APPENDIX D

NOBLE COMMENT LETTER FOR THE DRAFT AUDIT REPORT FROM THIRD-PARTY AUDITOR – SECOND AUDIT

Third-Party Verification Final Audit Report
Second Audit

Noble Energy, Inc.
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September 25, 2020

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March 27, 2020

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Mark McMillan, Shannon McMillan, & Jennifer Mattox
Colorado Department of Public Health and Environment
Air Pollution Control Division APCD – SSP – B1
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

RE: Noble Energy, Inc. Consent Decree (90-5-2-1-10811) – 1:15-cv-00841 RBJ
Comments to Consent Decree Third-Party Verification Draft Audit Report – Second Audit
SLR Ref: 118.01567.00007

Dear Mr. Patefield, Ms. Loiacono, Ms. Eakins, Mr. McMillan, Ms. McMillan, Ms. Mattox and Mr. Roan:

Noble Energy, Inc. ("Noble") is in receipt of the Consent Decree ("CD") Third-Party Verification Draft Audit Report ("Draft Report") dated March 29, 2019, issued by SLR International Corporation ("SLR"). Upon receipt, Noble conducted a review of the Draft Report.

The United States and State of Colorado have reviewed and provided comment to the Draft Report and Addendum. Noble has memorialized its comments to the Draft Report and Addendum by way of this correspondence. Noble is also providing additional requested revisions, comments, and clarifying information for consideration by the United States and State of Colorado for inclusion in a revised Draft Report ("Revised Draft Report").

DRAFT REPORT: TITLE PAGE

1. Noble intended that all information provided to and collected by SLR for the Third-Party Verification Audit be available to the public. Noble suggests that SLR remove "Confidential Business Information" from the title page and any associated pages with this notation if the United States and State of Colorado agree.

DRAFT REPORT: ACRONYMS

Noble suggests that SLR revise the Acronym section and any associated pages of the Draft Report as follows if the United States and State of Colorado agree:

1. Please correct the spelling gage to "gauge."

DRAFT REPORT: EXECUTIVE SUMMARY

Noble suggests that SLR revise the Executive Summary section of the Draft Report to incorporate the following requested revisions, comments, and clarifying information if the United States and State of Colorado agree:

1. For clarification, please revise the fifth sentence of paragraph two to read, "The Second Audit pertained to all previously unaudited Tank Systems with modifications after 12/31/15."

2. For clarification, please revise the second sentence of the fifth paragraph to read, "… of the 587 (99 percent) of the Tank Systems reviewed." Noble submitted 587 files to SLR as part of the document review. Tank System 162/889 was incorrectly included in the list provided by SLR and was part of the second Stipulation of Termination of Consent Decree as to 87 Specific Tank Systems in 2018.

DRAFT REPORT: 1 INTRODUCTION

Audit Scope (1.4)

1. For clarification, please revise the first sentence of paragraph one to read, "SLR audited in calendar year 2018 those previously unaudited Tank Systems that were modified after 12/31/15 and that were not included in the First Audit as stipulated by Paragraph 20.a. of the CD."

Document Review (1.4.1)

1. EPA & CDPHE: "The Executive Summary states that 588 Tank Systems were audited, and the document review states that 590 Tank Systems were audited. Please provide clarification on how many Tank Systems were audited and correct each section where appropriate."

   For clarification, please revise the sentence to read, "SLR audited Noble's Engineering Evaluations of 587 Tank Systems."

IR Camera Inspections (1.4.2)

1. The sum of the number of Tank Systems selected in bullets 2 and 3 does not equal the sum of Tank Systems in the first sentence. Please provide clarification on how many Tank Systems were selected for each group and correct each number where appropriate.

2. Please update this section to match any updates that occur within Section 3.1.

3. For consistency purposes, please revise the percentage numbers in parenthesis in bullets 1, 2 and 3 to read text percentage followed by number percentage and symbol in parenthesis. For example: "One hundred percent (100%)."

Other Losses (1.5.1.3)

1. In the second paragraph of this section, please correct "asdiscussed" to "as discussed."

DRAFT REPORT: 3 IR CAMERA INSPECTIONS

1. For consistency purposes, please include a sentence indicating the date Noble was notified of the list via email.

Selection Criteria (3.1)

1. The inspection numbers within Table 2 "IR Camera Inspection Findings" do not match what is in Section 3.1. Please update or clarify the differences.
    a. Table 2 indicates 66 Tank Systems were IR Inspected.
    b. Group 1 = 14,
    c. Group 2 = 31,
    d. Group 3 = 39,
    e. 2 Tank Systems in multiple groups, and
    f. 34 IR Camera Inspections not completed due to shut-in wells.

2. Regarding the inspection numbers, please update Section 1.4.2 to match what is corrected within Section 3.1.

3. EPA & CDPHE: "Section 3.1 indicates that 2 Tank Systems were 'from multiple groups.' There is a footnote on that page discussing Noble's ability to have requested redistribution of Tank Systems, but we do not see how that is relevant. We are curious to understand how a Tank System can be in multiple groups."

4. EPA & CDPHE: "Please confirm that sites for third party IR camera inspection were selected prior to completion of the third-party engineering evaluation reviews."

DRAFT REPORT: 4 FINDINGS

Noble is providing substantive responses to SLR's findings in sections 4.1 and 4.2. In addition, Noble requests that SLR incorporate the following revisions into the Draft Report subject to agreement from the United States and State of Colorado:

Application of the Modeling Guideline (4.1)

1. Regarding item 2 of this section, Noble acknowledges that breathing losses were not incorporated for the non-producing, storage-only bank. However, Noble also chose not to incorporate the headspace surge capacity associated with those tanks. Modeling the single bank generates a more conservative analysis to ensure design adequacy during all operating modes. The clarifying comments included in the last paragraph of item 2 of the findings accurately reflect Noble's approach to applying the engineering evaluation.

   Regarding the three (3) Tank Systems in item 2 of this section where the number of tanks in the signed engineering evaluation was fewer than the number of tanks confirmed to be part of the Tank System, Noble agrees with SLR and has progressed documentation updates to accurately reflect the Tank System configuration.

   - BOULTER T4N-R65W-S14 L03 (TS#142): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - SATER USX T4N-R63W-S19 L01 (TS# 1465): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - WATKINS BARNETT T4N-R64W-S12 L01 (TS# 446): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

2. Regarding item 3 of this section, Noble reviewed records associated with the seven (7) Tank Systems identified by SLR. For one (1) Tank System, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below. For six (6) Tank Systems, Noble agrees with SLR and has progressed documentation updates to accurately reflect the Tank System operation.

   - RICHARDSON BARTON T4N-R64W-S10 L02 (TS# 642): Noble confirmed accuracy of the existing Engineering Evaluation. While it is accurate that there are two separator trains capable of dumping liquids to the storage tanks, the work request and Engineering Evaluation specify that wellhead automation be used to limit separator operation to one separator at a time. This prevents simultaneous oil dumps from

occurring. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

- SAUER T5N-R65W-S33 L02 (TS# 2031): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- SHOEMAKER T6N-R64W-S12 L02 (TS# 589): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- SLW RNCH B01 ECONODE T5N-R64W-S12 L01 (TS# 2026): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- SLW RNCH B12 ECONODE T5N-R64W-S12 L02 (TS# 2032): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- STORIS E24 & MACKINAW A19 ECONODE T6N-R65W-S24 L01 (TS# 2343): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- WAHLERT AC33 ECONODE T7N-R63W-S3 L01 (TS# 1992): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

3. Regarding item 4 of this section, Noble reviewed records associated with the six (6) Tank Systems identified by SLR. For five (5) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below. For one (1) Tank System, Noble agrees with SLR and has progressed documentation updates to accurately reflect the Tank System configuration.

   - AVA ST T4N-R64W-S36 L02 (TS# 968): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - AVA ST T4N-R64W-S36 L04 (TS# 497): Noble confirmed accuracy of the existing Engineering Evaluation. Rework documentation (Attachment A) confirms the maximum set pressure. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

- CARLSON T8N-R60W-S23 L01 (TS# 1629): Noble confirmed accuracy of the existing Engineering Evaluation. Rework documentation (Attachment B) confirms the maximum set pressure. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

- LF RANCH GUTTERSEN USX T4N-R63W-S9 L01 (TS# 1351): Noble confirmed accuracy of the existing Engineering Evaluation. Rework documentation (Attachment C) confirms the maximum set pressure. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

- ROTH T6N-R64W-S30 L03 (TS# 2271): Noble confirmed accuracy of the existing Engineering Evaluation. QAQC documentation (Attachment D) confirms the maximum set pressure. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

- SCOOTER T3N-R64W-S18 L02 (TS# 1202): Noble confirmed accuracy of the existing Engineering Evaluation. QAQC documentation (Attachment E) confirms the maximum set pressure. In light of the above explanation, Noble suggests that SLR remove this finding from the Draft Report if the United States and State of Colorado agree.

4. Regarding item 5 of this section, Noble reviewed records associated with the three (3) Tank Systems identified by SLR. For two (2) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below. For one (1) Tank System, Noble has decommissioned this facility and can no longer field verify the dump valve and/or trim size.

   - CERVI USX T4N-R63W-S23 L01(TS# 457): Noble has decommissioned this facility and can no longer field verify the dump valve and/or trim size. In light of this explanation, Noble suggests that SLR incorporate this comment in the Draft Report if the United States and State of Colorado agree.

   - JOHNSON MARK ALTER AMANDA ZANE T4N-R64W-S9 L01 (TS# 652): Noble confirmed accuracy of existing Engineering Evaluation. QAQC documentation (Attachment F) confirms the dump valve and/or trim size.

   - SARCHET T3N-R65W-S24 L02 (TS# 1935): Noble confirmed accuracy of the existing Engineering Evaluation. QAQC documentation (Attachment G) confirm the dump valve and/or trim size.

In light of the above explanations, Noble suggests that SLR remove these items from the Draft Report if the United States and State of Colorado agree.

5. Regarding item 6 of this section, Noble agrees with SLR regarding SKYWAY T5N-R67W-S11 L02 (TS# 2202). An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10^{th}) (on or before January 30, 2020).

6. Regarding item 7 of this section, Noble reviewed records associated with the CUMMINS DILLARD JEANIE T7N-R64W-S10 L01 (TS# 576) Tank System identified by SLR. All three (3) wells on this facility are completed in the Lyons formation. Lyons wells differ from wells completed in other formations in that the produced gas is largely inert (~90% CO_2 and N_2). Additionally, whereas typical formations produce hydrocarbon gas that is in pressure-dependent equilibrium with the produced oil, the inert gas produced from Lyons wells is not in equilibrium with oil and is not pressure dependent.

   Noble's Modeling Guideline provides several methods for applying flash factor. The most commonly applied method in Noble's Engineering Evaluations is the Valko-McCain method. Since the produced gas at the CUMMINS DILLARD JEANIE T7N-R64W-S10 L01 (TS# 576) facility is not in a pressure-dependent equilibrium with the produced oil, the Valko-McCain method of flash factor determination is not applicable. Noble utilized wellhead sampling and available permitting documentation to assign a flash factor for this location. A variety of Lyons wells were sampled across several Tank Systems, many of which detected negligible flash gas quantities. To ensure design adequacy, a conservative flash factor was assigned, consistent with the highest measured flash factor across these locations. The original engineering evaluation provided to SLR included the relevant information pertaining to the Modeling Guideline and flash factor.

   The Engineering Evaluation for the CUMMINS DILLARD JEANIE T7N-R64W-S10 L01 (TS# 576) Tank System notes "Valko-McCain does not represent Flash Factor for this location. PPIVFR based on Lyons-specific pressurized liquid samples." This approach follows section 6.4.1 of Noble's Modeling Guideline.

   In light of the above explanations, Noble suggests that SLR include this explanation in the Draft Report if the United States and State of Colorado agree.

7. Regarding item 8 of this section, Noble reviewed records associated with the FURROW FED T7N-R64W-S14 L01 (TS# 577) Tank System and completed a full walkdown of the facility. Noble confirmed the Modeling Guideline was applied correctly and is including the RISE Facility Packet (Attachment H) to confirm the Modeling Guideline was applied correctly.

   In light of the above explanations, Noble suggests that SLR removes this item from the Draft Report if the United States and State of Colorado agree.

Application of the Engineering Design Standard (4.2)

1. For clarification, please revise the second sentence of the first paragraph to read, "… of Tank Systems evaluated and correct application could not be verified for 7 of 587 Tank Systems."

2. Regarding item 1 of this section, Noble reviewed records associated with the sixty (60) Tank Systems identified by SLR. Noble agrees with SLR that an equalizer line on a single-tank system does not inherently control vapor headspace capacity. Noble consciously used the equalizer line as a reasonably foreseeable maximum in its application of the Engineering Design Standard. One of the primary roles of Noble's production staff is to monitor produced volumes and dispatch oil hauling companies as tanks become full. While it is possible that a tank could be filled above the equalizer height, it is very unlikely as Tank Systems have weeks (and often months) of storage capacity. Conversely, applying the Engineering Design Standard with a completely full tank results in zero headspace volume, which requires an unreasonable combustion system capacity that would be difficult to maintain given the low volumes of gas produced by wells at single-tank facilities. Lastly, through the Tank Pressure Monitoring program and regular equipment inspections, Noble has not identified any instances of Reliable Information resulting from excessive tank fillage above the equalizer height. While Noble recognizes the accuracy of SLR's finding, Noble disagrees that the Engineering Design Standard was incorrectly applied.

   In light of the above explanations, Noble suggests that SLR revise this item to incorporate the above discussion into the Draft Report if the United States and State of Colorado agree.

3. Regarding item 2 of this section, Noble reviewed records associated with the seven (7) Tank Systems identified by SLR. For one (1) Tank System, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below. For six (6) Tank Systems, Noble agrees with SLR and has progressed documentation updates to accurately reflect the Tank System configuration.

   - 70 RANCH USX T5N-R63W-S9 L02 (TS# 331): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - BECCA CODY T3N-R64W-S3 L01 (TS# 516-b): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - DINNEL T4N-R64W-S26 L02 (TS# 492): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- MICK SHAINNE T3N-R64W-S18 L01 (TS# 383): Noble confirmed accuracy of the existing Engineering Evaluation. QAQC documentation (Attachment I) confirms the vapor line size. In light of the above explanations, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

- SCHMIDT T4N-R65W-S19 L03 (TS# 833): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- UPRC CHWY FERGUSON MONFORT T5N-R64W-S23 L01 (TS# 310/1016): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

- WELLS RANCH USX AA T6N-R63W-S11 L02 (TS# 1559): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

4. Regarding item 3 of this section, Noble reviewed records associated with the four (4) Tank Systems identified by SLR. For all four (4) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below.

   - FARMERS FRICO T3N-R65W-S14 L01 (TS# 2217): Noble confirmed accuracy of the existing Engineering Evaluation. The provided QAQC documentation and IR camera video confirm the number of headspace tanks.

   - JONES T7N-R63W-S5 L01 (TS# 2004): Noble confirmed accuracy of the existing Engineering Evaluation. The number of headspace tanks was field verified on April 23, 2019.

   - SPIKE ELISE ST T4N-R64W-S24 L03 (TS# 494/1923): Noble confirmed accuracy of the existing Engineering Evaluation. The QAQC documentation and IR camera video confirm the number of headspace tanks.

   - TANIA BLUE GUTTERSEN T3N-R64W-S2 L01 (TS# 522): Noble confirmed accuracy of the existing Engineering Evaluation. The provided QAQC documentation and IR camera video confirms the number of headspace tanks.

   In light of the above explanations, Noble suggests SLR remove these items from the Draft Report if the United States and State of Colorado agree.

5. Regarding item 4 of this section, Noble reviewed records associated with the two (2) Tank Systems identified by SLR. For the two (2) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below.

   - SCOOTER T3N-R64W-S18 L02 (TS# 1202): Noble confirmed accuracy of the existing Engineering Evaluation. The provided IR camera video confirms the vapor line was replaced.

   - SHELTON T4N-R65W-S26 L03 (TS# 1301/1300): Noble confirmed accuracy of the existing Engineering Evaluation. The provided QAQC documentation and IR camera video confirms the vapor line was replaced.

   In light of the above explanations, Noble suggests that SLR remove these items from the Draft Report if the United States and State of Colorado agree.

6. Regarding item 5 of this section, Noble reviewed records associated with the two (2) Tank Systems identified by SLR. For the two (2) Tank Systems, Noble agrees with SLR and has progressed documentation updates to accurately reflect the Tank System configuration.

   - CONAGRA T5N-R64W-S30 L03 (TS# 321): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

   - RITCHEY T3N-R65W-S27 L03 (TS# 411): Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

7. Regarding item 6 of this section, Noble reviewed records associated with the two (2) Tank Systems identified by SLR. For the two (2) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below.

   - CUMMINS DILLARD JEANIE T7N-R64W-S10 L01 (TS# 576): In light of the explanation provided in response to item 7 of section 4.1, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

   - SLW RNCH B01 ECONODE T5N-R64W-S12 L01 (TS# 2026): In light of the explanation provided in response to item 2 and 3 of section 4.1, the updated engineering evaluation submitted with Noble's Semi-Annual Report (10th) addresses the headspace surge capacity in addition to the simultaneous separator dumps. Noble suggests that SLR include this explanation in the Draft Report if the United States and State of Colorado agree.

8. Regarding item 7 of this section, Noble reviewed records associated with the OREDIGGER WILMOTH MCCLINTOCK T4N-R64W-S4 L01 (TS# 627) Tank System identified by

SLR. Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

9. Regarding item 8 of this section, Noble reviewed records associated with the WELLS RANCH USX BB T5N-R63W-S15 L06 (TS# 332) Tank System identified by SLR. Noble confirmed the accuracy of the existing Engineering Evaluation. There are two (2) banks of three (3) tanks, totaling six (6) tanks at the facility. One (1) tank is used as a headspace tank and functions for both banks due to where the valve was installed. In light of the above explanations, Noble suggests that SLR remove these items from the Draft Report if the United States and State of Colorado agree.

10. Regarding item 9 of this section, Noble reviewed records associated with the MILE HI SHEEP T6N-R64W-S8 L01 (TS# 609) Tank System identified by SLR. Noble agrees with SLR. An updated Engineering Evaluation has been generated and will be submitted with Noble's Semi-Annual Report (10th) (on or before January 30, 2020).

11. Regarding item 10 of this section, Noble reviewed records associated with the FURROW FED T7N-R64W-S14 L01 (TS# 577) Tank System identified by SLR. In light of the explanation provided in response to item 8 of section 4.1, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

VCS Adequate Design and Sizing (4.3)

1. Regarding this section, Noble reviewed records associated with the four (4) Tank Systems identified by SLR. For the four (4) Tank Systems, Noble confirmed the accuracy of the existing Engineering Evaluation and is providing an explanation below.

    - CUMMINS DILLARD JEANIE T7N-R64W-S10 L01 (TS# 576): In light of the explanation provided in response to item 7 of section 4.1, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

    - RICHARDSON BARTON T4N-R64W-S10 L02 (TS# 642): In light of the explanation provided in response to item 3 of Section 4.1, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

    - SLW RNCH B01 ECONODE T5N-R64W-S12 L01 (TS# 2026): In light of the explanation provided in response to item 2 and 3 of Section 4.1 and item 6 of Section 4.2, Noble reviewed the updated engineering evaluation submitted with Noble's Semi-Annual Report (10th). The corrections to the headspace capacity, simultaneous separator dump, and PPIVFR confirmed the accuracy of the VCS Design Capacity. Noble suggests that SLR include this explanation in the Draft Report if the United States and State of Colorado agree.

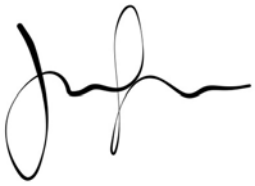
- WELLS RANCH USX BB T5N-R63W-S15 L06 (TS# 332): In light of the explanation provided in response to item 8 of Section 4.2, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

2. For consistency purposes, please remove the ")" after WELLS RANCH USX BB T5N-R63W-S15 L06.

3. Regarding FURROW FED T7N-R64W-S14 L01 (TS# 577), in light of the explanation provided in response to item 8 of section 4.1, Noble suggests that SLR remove this item from the Draft Report if the United States and State of Colorado agree.

If, after the United States and State of Colorado have a chance to review this correspondence concerning SLR's Draft Report, additional questions or comments are identified, please contact Jaclyn Schaffner at jaclyn.schaffner@nblenergy.com or (720) 587-2326. If, after review, the United States and State of Colorado agree with the comments and associated proposed revisions to generate a Revised Draft Report, Noble will provide this correspondence to SLR to initiate their review and revision process. Noble looks forward to working with the United States and State of Colorado to finalize the Draft Report so that Noble may post all non-confidential portions of the Final Audit Report on our www.noblecolorado.com website.

Regards,



Jaclyn Schaffner
Environmental Engineering Supervisor
Noble Energy EHSR

Attachments

cc: Mr. Mark Elmer, Esq., US DOJ
Marc McGill, Noble Energy
Ji Rim, Noble Energy
Mark Patteson, Noble Energy
Coltan Berg, Noble Energy
Taylor Pullins, Esq., Noble Energy

ATTACHMENT A

AVA ST T4N-R64W-S36 L04 (TS# 497) – REWORK DOCUMENTATION

Jaclyn Schaffner

From: Rosie Dressel (Contractor)
Sent: Tuesday, September 12, 2017 2:38 PM
To: Jonathan Pomerantz
Subject: RE: AVA ST T4N-R64W-S36 L04 (Ava State C36-31; State 36-4I4.5I4.4) STEM Automation

Expires: Wednesday, January 10, 2018 12:00 AM

Hi Jonathan,
This one is done!

Thank you!

Rosie Dressel
Noble Energy
Automation
970-304-5326-Office
970-388-5107-Cell
Rosie.Dressel@nblenergy.com
"Every job is a self-portrait of the person who does it. Autograph your work with EXCELLENCE".....author unknown

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From: Jonathan Pomerantz
Sent: Wednesday, September 06, 2017 11:22 AM
To: Rosie Dressel (Contractor) <Rosie.Dressel@nblenergy.com>
Subject: AVA ST T4N-R64W-S36 L04 (Ava State C36-31; State 36-4I4.5I4.4) STEM Automation

Hi Rosie,

On this battery, unfortunately, someone changed the work request when we lost a tank mid-construction, but didn't update the packet in GW, and we ended up needing the PSHH set at 60 psig instead of 70 psig. I've replaced the design packet in GW now.

Is there any way we could send somebody out there to decrease the PSHH set pressure to 60 psig? I apologize for the confusion.

Thanks,

Jonathan

Jonathan Pomerantz
Facilities Engineer
P&PS / STEM - Greeley

direct: 970.304.5373
cell: 970.397.7617
jonathan.pomerantz@nblenergy.com

ATTACHMENT B

CARLSON T8N-R60W-S23 L01 (TS# 1629) – REWORK DOCUMENTATION

Jaclyn Schaffner

From: Jason Proctor
Sent: Wednesday, April 24, 2019 10:16 AM
To: Phil Deis; Mike Nitzel
Cc: Rosie Dressel (Contractor); Paula Phifer
Subject: RE: Automation Checks for Consent Decree Audit

Phil,

Please see QAQC comments below per the requested automation checks.

1.) CARLSON T8N-R60W-S23 L01 — LP PSHH was tested and confirmed at 40 PSIG (4/22/2019)
2.) LF RANCH GUTTERSEN USX T4N-R63W-S9 L01 — No automated LP PSHH, only pneumatic. Only have TPM on this site, no pressure switch on either separator.
3.) ROTH T6N-R64W-S30 L03 — LP PSHH was tested and confirmed at 60 PSIG (4/22/2019)
4.) SCOOTER T3N-R64W-S18 L02 — LP PSHH was tested and confirmed at 65 PSIG (4/24/2019)

Thank you

Jason Proctor
Automation Foreman
Construction Department

2115 117th Avenue, Greeley, CO 80634
Main: 970.304.5000 | Direct: 970.304.5131 | Cell: 970.539.0050
Jason.Proctor@nblenergy.com | www.nobleenergyinc.com

From: Phil Deis
Sent: Monday, April 22, 2019 11:09 AM
To: Mike Nitzel <Mike.Nitzel@nblenergy.com>; Jason Proctor <Jason.Proctor@nblenergy.com>
Cc: Rosie Dressel (Contractor) <Rosie.Dressel@nblenergy.com>; Paula Phifer <Paula.Phifer@nblenergy.com>
Subject: RE: Automation Checks for Consent Decree Audit

That will work.

Regards,
Phil Deis
Brownfield Engineering Team Lead
Office: 970-304-5274
Cell: 970-699-0336

From: Mike Nitzel
Sent: Monday, April 22, 2019 11:08 AM

ATTACHMENT C

LF RANCH GUTTERSEN USX T4N-R63W-S9 L01 (TS# 1351) – REWORK DOCUMENTATION

STEM REWORK REQUEST FORM

LOD ID:	LF RANCH GUTTERSEN USX T4N-R63W-S9 L01

TANK BATTERIES					
LF RANCH 32,41-9,GUTTERSEN USX CC 9-					

AREA	FOREMAN	LAT	LONG	DIRECTIONS
C3-09	MATT BELL	40.32824485	-104.4405449	HWY 34 & CR 69, W 1-1/10, S 5/10, W 4/10 INTO - COMBO 7777

	LP VOC HEADER / TANK VOC HEADER / BURNERS
1	
2	
3	
4	

	SEPARATORS / FLOWLINES / COMMINGLES
1	Confrim LP separator oil dump valves are 1/2".
2	
3	
4	
5	

	CONTROLS
1	Pneumatic PSHH: Reset Fisher 4660 / Versa Valve setup to shut-in HP Hi/Lo if LP separator reaches 55 psig.
2	
3	
4	

	TANKS
1	
2	
3	
4	

	FACILITY GENERAL
1	
2	
3	
4	

FACILITIES ENGINEER	DATE
Grant Hahnenkamp	1/4/2018

REASON FOR REWORK:
PCCM to bring location into regulatory compliance.

ATTACHMENT D

ROTH T6N-R64W-S30 L03 (TS# 2271) – QAQC DOCUMENTATION

FRI

STEM WORK REQUEST FORM

LOD ID:	ROTH T6N-R64W-S30 L04 & ROTH T6N-R64W-S30 L03

TANK BATTERIES					
ROTH A30-17	ROTH A 30-7,8	ROTH 2-30			

AREA	FOREMAN	LAT	LONG	DIRECTIONS
D3-10	ROB KERN	40.46360127	-104.5908036	RD 51 & RD 66, W 4/10, S INTO

	BURNER ADDITIONS / MODIFICATIONS
1	Install standard 300psig LP gas header connected to a Leed EC48-2S (Oracle ID 62905). ✓-HRA 1.19.16
2	
3	
4	

	SEPARATORS / FLOWLINES / COMMINGLES
1	Move flowlines for Roth A30-7 and 02-30 from Roth S30 L03 into HP separator with well(s) Roth A 30-17. **A30-8 is to be P&A'd.** ✓ HRA 1.19.16
2	**Will confirm before construction starts.**
3	Route HP oil dump(s) to old Roth A30-7 separator (converted to LP surge). ✓-HRA 1.19.16
4	Oil and gas will be commingled for all wells. Gas will be commingled through the Roth A 30-7, 8 sales meter. ✓-HRA 1.19.16
5	Remove the unused Roth A30-17 sales gas meter(s). **Verify the sales meter being removed is the slave meter. If it is the master**
6	**meter remove the correct slave meter.** scheduled HRA 1.19.16

	DUMP VALVE MODIFICATIONS
1	Confirm oil dump valves are 1/2" trim and modify if necessary. ✓-HRA 1.19.16
2	
3	
4	

	CONTROLS
1	Automated PSHH: Install PSHH on LP separator set to shut-in wellhead at 60 psig.
2	Pneumatic PSHH: Install (1) Fisher 4660 & (1) Versa Valve PSHH to shut-in HP Hi/Lo if LP separator reaches 60 psig.
3	Wellhead Automation: Update wellhead automation grouping, so that Roth A30-17 and Roth 2-30 is grouped with Roth A 30-7.
4	

	TANKS
1	Modify oil fill line(s) on top of tanks, as necessary, to ensure LP separator can produce into all (2) tanks. ✓-HRA 1.19.16
2	Upgrade tank PRVs, thief hatches, and blowdowns as necessary (submit work request if upgrades cannot be executed). ✓-HRA 1.19.16
3	Bring VOC line above grade and increase line size to 4". **Will have to increase turnaround area to accommodate AGL.** ✓-HRA 1.19.16
4	

FACILITIES ENGINEER	DATE
Whitney Dobson	12/4/2015

V-001
H.P. SEPARATOR
SIZE:
MAWP: VARIES (270 PSIG TO 500 PSIG TYPICAL)

V-201
VOC KNOCKOUT
SIZE: 16" O.D. x 36" S/S
MAWP: UNRATED (15 PSIG)
"LEED KNOCKOUT"

V-101
L.P. SEPARATOR
SIZE:
MAWP: 300 PSIG MAX

V-301
VOC KNOCKOUT
INTERNAL TO VOC BURNER
MAWP: 7 PSIG (PER COMM)

BR-101
INCINERATOR
MFG: COMM (TYP.)

VENT TO ATM
VERSA VALVE
TUBING
V-101 FISHER 4660 HI/LO CONTROLLER LOCATED INSIDE LP SEP. CABINET
Burst Disk 374#
Mercer 300 F
HI/LO MOTOR VALVE
PCV 001
(F.C.)
SET @ V-001 MAWP
PSV 001
VENT TO ATM
Leed
300@ 650
-10@ 300
S/N 13376
NB 11831
V-001
1-201
FLUIDS
FROM WELL
2" (TYP.)
LCV 002
LCV 003
Wellmark 275 G
SET @ V-101 MAWP
PSV 101
VENT TO ATM
NOTE 1
REFER TO C&E
PSHH 101
PSD 101
LCV 104
LCV 105
V-101
(DO NOT REMOVE WEIR NIPPLE OR MODIFY WATER DUMP)
PCV 101
SEE TABLE 1
PCV 103
SEE TABLE 1
2" (TYP.)
GAS
TO SALES
2" (TYP.)
GAS
TO VRU (IF PRESENT)
2" (TYP.)
OIL
TO PRODUCTION TANK(S)
2" (TYP.)
WATER
TO PRODUCED TANK(S)
EXISTING
STANDARD DESIGN
Wellmark
SET @ 15 PSIG
NOTE 2
PSV 201
VENT TO ATM
RO 201
1/4"
PCV 301
1" (FC) KIMRAY (1400)
PCV 102
2" SEE TABLE 1
NOTE 3
300#
2" - DO NOT POCKET
2"
SLOPE BACK TO KNOCKOUT
BURNER CONTROL SYSTEM PILOT ON/OFF
FLAME ARRESTOR
BR-101
V-301
Drain
V-201
LSHH 201
Spring
Support

TABLE 1: PRESSURE CONTROL VALVE SPECIFICATIONS

	DESIGN PRESSURE/ FAILSAFE POSITION	KIMRAY MODEL #:	RECOMMENDED SET PRESSURE
PCV-101	300 PSIG FAIL CLOSED	2" 230 SGT BP-D REGULATOR (AAR)	20-25 PSIG (IF PRESENT)
PCV-102			AT LEAST 10 PSIG HIGHER THAN PCV-101 (IF PRESENT) NO HIGHER THAN 35 PSIG (TYP. 25-35 PSIG)
PCV-103			AT LEAST 20 PSIG HIGHER THAN PSHH-101/102 NO HIGHER THAN 100 PSIG (TYP. 70-100 PSIG)

NOTES:
1. PSHH-101 AND PSHH-102 SET AT SAME PRESSURE.
2. PSV-201: 202-2" INLET, G ORIFICE, 2" OUTLET.
3. LOCATE PSV-201 AS CLOSE TO V-101 AS POSSIBLE.
4. PSV OUTLET PIPE EXTEND MIN. 3' ABOVE PSV, ADD WEEP HOLE IN ELBOW.

REFERENCE DRAWINGS

NO.	TITLE

NO.	REVISION	BY	CHK	APVD	DATE
0	ISSUED FOR CONSTRUCTION	EBJ	EB	-	08/05/15

noble energy
NOBLE ENERGY
-

ENG. RECORD	DATE
DRAWN BY EBJ	07/21/15
CHECKED	
APPROVED	
APPROVED	
SCALE NONE	

L.P. GAS HEADER
STANDARD DESIGN 300#
H.P. AND L.P. SEPARATOR DESIGN

JOB NO. -

DRAWING NO. PID-103 REV. 0

ATTACHMENT E

SCOOTER T3N-R64W-S18 L02 (TS# 1202) – QAQC DOCUMENTATION

STEM WORK REQUEST FORM

LOD ID:	SCOOTER T3N-R64W-S18 L02

TANK BATTERIES					
SCOOTER D 18-1JI,2,7,17JI					

AREA	FOREMAN	LAT	LONG	DIRECTIONS
C1	BRIAN FROID	40.23236811	-104.5907080	CR 49 & CR 34, E 7/10, S INTO

	BURNER ADDITIONS / MODIFICATIONS
1	Install standard 125# LP gas header connected to a new Leed EC48-2S (Oracle ID 62905). √-HRA 1·20·16
2	Install 4" AGL connected to the current 48" Tornado burner. √-HRA 1·20·16
3	
4	

↓ note

	SEPARATORS / FLOWLINES / COMMINGLES
1	Remove unused separator #1 from location.
2	Move HLP separator #2 to where separator #1 was inorder to provide necessary spacing for additional burner.
3	Move flowlines for D18-2,7 into new header with wells 1JI, 17JI and tie into separator #2. √ HRA 1·20·16
4	
5	

	DUMP VALVE MODIFICATIONS
1	Replace existing 212 dump valves with 1" 1400 with 1/2" trim. √-HRA 1·20·16
2	
3	
4	

	CONTROLS
1	Automated PSHH: Install PSHH to shut-in wellheads at 65 psig in LP Separator.
2	Pneumatic PSHH: Install PSHH to shut-in Hi/Lo at no higher than 65 psig in LP Separator.
3	Wellhead Automation: Update wellhead automation grouping, so that 2,7 is grouped with 1JI, 17JI.
4	

	TANKS
1	Upgrade tank PRVs, thief hatches, and blowdowns as necessary (submit work request if upgrades cannot be executed).
2	Replace existing 14oz Wellmark PRVs with 16oz Morrison PRVs.
3	Replace existing 2" VOC line on top of tanks with 3" VOC line down to KO pot.
4	

FACILITIES ENGINEER	DATE
Mike Christow	11/12/2015

- no check value on Backpressure Line - NOT STEM
- miss plug @ burner drain - Fixed
- No weep hole
  ↳ Fixed

ATTACHMENT F

JOHNSON MARK ALTER AMANDA ZANE T4N-R64W-S9 L01 (TS# 652) – QAQC DOCUMENTATION

Jaclyn Schaffner

From: Jonathan Pomerantz
Sent: Friday, August 02, 2019 8:35 AM
To: Eric Zito; Phil Deis
Cc: Matt Bell
Subject: RE: Trim verification

Thank you very much for getting that info!

Phil, please see below for the confirmed trim sizes from Eric. He replaced any trims and/or tags that were illegible as well.

Thanks,

Jonathan

Jonathan Pomerantz
Facilities Engineer
P&PS / Brownfield - Greeley

direct: 970.304.5373
cell: 970.397.7617
jonathan.pomerantz@nblenergy.com

From: Eric Zito
Sent: Thursday, August 1, 2019 2:38 PM
To: Jonathan Pomerantz <Jonathan.Pomerantz@nblenergy.com>
Cc: Matt Bell <Matt.Bell@nblenergy.com>
Subject: Trim verification

Hello,
Here is the trim info that I verified on all of the separators listed below.

1. HP Sep- Amanda Alter C09-20 Mark Alter C16-79HN Zane Alter C9-21 (Oil ½" trim /water ½" trim).
2. HP Sep- Alter C9-33 (oil ½" trim/water ½"trim.
3. HP Sep- Alter C16-28D,29D (oil 1"trim/water ½"trim).
4. LP Sep- Oil 1"trim/water ½"trim).
5. HP Sep- Vern 2 Johnson 9-13 Alter C9-24D,25 (oil ½"trim/water ½"trim).

Thanks,

ATTACHMENT G

SARCHET T3N-R65W-S24 L02 (TS# 1935) – QAQC DOCUMENTATION

Jaclyn Schaffner

From: Jarod Bartlett
Sent: Thursday, August 15, 2019 7:41 AM
To: Phil Deis
Cc: Steven Beam
Subject: sarchet 13-75 LP dump

Phil

We verified the LP dump on the Sarchet 13-75HN and it is a ½" trim and seat

Thanks

ATTACHMENT H

FURROW FED T7N-R64W-S14 L01 (TS# 577) – RISE Facility Packet

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

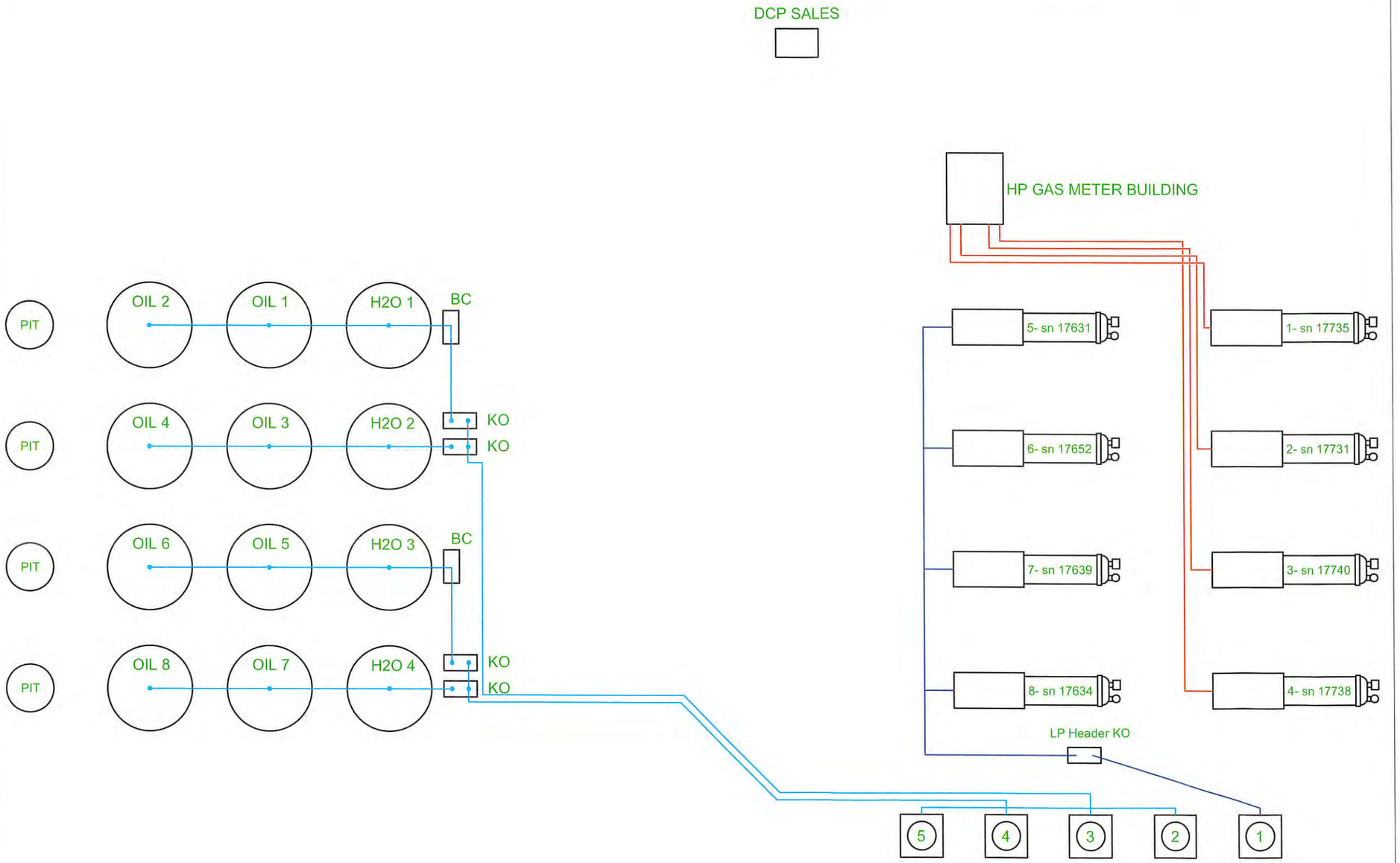
FIELD DATASHEET

Inspection date 5.22.19

Site Automated? Yes ____ No ____ Type ____

Site Sketch

SEE ATTACHED



NOTES:

NOTES:

REFERENCE DRAWINGS	
DWG NO.	TITLE

REVISIONS								
REV	DESCRIPTION	BY	DATE	CHK BY	CHK DATE	APR BY	APR DATE
0	ISSUED FOR DESIGN REVIEW	HRA	04/18/18				

APPROVALS		
	SIGNATURE	DATE
DRAWN/DESIGNED	HRA	04/18/18
CHECKED		
APPROVED		
CLIENT APPROVAL		
	SIGNATURE	DATE
OPERATIONS		
ENGINEERING		
PROJ. MGR.		

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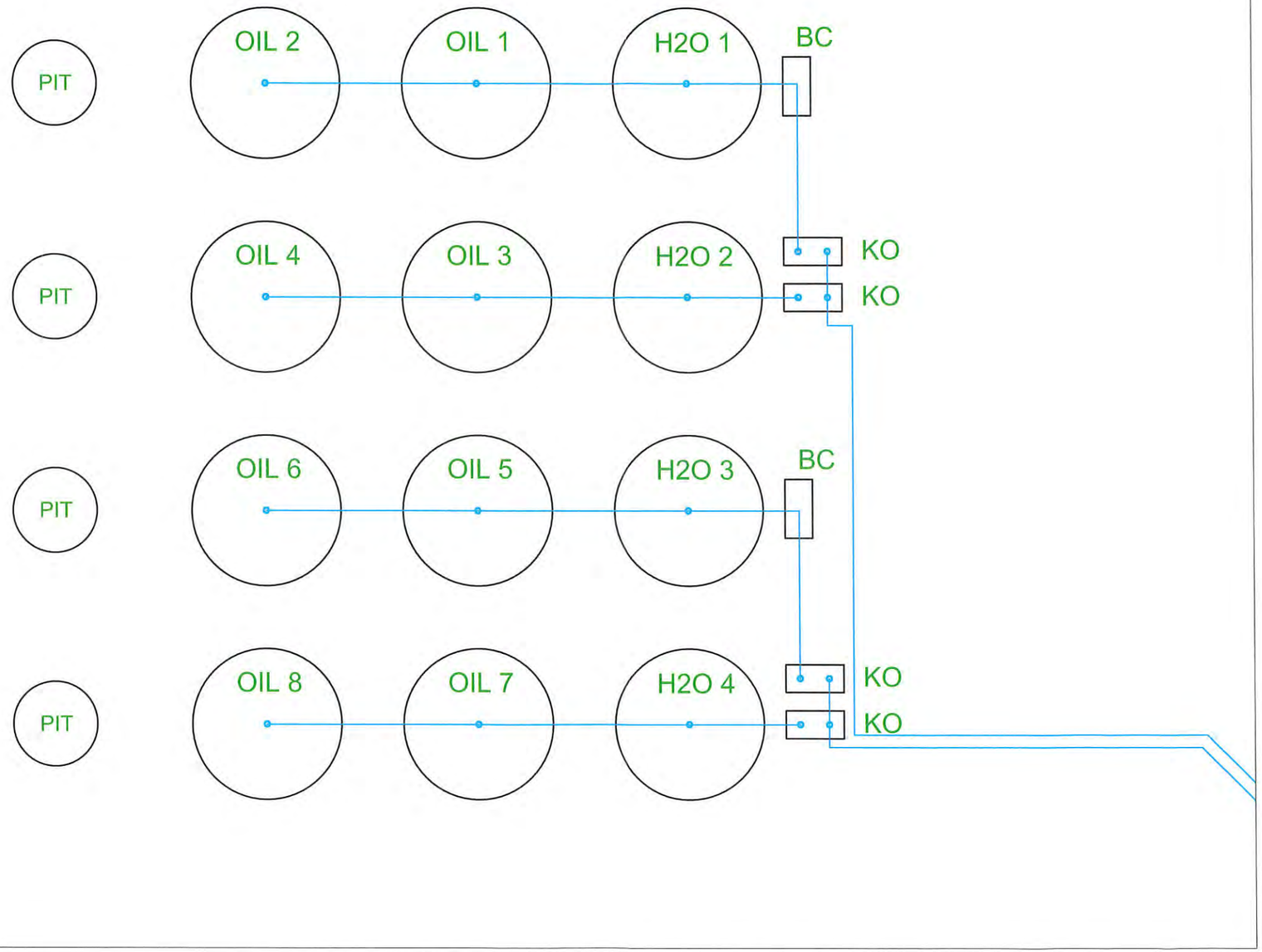
NOBLE ENERGY
FURROW FEDERAL
GENERAL ARRANGEMENT
PLAN VIEW

SCALE: NONE

DRAWING NO. ##### -H- #####

0



NOTES:

NOTES:

REFERENCE DRAWINGS	
DWG NO.	TITLE

REVISIONS							
REV	DESCRIPTION	BY	DATE	CHK BY	CHK DATE	APR BY	APR DATE
0	ISSUED FOR DESIGN REVIEW	HRA	04/18/18				

APPROVALS		
	SIGNATURE	DATE
DRAWN/DESIGNED	HRA	04/18/18
CHECKED		
APPROVED		
CLIENT APPROVAL		
	SIGNATURE	DATE
OPERATIONS		
ENGINEERING		
PROJ. MGR.		

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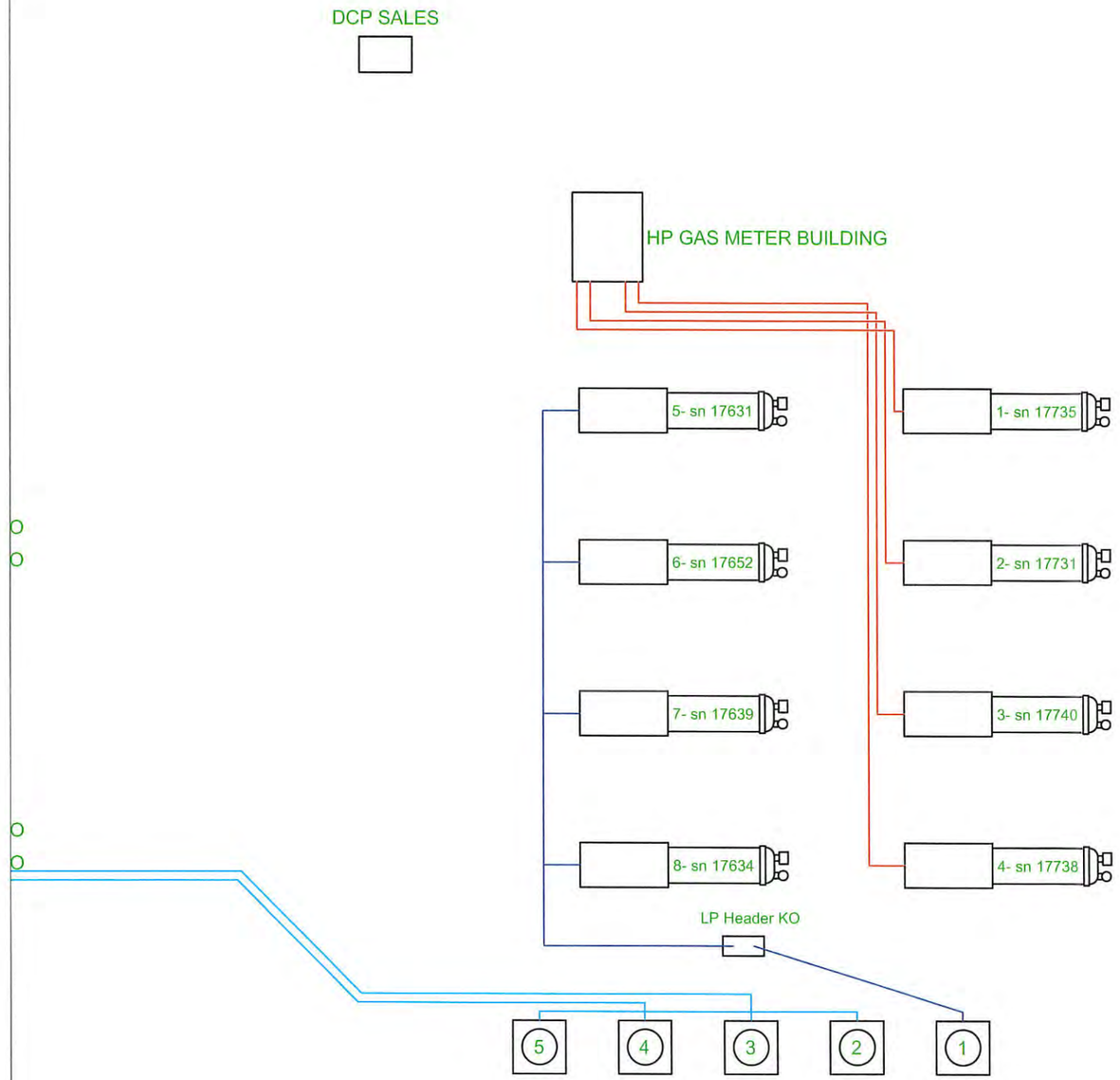
NOBLE ENERGY
FURROW FEDERAL
TANK BATTERY
PLAN VIEW

SCALE: NONE

DRAWING NO. #####-##-#####

0



NOTES:

NOTES:

REFERENCE DRAWINGS

DWG NO.	TITLE

REVISIONS

REV	DESCRIPTION	BY	DATE	CHK BY	CHK DATE	APR BY	APR DATE
0	ISSUED FOR DESIGN REVIEW	HRA	04/18/18				

APPROVALS

	SIGNATURE	DATE
DRAWN/DESIGNED	HRA	04/18/18
CHECKED		
APPROVED		
CLIENT APPROVAL		
	SIGNATURE	DATE
OPERATIONS		
ENGINEERING		
PROJ. MGR.		

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NOBLE ENERGY
FURROW FEDERAL
SEPARATORS AND BURNERS
PLAN VIEW

SCALE: NONE

DRAWING NO. ##### -## -##### 0

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

FIELD DATASHEET

Inspection date 5.22.19

Oil Production Tank

Total Number of Oil Tanks 8

#	Serial/Hauler #'s	Size	Sep*	VOC**	PRV***	Thief***	Banking	AIRs ID
1	S# 37874 H# 617874 Nat. Oilwell Varg	500 BBL H 25' D 12'	1-HP 17735 5-LP 17631	2-5	Morrison Brothers 16 oz	Enardo 660 16 oz		1239BA1004
2	S# 38049 H# 618049 N.O.V.	BBL H D			oz	oz		
3	S# 3674 H# 353674 Delta	BBL H D	2-HP 17731 6-LP 17652		oz	oz		1239BA1003
4	S# 3665 H# 353665 Delta	BBL H D			oz	oz		
5	S# 3671 H# 353671 Delta	BBL H D	3-HP 17740 7-LP 17639		oz	oz		1239BA1002
6	S# 3672 H# 353672 Delta	BBL H D			oz	oz		
7	S# 9751 H# 9751 DoubleT Ind.	BBL H D	4-HP 17738 8-LP 17634		oz	oz		1239BA1001
8	S# SA.42190 H# 42190 N.O.V	BBL H D			oz	oz		
	S# H#	BBL H D			oz	oz		

* Tank is supplied by which separator(s)

** VOC line size from Tank. If not connected to VOC system, record "VTA"

*** Record model and set pressure in oz/in2

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

FIELD DATASHEET

Inspection date 5-22-19

Water Production Tanks

Total Number of Water Tanks

#	Serial/Hauler #'s	Size	Sep*	VOC**	PRV***	Thief***	Banking	AIRs ID
1	S# F14432 H# National Oilwell	500 BBL H 25' D 12'	1-HP 17735 5-LP 17631	2-5	Morrison Brothers 16 oz	Enardo 660 16 oz		Not Labeled
2	S# F14699 H# N.O.V.	BBL H D	2-HP 17731 6-LP 17652		oz	oz		
3	S# F14730 H# N.O.V.	BBL H D	3-HP 17740 7-LP 17639		oz	oz		
4	S# F14776 H# N.O.V.	BBL H D	4-HP 17738 8-LP 17634		oz	oz		
	S# H#	BBL H D			oz	oz		
	S# H#	BBL H D			oz	oz		
	S# H#	BBL H D			oz	oz		
	S# H#	BBL H D			oz	oz		
	S# H#	BBL H D			oz	oz		

* Tank is supplied by which separator(s)

** VOC line size from Tank. If not connected to VOC system, record "VTA"

*** Record model and set pressure in oz/in2

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

FIELD DATASHEET

Inspection date 5-22-19

Separators

Total Number of Separators

Separator Number and Well Name(s)	PSV Setting (PSIG)	Oil Valve Size (NPS), Part Number, Seat Size	Water Valve Size (NPS), Part Number,	Gas Outlet Routed to (i.e. Sales, VOC, Burner	Oil Outlet Routed to (i.e. Separator #5, Tank #4, VRT)
1-HP # 17735 AB 14-65HN	500	2" 2200 ½" Seat	2" 2200 ½" Seat	Meter S/N ID 14221779 & Sales	Sep. 5-LP Tank 1, 2
2-HP #17731 AB 14-64HN				Meter S/N ID 14221782 Sales	Sep. 6-LP Tank 3, 4
3-HP #17740 AB 14-63HN				Meter S/N ID 14221781 SALES	Sep. 7-LP Tank 5, 6
4-HP #17738 AB 14-62HN				Meter S/N ID 14221783 SALES	Sep 8-LP Tank 7, 8
5-LP #17631 AB 14-65HN	300	2" 2400 ½ seat	2" 2200 ½" Seat	LP Header Burner 1 & Below Ground	Tank 1, 2
6-LP #17652 AB 14-64HN		2" 2200 ½" Seat			Tank 3, 4
7-LP #17639 AB 14-63HN					Tank 5, 6
8-LP #17634 AB 14-62HN	Energes Recert Not stamped				Tank 7, 8

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

FIELD DATASHEET

Inspection date 5.22.19

Combusters

Total Number of Combusters 5

Combuster Number	Vendor	Part Number	Serial Number	Autospark Number	Actuator Number	Inlet NPS	Airs ID	Notes
1	LEED	ORACLE ID 62905.A	80677			2"	NOT LABELED	LP HEADER
2	CIMARRON	NOT LISTED	5901107			4" To 3" Inlet	1239AB 1001 1002 1003 1004	ALL TANKS
3	CIMARRON		5901714					
4	CIMARRON		6906119					
5	CIMARRON		6906121					

Main Vent Header

NPS (From Knockout to Burners	Sloped? (Y/N)	Approximate Length of Pipe (ft.)	Above or Below Ground?	Notes
H2O Tank 1,2 =4" Oil Tank 1,2,3,4	Y		ABOVE	1x -4" Header to Burner Header 2-5
H2O Tank 3,4 Oil Tank 5,6,7,8 =4"	Y		ABOVE	1x -4" Header to Burner Header 2-5

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

815892972

FIELD DATASHEET

Inspection date 5.22.19

Vapor Recovery Towers

Total Number of VRTs 0

Gas Outlet Routed To (i.e. VRU, Burner)	Record Any Separators / Wells That Bypass VRT Directly to Tankage	Notes
N/A		

Vapor Recovery Units

Total Number of VRUs 0

VRU Number	Vendor, HP	Part Number	Serial Number	Inlet NPS	Outlet NPS	Notes
N/A						

RISE FACILITY PACKET

LOD Name FURROW FED T7N-R64W-S14 L01

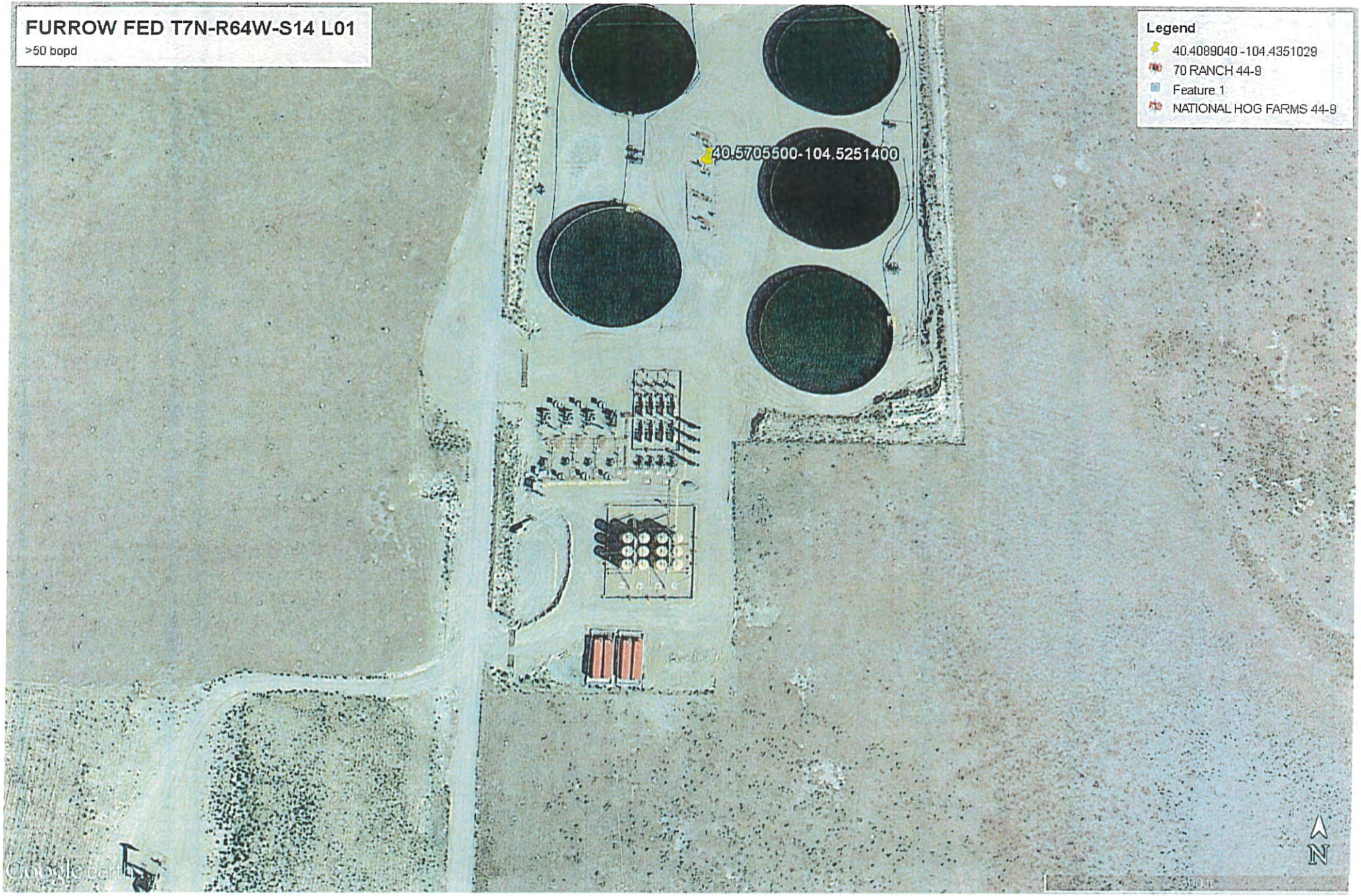
815892972

FIELD DATASHEET

Inspection date 5-22-19

Additional Notes

Compressors found on well head Pad. Appear to be gas lift with some type of cooling tower on well head tree.


FURROW FED T7N-R64W-S14 L01
>50 bopd
Legend
40.4089040 -104.4351029
70 RANCH 44-9
Feature 1
NATIONAL HOG FARMS 44-9
40.5705500-104.5251400
N

Tracy Kern (Contractor)

From: Paula Phifer
Sent: Thursday, June 23, 2016 2:43 PM
To: Rosie Dressel (Contractor)
Cc: Tracy Kern (Contractor); Jeff Kennedy
Subject: RE: Furrow Federal STEM Work

Thanks for checking for us Rosie!

Paula Phifer
Production Services
Engineering Technician
Direct: 970-304-5071
Fax: 970-304-5099
Cell: 970-485-1852
paula.phifer@nblenergy.com

From: Rosie Dressel (Contractor)
Sent: Thursday, June 23, 2016 2:42 PM
To: Paula Phifer
Cc: Tracy Kern (Contractor); Jeff Kennedy
Subject: RE: Furrow Federal STEM Work

I don't think so, since it was just an installation of HI/LO Controllers. A QC could have been done, but it wouldn't have followed our normal STEM QC paperwork. I have all QC paperwork back to January of 2015, and there is nothing for this LOD

Thanks!
Have a great day!

Rosie Dressel
970-304-5326-Office
970-381-2577-Cell
Rosie.Dressel@nblenergy.com

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new" Socrates

From: Paula Phifer
Sent: Thursday, June 23, 2016 2:40 PM
To: Rosie Dressel (Contractor)
Cc: Tracy Kern (Contractor); Jeff Kennedy
Subject: RE: Furrow Federal STEM Work

So no QC was ever done?

Paula Phifer
Production Services
Engineering Technician
Direct: 970-304-5071
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Cell: 970-485-1852
paula.phifer@nblenergy.com

From: Rosie Dressel (Contractor)
Sent: Thursday, June 23, 2016 2:39 PM
To: Paula Phifer
Cc: Tracy Kern (Contractor); Jeff Kennedy
Subject: RE: Furrow Federal STEM Work

Paula,
After talking to INSTALLS they ordered (4) HI/LO Controllers and they were installed, there was no other QC, or additional paperwork, follow up done on this.
As referenced in the note below, there was no request for STEM installs as it was to be done by Maint.

Thanks!
Have a great day!

Rosie Dressel
970-304-5326-Office
970-381-2577-Cell
Rosie.Dressel@nblenergy.com

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new" Socrates

From: Paula Phifer
Sent: Thursday, June 23, 2016 12:02 PM
To: Rosie Dressel (Contractor)
Cc: Tracy Kern (Contractor)
Subject: RE: Furrow Federal STEM Work

Work at the location did not complete until April 2016. You aren't off track; it may have been managed outside of your process.

Paula Phifer
Production Services
Engineering Technician
Direct: 970-304-5071
Fax: 970-304-5099
Cell: 970-485-1852
paula.phifer@nblenergy.com

From: Rosie Dressel (Contractor)
Sent: Thursday, June 23, 2016 12:00 PM
To: Paula Phifer
Cc: Tracy Kern (Contractor)
Subject: RE: Furrow Federal STEM Work

Ah, I was looking at this year. This is QUITE old, let me see if I can find anything in Martha's archives.

Thanks!
Have a great day!

Rosie Dressel
970-304-5326-Office
970-381-2577-Cell
Rosie.Dressel@nblenergy.com

"The secret of change is to focus all of your energy, not on fighting the old, but on building the new" Socrates

From: Paula Phifer
Sent: Thursday, June 23, 2016 11:56 AM
To: Rosie Dressel (Contractor)
Cc: Tracy Kern (Contractor)
Subject: FW: Furrow Federal STEM Work

Paula Phifer
Production Services
Engineering Technician
Direct: 970-304-5071
Fax: 970-304-5099
Cell: 970-485-1852
paula.phifer@nblenergy.com

From: Jeanne Van Slambrouck
Sent: Thursday, June 23, 2016 11:30 AM
To: Paula Phifer; Phil Deis
Subject: FW: Furrow Federal STEM Work

From: Jeff Kennedy
Sent: Monday, June 08, 2015 10:07 AM
To: Jeanne Van Slambrouck
Cc: Chad Taylor; Dain Johnson
Subject: RE: Furrow Federal STEM Work

Thanks for the heads up. I put in an order for the 4 hi/lo controllers to get them on the fab schedule.

From: Jeanne Van Slambrouck
Sent: Monday, June 08, 2015 9:58 AM
To: Jeff Kennedy

Cc: Chad Taylor; Dain Johnson
Subject: Furrow Federal STEM Work

Hey Jeff,

Giving you a heads up here. Dain is working on a large project at the Furrow Federal location to remove the majority of the compressors and do some other much needed consolidation work. He's going to do all the STEM modifications at the same time. Mike B's group will handle all the construction. On your end, this is probably as involved as it can get....

We will need the following:

- Tank level automation on tanks to shut in pumping units at 85% full (21'3'') – 8 oil tanks, 4 water tanks, 4 pumping units
- PSHH on LP separators shuts in pumping units (4 LP separators and 4 pumping units)
- PSHH on LP separators shuts in hi/lo valve on HP separator (4 LP separators, each has dedicated HP)

The cost of all of this will be covered by STEM. Dain will be working to get this scheduled, but I wanted to let you know now since it's a pretty big automation scope.

Jeanne Van Slambrouck
Facility Engineer
832-605-3819
Jeanne.VanSlambrouck@nblenergy.com

Site Name:	Furrow Federal PL AB14-62HN, 63HN, 64HN, 65HN
Directions:	CR 80 & CR 55, N2, E1, S 1 8/10, E. into

1. Confirm all the items on the work request form have been completed. For valve trim requirements, verify that the valve(s) modified are marked as having the specified trim.

Complete ____
Incomplete ____
If Incomplete, explain what is missing

2. Are the tanks banked?

Yes X
No ____
If Yes, explain banked configuration. For example, one bank of 3 oil tanks and one bank of 4 oil tanks

One bank of 2 oil + 1 water, One bank of 2 oil + 1 water, One bank of 2 oil + 1 water, and One bank of 2 oil + 1 water

3. Confirm AIRS ID's are properly displayed on each tank and burner, as required.
List ALL AIRS ID's associated with the site:

123BA1001, 123BA1002, 123BA1003, 123BA1004

4. Review EVERY Theif Hatch and Tank PRV on location and fill out the following:

NOTE: Only fill out the form for unique items. For example, if there are 4 Theif Hatches on location and all are identical, fill out the form once and mark "4" on the "Number on Location" line. Use more sheets if required

Theif Hatch or PRV? Enardo Thief Hatch
Installed on (for example, water tank) oil + water
Number on location 12
Manufacturer Enardo
Model ES 660
Set Pressure (oz) 16 oz

Theif Hatch or PRV? Morrison PRV
Installed on (for example, water tank) oil + Water
Number on location 12
Manufacturer Morrison Bros
Model 244
Set Pressure (oz) 16oz

Theif Hatch or PRV?
Installed on (for example, water tank)
Number on location
Manufacturer
Model
Set Pressure (oz)

Completed by: Matt Rusch
Date: 7/14/16
Return to Paula Phifer

IR Camera Verification Documentation Field Data Sheet

Videographer	Date	Time Onsite:	Time Offsite:
Calvin Kauffman	7/14/16	12:30	1:15

Battery Lease Name: Furrow Federal PL AB 14-62HN, 63HN, 64HN, 65HN

Battery AIRS ID: 1234BA1001, 1234BA1002, 1234BA1003, 1234BA1004

Consent Decree Tank Sys No.:

Battery Lease RC: 815892972

Siteview LOD Name: Furrow Fed T7N-R64W-S14 LO1

NORMAL OPERATIONS:

VOC Emissions Obs? Y / (N) Video Record Stored? (Y) / N Video No. 1281

Fugitives Information (if applicable):

Equipment ID	Component	Video No.

SEPARATOR DUMP EVENT:

VOC Emissions Obs? Y / (N) Video Record Stored? (Y) / N Video No. 1282

Fugitives Information (if applicable):

Equipment ID	Component	Video No.

POST-DUMP EVENT:

VOC Emissions Obs? Y / (N) Video Record Stored? (Y) / N Video No. 1283

Fugitives Information (if applicable):

Equipment ID	Component	Video No.

NOTES:

Videographer Signature: Calvin Kauffman

noble energy	FURROW FED T7-R64W-S14 L01

Inspector: H. Adams MDLI Services Inc.

Inspection Date: 5/8 & 9/18 **Re-Inspection Date:**

Const. Foreman: **Construction Crew:**

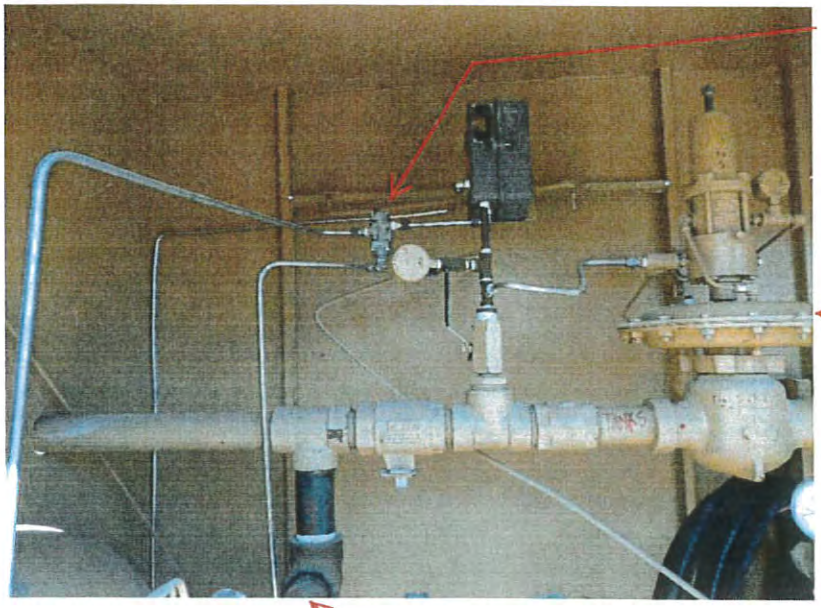
Items Found:

* IG sense line system has an additional versa valve installed at the LP Fischer controller, it ties in with the Level Switch High High (LSHH) on vessel.
* Back Pressure line has back pressure valve on each line as well as a common back pressure valve.
* No Automation has been installed.
* LP separtor setup using a Kimray SMT style valve for back pressure High High connected to oil dump - designated as (PCV 103) on P&ID dwg
*
*
*

Comments:

Re-Inspection Comments:

noble energy	Photos

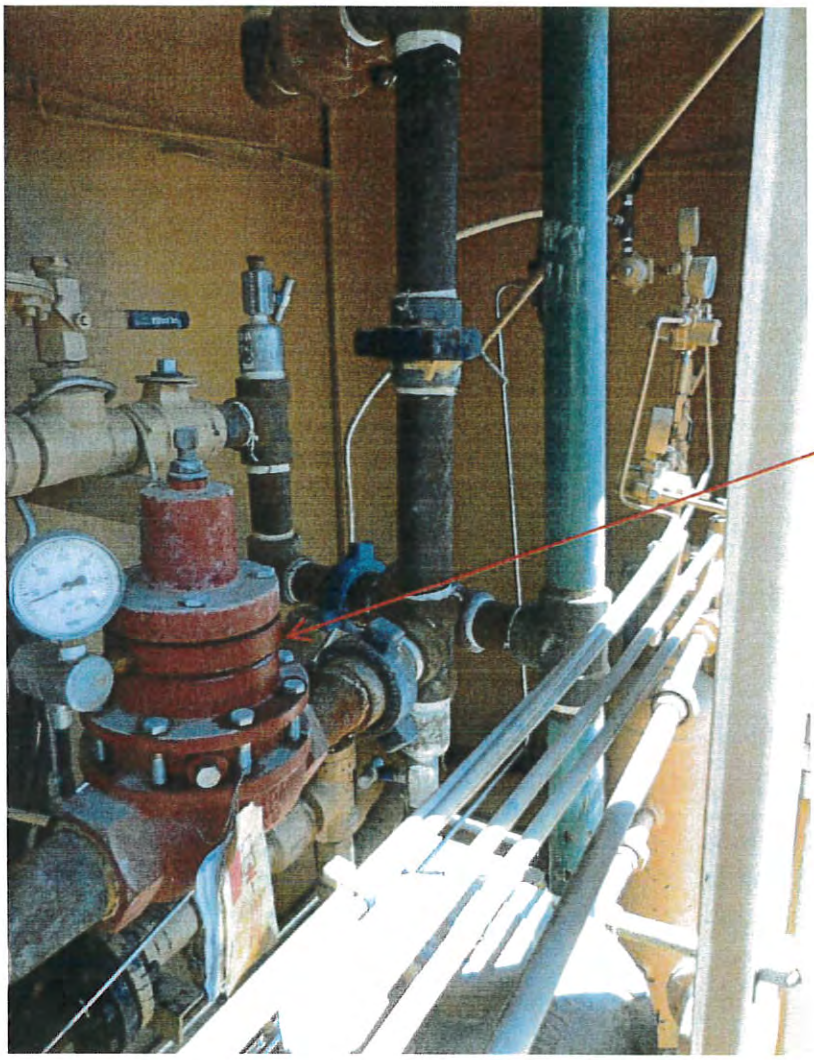


Versa valve installed by LP Fischer Controller. Additional line tied into LSHH

Kimray SMT valve as back press high high shown. On P&ID is designated at PCV 103

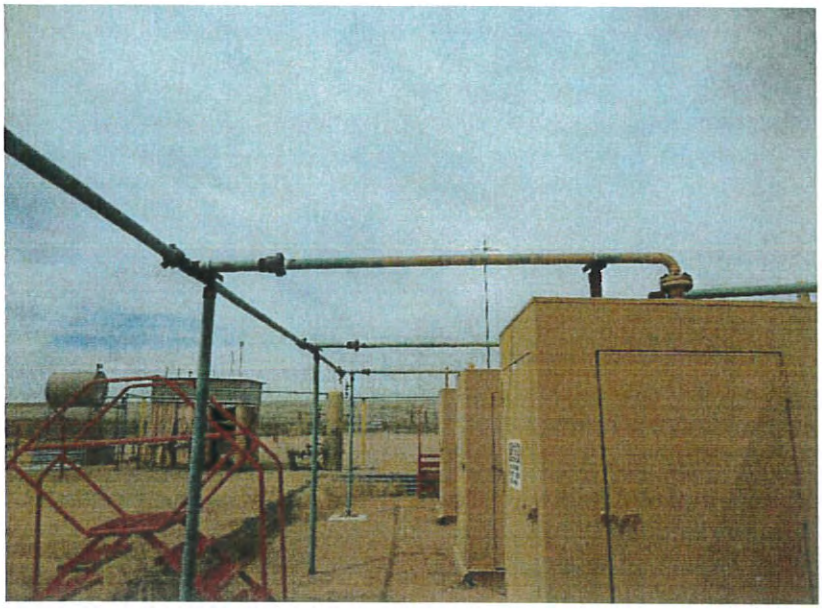
LP Header start

noble energy	Photos



Each LP separator has a back pressure valve before common LP header.

noble energy	Photos



Common LP header tie in

LP header w/ second back pressure regulator

STEM WORK REQUEST FORM

LOD ID:	FURROW FED T7N-R64W-S14 L01

TANK BATTERIES					
FURROW FEDERAL PC AB14-65HN	FURROW FEDERAL PC AB14-64HN	FURROW FEDERAL PC AB14	FURROW FEDERAL PC		

AREA	FOREMAN	LAT	LONG	DIRECTIONS
D3-02	ROB KERN	40.57055000	-104.5251400	CR 80 & CR 55, N 2, E 1, S 1 8/10, E INTO

	BURNER ADDITIONS / MODIFICATIONS
1	Install standard 300# LP gas header connected to a new 48" COMM burner. NOTES Below
2	
3	
4	

HRA 5.9.18

	SEPARATORS / FLOWLINES / COMMINGLES
1	Ensure that the PSV's on the LP separator are set at 300# and replace with onces that are if required ✓
2	
3	
4	
5	

HRA 5.8.18

	DUMP VALVE MODIFICATIONS
1	Reduce oil dump valves to 1/2" trim - reduce trim in both HP and LP separators (8 separators total) ✓
2	Reduce water dump valves to 1/2" trim - reduce trim in both HP and LP separators (8 separators total) ✓
3	
4	

HRA 5.8.18

	AUTOMATION
1	Automated PSHH: Install PSHH on LP separator set to 60 psig to shut down pumping units (4 LP's, 4 pumping units)
2	Pneumatic PSHH: Install versa valve and Fisher 4660 on LP separator set to 60 psig to shut down hi/lo valve on HP separator (4 trains total of 1 HP/1 LP per train)
3	
4	

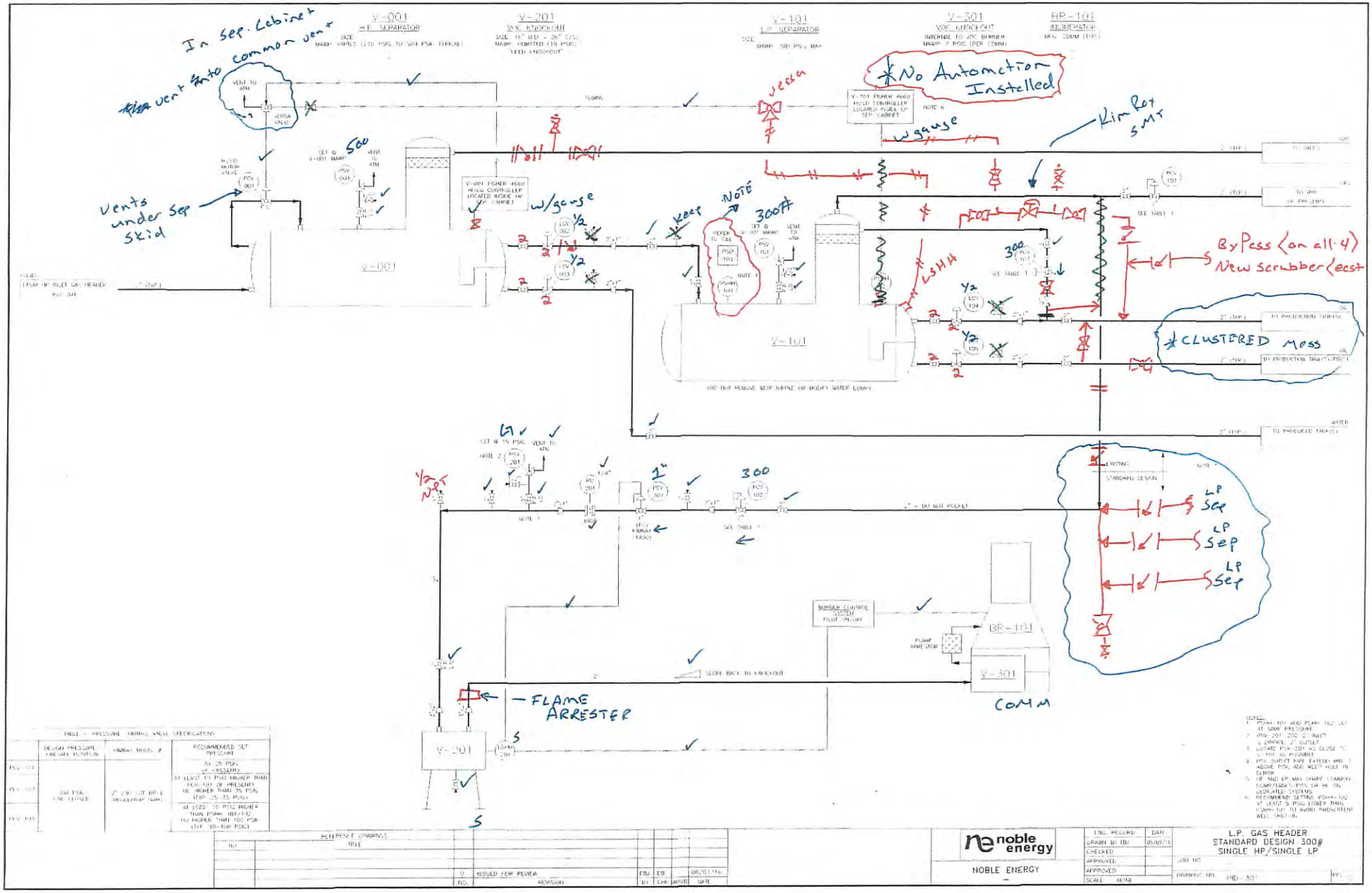
NOT INSTALLED HRA 5.9.18

	TANKS
1	Evaluate tank PRVs / thief hatches and upgrade as necessary (submit work request if required upgrades cannot be executed). ✓
2	Evaluate tank blowdowns and upgrade as necessary (submit work request if required upgrades cannot be executed). ✓
3	Refer to attached drawing for directions on installing truck vapor capture lines
4	

HRA 5.8.18

FACILITIES ENGINEER	DATE
Jeanne Van Slambrouck	10/21/2015

- IG Versa System - LSHH Tie in w/vesa @ LP Fischer
- Automation not present
- Back pressure ?


In Sep. Cabinet
common vent
vent into
V-001
HP SEPARATOR
V-201
VOC KNOCKOUT
V-101
LP SEPARATOR
V-301
VOC KNOCKOUT
BP-101
REGENERATOR
No Automation Installed
w/gauge
Kim Rot
5 MT
Vents under Sep Skid
w/gauge
Keep
NOTE
300#
By Pass (on all 4)
New Scrubber (east only)
CLUSTERED Mess
FLAME ARRESTER
COMM
LP Sep
LP Sep
LP Sep
V-001
V-101
V-201
V-301
BP-101
noble energy
NOBLE ENERGY
L.P. GAS HEADER
STANDARD 300#
SINGLE HP/SINGLE LP

ATTACHMENT I

MICK SHAINNE T3N-R64W-S18 L01 (TS# 383) – QAQC DOCUMENTATION

noble energy	MICK SHAINNE T3N-R64W-S18 L01

Inspector: H. Adams MDLI Services Inc.

Inspection Date: 2/15/2017 **Re-Inspection Date:** 2/17/2017

Const. Foreman: T. Gerkin **Construction Crew:** Saucedo

Items Found:

* High Pressure bottle PRV has a broken cap and strap.
*
*
*
*
*
*

Comments:
Replace PRV like for like.

Re-Inspection Comments:
Completed.

STEM WORK REQUEST FORM

LOD ID:	MICK SHAINNE T3N-R64W-S18 L01

TANK BATTERIES					
SHIANNE D18-29D	MICK D 18-3,4,5,6,19				

AREA	FOREMAN	LAT	LONG	DIRECTIONS
C1	BRIAN FROID	40.23233836	-104.5942470	CR 49 & CR 34, E 4/10, S INTO

	BURNER ADDITIONS / MODIFICATIONS	
1	Install standard 125# LP gas header connected to a new Leed EC48-2S (Oracle ID 62905).	✓
2	Install 4" AGL connected to Existing Tank Burner.	✓ HRA 2.15.17
3		
4		

	SEPARATORS / FLOWLINES / COMMINGLES	
1	Move flowlines for Mick D 18-19 & Shianne D18-29D into HP separator with well(s) MICK D 18-3,4,5,6.	✓
2	Oil, gas, and water will be commingled for all wells. Gas will be commingled through the MICK D 18-3,4,5,6 sales meter.	✓
3	Remove and/or tag for removal the unused Mick D 18-19 & Shianne D18-29D sales gas meter(s).	✓ HRA 2.15.17
4	Remove (2) unused separators from location.	✓
5		

	DUMP VALVE MODIFICATIONS	
1	Replace existing 212 dump valves with 1" 1400 with 1/2" trim.	✓ HRA 2.15.17
2		
3		
4		

	CONTROLS
1	Automated PSHH: Install PSHH to shut-in wellheads at 70 psig in LP Separator. (1 LP Separators)
2	*Pneumatic PSHH: Install PSHH to shut-in Hi/Lo(s) at no higher than 70 psig in LP Separator. (1 Fisher 4660s / 1 Versa Valves)*
3	Wellhead Automation: Update wellhead automation grouping, so that Mick D 18-19 & Shianne D18-29Dis grouped withMICK D 18-3,4,5,6
4	

	TANKS	
1	Upgrade tank PRVs, thief hatches, and blowdowns as necessary (submit work request if upgrades cannot be executed).	✓
2	Modify oil fill line(s) on top of tanks, as necessary, to ensure LP separator can produce into all (2) tanks.	✓ HRA 2.15.17
3	Replace existing 2" VOC line on top of tanks with 3" VOC line down to KO pot.	✓
4		

FACILITIES ENGINEER	DATE
Daniel Stubbs	3/21/2016

-HP PRV has a broken cap & strap complete

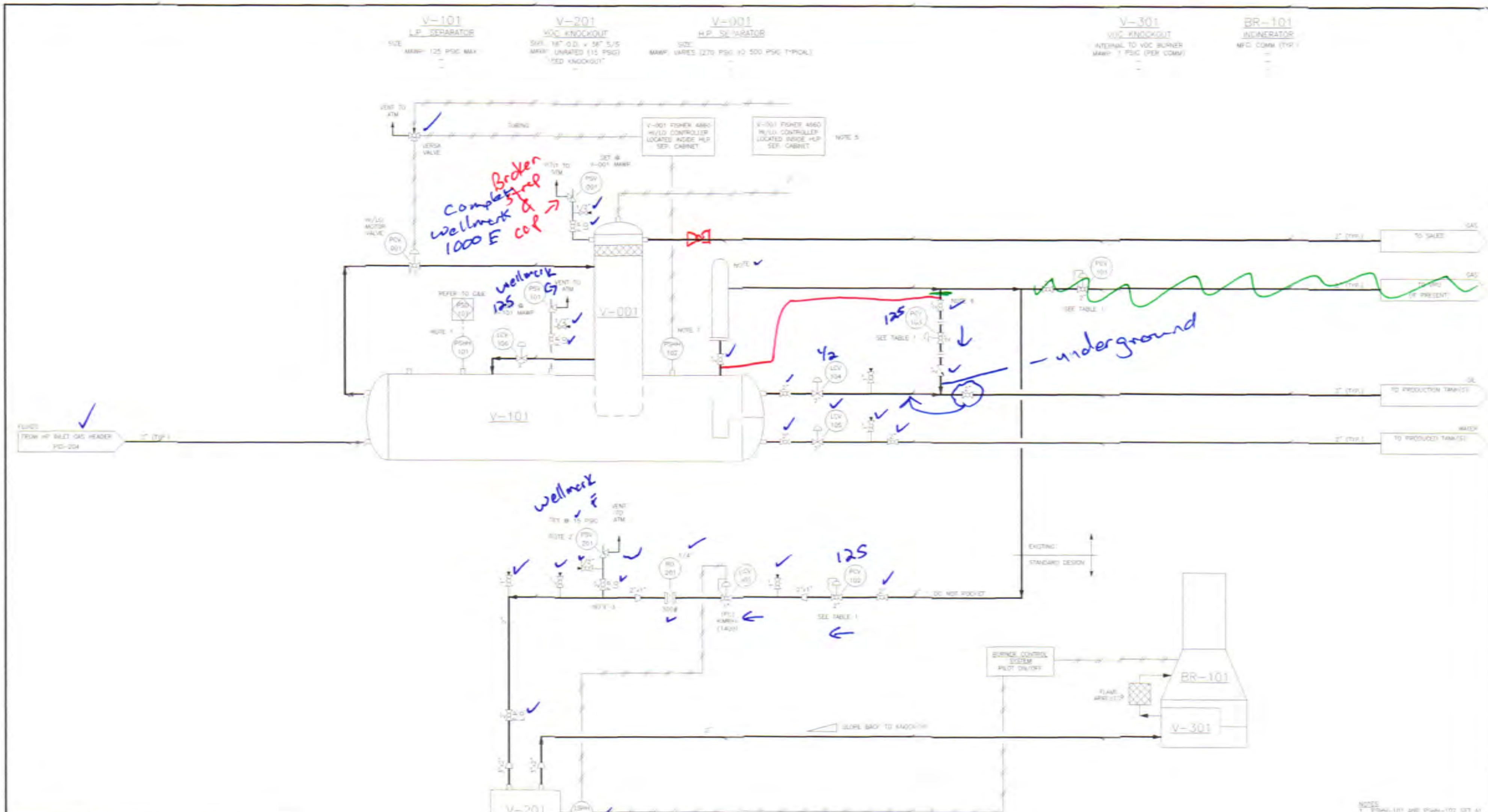


TABLE 1. PRESSURE CONTROL VALVE SPECIFICATIONS			
	DESIGN PRESSURE/ FAILSAFE POSITION	KIMRAY MODEL #	RECOMMENDED SET PRESSURE
PCV-101	125 PSIG FAIL CLOSED	2" 212 SGF BP REGULATOR (GAV)	20-25 PSIG (IF PRESENT)
PCV-102			AT LEAST 10 PSIG HIGHER THAN PCV-101 (IF PRESENT) NO HIGHER THAN 35 PSIG (TYP. 25-35 PSIG)
PCV-103			AT LEAST 25 PSIG HIGHER THAN PSHH-101/102 NO HIGHER THAN 100 PSIG (TYP. 80-100 PSIG)

NOTES:
1. PSHH-101 AND PSHH-102 SET AT SAME PRESSURE
2. PSV-201: 1.5F2 – 1.5" INLET F ORIFICE, 2" OUTLET
3. LOCATE PSV-201 AS CLOSE TO V-101 AS POSSIBLE. PSV OUTLET PIPE EXTEND MIN. 3' ABOVE PSV. ADD WEEP HOLE IN ELBOW.
4. INSTALL DRY GAS TOWER SO IT FALL DRAINS BACK TO SEPARATOR.
5. RECOMMEND SETTING PSHH-102 AT LEAST 5 PSIG LOWER THAN PSHH-101 TO AVOID INADVERTENT WELL SHUT-IN.
6. RECOMMEND CONNECTING HI/LO REGULATOR TO DEDICATED NOZZLE ON SEPARATOR WHEN POSSIBLE.

REFERENCE DRAWINGS	
NO.	TITLE

NO.	REVISION	BY	CHK	APVD	DATE
2	MINOR UPDATES	EBU	EB	–	08/01/16
1	VALVE UPDATES & MOC #3346	EBU	EB	–	09/08/15
0	ISSUED FOR CONSTRUCTION	EBU	EB	–	08/05/15

NOBLE ENERGY
–

ENG. RECORD	DATE
DRAWN BY EBU	07/20/15
CHECKED	
APPROVED	
APPROVED	
SCALE NONE	

L.P. GAS HEADER
STANDARD DESIGN 125#
HLP DESIGN

DRAWING NO. PID-101