELL ANALYTICAL LAB
2638 FAUDREE
ODESSA, TEXAS 79765-8538
432.561.5579

SUMMARY OF CHROMATOGRAPHIC ANALYSIS

COMPANY:	AMI	**Lab Ref #:**	17-NOV-94702
PRODUCER:	Ameredev	**SAMPLED BY:**	n.a.
LEASE:	Boyd 11 101H	**SAMPLE DATE**	10/26/17
STATION #:	n.a.	**SAMPLE PRES**	19.0
DATE RUN:	11/7/2017	**SAMPLE TEMP**	n.a.

COMPONENT	MOLE %	WEIGHT %	VOLUME %
HYDROGEN SULFIDE	0.0000	0.0000	0.0000
NITROGEN	0.0000	0.0000	0.0000
OXYGEN	0.0000	0.0000	0.0000
METHANE	0.0156	0.0018	0.0045
CARBON DIOXIDE	0.0000	0.0000	0.0000
ETHANE	0.2113	0.0458	0.0963
PROPANE	1.4780	0.4699	0.6942
ISO-BUTANE	0.7371	0.3089	0.4113
N-BUTANE	3.4787	1.4578	1.8709
ISO-PENTANE	2.7776	1.4449	1.7340
N-PENTANE (C-5)	3.9944	2.0779	2.4679
2,2 DIMETHYL BUTANE	0.0000	0.0000	0.0000
CYCLOPENTANE	0.0000	0.0000	0.0000
2-METHYLPENTANE	2.3373	1.4523	1.6550
3-METHYLPENTANE	1.5113	0.9391	1.0523
N-HEXANE (C-6)	3.6209	2.2499	2.5408
METHYLCYCLOPENTANE	2.1040	1.2767	1.2693
BENZENE	0.8720	0.4911	0.4169
CYCLOHEXANE	3.8998	2.3664	2.2640
2-METHYLHEXANE	0.5408	0.3907	0.4292
3-METHYLHEXANE	1.9016	1.3738	1.4864
DIMETHYLCYCLOPENTA	1.3295	0.9412	0.9330
HEPTANES	0.9364	0.6765	0.7368
N-HEPTANE (C-7)	3.2727	2.3644	2.5751
METHYLCYCLOHEXANE	4.7544	3.2967	3.1897
TOLUENE	2.6739	1.7764	1.5230
OCTANES	5.8414	4.8110	5.1011
N-OCTANE (C-8)	2.5199	2.0754	2.2005
ETHYL BENZENE	1.2145	0.9297	0.7970
P-M-XYLENE	2.3873	1.8275	1.5781
O-XYLENE	0.7918	0.6061	0.5135
NONANES	4.3451	4.0182	4.1727
N-NONANE (C-9)	2.3703	2.1920	2.2763

CALCULATED PARAMETERS

TOTAL ANALYSIS SUMMARY

AVE MOLE WT	138.6947
SP GRAV, 60F/60	0.7724
API GRAVITY	51.7
REL DENS, AIR=1	4.7886
VAPOR PRESS PSIA	9.78

HEXANES PLUS SUMMARY

AVE MOLE WT	149.6331
SP GRAV, 60F/60	0.7984
API GRAVITY	45.7
LBS/GAL	6.388
REL DENS, AIR=1	5.1663
VAPOR PRESS PSIA	1.15

BTEX SUMMARY

WT % BENZENE	0.4911
WT % TOLUENE	1.7764
WT % E BENZENE	0.9297
WT % XYLENES	2.4336

DECANES PLUS SUMMARY

AVE MOLE WT	211.7363
SP GRAV, 60F/60	0.8658
API GRAVITY	31.9
LBS/GAL	6.927
REL DENS, AIR=1	7.3105
VAPOR PRESS PSIA	0.016

CONTINUED ON NEXT PAGE

NMED Exhibit 1

Boyd 11 101H

COMPONENT	MOLE %	WEIGHT %	VOLUME %
DECANES	5.8578	6.0092	6.1353
N-DECANE (C-10)	1.7583	1.8038	1.8416
UNDECANES	3.2280	3.6380	3.6629
N-UNDECANE (C-11)	1.3557	1.5279	1.5383
DODECANES	2.2211	2.7279	2.7163
N-DODECANE (C-12)	1.0210	1.2540	1.2487
TRIDECANES	1.9415	2.5807	2.5394
N-TRIDECANE (C-13)	0.7871	1.0463	1.0296
TETRADECANES	1.2295	1.7587	1.7270
N-TETRADECANE (C-14)	0.7162	1.0245	1.0061
PENTADECANES	1.2559	1.9235	1.8672
N-PENTADECANE (C-15)	0.5297	0.8113	0.7875
HEXADECANES	0.5824	0.9509	0.9171
N-HEXADECANE (C-16)	0.4088	0.6674	0.6437
HEPTADECANES	0.6551	1.1358	1.0920
N-HEPTADECANE (C-17)	0.3382	0.5864	0.5638
OCTADECANES	0.5518	1.0125	0.9706
N-OCTADECANE (C-18)	0.2699	0.4953	0.4748
NONADECANES	0.3690	0.7144	0.6805
N-NONADECANE (C-19)	0.2475	0.4792	0.4564
EICOSANES	0.2149	0.4378	0.4147
N-EICOSANES (C-20)	0.1832	0.3732	0.3535
HENEICOSANE + (C-21+)	12.3598	25.1792	23.3432
TOTALS	100.0000	100.0000	100.0000

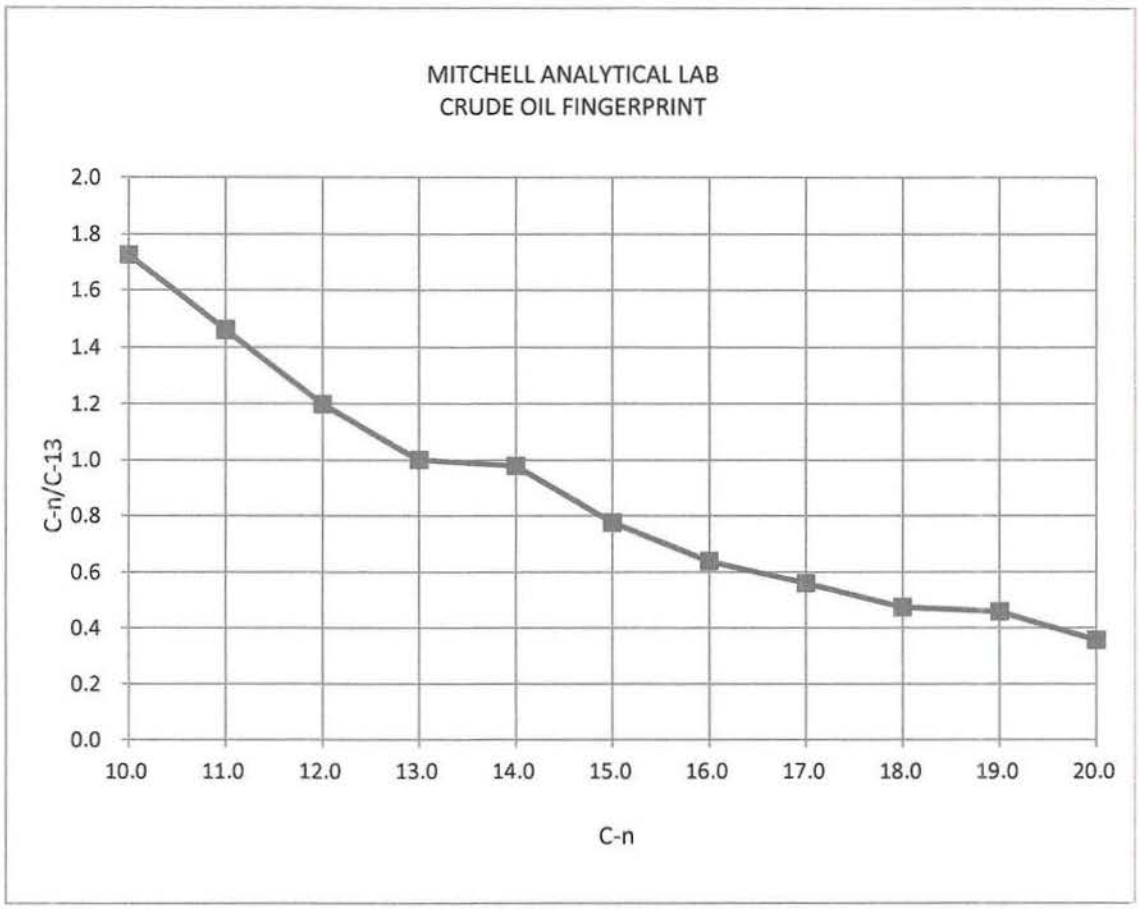
CRUDE OIL FINGERPRINT
C-n/C-13 RATIO SUMMARY

C-n	C-n/C-13
10.0	1.724
11.0	1.460
12.0	1.199
13.0	1.000
14.0	0.979
15.0	0.775
16.0	0.638
17.0	0.560
18.0	0.473
19.0	0.458
20.0	0.357

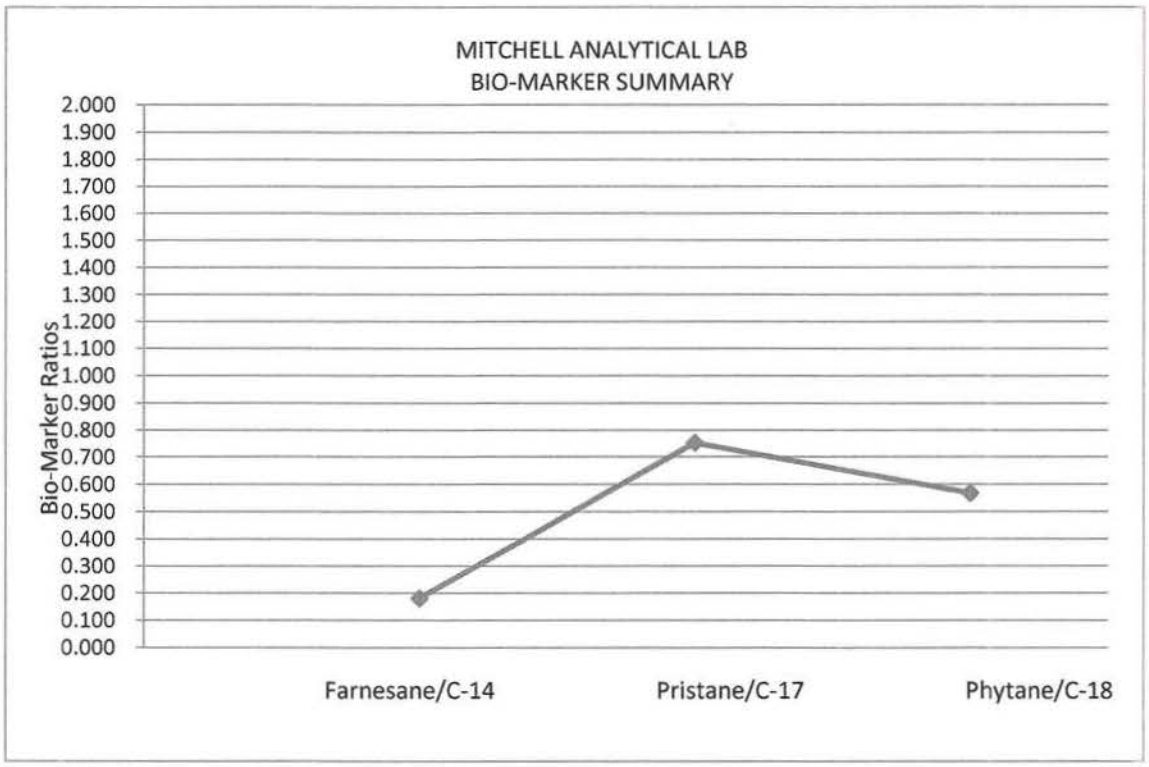
BIO-MARKER SUMMARY

Farnesane/C-14	0.180
Pristane/C-17	0.752
Phytane/C-18	0.567
Weight % Sulfur	n.a.
Gravity, API @ 60 F	45.7

NMED Exhibit 1



Boyd 11 101H



NMED Exhibit 1

Table 5.1-1 (Metric And English Units). EMISSIONS FACTORS FOR PETROLEUM REFINERIES [a]

Process	Particulate	Sulfur Oxides (as SO_2)	Carbon Monoxide	Total Hydro-carbons [b]	Nitrogen Oxides (as NO_2)	Aldehydes	Ammonia	EMISSION FACTOR RATING
Boilers and process heaters								
Fuel oil	See Section 1.3 - "Fuel Oil Combustion"							
Natural gas	See Section 1.4 - "Natural Gas Combustion"							
Fluid catalytic cracking units (FCC) [c]								
Uncontrolled								
kg/10^3 L fresh feed	0.695 (0.267 to 0.976)	1.413 (0.286 to 1.505)	39.2	0.630	0.204 (0.107 to 0.416)	0.054	0.155	B
lb/10^3 bbl fresh feed	242 (93 to 340)	493 (100 to 525)	13,700	220	71.0 (37.1 to 145.0)	19	54	B
Electrostatic precipitator and CO boiler								
kg/10^3 L fresh feed	0.128 [d] (0.020 to 0.428)	1.413 (0.286 to 1.505)	Neg	Neg	0.204 [e] (0.107 to 0.416)	Neg	Neg	B
lb/10^3 bbl fresh feed	45 [d] (7 to 150)	493 (100 to 525)	Neg	Neg	71.0 [e] (37.1 to 145.0)	Neg	Neg	B
Moving-bed catalytic cracking units [f]								
kg/10^3 L fresh feed	0.049	0.171	10.8	0.250	0.014	0.034	0.017	B
lb/10^3 bbl fresh feed	17	60	3,800	87	5	12	6	B
Fluid coking units [g]								
Uncontrolled								
kg/10^3 L fresh feed	1.50	ND	ND	ND	ND	ND	ND	C
lb/10^3 bbl fresh feed	523	ND	ND	ND	ND	ND	ND	C
Electrostatic precipitator and CO boiler								
kg/10^3 L fresh feed	0.0196	ND	Neg	Neg	ND	Neg	Neg	C
lb/10^3 bbl fresh feed	6.85	ND	Neg	Neg	ND	Neg	Neg	C

Table 5.1-1 (cont.).

Process	Particulate	Sulfur Oxides (as SO_2)	Carbon Monoxide	Total Hydro-carbons [b]	Nitrogen Oxides (as NO_2)	Aldehydes	Ammonia	EMISSION FACTOR RATING
Delayed coking units	ND	ND	ND	ND [n]	ND	ND	ND	NA
Compressor engines [h]								
Reciprocating engines								
kg/10^3 m^3 gas burned	Neg	2s [j]	7.02	21.8	55.4	1.61	3.2	B
lb/10^3 ft^3 gas burned	Neg	2s	0.43	1.4	3.4	0.1	0.2	B
Gas turbines								
kg/10^3 m^3 gas burned	Neg	2s	1.94	0.28	4.7	ND	ND	B
lb/10^3 ft^3 gas burned	Neg	2s	0.12	0.02	0.3	ND	ND	B
Blowdown systems [k]								
Uncontrolled								
kg/10^3 L refinery feed	Neg	Neg	Neg	1,662	Neg	Neg	Neg	C
lb/10^3 bbl refinery feed	Neg	Neg	Neg	580	Neg	Neg	Neg	C
Vapor recovery system and flaring								
kg/10^3 L refinery feed	Neg	0.077	0.012	0.002	0.054	Neg	Neg	C
lb/10^3 bbl refinery feed	Neg	26.9	4.3	0.8	18.9	Neg	Neg	C
Vacuum distillation column condensers [m]								
Uncontrolled								
kg/10^3 L vacuum feed	Neg	Neg	Neg	0.14 (0 to 0.37)	Neg	Neg	Neg	C
lb/10^3 bbl vacuum feed	Neg	Neg	Neg	50 (0 to 130)	Neg	Neg	Neg	C
Controlled (vented to heater or incinerator)	Neg	Neg	Neg	Neg	Neg	Neg	Neg	C

Table 5.1-1 (cont.).

Process	Particulate	Sulfur Oxides (as SO_2)	Carbon Monoxide	Total Hydro-carbons [b]	Nitrogen Oxides (as NO_2)	Aldehydes	Ammonia	EMISSION FACTOR RATING
Claus plant and tail gas treatment	See Section 8.13 - "Sulfur Recovery"							

[a] Numbers in parentheses indicate range of values observed. Neg = negligible. ND = no data.
[b] Overall, less than 1 weight % of total hydrocarbon emissions is methane.
[c] References 2-8.
[d] Under the New Source Performance Standards, controlled FCC regenerators must have particulate emissions lower than 0.054 kg/10^3 L (19 lb/10^3 bbl) fresh feed.
[e] May be higher, from the combustion of ammonia.
[f] Reference 2.
[g] Reference 5.
[h] References 9-10.
[j] Based on 100% combustion of sulfur to SO_2. s = refinery gas sulfur content (in kg/1000 m^3 or lb/1000 ft^3, depending on desired units for emission factor).
[k] References 2,11.
[m] References 2,12-13. If refinery feed rate is known, rather than vacuum feed rate, assume vacuum feed is 36% of refinery feed. Refinery feed rate is defined as the crude oil feed rate to the atmospheric distillation column.
[n] Methods for estimating hydrocarbon emissions from decoking operations are presented in Reference 18.

Table 1.4-1. EMISSION FACTORS FOR NITROGEN OXIDES (NO_x) AND CARBON MONOXIDE (CO) FROM NATURAL GAS COMBUSTION[a]

Combustor Type (MMBtu/hr Heat Input) [SCC]	NO_x[b]		CO	
	Emission Factor (lb/10^6 scf)	Emission Factor Rating	Emission Factor (lb/10^6 scf)	Emission Factor Rating
Large Wall-Fired Boilers (>100) [1-01-006-01, 1-02-006-01, 1-03-006-01]				
Uncontrolled (Pre-NSPS)[c]	280	A	84	B
Uncontrolled (Post-NSPS)[c]	190	A	84	B
Controlled - Low NO_x burners	140	A	84	B
Controlled - Flue gas recirculation	100	D	84	B
Small Boilers (<100) [1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03]				
Uncontrolled	100	B	84	B
Controlled - Low NO_x burners	50	D	84	B
Controlled - Low NO_x burners/Flue gas recirculation	32	C	84	B
Tangential-Fired Boilers (All Sizes) [1-01-006-04]				
Uncontrolled	170	A	24	C
Controlled - Flue gas recirculation	76	D	98	D
Residential Furnaces (<0.3) [No SCC]				
Uncontrolled	94	B	40	B

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. To convert from lb/10^6 scf to kg/10^6 m^3, multiply by 16. Emission factors are based on an average natural gas higher heating value of 1,020 Btu/scf. To convert from lb/10^6 scf to lb/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. SCC = Source Classification Code. ND = no data. NA = not applicable.

[b] Expressed as NO_2. For large and small wall fired boilers with SNCR control, apply a 24 percent reduction to the appropriate NO_X emission factor. For tangential-fired boilers with SNCR control, apply a 13 percent reduction to the appropriate NO_X emission factor.

[c] NSPS=New Source Performance Standard as defined in 40 CFR 60 Subparts D and Db. Post-NSPS units are boilers with greater than 250 MMBtu/hr of heat input that commenced construction modification, or reconstruction after August 17, 1971, and units with heat input capacities between 100 and 250 MMBtu/hr that commenced construction modification, or reconstruction after June 19, 1984.

TABLE 1.4-2. EMISSION FACTORS FOR CRITERIA POLLUTANTS AND GREENHOUSE GASES FROM NATURAL GAS COMBUSTION[a]

Pollutant	Emission Factor ($lb/10^6$ scf)	Emission Factor Rating
CO_2[b]	120,000	A
Lead	0.0005	D
N_2O (Uncontrolled)	2.2	E
N_2O (Controlled-low-NO_X burner)	0.64	E
PM (Total)[c]	7.6	D
PM (Condensable)[c]	5.7	D
PM (Filterable)[c]	1.9	B
SO_2[d]	0.6	A
TOC	11	B
Methane	2.3	B
VOC	5.5	C

[a] Reference 11. Units are in pounds of pollutant per million standard cubic feet of natural gas fired. Data are for all natural gas combustion sources. To convert from $lb/10^6$ scf to $kg/10^6$ m^3, multiply by 16. To convert from $lb/10^6$ scf to 1b/MMBtu, divide by 1,020. The emission factors in this table may be converted to other natural gas heating values by multiplying the given emission factor by the ratio of the specified heating value to this average heating value. TOC = Total Organic Compounds. VOC = Volatile Organic Compounds.

[b] Based on approximately 100% conversion of fuel carbon to CO_2. $CO_2[lb/10^6 scf] = (3.67)$ (CON) (C)(D), where CON = fractional conversion of fuel carbon to CO_2, C = carbon content of fuel by weight (0.76), and D = density of fuel, $4.2x10^4$ $lb/10^6$ scf.

[c] All PM (total, condensible, and filterable) is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors presented here may be used to estimate PM_{10}, $PM_{2.5}$ or PM_1 emissions. Total PM is the sum of the filterable PM and condensible PM. Condensible PM is the particulate matter collected using EPA Method 202 (or equivalent). Filterable PM is the particulate matter collected on, or prior to, the filter of an EPA Method 5 (or equivalent) sampling train.

[d] Based on 100% conversion of fuel sulfur to SO_2. Assumes sulfur content is natural gas of 2,000 grains/10^6 scf. The SO_2 emission factor in this table can be converted to other natural gas sulfur contents by multiplying the SO_2 emission factor by the ratio of the site-specific sulfur content (grains/10^6 scf) to 2,000 grains/10^6 scf.

loading operation, resulting in high levels of vapor generation and loss. If the turbulence is great enough, liquid droplets will be entrained in the vented vapors.

A second method of loading is submerged loading. Two types are the submerged fill pipe method and the bottom loading method. In the submerged fill pipe method, the fill pipe extends almost to the bottom of the cargo tank. In the bottom loading method, a permanent fill pipe is attached to the cargo tank bottom. During most of submerged loading by both methods, the fill pipe opening is below the liquid surface level. Liquid turbulence is controlled significantly during submerged loading, resulting in much lower vapor generation than encountered during splash loading.

The recent loading history of a cargo carrier is just as important a factor in loading losses as the method of loading. If the carrier has carried a nonvolatile liquid such as fuel oil, or has just been cleaned, it will contain vapor-free air. If it has just carried gasoline and has not been vented, the air in the carrier tank will contain volatile organic vapors, which will be expelled during the loading operation along with newly generated vapors.

Cargo carriers are sometimes designated to transport only one product, and in such cases are practicing "dedicated service". Dedicated gasoline cargo tanks return to a loading terminal containing air fully or partially saturated with vapor from the previous load. Cargo tanks may also be "switch loaded" with various products, so that a nonvolatile product being loaded may expel the vapors remaining from a previous load of a volatile product such as gasoline. These circumstances vary with the type of cargo tank and with the ownership of the carrier, the petroleum liquids being transported, geographic location, and season of the year.

One control measure for vapors displaced during liquid loading is called "vapor balance service", in which the cargo tank retrieves the vapors displaced during product unloading at bulk plants or service stations and transports the vapors back to the loading terminal. Figure 5.2-5 shows a tank truck in vapor balance service filling a service station underground tank and taking on displaced gasoline vapors for return to the terminal. A cargo tank returning to a bulk terminal in vapor balance service normally is saturated with organic vapors, and the presence of these vapors at the start of submerged loading of the tanker truck results in greater loading losses than encountered during nonvapor balance, or "normal", service. Vapor balance service is usually not practiced with marine vessels, although some vessels practice emission control by means of vapor transfer within their own cargo tanks during ballasting operations, discussed below.

Emissions from loading petroleum liquid can be estimated (with a probable error of ±30 percent)[4] using the following expression:

$$L_L = 12.46 \frac{SPM}{T} \quad (1)$$

where:

L_L = loading loss, pounds per 1000 gallons ($lb/10^3$ gal) of liquid loaded

S = a saturation factor (see Table 5.2-1)
P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) (see Section 7.1, "Organic Liquid Storage Tanks")
M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) (see Section 7.1, "Organic Liquid Storage Tanks")
T = temperature of bulk liquid loaded, °R (°F + 460)

15) Certification for Submittal Under GCP-6

Company Name: Ameredev Operating, LLC

I, Shane McNeely, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 11th day of April, 2018, upon my oath or affirmation, before a notary of the State of Texas.

*Signature — 04/11/2018 (Date)

Shane McNeely (Printed Name) — Engineer (Title)

Scribed and sworn before me on this 11th day of April, 2018.

My authorization as a notary of the State of Texas expires on the 2nd day of October, 2019.

Notary's Signature — 04/11/2018 (Date)

Erin Pearcy
Notary's Printed Name

ERIN PEARCY
Notary Public, State of Texas
Comm. Expires 10-02-2019
Notary ID 130392911

NMED Exhibit 1

New Mexico
ENVIRONMENT DEPARTMENT

525 Camino de los Marquez, Suite 1
Santa Fe, NM 87505-1816
Phone (505) 476-4300
Fax (505) 476-4375
www.env.nm.gov

MICHELLE LUJAN GRISHAM
GOVERNOR

HOWIE C. MORALES
LT. GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

JENNIFER J. PRUETT
DEPUTY SECRETARY

October 3, 2019

Certified Mail No. 7018 0680 0002 2228 6686
Return Receipt Requested

Shane McNeely
Engineer
Ameredev II LLC
5707 Southwest Parkway Building 1
Suite 275
Ausitn, TX 78735

Air Quality General Permit GCP- Oil & Gas
7601M1
IDEA No. 38183 - PRN20190001
Azalea Battery
AIRS No. 350251328

Dear Mr. Neely:

This letter is in response to your air quality General Construction Permit - Oil & Gas (GCP-O&G) application dated August 22, 2019 to construct an oil and gas facility in New Mexico. The application was received by the Department on September 3, 2019.

A review has been completed and the information provided is sufficient to issue your permit in accordance with the GCP-O&G conditions as established under 20.2.72.220 NMAC.

This GCP-O&G Permit number (7601M1) supersedes GCP-6 permit number (7601).

Attached is a copy of your permit registration and the GCP-O&G. The GCP-O&G includes the terms and conditions for operation as well as emission and compliance requirements.

Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility. This regulation set the fee amount at $1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC. For sources that satisfy the definition of "small business" in subsection F of 20.2.75.7 NMAC, this annual fee will be divided by two.

All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice, and shall be accompanied by the remittance slip attached to the invoice.

If you have any questions, please contact me in Santa Fe at 505-476-4326**.**

Sincerely,

Leslee Kimbrell

Leslee Kimbrell
Air Permit Specialist
Permits Section
Air Quality Bureau

cc via email: Kristin Ikard, Flatrock Engineering and Environmental Ltd

Enclosure: Paid in full Invoice
Sections 1-5, 7-10 of the current registration
GCP-Oil and Gas Permit

Mail Registration To:		For Department use only:
New Mexico Environment Department Air Quality Bureau 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone (505) 476-4300 Fax (505) 476-4375 www.env.nm.gov/aqb		Received SEP 03 2019 Air Quality Bureau AIRS #: AI #:

General Construction Permit (GCP-Oil and Gas)
Registration Form
Section 1

(Locating outside of Bernalillo County, Tribal Lands, and Non-Attainment Areas)

This Registration is being submitted as (check all that apply)**:**

☒ An initial GCP-Oil and Gas Registration Form for a new facility (**Registration fee required**).
☐ An updated GCP-Oil and Gas Registration Form for a modification to an existing facility (**Registration fee required**).
☐ A GCP-Oil and Gas Registration Form for an existing facility previously or currently operating under GCP-1 or GCP-4 **(No fee required)**
☐ A notification of an administrative change, including: a change of owner/operator or change of contact information. (Complete and submit Section 1 and Section 10). No public notification is required, and no filing fees or permit fees apply.

Construction Status: ☐ Not Constructed ☒ Existing Permitted (or NOI) Facility ☐ Existing Non-Permitted (or NOI) Facility

Acknowledgements:

☒ I acknowledge that a pre-application meeting is available to me upon request.
☒ An original signed and notarized Certification for Submittal for this GCP-Oil and Gas Registration is included.
☒ Proof of public notice is included, if required.
☒ The Air Emission Calculation Tool (AECT) is included.
☒ The emissions specified in this Registration Form will establish the emission limits in the GCP-Oil and Gas.
☒ **For new Registrations or modifications, a check for the GCP-Oil and Gas Registration fee is included.** Facilities qualifying as a "small business" under 20.2.75.7.F NMAC qualify for reduced fees, provided that NMED has a Small Business Certification Form from your company on file. This form can be found at: http://www.env.nm.gov/aqb/sbap/Small_Business_Forms.html
Provide your Check Number: **1413** and Amount: **$4,190**

☒ I understand that if a fee is required and is not submitted with the application the registration will be denied.

1) Company Information		AI # (if known):	If updating, provide Permit/NOI #: 8081
1	Facility Name: Azalea Battery	Plant primary SIC Code (4 digits): 1311	
		Plant NAIC code (6 digits): 211120	
a	Facility Street Address (If no facility street address, check here ☒ and provide directions in Section 4):		
2	Plant Operator Company Name: Ameredev II, LLC	Phone/Fax: 737-300-4700	
a	Plant Operator Address: 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735		
3	Plant Owner(s) name(s): Ameredev II, LLC	Phone/Fax: 737-300-4700	
a	Plant Owner(s) Mailing Address(s): 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735		
4	Bill To (Company): Ameredev II, LLC	Phone/Fax: 737-300-4700	

NMED Exhibit 2

a	Mailing Address: 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735	E-mail:
5	☒ Preparer: Kristin Ikard ☒ Consultant: Flatrock Engineering and Environmental, LLX	Phone/Fax: 405-605-0328
a	Mailing Address: 5509 Main Street, Suite 105 Del City, OK 73115	E-mail: Kristin.Ikard@flatrockenergy.net
6	Plant Operator Contact: Shane McNeely	Phone/Fax: 737-300-4729
a	Mailing Address: 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735	E-mail: smcneely@ameredev.com
7	Air Permit Contact: Shane McNeely	Title: Engineer
a	E-mail: smcneely@ameredev.com	Phone/Fax: 737-300-4729
b	Mailing Address: 5707 Southwest Parkway Building 1, Suite 275, Austin, TX 78735	
8	Will this facility operate in conjunction with other air regulated parties on the same property? ☒ No ☐ Yes If yes, what is the name and NOI or permit number (if known) of the other facility?	

2) Applicability

1	Is the facility located in Bernalillo County, on tribal lands, or in a nonattainment area?	☒ **No** ☐ **Yes**
If you answered ***Yes*** to the question above, your facility **does not** qualify for this general construction permit.		
2	Is the facility's SIC code 1311, 1321, 4619, 4612 or 4922?	☐ **No** ☒ **Yes**
3	Does the regulated equipment under this GCP-Oil and Gas Registration include any combination of Allowable Equipment listed in Table 104 of the GCP Oil & Gas Permit, and no others?	☐ **No** ☒ **Yes**
4	Will the regulated equipment as specified in this GCP-Oil and Gas Registration emit less than the total emissions in Table 106 of the GCP-Oil and Gas permit?	☐ **No** ☒ **Yes**
5	Does all equipment comply with the stack parameter requirements as established in the GCP-Oil and Gas Permit?	☐ **No** ☒ **Yes**
6	Equipment shall be at least 100 meters (m) from any stack to terrain that is five (5) or more meters above the top of the stack. Will the equipment at the facility meet this terrain requirement?	☐ **No** ☒ **Yes**
7	Is the facility at least 150 m from any source that emits over 25 tons/year of NO_x?	☐ **No** ☒ **Yes**
8	Is the facility at least 3 miles from any Class I area?	☐ **No** ☒ **Yes**
If you answered ***NO*** to any of questions 2-8, your facility **does not** qualify for this general construction permit.		

3) Current Facility Status

1	Has this facility already been constructed? ☒ Yes ☐ No	If yes, is it currently operating in New Mexico? ☒ Yes ☐ No	
2	Does this facility currently have a construction permit or Notice of Intent (NOI) (20.2.72 NMAC or 20.2.73 NMAC)? ☒ Yes ☐ No	If yes, the permit No. or NOI No., and whether it will remain active or not: 7601, no	
3	Is this Registration in response to a Notice of Violation (NOV)? ☐ Yes ☒ No If so, provide current permit #:	If yes, NOV date:	NOV Tracking No.
4	Check if facility is a: Minor Source: ☐ Synthetic Minor Source: ☐ (SM80 = Controlled Emissions > 80 TPY of any regulated air pollutant): ☒		

4) Facility Location Information

Please use Montana's Graphical Locater to convert Lat/Long to UTM systems, found at: http://www.esg.montana.edu/gl/trs-data.html

1	a) Section: 28	b) Range: 36E	c) Township: 26S	d) County: Lea	e) Elevation (ft): 2,913
2	a) UTM Zone: ☐ 12 or ☒ 13	b) UTME (to nearest 10 meters): 662,658	c) UTMN (to nearest 10 meters): 3,543,904		
	d) Specify which datum is used: ☐ NAD 27 ☒ NAD 83 ☐ WGS 84 See this link for more info. http://en.wikipedia.org/wiki/North_American_Datum				
AND	Latitude (deg., min., sec.): 32° 1'10.54"N	Longitude (deg., min., sec.): 103°16'39.66"W			
3	Name and zip code of nearest New Mexico town and/or tribal community: Jal, 88252				

NMED Exhibit 2

4	Detailed Driving Instructions including direction and distance from nearest NM town and/or tribal community (attach a road map if necessary). If there is no street address, provide public road mileage marker: Head east toward S 3rd Street in Jal, NM, turn right onto S 3rd Street, continue 1.3 miles. Continue onto NM-205 S/Frying Pan Rd and continue 6.8 miles. Turn right onto Beckham Rd. and continue 0.7 miles to site.
5	The facility is 8.4 (distance) miles southwest (direction) of Jal (nearest town).
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military

5) Other Facility Information

1	Enter the maximum daily and annual throughput of oil, gas, and natural gas liquids (NGL).	**Oil (bbl/day): 2,000** **Gas (MMscf/day): 10** **NGL (bbl/day): N/A**	**(bbl/yr): 730,000** **(MMscf/yr): 3,650** **(bbl/yr): N/A**
2	The facility, as described in this Registration, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes.	☐**No** ☒**Yes**	

Section 2) Submittal Requirements

1	Include one hard copy **original signed and notarized Registration package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except landscape tables, which should be head-to-head. If 'head-to-toe printing' is not possible, print single sided. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process.
2	Include one **double sided hard copy** for Department use. This copy does not need to be 2-hole punched.
3	The entire Registration package should be submitted electronically on one compact disk (CD). Include a single PDF document of the entire Registration as submitted and the individual documents comprising the Registration. The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc.), submit these items in hard copy format. Spreadsheets must be unlocked since we must be able to review the formulas and inputs.

NMED Exhibit 2

Table 1) Regulated Equipment (Include all regulated equipment and control devices): Equipment that qualifies for an exemption under 20.2.72.202.B NMAC does not need to be included on this table. Include exempt equipment in Section 3. Add additional rows as necessary.

Unit No.	Equipment Description	Manufacturer	Make/Model	Source Classification Code (SCC)	Serial #	Maximum Capacity/ Permitted Capacity	Date of Manufacture	Controlled by Unit #	% Control Efficiency and Pollutant	Applicable NSPS MACT
HEAT-1	0.75-mmBTU/hr Heater Treater	-	-	31000404	-	0.75-mmBTU/hr	-	-	-	-
HEAT-2	0.75-mmBTU/hr Heater Treater	-	-	31000404	-	0.75-mmBTU/hr	-	-	-	-
TK-1	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-2	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-3	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-4	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-5	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-6	500-bbl Crude Oil storage tank	N/A	N/A	40400312	-	500-bbl	2017	FL-1	98% combustion	-
TK-7	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-8	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-9	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-10	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-11	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-12	500-bbl Produced Water storage tank	N/A	N/A	40400315	-	500-bbl	2017	FL-1	98% combustion	-
TK-13	1,000-bbl Produced Water Gunbarrel tank	N/A	N/A	40400312	-	1,000-bbl	2017	FL-1	98% combustion	-

NMED Exhibit 2

Table 1) Regulated Equipment (Include all regulated equipment and control devices): Equipment that qualifies for an exemption under 20.2.72.202.B NMAC does not need to be included on this table. Include exempt equipment in Section 3. Add additional rows as necessary.

Unit No.	Equipment Description	Manufacturer	Make/Model	Source Classification Code (SCC)	Serial #	Maximum Capacity/ Permitted Capacity	Date of Manufacture	Controlled by Unit #	% Control Efficiency and Pollutant	Applicable NSPS MACT
TK-14	750-bbl Crude Oil (Skim) tank	N/A	N/A	40400312	-	750-bbl	2017	FL-1	98% combustion	-
LOAD-1	Crude Oil Truck Loading	N/A	N/A	40600132	-	30,660,000 gal/yr	N/A	-	N/A	-
FL-1	Standard Flare	Vaprox	N/A	31000205	-	2,550 scfh	-	-	98% combustion	-
FUG-1	Fugitives	N/A	N/A	31000220	-	N/A	N/A	N/A	15%	NSPS OOOOa
MSS-1	Planned Maintenance, Startup, Shutdown Emissions	N/A	N/A	31088811	-	N/A	N/A	N/A	N/A	-
Malfunction	Malfunction	N/A	N/A	31088811	-	N/A	N/A	N/A	N/A	-

NMED Exhibit 2

Table 2A): Maximum Uncontrolled Emissions (under normal operating conditions):

☐ This Table was intentionally left blank because it would be identical to Table 2B.

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum facility capacity without pollution controls for 8760 hours per year. List Hazardous Air Pollutants (HAP) in Table 3. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
HEAT-1	0.07	0.32	0.06	0.27	0.0040	0.018	4.4E-4	0.019	-	-	0.0042	0.018	0.0042	0.018	-	-	-	-
HEAT-2	0.07	0.32	0.06	0.27	0.0040	0.018	4.4E-4	0.019	-	-	0.0042	0.018	0.0042	0.018	-	-	-	-
TK-1	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	9.63	42.20	-	-	-	-	-	-	-	-	-	-	-	-
TK-7	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-8	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-9	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-10	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-11	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-12	-	-	-	-	0.03	0.13	-	-	-	-	-	-	-	-	-	-	-	-
TK-13	-	-	-	-	6.62	28.98	-	-	-	-	-	-	-	-	-	-	-	-
TK-14	-	-	-	-	5.34	23.40	-	-	-	-	-	-	-	-	-	-	-	-
LOAD-1	-	-	-	-	39.50	62.94	-	-	-	-	-	-	-	-	-	-	-	-
FL-1*	0.0025	0.011	0.0021	0.0092	298.83	65.45	7.1E-6	3.1E-5	-	-	1.9E-4	8.3E-4	1.9E-4	8.3E-4	-	-	-	-
FUG-1	-	-	-	-	2.74	12.02	-	-	-	-	-	-	-	-	0.014	0.059	-	-
MSS-1	-	-	-	-	86.18	0.58	-	-	-	-	-	-	-	-	0.29	0.040	-	-
Malfunction	-	-	-	-	-	10.0	-	-	-	-	-	-	-	-	-	-	-	-
Totals	0.14	0.65	0.12	0.55	497.18	457.39	0.01	0.04	-	-	0.01	0.04	0.01	0.04	0.31	0.10	-	-

*Based on Pilot and VRT stream during VRU downtime. Uncontrolled tank emissions are show at each individual tank.

Table 2A): Maximum Uncontrolled Emissions (under normal operating conditions):

☐ This Table was intentionally left blank because it would be identical to Table 2B.

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum facility capacity without pollution controls for 8760 hours per year. List Hazardous Air Pollutants (HAP) in Table 3. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Lead	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr

1. [1] **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for TSP unless TSP is set equal to PM10 and PM2.5.

Table 2B) Allowable Emission Limits: Enter an allowable emission limit for each piece of equipment with either an uncontrolled emission rate greater than 1 lb/hr or 1 ton per year (tpy) or a controlled emission rate of any amount. For H2S please represent all emissions even if they are less than 1 lb/hr and 1 tpy. If selecting combustion SSM emissions, enter lb/hr and tpy values. If selecting up to 10 tpy of Malfunction VOC emissions, enter tpy values. Combustion emissions from malfunction events are **not authorized** under this permit. Fill all cells in this table with the emissions in lb/hr and tpy, or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed with a minimum of two significant figures[1]. If there are any significant figures to the left of a decimal point, there shall be no more than one significant figure to the right of the decimal point. Total the emissions from all equipment in the Totals row. Add additional rows as necessary.

Unit No.	NOx		CO		VOC		SOx		TSP[2]		PM10[2]		PM2.5[2]		H_2S		Other	
	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
HEAT-1	0.07	0.32	0.06	0.27	0.0040	0.018	4.4E-4	0.019	-	-	0.0042	0.018	0.0042	0.018	-	-	-	-
HEAT-2	0.07	0.32	0.06	0.27	0.0040	0.018	4.4E-4	0.019	-	-	0.0042	0.018	0.0042	0.018	-	-	-	-
TK-1	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-2	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-3	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-4	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-5	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-6	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-7	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-8	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-9	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-10	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-11	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-12	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-13	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
TK-14	-	-	-	-	*	*	-	-	-	-	-	-	-	-	-	-	-	-
LOAD-1	-	-	-	-	39.50	62.94	-	-	-	-	-	-	-	-	-	-	-	-
FL-1	0.53	0.63	2.39	2.83	7.38	7.23	0.10	0.44	-	-	1.9E-4	8.3E-4	1.9E-4	8.3E-4	0.0011	0.0047	-	-
FUG-1	-	-	-	-	2.74	12.02	-	-	-	-	-	-	-	-	0.014	0.059	-	-
MSS-1	-	-	-	-	86.18	0.58	-	-	-	-	-	-	-	-	0.29	0.040	-	-
Malfunction	-	-	-	-	-	10.00	-	-	-	-	-	-	-	-	-	-	-	-
Totals	0.67	1.27	2.52	3.37	135.81	92.81	0.10	0.44	-	-	0.01	0.04	0.01	0.04	0.31	0.10	-	-

[1] **Significant Figures Examples**: One significant figure – 0.03, 3, 0.3. Two significant figures – 0.34, 34, 3400, 3.4
[2] **Condensable PM**: Include condensable particulate matter emissions in particulate matter calculations.

*Tank emissions reported at FL-1.

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Table 3) Emission Rates for HAP In the table below, report the potential emission rate for each HAP from each regulated emission unit listed in Table 1, only if the entire facility emits the HAP. For each such emission unit, HAP shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAP shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA. Include tank-flashing emissions estimates of HAP in this table. For each HAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "-" symbol indicates that emissions of this pollutant are not expected, or the pollutant is emitted in a quantity less than the threshold amounts described above. Add additional rows as necessary.

Stack No.	Unit No.(s)	Total HAP		n-hexane □ HAP		Toluene □ HAP		Provide Pollutant Name Here □ HAP		Provide Pollutant Name Here □ HAP		Provide Pollutant Name Here □ HAP		Provide Pollutant Name Here □ HAP		Provide Pollutant Name Here □ HAP	
		lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr	lb/hr	ton/yr
	HEAT-1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1										
	HEAT-2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1										
	TK-1	*	*	*	*	*	*										
	TK-2	*	*	*	*	*	*										
	TK-3	*	*	*	*	*	*										
	TK-4	*	*	*	*	*	*										
	TK-5	*	*	*	*	*	*										
	TK-6	*	*	*	*	*	*										
	TK-7	*	*	*	*	*	*										
	TK-8	*	*	*	*	*	*										
	TK-9	*	*	*	*	*	*										
	TK-10	*	*	*	*	*	*										
	TK-11	*	*	*	*	*	*										
	TK-12	*	*	*	*	*	*										
	TK-13	*	*	*	*	*	*										
	TK-14	*	*	*	*	*	*										
	LOAD-1	3.2	5.0	1.9	3.1	0.5	0.8										
	FL-1	0.5	0.6	0.3	0.4	0.1	0.1										
	FUG-1	0.3	1.2	0.1	0.3	0.1	0.3										
	MSS-1	8.1	0.1	4.8	<0.1	1.4	<0.1										
Totals:		12.0	6.8	7.1	3.9	2.0	1.1										

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Table 4: Stack Parameters

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each equipment type that emits from a stack:

Stack Type (Engine, Turbine, Flare, ECD, or Thermal Oxidizer Etc.)	**Serving Unit Number(s) from Table 1**	**Stack Orientation (Vertical, horizontal etc.)**	**Height Above Ground (ft)**	**Temp. (F)**	**Velocity (ft/sec)**	**Flow Rate (acfm)**	**Inside Diameter (ft)**
Heater	HEAT-1	Vertical	20	700	31.32	368.97	0.5
Heater	HEAT-2	Vertical	20	700	31.32	368.97	0.5
Flare	FL-1	Vertical	65	1,200	3.61	42.5	0.5

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Table 5: Allowable Fuels and Fuel Sulfur for Combustion Emission Units:

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

Unit No.	Fuel Type (Natural Gas, Field Gas, Propane, Diesel, …)	Fuel Source (purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas, or other	Engines and Turbines: SO_2 percentage of the NOx emission rate (except flares)	Diesel Fuel Only: ppm of Sulfur	Lower Heating Value	Annual Fuel Usage	Does the Allowable Fuel and Fuel Sulfur Content meet GCP O&G Condition A110.A?
HEAT-1	Natural Gas	Field Natural Gas	0	N/A	1,182 Btu/scf	5,559,787 scf	Yes ☒ No ☐
HEAT-2	Natural Gas	Field Natural Gas	0	N/A	1,182 Btu/scf	5,559,787 scf	Yes ☒ No ☐
FL-1	Natural Gas	Field Natural Gas	N/A	N/A	1,182 Btu/scf	219,000 scf (pilot only)	Yes ☒ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐
							Yes ☐ No ☐

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Table 6: Tank Data

Unit	Date Installed	Materials Stored	Seal Type	Roof Type	Capacity		Diameter (M)	Vapor Space (M)	Color		Annual Throughput (gal/yr)	Turn-overs (per year)
					(bbl)	(M^3)			Roof	Shell		
TK-1	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-2	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-3	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-4	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-5	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-6	2017	Crude Oil	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-7	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-8	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-9	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-10	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-11	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-12	2017	Produced Water	N/A	Fixed	500	79.5	4.724	2.4	Gray	Gray	5,110,000	241.35
TK-13	2017	Crude Oil	N/A	Fixed	1,000	159	4.724	4.6	Gray	Gray	30,660,000	749.01
TK-14	2017	Crude Oil	N/A	Fixed	750	119.2	4.724	3.7	Gray	Gray	30,660,000	944.40

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Section 3
Registration Summary

The **Registration Summary** shall include a brief description of the facility and its process. In case of a modification to a facility, please describe the proposed changes.

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): Provide an overview of how SSM emissions are accounted for in this Registration. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Specify Facility Type: Check the appropriate box below:

- ☐ Production Site
- ☒ Tank Battery
- ☐ Compressor Station
- ☐ Natural Gas Plant
- ☐ Other, please specify:_____

Registration Summary: Ameredev II, LLC (Ameredev) operates the Azalea Battery (Site) under GCP-6 Permit No. 7601 in Lea County, New Mexico. With this application, Ameredev requests to update the flare, fugitive, and MSS emissions using a current gas analysis which includes hydrogen sulfide emissions. Ameredev also request authorization to operate the Site under the Air Quality General Construction Permit (GCP) – Oil & Gas application.

The Site consists two (2) 0.75-mmBtu/hr heater treaters, six (6) 500-bbl crude oil tanks, six (6) 500-bbl produced water tanks, one (1) 1,000-bbl gunbarrel storage tank, one (1) 750-bbl skim tank, one (1) flare for tank control, two (2) electric-driven vapor recovery units, two (2) vapor recovery towers, crude oil truck loading, fugitive emissions, and planned maintenance, startup, and shutdown (MSS) emissions.

SSM Summary: Planned SSM emissions, which includes start-up, shutdown, and routine maintenance of facilities, and temporary maintenance emissions, are estimated. See attached emissions calculations for additional information.

Allowable Operations: Check the appropriate box below:

- ☒ Facility operates continuously (8760 hours per year)
- ☐ The following regulated equipment will operate less than 8760 hours per year. Add additional rows as necessary. These units are subject to Condition A108.C of the Permit.

Table A – Equipment Operating Less Than 8760 hours per year

Unit #	Requested Annual Operating Hours

Exempt Equipment: List all exempt equipment qualified under 20.2.72.202 NMAC.

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Verification of Compliance with Stack Parameter Requirements:

Check the box for each type of equipment at this facility:

- ☐ Engine(s)
- ☐ Turbine(s)
- ☒ Flares(s)
- ☐ Enclosed Combustion Device (s)
- ☒ Heater(s)
- ☐ Reboiler(s)

For each type of equipment checked above, complete the applicable section below.

Engines

1. Calculate the pound per hour (lb/hr) NO_x emission rate according to GCP O&G Condition A202.I Step 1 on page 15 of the GCP O&G. Enter this value in the top row of the table below.
2. Based on the calculated facility total NO_x emission rate, determine the minimum stack parameter requirements for engines and heaters from Table 1: Engines (page 17) of the GCP O&G and enter the minimum parameters from Table 1 (page 17) of the GCP O&G in the bottom row of the table below.
3. Enter the stack parameters from each engine and heater in the blank rows of the table below. Add rows as necessary.

Table B: Engine/Generator/Heater/Reboiler Stack Parameter Verification:

Calculated Facility Total NOx Emission Rate: 0.67 lb/hr				
Engine/Generator/Heater/Reboiler Unit Number	**Height (ft)**	**Temperature (°F)**	**Velocity (ft/s)**	**Diameter (ft)**
HEAT-1	20	700	31.32	0.50
HEAT-2	20	700	31.32	0.50
Table 1 Minimum Parameters: For verification, list the minimum parameters based on the NOx lb/hr emission rate from the GCP O&G Table 1.	5.9	571	49.2	0.30

4. Do all engines and heaters comply with the minimum stack parameters from Table 1 (page 17) of the GCP O&G?
- ☐ Yes. Skip step 5 below.
- ☒ No. Go to step 5 below.

5. For engines and heaters that do not comply with the minimum stack parameters in Table 1 of the GCP O&G, explain and demonstrate in detail how the engines and heaters will be authorized according to the steps on page 16 of the GCP O&G or Condition A203.C of the GCP O&G. Show all calculations.

An engine or heater with a temperature or velocity that is less than the minimum that would apply to that unit may choose to add 3.3 feet to the unit's required minimum stack height to be considered to be in compliance with these stack parameter requirements. The stack heights for the heaters are already more than 3.3 feet above the minimum stack height. Additioanlly, the heaters are in compliance with A203C of the GP: If, after the above adjustments, any heater or reboiler is unable to meet the minimum stack parameter requirements in Table 1 or 2 of Condition A202.I, the maximum total emission rate allowed for those heaters and reboilers is 1.23 lb/hr of NOx.

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Turbines

1. Calculate the pound per hour (lb/hr) NO_x emission rate according to GCP O&G Condition A202.I Step 1 on page 17 of the GCP O&G. Enter this value in the top row of the table below.
2. Based on the calculated facility total NO_x emission rate, determine the minimum stack parameter requirements for turbines and heaters from Table 2: Turbines (page 18) of the GCP O&G. Enter the minimum parameters from Table 2 (page 18) of the GCP O&G in the bottom row of the table below.
3. Enter the stack parameters from each turbine and heater in the blank rows of the table below. Add rows as necessary.

Table C: Turbine/Heater/Reboiler Stack Parameter Verification:

Calculated Facility Total NOx Emission Rate: _____lb/hr				
Turbine/Heater/Reboiler Unit Number	**Height (ft)**	**Temperature (°F)**	**Velocity (ft/s)**	**Diameter (ft)**
Table 2 Minimum Parameters: For verification, list the minimum parameters based on the NOx lb/hr emission rate from the GCP O&G Table 2.				

4. Do all turbines and heaters comply with the minimum stack parameters from Table 2 (page 18) of the GCP O&G?

☐ Yes. Skip step 5 below.
☐ No. Go to step 5 below.

5. For turbines and heaters that do not comply with the minimum stack parameters in Table 2 of the GCP O&G, explain and demonstrate in detail how the turbines and heaters will be authorized according to the steps on page 18 of the GCP O&G or Condition A203.C of the GCP O&G. Show all calculations.

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Flares

1. Enter SO_2 emission rates (lb/hr) for each flare in the second column of the table below.
2. Based on the SO_2 emission rates, determine the minimum stack height requirements for flares from Table 3 (page 26) of the GCP O&G and enter the minimum stack height requirements for flares from Table 3 (page 26) of the GCP O&G in the last column of the table below.
3. Enter the stack height of each flare in the third column of the table below. Add rows as necessary.

Table D: Flare Stack Height Parameter Verification:

Flare Unit Number	**SO_2 Emission Rate (lb/hr)**	**Height (ft)**	**Table 3 Minimum Stack Height:** For verification, list the minimum height parameters based on the SO2 emission rate from the GCP O&G Table 3.
FL-1	0.10	65	6.6

4. Do all flares comply with minimum stack height requirements?
   ☒ Yes
   ☐ No

5. Does the flare gas contain no higher than 6% H_2S by volume (pre-combustion)?
   ☒ Yes. Skip step 6 below.
   ☐ No. Go to step 6 below.

6. Explain in detail how assist gas will be added to reduce the gas composition to 6% H_2S or less by volume.

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Enclosed Combustion Device(s) (ECD):

According to GCP O&G Condition A208.A, the facility must meet one of the following options if an ECD is installed at the facility:

Option 1:

1. Will the ECD(s) meet the SO_2 emission limit of 0.7 lb/hr and operate with a velocity of at least two (2) feet per second?
   - ☐ Yes. Skip Option 2 below.
   - ☐ No. Go to Option 2 below.

Option 2:

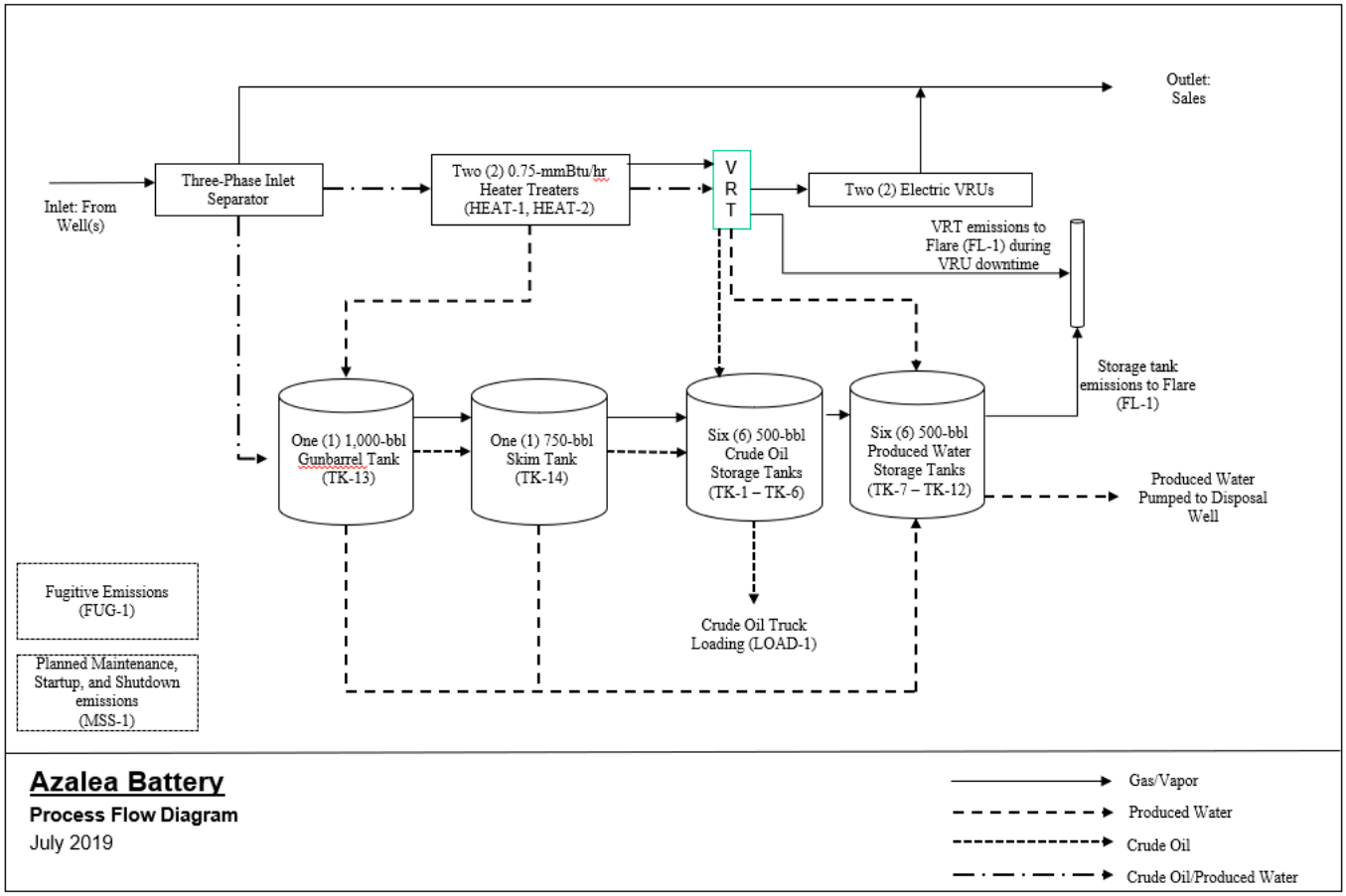
2. Will the ECD(s) meet the SO_2 emission limit of 0.9 lb/hr and operate with a velocity of at least one (1) foot per second?
   - ☐ Yes
   - ☐ No

Section 4

Process Flow Sheet and Description of Routine Operations

A **process flow sheet** indicating all individual equipment, all emission points, and types of control applied to those points. All units should be labeled and the unit numbering system should be consistent throughout this Registration. Identify all sources of emissions with a vertical arrow. Label each of the different material streams (e.g. crude oil, gas, water).

Written description of the routine operations of the facility: Include a detailed description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated.



Process Description:

A description of the facility process is as follows: The inlet stream from area well(s) enters the facility through a three-phase inlet separator. Gas from the separator exits the facility via pipeline, a produced water and crude oil stream is routed to the gunbarrel tank and a crude oil and gas is routed to the heater treaters. Gas and crude oil from the heater treaters pass through the vapor recovery towers with emissions controlled by the vapor recovery units. Crude oil and produced water from the inlet separator, vapor recovery towers, the skim tank, and the gunbarrel tank are stored in six (6) 500-bbl crude oil storage tanks and six (6) 500-bbl produced water storage tanks. Tank emissions are routed to the flare for control with 98% destruction efficiency.

Truck loading for the crude oil also takes place at the facility, as well as emissions from fugitive sources and maintenance, startup, and shutdown.

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Section 5

Emissions Calculation Forms

The Department has developed the Air Emissions Calculation Tool (AECT), which is required to be used in the GCP-Oil and Gas Registration If the AECT, for a piece of equipment is under development, provide alternate calculations. Other calculations may be accepted if pre-approved by the Department. The AECT and this Registration Form may be updated as needed.

Tank Emissions Calculations: Provide the method used to estimate tank-flashing emissions, the input and output summary from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Pro-Max or Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Table 2, and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications"

Control Devices: Report all control devices and list each pollutant controlled by the control device. The applicant can indicate in this section of the Registration if they chose to not take credit for the reduction in emission rates. Only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

Equipment Forms Submitted in this Section (add additional rows as necessary):

Check to Indicate Types of Regulated Equipment Included	Quantity	Equipment Type	Check Box to Indicate Units that are Controlled	Enter Control Device Type and Pollutant Controlled
☐		Engine	☐	
☐		Turbine	☐	
☒	14	Tanks	☒	Flare; VOC
☐		Generator	☐	
☒	2	VRU	☐	
☒	2	VRT	☒	VRU/Flare; VOC
☐		ULPS	☐	
☐		Glycol Dehydrator	☐	
☒	1	Flare	☐	
☐		Amine Unit	☐	
☐		Cryogenic Unit	☐	
☒		Fugitive Emissions	☐	
☒	2	Heater	☐	
☒	1	Truck Loading	☐	
☐		Enclosed Combustion Device (ECD)	☐	
☐		Thermal Oxidizer (TO)	☐	
☐		Other	☐	
☐		Other	☐	

NMED Exhibit 2

Vapor Recovery Tower, Ultra Low-Pressure Separator, or Flash Tower Located Upstream of Storage Vessels: If the facility contains one of the following units located upstream of the storage vessels and is used to flash and capture flashing emissions, check the appropriate box.

☐ Vapor Recovery Tower and VRU Compressor
☐ ULPS and VRU Compressor
☐ Flash Tower and VRU Compressor

Vapor Recovery Unit (VRU) located upstream of Storage Vessels: Check the box below if the facility is using a VRU to capture flashing emissions prior to any storage vessels to limit the PTE of the storage vessels to below applicability thresholds of NSPS OOOO and/or NSPS OOOOa. A process vs control determination should be prepared for this type of VRU application.

☐ VRU capturing emissions prior to any storage vessel and routing directly to the sales pipeline

Vapor Recovery Unit (VRU) attached to Storage Vessels: Check the box below if this facility is using a VRU to reduce storage vessel emissions to limit the PTE to below NSPS OOOO or NSPS OOOOa applicability thresholds:

☐ VRU controlling Storage Vessel emissions and the facility is subject to the requirements under NSPS OOOO, 40 CFR 60.5411
☒ VRU controlling Storage Vessel emissions and the facility is subject to the requirements under NSPS OOOOa, 40 CFR 60.5411a

Gas Combustion Scenarios: Read through the scenarios below and check the box next to any appropriate facility operating scenario. Flares shall assume a destruction efficiency of 95%, unless the facility is subject to requirements for flares under 40 CFR 60.18, or a higher destruction efficiency (up to 98%) is supported by a manufacturer specification sheet (MSS) for that unit. If so, include the MSS.

☐ The flare, vapor combustion unit (VCU), enclosed combustion device (ECD), thermal oxidizer (TO), controls storage vessels in accordance with 40 CFR 60, Subpart OOOO or OOOOa
☒ The flare, vapor combustion unit (VCU), enclosed combustion device (ECD), or thermal oxidizer (TO) provides a federally enforceable control for the storage vessels to limit the PTE to below applicability thresholds of 40 CFR 60, Subpart OOOO or OOOOa.
☐ The flare, vapor combustion unit (VCU), enclosed combustion device (ECD), or thermal oxidizer (TO) controls the glycol dehydrator.
☐ The flare, vapor combustion unit (VCU), enclosed combustion device (ECD), or thermal oxidizer (TO) controls the amine unit.
☐ The flare, vapor combustion unit (VCU), enclosed combustion device (ECD), or thermal oxidizer (TO) controls truck loading.
☒ The facility has a flare, vapor combustion unit (VCU), enclosed combustion device (ECD), or thermal oxidizer (TO) that operates only during maintenance events, such as VRU downtime, check one below:
  ☐ The emissions during VRU downtime are represented as uncontrolled VOC emissions from the compressor
  ☒ The combustion emissions during VRU downtime are represented as controlled emissions from the flare
☐ The flare controls the facility during plant turnaround

Amine Unit: Provide the following information for each amine unit.

Design Capacity in MMscf/day	
Rich Amine Flowrate in gal/min	
Lean Amine Flowrate in gal/min	
Mole Loading H2S	
Sour Gas Input in MMscf/day	

Voluntary Monitoring in Accordance with 40 CFR 60.5416(a): Check the box(s) to implement a program that meets the requirements of 40 CFR 60.5416(a). This monitoring program will be conducted in lieu of the monitoring requirements established in the GCP-Oil and Gas for individual equipment. Ceasing to implement this alternative monitoring must be reported in an updated Registration Form to the Department.

☐ Condition A205.B Control Device Options, Requirements, and Inspections for Tanks
☐ Condition A206.B Truck Loading Control Device Inspection
☐ Condition A206.C Vapor Balancing During Truck Loading

☐ Condition A209.A Vapor Recovery Unit or Department-approved Equivalent
☐ Condition A210.B Amine Unit Control Device Inspection

Fugitive H_2S Screening Threshold and Monitoring in accordance with Condition A212: Check the box that applies.

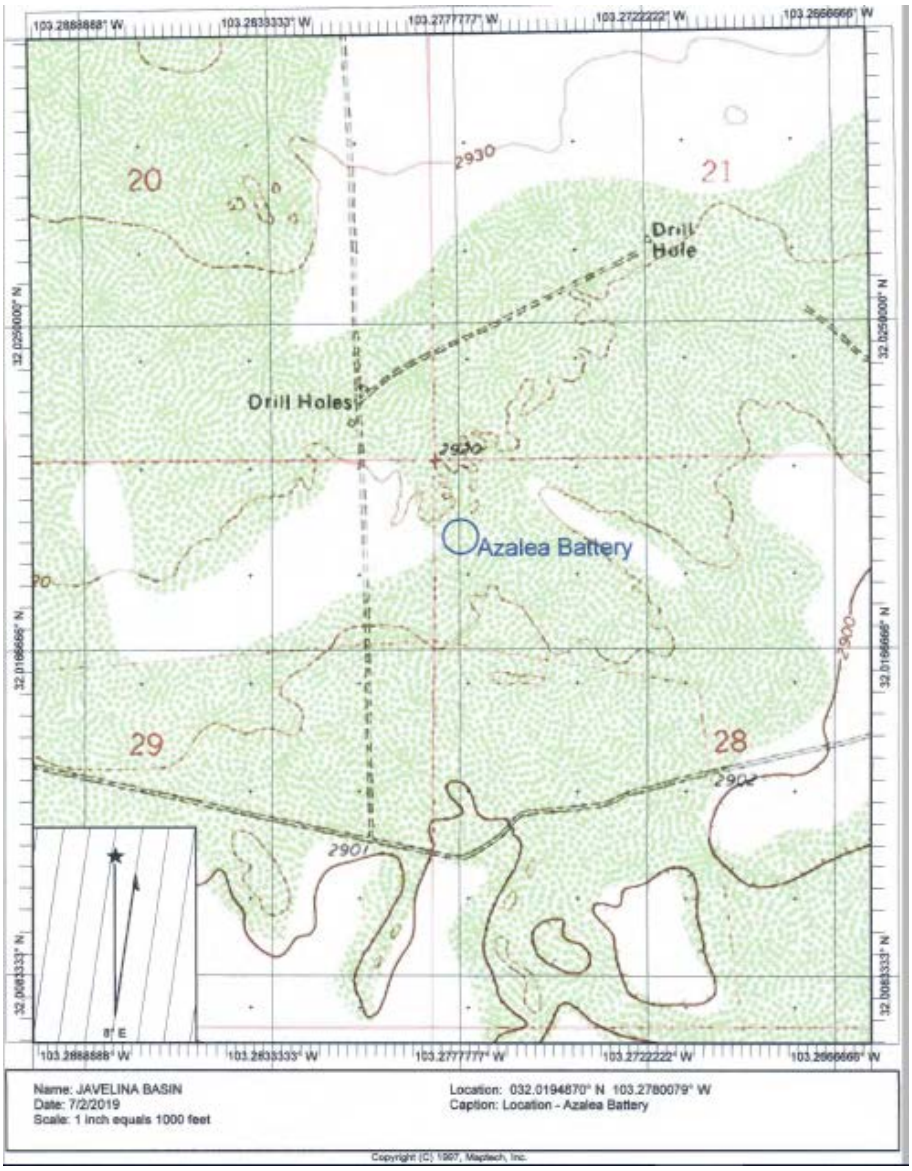
☒ Facility is below the fugitive H_2S screening threshold in Condition A212, and Condition A212.A does not apply, or
☐ Facility is above the fugitive H_2S screening threshold in Condition A212, or the facility is voluntarily complying with Condition A212.A, and Condition A212.A applies

Section 7

Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

The UTM or Longitudinal coordinate system on both axes	An indicator showing which direction is north
A minimum radius around the plant of 0.8km (0.5 miles)	Access and haul roads
Topographic features of the area	Facility property boundaries
The name of the map	A graphical scale



NMED Exhibit 2

Section 8A

Applicable State & Federal Regulations

Provide a discussion demonstrating compliance with each applicable state & federal regulation. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the lowest level citation of the applicable regulation. For each unit, list the information necessary to verify the applicability of the regulation, including date of manufacture, date of construction, size (hp), and combustion type. Doing so will provide the applicability criteria for each unit.

Applicable STATE REGULATIONS:

STATE REGU-LATIONS CITATION	Title	Federally Enforceable	Overview of Regulation	Applicable to Unit No(s).	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.1 NMAC	General Provisions	Yes	General Provisions apply to Notice of Intent, Construction, and Title V permit applications.	Facility	20.2.1 NMAC specifies general requirements such as confidentiality, significant figures, and electronic applications.
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	Yes	20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide.	Facility	20.2.3 NMAC specifies various maximum allowable concentrations.
20.2.7 NMAC	Excess Emissions	Yes	If your entire facility or individual pieces of equipment are subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation, this applies.	Facility	20.2.7 NMAC specifies the excess emission definition and reporting requirements.
20.2.38 NMAC	Hydrocarbon Storage Facility	Yes	Use the regulation link (left) then cut & paste applicable sections.	TK-1 – TK-14	20.2.38 NMAC specifies that the owner or operator of a new tank battery shall not place, store, or hold in a stationary tank or other container, if the tank battery has a storage capacity of 65,000 gallons or greater, any hydrocarbon liquid unless the tank or other container is equipped with…any other device which is at least as effective to minimize vapor or gas loss to the atmosphere. The storage tanks at Site meet the storage capacity limit. Therefore, the facility is subject to this regulation.
20.2.61.109 NMAC	Smoke & Visible Emissions	No	Engines and heaters are Stationary Combustion Equipment. Specify units subject to this regulation.	HEAT-1, HEAT-2	20.2.61 NMAC sets forth an opacity of 20% for emissions from stationary combustion equipment. Opacity is determined via EPA Test Method 9, which is specified

STATE REGU-LATIONS CITATION	Title	Federally Enforceable	Overview of Regulation	Applicable to Unit No(s).	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
					at 40 CFR 60, Appendix A. Per current NMED policy, the exclusive combustion of gaseous streams is adequate to ensure compliance with this regulation. Therefore, the Site is considered to meet the requirements of this regulation.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	NOI: 20.2.73.200 NMAC applies (requiring a NOI application)	Facility	20.2.73 NMAC specifies Notice of Intent (NOI) and emission inventory requirements. This filing includes the NOI as specified by 20.2.73.200.B. NMAC, Contents of Notice. The facility will not be subject to 20.2.73 NMAC Subpart III reporting requirements because the site potential emissions shall be less than those specified in 20.2.73.300.B. However, reports will be submitted upon request, as required.
20.2.77 NMAC	New Source Performance	Yes	This is a stationary source which is subject to the requirements of 40 CFR Part 60, as amended through September 23, 2013.	FUG-1	This is a stationary source which is subject to the requirements of 40 CFR Part 60, Subpart OOOOa.
20.2.78 NMAC	Emission Standards for HAPS	Yes	This facility emits hazardous air pollutants which are subject to the requirements of 40 CFR Part 61, as amended through December 31, 2010.	N/A	20.2.78 NMAC incorporates federal standards for HAPs (NESHAPs) into the New Mexico air quality control program. There are no source operations at the Site that are subject to NESHAP. This regulation also specifies registration and reporting requirements for certain sources of hazardous air pollutants (HAPs). The Site is an oil and gas production facility, as defined in 20.2.78 NMAC. Therefore, the facility is not subject to this regulation.
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through August 29, 2013.	N/A	There are no source categories at the facility. Therefore, the facility is not subject to this regulation.

Applicable FEDERAL REGULATIONS (This is not an exhaustive list; add applicable regulations such as NSPS GG and KKKK):

FEDERAL REGU-LATIONS CITATION	Title	Federally Enforceable	Overview of Regulation	Applicable to Unit No(s).	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m3, 3. VOL)
40 CFR 50	NAAQS	Yes	Defined as applicable at 20.2.70.7.E.11, Any national ambient air quality standard	HEAT-1, HEAT-2	Defined as applicable at 20.2.70.7.E.11, Any national ambient air quality standard. Compliance with the GCP-Oil and Gas shows compliance with the NAAQS therefore the Site is in compliance with this standard.
40 CFR 60, Subpart A	General Provisions	Yes	Applies if any other NSPS subpart applies.	FUG-1	Applies if any other NSPS subpart applies.
40 CFR 60, Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution	Yes	If there is a standard or other requirement, then the facility is an "affected facility." Currently there are standards for: gas wells (60.5375); centrifugal compressors (60.5380); reciprocating compressors (60.5385): controllers (60.5390); storage vessels (60.5395); equipment leaks (60.5400); sweetening units (60.5405). **If standards apply, list the unit number(s) and regulatory citation of the standard that applies to that unit (e.g. Centrifugal Compressors 1a-3a are subject to the standards at 60.5380(a)(1) and (2) since we use a control device to reduce emissions)**	N/A	This Site does not have reciprocating or centrifugal compressors with wet gas seals, storage tanks, natural gas processing, or pneumatic controllers constructed, modified or reconstructed after August 23, 2011, and on or before September 18, 2015. Therefore, the Site will not be subject to the requirements of this subpart.
40 CFR 60, Subpart OOOOa	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015	Yes	If there is a standard or other requirement, then the facility is an "affected facility." Currently there are standards for: gas wells (60.5375a); centrifugal compressors (60.5380a); reciprocating compressors (60.5385a): controllers (60.5390a); storage vessels (60.5395a); fugitive emissions at well sites and compressor stations (60.5397a); equipment leaks at gas plants (60.5400a); sweetening units (60.5405a).	FUG-1	There is no well at this location; therefore, the facility is not subject to the well completion requirements of this subpart. The storage vessels have potential emissions less than six (6) tons per year (tpy) VOC and are not subject to this subpart. There are no compressors located at this site. However, Ameredev is voluntarily accepting the fugitive monitoring requirements of this subpart. Ameredev plans to use instrument air pneumatic controllers or pneumatics with natural gas bleed rates of less than 6 SCFH. Ameredev will comply with all applicable requirements. This facility is not currently planned to have reciprocating or centrifugal compressors using wet gas seals, pneumatic pumps, or natural gas processing or sweetening units constructed, modified, or reconstructed after September 18, 2015 and will not be subject to the

NMED Exhibit 2

FEDERAL REGU-LATIONS CITATION	Title	Federally Enforceable	Overview of Regulation	Applicable to Unit No(s).	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m3, 3. VOL)
					requirements of NSPS Subpart OOOOa for those affected facilities.
40 CFR 60, Subpart IIII		Yes	See 40 CFR 60.4200(a) 1 through 4 to determine applicable category and state engine size, fuel type, and date of manufacture.	N/A	There are no affected facilities at the facility. Therefore, the facility is not subject to this regulation.
40 CFR 60, Subpart JJJJ		Yes	See 40 CFR 60.4230(a), 1 through 5 to determine applicable category and state engine size, fuel type, and date of manufacture.	N/A	There are no affected facilities at the facility. Therefore, the facility is not subject to this regulation.
40 CFR 63, Subpart A	General Provisions	Yes	Applies if any other subpart applies.	N/A	Applies if any other subpart applies.
40 CFR 63, Subpart HH	NESHAP for Glycol Dehydrators	Yes	See 40 CFR 63, Subpart HH	N/A	There are no affected facilities at the facility. Therefore, the facility is not subject to this regulation.
40 CFR 63, Subpart ZZZZ	NESHAP for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	Facilities are subject to this subpart if they own or operate a stationary RICE, except if the stationary RICE is being tested at a stationary RICE test cell/stand.	N/A	There are no affected facilities at the facility. Therefore, the facility is not subject to this regulation.

Section 8B

Compliance Test History

To evaluate the requirement for compliance tests, you must submit a compliance test history. The table below provides an example.

Compliance Test History Table

Unit No.	Test Description	Test Date
N/A		

NMED Exhibit 2