



Tidwell #2

Tidwell #2 Permit Application Follow-Up



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Executive Director



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Glossary

ADC	Aberdeen Drilling Consultants
CAR	Corrective Action Request
COLC	City of League City
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
HSEMS	Health, Safety, and Environmental Management System
KEC	Kaler Energy Corp.
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
PDC	Precision Drilling Corporation
SEMS	Safety and Environmental Management System
SPCCP	Spill Prevention, Control, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan



1.0 Executive Summary

ADC was requested by the COLC to perform a desktop audit on the Oil and Gas Drilling, Workover, or Amending Permit Application submitted by Kaler Energy Corp (KEC). The KEC and Precision Drilling Corporation (PDC) safety and environmental management system (SEMS) manuals were reviewed against API Bulletin 75L. The documentation review was carried out between 16 November and 07 December 2020 by ADC Senior Project Engineer Lance Norris.

The COLC Drilling Ordinance - Drilling, Chapter 42, Article III and the KEC documentation were provided to ADC by the COLC. The KEC documentation provided covered Divisions 2, 3, and 6 of the COLC Drilling Ordinance - Drilling. Therefore, only divisions 2, 3, and 6 were discussed in the main body (section 5) of the final report. There was no documentation provided to ADC for Divisions 4, 5, 7, and 8. KEC should provide the COLC with additional documentation to satisfy all the requirements of the COLC Drilling Ordinance - Drilling.

COLC requested ADC to perform a follow-up desktop audit using the additional documentation provided by KEC to close out the non-conformances. The follow-up desktop review was carried out on Divisions 2, 3, and 6 between 01 February and 31 March 2021 by ADC project engineer Lance Norris. The wording for the follow-up review portion of the report was italicized.

KEC provided the drilling permit application, Phase I Environmental Assessment, Emergency Response Plan (ERP), Spill Prevention Control and Countermeasure Plan (SPCCP), the Stormwater Pollution Prevention Plan (SWPPP), KEC SEMS, and PDC's Health, Safety, and Environmental Management System (HSEMS). There were some typographical errors (typos) and missing signatures for the permit and SWPPP. Most of the non-conformances found in Divisions 3 and 6 were for missing documentation. Overall, there were 35 COLC drilling ordinance sections that required additional documentation; 1 in Division 2, 14 in Division 3, and 20 in Division 6.

During the follow-up review, the non-conformances in Division 2 and 3 were all closed. There were 6 non-conformances open in Division 6. The three minor non-conformances open were for personnel training records. The major non-conformances included the well control equipment, the setback distance, and the flare. The well control equipment major non-conformance and three training minor non-conformances can be addressed and closed out during an inspection once the rig is selected. The setback distance for the rig was approximately 490 feet and the flare location will be 1,750 feet from the nearest residence.

Of the 12 SEMS elements, 6 elements were lacking in depth and required additional information from KEC and PDC to fully satisfy the SEMS elements (safety and environmental information, hazard analysis, assurance of quality and mechanical integrity of critical equipment, pre-startup review, audit of safety and environmental management system elements, and records and documentation). The non-conformances raised were for missing information for rig capabilities and



certifications, commissioning documentation, MOC forms, audit examples, and the hazard register.

During the follow-up review, 4 of the SEMS elements lacking in depth were closed. There was 1 major and 1 minor non-conformance for SEMS elements that remained open. Both of these non-conformances that remained open can be addressed and closed out during an inspection once the rig is selected.

The missing documentation for the drilling ordinance and SEMS elements should be requested by the COLC to ensure that KEC fully complies with the COLC Drilling Ordinance - Drilling, Chapter 42, Article III and API Bulletin 75L reflecting the Tidwell #2 project.

KEC provided documentation to close out the non-conformances raised during the initial documentation review. The review of the follow-up information is provided in Section 5 of this report.

The detailed findings and observations from the documentation review can be seen in the corresponding sections in the main body of this report. In summary, the non-conformances raised were distributed as 0 Critical, 9 Major, 25 Minor, and 7 Observations; the operator and drilling contractor managed to close out 5 Major, and 21 Minor, and 5 Observation Non-Conformances during the follow-up review process. On that basis the remaining open non-conformances were 4 Major and 4 Minor. The open major non-conformances were as follows:

CAR #4, Section 42 134 Distancing and setbacks

KEC documentation did not contain the distancing and setback information.

Follow-up: KEC is requesting the site to be grandfathered. The nearest residential home is located approximately 490 ft to the north of the well location.

CAR #5, Section 42 139 Illicit discharges

Section 42-139. Illicit Discharges.

(b) KEC did not provide documentation on whether they will have a flare.

(e) The letter of credit was not provided by KEC.

Follow-up: KEC provided the documentation for the flare and the gas buster. The flare is being setup at the production site which is located approximately 1,750 ft from the nearest residential home. The flare was being setup as an additional safety device and the operator does not plan on using it. KEC stated the letter of credit will be provided once the permit is approved.

CAR #7, Section 42 143 Well control equipment and procedures

The well control equipment and the components of the pressure control system were not covered in the documentation provided.

Follow-up: KEC stated the well control equipment will follow the RRCT guidelines and be provided once the rig is selected.



CAR #8, Safety and Environmental Information

The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.

Follow-up: KEC provided the PDC fire protection system and evaluation procedures; emergency procedures, planning, and preparedness; rig site emergency response plan; fire prevention and control; and PDC crisis management plan. KEC stated that all equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.

KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected.



2.0 Introduction

ADC was requested by the COLC to perform a desktop audit on the Oil and Gas Drilling, Workover, or Amending Permit Application submitted by Kaler Energy Corp. The KEC and PDC SEMS manuals were to be reviewed against API Bulletin 75L and the COLC Drilling Ordinance. The documentation review was carried out between 16 November and 07 December 2020 by ADC Senior Project Engineer Lance Norris.

COLC requested ADC to perform a follow-up desktop audit using the additional documentation provided by KEC to close out the open non-conformances.

3.0 Methodology

Aberdeen Drilling Consultants carried out the Change of Operator Documentation Review audit generally in accordance with the ISO19011 auditing standard, along with the prepared and approved ordinances. Where a non-conformance is recorded, it was categorised as either: Safety Critical, Major, or of Minor criticality.

CRITICAL	The Non Conformance refers to essential equipment, processes and systems that were being inappropriately used, exceed operational limits, were out of service or obsolete to a point that may lead to loss of life, a serious injury or environmental damage
MAJOR	The Non Conformance refers to essential equipment, processes, and systems that were being ineffectively used, approaching operational limits or experiences some downtime to a point that may lead to damage to essential equipment or have a detrimental effect on the drilling operation.
MINOR	The Non Conformance refers to equipment, processes and systems that may have minor deficiencies observed that may lead to a situation that contributes to an incident or to circumstances in which the required standards of operation were not met.
Observation	Observations highlight equipment condition, processes or systems that, although not considered non-conformances during the audit, are noteworthy to the client. Observations may or may not be referenced to a specific standard, rule or guidance and should not require further action. However, they are considered useful findings and may become non-conformances in future.

Throughout the report non-conformances are recorded with the associated assignment of Minor, Major, or Critical. The color code as the table above is employed for the text color for easy identification of the status of each. Furthermore, all Major and Critical non-conformances have an assigned corrective action request (CAR) number raised. Additionally, within the report attention is brought to the reader with regard to the use of observations. Observations are used to highlight information regarding the equipment that was not deemed as a non-conformance.

Suitably qualified and experienced personnel reviewed the documentation available at the time of the desktop review. The ADC inspection team members adhered to the ADC Safety Management System, which encourages safe working practices. It should be noted that ADC personnel have never, in their 35 years of operations, been involved in a lost time incident.



4.0 Work Scope

ADC was to perform a new well documentation review of the Oil and Gas Drilling, Workover, or Amending Permit Application for Tidwell #2. The aim was to verify the documentation KEC provided for Divisions 2, 3, and 6 met the COLC Drilling Ordinance - Drilling requirements and industry standards. The KEC and PDC SEMS manuals were audited against API Bulletin 75L - guidance document for the development of a safety and environmental management system for onshore oil and natural gas production operations and associated activities.

Note: KEC did not provide documentation for Division 5. Special Provisions or Division 7. Liability, Surety, and Insurance.

ADC was requested to perform a follow-up review of the documentation provided by KEC to close out the non-conformances raised during the initial documentation review for Divisions 2, 3, and 6.

5.0 New Well Permit Application

Drilling Ordinance

Division 2. Permits

Section 42-71. Permits required.

KEC submitted an Oil & Gas Drilling, Workover, or Amending Permit Application to the City of League City for the Tidwell #2 well. The application was for a drilling permit. The application had RRC permit number 862791 and was signed on 15 September 2020.

Section 42-72. Review of permit applications.

The Oil & Gas Drilling, Workover, or Amending Permit Application public notary commission expires date had a typo. The commission expires date was written as 6/17/2020 and the notary stamp expires 6/17/2023. The special use permit case number and approved by date can be obtained from COLC once the permit application is approved. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the Oil & Gas Drilling, Workover, or Amending Permit Application with the corrected notary commission expiration date. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Observation, OR.PER.2 Section 42 72 Review of permit applications

The Oil & Gas Drilling, Workover, or Amending Permit Application public notary commission expires date had a typo. The commission expires date was written as 6/17/2020 and the notary stamp expires 6/17/2023.



Division 3. Applications

Section 42-82. Application form.

KEC submitted an Oil & Gas Drilling, Workover, or Amending Permit Application to the City of League City for the Tidwell #2 well. Please see the Observation in Section 42-72. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the Oil & Gas Drilling, Workover, or Amending Permit Application with the corrected notary commission expiration date. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-83. Operator or production representative information.

KEC provided the contact information including the name, address, and phone number for the operator, production/site and drilling representative, corporate officers, registered agents, and pumper. The Articles of Incorporation and any "doing business as" filings were not provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the Texas Articles of Incorporation of a Business Corporation. There was a typo in the title (coporation). This ordinance regulation was discussed with the COLC and deemed acceptable.

Non-Conformance, OR.D3A.2 Section 42 83 Operator or production representative information, Minor

The Articles of Incorporation and any "doing business as" filings were not provided.

Specification

Section 42-83. Operator or Production Representative information.

Provide name, address and contact information of the operator, production representative and any corporate officers, registered agents, general and limited partners, as well as, a copy of the Articles of Incorporation and any "Doing Business As" filings.

The non-conformance was subsequently closed by ADC on 31-Mar-2021. KEC provided the Texas Articles of Incorporation of a Business Corporation. There was a typo in the title (coporation). After discussions with COLC this item was closed.

Section 42-84. Contacts sheet.

KEC provided the contact information including the name, address, and phone number for the operator, production/site and drilling representative, corporate officers, registered agents, and pumper. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-85. Aerial.

KEC provided an aerial map dated 1 December 2019 that included the drilling location, property boundary, and production facility. KEC also provided rig layout drawings for Rig 515TE and production site drawings. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.



Section 42-86. Legal description.

KEC provided the warranty deed of the 4.933 acres property in the J.C. League Survey in Galveston County, Texas, the 2.67 acres property in the I.R. Lewis Survey in Galveston County, Texas, the 50 x 50 metering station in the I.R. Lewis Survey in Galveston County, Texas, and the aerial historical maps were provided. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-87. Proof of property interests.

The KEC Oil & Gas Drilling Permit Application Documentation contained the property owners name and information. The mineral/lease interests were proprietary. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-88. Applicable state permits.

KEC provided an the Railroad Commission permit # 862791 dated 8 September 2020, but the name of the filer was listed as RRC user and doesn't contain a name, phone number, or email. There is not an approved permit in the documentation provided.

The Railroad Commission of Texas Certificate of Compliance and Transportation Authority P04 document was provided for operator P-5 no. 450261 and oil lease and gas ID no. 288821 with an effective date of 1 October 2020. There was a typo on the Certificate of Compliance and Transportation Authority P-4 form submitted by Kaler Energy Corp. for the name of the company (COPR. instead of CORP.).

There was no evidence supplied for the water board letter. There was no evidence provided for casing exceptions applied for and/or granted. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: The Groundwater Protection Determination was provided. KEC provided the Railroad Commission Form W-1 permit with the filer information filled out. This ordinance regulation was discussed with the COLC and deemed acceptable.

Non-Conformance, OR.D3A.3 Section 42 88 Applicable state permits, Major

There was no evidence supplied for the water board letter. There was no evidence provided for casing exceptions applied for and/or granted.

KEC provided the Railroad Commission permit # 862791 dated 8 September 2020, but the name of the filer was listed as RRC user and doesn't contain a name, phone number, or email. There was not an approved permit in the documentation provided. The Railroad Commission of Texas Certificate of Compliance and Transportation Authority P04 document had a typo on the form submitted by Kaler Energy Corp. for the name of the company (COPR. instead of CORP.).

Specification

Section 42-88. Applicable state permits.

Submit a copy of the application filed with the Railroad Commission along with the approved permit by the Commission for operations within the City, copies of the "Water Board" letter from the Texas Commission on Environmental Quality, and any casing exceptions applied for and/or granted.



Corrective Action Request 1

*The non-conformance was subsequently closed by ADC on 31-Mar-2021.
The Groundwater Protection Determination was provided. KEC provided the Railroad Commission Form W-1 permit with the filer information filled out.*

Section 42-89. Preliminary drilling program.

- (a) The KEC documentation included the rig layout drawing of the site showing the well location, substructure, drawworks, tanks, catwalk, pipe racks, top drive house, mud pumps, generator buildings, crown stand, and spare parts house. Fire hydrants, water supply, power supply, and topographic features were not provided in the rig layout drawing.
- (b) There was no documentation provided in the nature and volume of waste materials generated during rigging-up operations and drilling.
- (c) KEC provided the directional drilling plan and well path for Tidwell #2. The vertical section plot including the true vertical depth was provided. KEC also provided the horizontal plot that included the north/south/west/east location. The evidence for this section was reviewed by ADC and deemed acceptable.
- (d, e) There was not an evaluation of potential shallow gas or H₂S provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the drill site diagram that contained locations for fire hydrant assembly, dry chemical stored pressure fire extinguisher, line heater, well location, buffer zone, and existing Tidwell #1 location. KEC provided the PDC US rig waste plan created by Terracon that contained storage and handling procedures for used oil wastes, non-hazardous wastes, and universal wastes. KEC stated there is no anticipated H₂S. Tidwell 1 on the same location had no H₂S. According to the USGS survey, the only field in Galveston County known to produce H₂S is the High Island Field over 35 miles away on the Bolivar Peninsula. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.4 Section 42 89 Preliminary drilling program, Major

- (a) Fire hydrants, water supply, power supply, and topographic features were not provided in the rig layout drawing.
- (b) There was no documentation provided in the nature and volume of waste materials generated during rigging-up operations and drilling.
- (d, e) There was not an evaluation of potential shallow gas or H₂S provided.

Specification

Section 42-89. Preliminary Drilling Program.

Drilling and workover permits submit a preliminary drilling program including, but not limited to, the following:

- (a) Preliminary general arrangement drawings of the site showing, but not limited to, specific wellhead locations; major components, improvements and equipment; rigs; compressors; separators; storage sheds; fire hydrants; water and power supply; impacted vegetation, creeks and other topographic features; easements; and adjoining roadways, property, parks, buildings, and structures.

(b) Nature and volume of waste materials generated during rigging-up operations and drilling.

(d) Evaluation of shallow gas hazard.

(e) Evaluation of potential H₂S hazard.

Corrective Action Request 2

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC provided the drill site diagram that contained locations for fire hydrant assembly, dry chemical stored pressure fire extinguisher, line heater, well location, buffer zone, and existing Tidwell #1 location. KEC provided the PDC US rig waste plan created by Terracon that contained storage and handling procedures for used oil wastes, non-hazardous wastes, and universal wastes. KEC stated there is no anticipated H₂S. Tidwell 1 on the same location had no H₂S. According to the USGS survey, the only field in Galveston County known to produce H₂S is the High Island Field over 35 miles away on the Bolivar Peninsula.

Section 42-90. Site plans and construction documents.

MSDS sheets were provided for BAROID, AQUAGEL, caustic soda, lime, CARBONOX, aluminum stearate, WALL-NUT medium, sodium bicarbonate, BARO-TROL PLUS, EZ-MUD, PAC-L, BARACARB 50, BARACARB 150, INVERMUL, EZ MUL, GELTONE V, DURATONE, calcium chloride powder, DRILTREAT, BAROID oil absorbent, and QUIK-THIN. The MSDS were not provided for Desco or DURATONE HT, and the list of chemicals did not include QUIK-THIN. The operational phases at which the chemicals will be utilized were not provided.

The products list included DURATONE HT but the MSDS was provided for DURATONE. When reviewing the differences in DURATONE products, the MSDS for DURATONE HT filtration control agent states it is replaced with DURATONE E filtration control agent to comply with local environmental regulations. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided an MSDS master list and MSDS for all the drilling chemicals, oil products, lubricants, fuels, and cleaning products. KEC provided the Desco MSDS. KEC provided the DURATONE E MSDS to replace the DURATONE HT. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.5 Section 42 90 Site plans and construction documents, Major

The MSDS were not provided for Desco or DURATONE HT, and the list of chemicals did not include QUIK-THIN. The operational phases at which the chemicals will be utilized were not provided. The products list included DURATONE HT but the MSDS was provided for DURATONE. When reviewing the differences in DURATONE products, the MSDS for DURATONE HT filtration control agent states it is replaced with DURATONE E filtration control agent to comply with local environmental regulations.

Specification

Section 42-90. Site plans and construction documents.



Submit a hazardous materials inventory statement including MSDS sheets on all products being used and at which operation phases they are being utilized, including all chemicals used during any fracking process.

Corrective Action Request 3

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC provided an MSDS master list and MSDS for all the drilling chemicals, oil products, lubricants, fuels, and cleaning products. KEC provided the Desco MSDS. KEC provided the DURATONE E MSDS to replace the DURATONE HT.

Section 42-91. Alternative water supply.

KEC will use the city water supply as a primary source for the drilling of the Tidwell production facility well. Gulf Coast Water Authority will be contracted to supply water from canals if needed as a secondary source. There was no additional documentation provided for the Gulf Coast Water Authority. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.6 Section 42 91 Alternative water supply, Minor

There was no documentation provided for the Gulf Coast Water Authority.

Specification

Section 42-91. Alternative water supply.

Drilling, and workover permits submit plans for alternative method of water supply in the event that city water supply is unavailable due to conditions described in this chapter.

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations.

Section 42-92. Landscaping and screening plan.

Around the production area, American holly FTG, live oak, loblolly pine, yaupon holly FTG, shumard red oak, and wax myrtle were being used as the landscaping buffer. This should be approved by the COLC arborist.

Follow-up: KEC stated the landscaping plan was submitted to COLC and was approved. This ordinance regulation was discussed with the COLC and deemed acceptable.

Observation, OR.D3A.7 Section 42 92 Landscaping and screening plan

Around the production area, American holly FTG, live oak, loblolly pine, yaupon holly FTG, shumard red oak, and wax myrtle were being used as the landscaping buffer. This should be approved by the COLC arborist.

Section 42-93. Lighting plan.

KEC stated that all lighting will be directed inwards and away from surrounding residences during the drilling process. The sound wall will also serve as a light block to screen light from the adjoining houses. Upon any citizen complaint, Kaler will mitigate the issue as soon as possible. The KEC SPCCP facility security section stated lighting is not installed at this facility. The lighting plan was not clear based on the documentation provided. There was not a lighting plan provided detailing the lighting for the grounds, equipment, and any apparatus or structure including the type of light to be used, location, height, and degree of illumination up to 1,000 feet as demonstrated by a photometric study. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated there will be no permanent lighting installed on site. The lighting during the drilling process will be shielded and faced towards the ground to minimize the lighting impacts offsite. The existing tree coverage and buffer yards help shield the lighting as well. This ordinance regulation was discussed with the COLC and deemed acceptable.

Non-Conformance, OR.D3A.8 Section 42 93 Lighting plan, Minor

KEC stated that all lighting will be directed inwards and away from surrounding residences during the drilling process. The sound wall will also serve as a light block to screen light from the adjoining houses. The KEC SPCCP facility security section stated lighting is not installed at this facility. There was not a lighting plan provided detailing the lighting for the grounds, equipment, and any apparatus or structure including the type of light to be used, location, height, and degree of illumination up to 1,000 feet as demonstrated by a photometric study.

Specification

Section 42-93. Lighting plan.

Drilling, and workover permits submit lighting plan demonstrating how lighting will be provided in conformance with the Special Use Permit and City ordinance. The plan shall reflect the lighting for the entire site, including the grounds, equipment and any drilling apparatus or structure including the type of light to be used, location, height and degree of illumination up to 1,000 feet as demonstrated by a photometric study.

The non-conformance was subsequently closed by ADC on 31-Mar-2021.

KEC stated there will be no permanent lighting installed on site. The lighting during the drilling process will be shielded and faced towards the ground to minimize the lighting impacts offsite. The existing tree coverage and buffer yards help shield the lighting as well.



Section 42-94. Environmental assessment.

The KEC documentation package contained a Phase I Environmental Assessment prepared by Edge Engineering and Science, LLC in 2015. The Phase I Environmental Assessment contained site maps, historical topographical maps, fire insurance maps, city directories, and an environmental lien report. There was not a Phase II Environmental Assessment in the documentation provided. A Phase II Environmental Assessment is only required if the Phase I identifies potential contamination. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-95. Environmental management noise.

Kaler will temporarily install a 200' long x 28' high wall with 20' x 28' wings at each end. The wall is to be composed of shipping containers to suppress noise associated with drilling operations. In addition, 5' high earth berms have been constructed surrounding the site to reduce sound and visual impacts. This includes landscaping with irrigation has been installed on the berms. The contractor Precision Drilling SEMS does noise level surveys of the rig equipment periodically and the results are posted on sound layout diagrams for all the rig equipment. See Section 42-138. The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and night-time hours. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. This ordinance regulation was discussed with the COLC and deemed acceptable.

Non-Conformance, OR.D3A.9 Section 42 95 Environmental management noise, Minor

The contractor Precision Drilling SEMS does noise level surveys of the rig equipment periodically and the results are posted on sound layout diagrams for all the rig equipment. The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and night-time hours.

Specification

Section 42-95. Environmental management noise.

Drilling and workover permits To establish noise levels different than what is required by this Chapter, submit a pre-drilling ambient noise level report with twenty-four (24) hour measurements in one (1) hour increments for seven (7) consecutive days in a week without a holiday. The plan shall document how mitigation measures will be utilized so that the noise level does not exceed permitted decibel levels in accordance with the Special Use Permit and the regulations of this article. The plan shall include details on how the equipment will be utilized in the drilling, completion, transportation, and production in order to meet the permitted noise levels. The plan shall take into consideration: the location, type, nature, and proximity of adjacent development; seasonal and prevailing weather patterns; vegetative cover on or adjacent to the site; and topography.

The non-conformance was subsequently closed by ADC on 31-Mar-2021.



KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. After discussions with the COLC this was closed.

Section 42-96. Environmental management air emissions.

The KEC SPCCP contained response guidelines for fire, blowout gas, and natural gas release that included electronic and mechanical detectors to test for poisonous gas on the location. The KEC SPCCP included daily inspections for leaks, securing equipment, corrosion, and alarm systems. There was not a hazard register for the site that contained the air emissions/pollutants and how they are monitored and managed. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided an updated hazard register that included emissions/pollutants for vehicles and equipment. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.10 Section 42 96 Environmental management air emissions, Minor

There was not a hazard register for the site that contained the air emissions/pollutants and how they are monitored and managed.

Specification

Section 42-96. Environmental management air emissions.

Drilling, and workover permits submit documentation demonstrating how the surrounding environment will be protected, monitored, and managed against adverse noxious odor impacts and emissions of regulated air pollutants per the Clean Air Act as administered by Texas Commission on Environmental Quality.

The non-conformance was subsequently closed by ADC on 31-Mar-2021.

KEC provided an updated hazard register that included emissions/pollutants for vehicles and equipment.

Section 42-97. Environmental management spill prevention, control and countermeasure plan.

KEC provided the SPCCP that contained the plan review, facility information, response guidelines, notifications, response team, protection/response, prevention systems, piping/flowlines, production equipment, storage tanks, training, inspections, and forms. In the introduction section for management approval, professional engineer certification, and substantial harm criteria checklist, these sections were not signed and dated. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the updated SPCCP with the signed and dated management approval, professional engineer certification, and substantial harm criteria checklist. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.13 Section 42 97 Environmental management spill prevention control and countermeasure plan, Minor

In the introduction section for management approval, professional engineer certification, and substantial harm criteria checklist, these sections were not signed and dated.

Specification

Section 42-97. Environmental management spill prevention, control and countermeasure plan. Submit a spill prevention, control and countermeasure plan utilizing requirements established by the Environmental Protection Agency, Texas Commission on Environmental Quality, Department of Transportation, and the Texas Railroad Commission (or their successor agencies).

The non-conformance was subsequently closed by ADC on 22-Mar-2021. KEC provided the updated SPCCP with the signed and dated management approval, professional engineer certification, and substantial harm criteria checklist.

Section 42-98. Environmental management hazard mitigation plan.

The KEC SPCCP contained response guidelines for injury, fire, oil spill, natural gas, H₂S, and severe weather. The severe weather section includes hurricanes, thunderstorms, and tornados. The response guidelines contained notifications, procedures for shut-in procedures, safety considerations for the environment and workers, and post weather/incident response procedures. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-99. Environmental management risk management assessment.

The KEC permit application included a risk assessment table that included explosion, fire, gas release, oil spill, vandalism, vehicle accident, and personnel injury with economical applications and descriptions for each. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-100. Environmental management storm water pollution prevention plan.

KEC provided a SWPPP prepared by Edge Engineering and Science dated September 2019. The SWPPP contained the contact information, site/project description, best management practices, procedures for inspection/maintenance/corrective actions, employee training, certification, and modifications. The SWPPP certification by Edge was not signed and dated. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the updated SWPPP signed and dated 12 December 2020. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.



Non-Conformance, OR.D3A.11 Section 42 100 Environmental management storm water pollution prevention plan, Minor

The SWPPP certification by Edge was not signed and dated.

Specification

Section 42-100. Environmental management storm water pollution prevention plan. Submit a storm water pollution prevention plan adhering to Environmental Protection Agency and Texas Commission on Environmental Quality standards for the testing of storm water samples and performing best management practices.

*The non-conformance was subsequently closed by ADC on 22-Mar-2021.
KEC provided the updated SWPPP signed and dated 12 December 2020.*

Section 42-101. Environmental management geologic impacts report.

KEC provided a land subsidence near oil and gas fields, Houston, Texas study. The conclusion of the study of the 29 oil fields investigated was that six of the 29 fields may have contributed to land subsidence. The contribution of petroleum withdrawal relative to that from aquifer compaction appeared to be small. The Phase I Environmental Site assessment stated physical setting sources were searched and Edge identified no environmental concerns associated with geologic, hydrogeologic, or topographic conditions at the subject property that would promote migration of potential contaminants within the subject property into soil and groundwater. KEC did not provide information on how they plan to protect, monitor, and manage the surrounding environment against geologic impacts during the drilling process. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: The site has a 4-1/2 foot berm around the location to prevent and discharges from leaving the pad. The site will be monitored for geologic impacts during the drilling process. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D3A.12 Section 42 101 Environmental management geologic impacts report, Minor

KEC did not provide information on how they plan to protect, monitor, and manage the surrounding environment against geologic impacts during the drilling process.

Specification

Section 42-101. Environmental management geologic impacts report. Submit report demonstrating how the surrounding environment will be protected, monitored, and managed against adverse geologic impacts during the drilling process.

*The non-conformance was subsequently closed by ADC on 22-Mar-2021.
The site has a 4-1/2 foot berm around the location to prevent and discharges from leaving the pad. The site will be monitored for geologic impacts during the drilling process.*



Section 42-102. Emergency management emergency action response plan:

The KEC SPCCP contained emergency response plans for injury, fire, oil spills, natural gas release, H₂S release, and severe weather. The KEC SPCCP fire section included ignition sources, fire extinguishers, responses for tank fires, and compressor rupture/fires. The KEC ERP contained spill response, well control response, fire response actions, medical emergency response, hot work permits, and electrical fire hazards safe work practices. The KEC SPCCP provided the map of the access road/evacuation road. There was one road going to the well location off of FM 517 (longitude: 29.463714, latitude: -95.130036). The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-103. Safety management.

- (a) KEC provided their SEMS plan and their contractor, PDC's, SEMS plan. See the API Bulletin 75L section for more details.
- (b) KEC provided the bridging document between the operator and the contractor. The bridging document included the management system matrix detailing whether the operators and/or contractors SEMS will be used for each element. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.
- (c) See the API Bulletin 75L section for more details.
- (d) The process safety management plan does not apply to oil or gas well drilling.

Section 42-104. Access management plan.

The KEC document contained an environmental assessment performed by Edge Engineering and Science, LLC. In the environmental assessment it states, the site was located north of FM 517 approximately 1 mile west of the intersection of Erwin Avenue and Calder Drive. The aerial view map provided had the location at 7507 FM 517. The Tidwell well location was approximately 1.5 miles north of FM 517 on the lease road. Kaler best management practices states they will inspect the road and entrance once every 7 days. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Division 6. Regulations

Section 42-132. Water supply source.

KEC plans on using the City of League City's water supply as the primary source. KEC did not provide the Gulf Coast Water Authority water board letter. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. A water line was tied to the public water supply during Tidwell #1 and will be used as the primary water source. This ordinance regulation was discussed with the COLC and deemed acceptable.

Non-Conformance, OR.D6R.2 Section 42 132 Water supply source, Minor

KEC did not provide the Gulf Coast Water Authority water board letter.

Specification

Section 42-132. Water supply source.

The source of water supply for all drilling and workover operations shall be through the municipal water system. The connection size shall be based upon the availability of the water supply. The alternative water supply as approved with the permit shall be utilized in the following conditions:

- (a) Water demand for the city is 90 percent of the available contracted surface water sources per day for a seven-day average; or
- (b) City wells are producing at 40 percent of their capacity to augment an inadequate supply of contracted surface water over a seven-day average.

The non-conformance was subsequently closed by ADC on 31-Mar-2021.

KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. A water line was tied to the public water supply during Tidwell #1 and will be used as the primary water source.

Section 42-133. Location of electric lines.

The KEC documentation did not provide information on electrical lines or production power lines. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated they will supply electricity for the site using generators on-site. All the power lines will be run underground and there will be no above ground power lines for this project. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.



Non-Conformance, OR.D6R.3 Section 42 133 Location of electric lines, Minor

The KEC documentation did not provide information on electrical lines or production power lines.

Specification

Section 42-133. Location of electric lines.

All electric lines to site development and/or drilling facilities shall be located in a manner compatible to those already installed in the surrounding area or subdivision. Production power lines shall be placed underground.

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC stated they will supply electricity for the site using generators on-site. All the power lines will be run underground and there will be no above ground power lines for this project.

Section 42-134. Distancing and setbacks.

KEC documentation did not contain the distancing and setback information. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC is requesting the site to be grandfathered. The nearest residential home is located approximately 490 ft to the north of the well location.

Non-Conformance, OR.D6R.4 Section 42 134 Distancing and setbacks, Major

KEC documentation did not contain the distancing and setback information.

Specification

Section 42-134. Distancing and setbacks.

The distancing and setback requirements noted in this subsection shall apply to all new permits for drilling and workovers shall be consistent with the approved Special Use Permit. These requirements shall not apply to any renewal permits for existing operations that have state and federal permits in good standing.

(a) The proposed drill site shall not be within fifty (50) feet of any alley, street, road, highway, right-of-way or future right-of-way as shown on the Thoroughfare Plan of the City or equivalent thereof. (The Department of Public Works may permit temporary access in with consideration of the nature of the request and the number of hours and/or days that any street or alley may be blocked, encumbered or closed.)

(b) The proposed well bore shall not be within six hundred (600) feet of any fresh water well. The measurement shall be in a direct line from the closest well bore to the fresh water well bore. The setback may be reduced to no less than two hundred (200) feet from the fresh water well if all surface property owners within a radius of two hundred (200) to six hundred (600) feet from the fresh water well signed a notarized affidavit consenting to the encroachment when the Special Use Permit was granted. The reduction of the distance requirement for fresh water wells is subject to the regulations of the Texas Commission on Environmental Quality, Railroad Commission and any other state or federal requirements.

(c) The proposed well bore shall not be within three hundred (300) feet of any off-site building or structure for the support, shelter, enclosure or partial enclosure of



movable property of any kind unless the Operator or designated representative secured notarized affidavits consenting to the encroachment from the affected surface property owners within three hundred (300) feet of the well bore. The reduction of the distance requirement is subject to the regulations of the Railroad Commission and any other state or federal requirements.

(d) The proposed well bore shall not be within six hundred (600) feet of any off-site pool, building or structure for the support, shelter, enclosure or partial enclosure of persons or animals unless the Operator or designated representative secured notarized affidavits consenting to the encroachment from the surface property owners within the affected radius when the Special Use Permit was granted. The measurement shall be in a direct line from the closest well bore to the nearest portion of the building or structure. The reduction of the distance requirement is subject to the regulations of the Railroad Commission and any other state or federal requirements.

(e) The proposed well bore shall not be within six hundred (600) feet of a public or private park or within six hundred (600) feet of a dwelling unit, religious assembly building, hospital building, public or private school boundary, or day care boundary for which a building permit has been issued on or before the date the Special Use Permit application was accepted by the City. The distance shall be calculated from the proposed well bore, in a straight line, without regard to intervening structures or objects, to the primary structure of the protected use or boundaries of a park, school or day care, whichever is applicable. The Planning and Zoning Commission may recommend and the City Council may approve a reduction in the setback distance. The applicant must show that the reduction is necessary in order to gain access to minerals owned by or leased to the applicant. Upon showing evidence that there are no other viable alternatives that would impact the adjacent property owners to a lesser degree while still providing access to the minerals, a reduction in the setback distance may be approved. If a reduction is approved, then additional requirements may be imposed for nuisance and aesthetic control.

(f) Salt water disposal lines, flowlines, and intralease piping shall be prohibited within one hundred (100) feet of any natural stream high bank, drainage canal easement, designated wetland preservation area or mean high tide.

Corrective Action Request 4

Section 42-135. Landscaping.

Around the production area, American holly FTG, live oak, loblolly pine, yaupon holly FTG, shumard red oak, and wax myrtle were being used as the landscaping buffer. This should be approved by the COLC arborist.

Follow-up: KEC stated they submitted the landscaping plan was submitted to the COLC and it was approved. This ordinance regulation was discussed with the COLC and deemed acceptable.

Observation, OR.D6R.5 Section 42 135 Landscaping

Around the production area, American holly FTG, live oak, loblolly pine, yaupon holly FTG, shumard red oak, and wax myrtle are being used as the landscaping buffer. This should be approved by the COLC arborist.

Section 42.135. Landscaping.

Workover permits Landscaping and buffer yards shall be installed in accordance with City ordinance, the approved landscape plan and Special Use Permit prior to issuance of the permit. At minimum, a 50-foot buffer yard around the perimeter of the operation site containing the following plantings or an alternative approved by the City Arborist that provides equivalent screening and aesthetic quality shall be required:

- (a) Southern Wax Myrtle Shrub in minimum 5-gallon containers spaced 30 inches apart.
- (b) Chinese Elm trees with a minimum 3-inch caliper diameter and a minimum height of 12 feet, spaced 20 feet apart.
- (c) Little Gem Magnolia trees with a minimum 3-inch caliper diameter and a minimum height of 12 feet, spaced 15 feet apart.

Section 42-136. Screening and fences.

Kaler will temporarily install a 200' long x 28' high wall composed of shipping containers with 20' x 28' wings at each end. In addition, 5' high earth berms have been constructed surrounding the site with landscaping with irrigation has been installed on the berms. The KEC SPCCP facility security section stated fencing will be installed around the facility perimeter to prevent unauthorized access to the facility. The KEC documentation did not provide any information on gates or know box locks. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated all fencing was installed as part of Tidwell #1 and all the existing fire marshal approved Knox locks are still installed. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.6 Section 42 136 Screening and fences, Minor

The KEC SPCCP facility security section stated fencing will be installed around the facility perimeter to prevent unauthorized access to the facility. The KEC documentation did not provide any information on gates or know box locks.

Specification

Section 42-136. Screening and fences

Screening and fences shall be installed on the site in accordance with approved plans and the Special Use Permit prior to issuance of the permit.

- (a) The perimeter of the location shall be secured with a commercial quality fence with a minimum height of six (6) feet, regardless of on-site supervision.
- (b) Any secured entrance gate shall contain a Knox-Box keybox or pad lock or equivalent.
- (c) All fences shall be equipped with at least one (1) gate. The gate shall meet the following specifications:
 - (1) All gates shall be equipped with a 911 override control switch. Gate specifications must be submitted to the Fire Marshal's office and approved prior to installation.
 - (2) Each gate shall be not less than twelve (12) feet wide and be composed of two (2) gates, each of which is not less than six (6) feet wide, or one (1) sliding gate not less than twelve (12) feet wide. If two (2) gates are used, gates shall latch and lock in the center of the span.



(3) The gates shall be provided with a combination catch and locking attachment device for a padlock, and shall be kept locked except when being used for access to the site.

(4) Operator or Production Representative must provide the Fire Department with a Knox Padlock or Knox Box entry system or equivalent on the gate to access the drill site in case of an emergency.

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC stated all fencing was installed as part of Tidwell #1 and all the existing fire marshal approved Knox locks are still installed.

Section 42-137. Lighting.

KEC documentation stated all lighting will be directed inwards and away from surrounding residences during the drilling process. The sound wall will also serve as a light block to screen light from the adjoining houses. The KEC SPCCP facility security section stated lighting is not installed at this facility. See the non-conformance in Section 42-93. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated there will be no permanent lighting installed on site. The lighting during the drilling process will be shielded and faced towards the ground to minimize the lighting impacts offsite. The existing tree coverage and buffer yards help shield the lighting as well. This ordinance regulation was discussed with the COLC and deemed acceptable.

Section 42-138. Noise.

Kaler will temporarily install a 200' long x 28' high wall with 20' x 28' wings at each end. The wall is to be composed of shipping containers to suppress noise associated with drilling operations. In addition, 5' high earth berms have been constructed surrounding the site to reduce sound and visual impacts. The contractor Precision Drilling SEMS does noise level surveys of the rig equipment periodically and the results are posted on sound layout diagrams for all the rig equipment. The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and night-time hours. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. KEC is not requesting approval for noise levels in excess of those allowed by the Drilling Ordinance. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.7 Section 42 138 Noise, Minor

The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and night-time hours.

Specification

Section 42-138. Noise.



(a) The usage of a muffler cutout, bypass or straight exhaust on any motor machinery is prohibited.

(b) Permitted sound levels

(1) Drilling, workover, backflow, and fracking operations When measured at the required setbacks, the decibel levels shall not exceed the greater of seventy (70) decibels during daytime and night-time hours. If utilizing a noise study to establish an ambient noise level, then the decibel level shall not be five (5) decibels above the established ambient noise level during the daytime hours and three (3) decibels above the established ambient noise level during the night-time hours.

(2) The exterior noise level generated by the drilling, re-drilling or other related operations located within six hundred (600) feet of a protected use or within 600 feet of any off-site pool, building or structure for the support, shelter, enclosure, or partial enclosure of movable property of any kind shall be continuously monitored to ensure compliance. The cost of such monitoring shall be borne by the Operator or Production Representative.

(c) Acoustical blankets, sound walls, mufflers or other alternative methods may be used to ensure compliance. All soundproofing shall comply with accepted industry standards and subject to approval by the City.

(d) The sound level meter used in conducting noise evaluations shall meet the American National Standards Institutes standard for sound meters.

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. KEC is not requesting approval for noise levels in excess of those allowed by the Drilling Ordinance.

Section 42-139. Illicit Discharges.

(a) The SWPPP contained best management practices stating that all petroleum products, fuel, lubricants, and other chemicals used on the project site should be stored in sealed drums or containers, which should not be exposed to precipitation or runoff.

(b) KEC did not provide documentation on a flare. PDC SEMS contained flare requirements.

(c/d) The KEC Emergency Response Plan and SPCCP protection/response procedures cover clean-up operations of hazardous substances and waste disposal. The KEC ERP and SPCCP contained a notification list and process. The SPCCP included forms for spill report and waste management.

(e) The letter of credit was not provided by KEC.

Additional information was required to fully satisfy this ordinance regulation.

KEC provided the documentation for the flare and the gas buster. The flare is being setup at the production site which is located approximately 1,750 ft from the nearest residential home. The flare was being setup as an additional safety device and the operator does not plan on using it. KEC stated the letter of credit will be provided once the permit is approved.



Non-Conformance, OR.D6R.8 Section 42 139 Illicit discharges, Major

Section 42-139. Illicit Discharges.

(b) KEC did not provide documentation on whether they will have a flare.

(e) The letter of credit was not provided by KEC.

Specification

Section 42-139. Illicit discharges.

(b) No person shall allow, cause or permit gases to be vented into the atmosphere or to be burned by open flame.

(e) Operator expressly consents by applying for a permit to allow a draw down of any bond or letter of credit to cover any clean up expenses. In the event that the bond or letter of credit is exhausted, Operator agrees to immediately replenish the amount. City shall have the right to contact the Railroad Commission in order to facilitate the removal of all waste materials from the property affected by such spill, leak or malfunction.

Corrective Action Request 5

Section 42-142. Fire prevention.

(a) The PDC SEMS fire prevention and control procedures states no explosives, other than for downhole use, are allowed on any company site.

(b) The KEC SPCCP covered fire response and notifications.

(c) The KEC documentation did not provide the information for the fire-fighting apparatus, the equipment's automated shut down valve, and the wellhead automated emergency shut off valve to the well production sale line.

(d) KEC should verify there are no vehicles or items of machinery parked/stored that can be an obstruction with fire-fighting emergencies.

(e) Electric motors were not covered in the documentation provided.

Additional information was required to fully satisfy this ordinance regulation.

Follow-up: (c) KEC stated they will maintain 2 A-150-SP ABC dry chemical wheeled stored pressure fire extinguishers and also there will be ABC and CO2 portable fire extinguishers on location. KEC provided the fire extinguisher documentation. The fire extinguisher rig location drawing was provided. All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.

(d) KEC stated there is ample parking on site and vehicles and equipment will be placed not to interfere with ingress and egress for fire-fighting equipment.

(e) KEC stated that only electric prime motors will be used for the purpose of pumping wells. All electrical installations and equipment will conform to the City ordinances and the appropriate national codes.

The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.



Non-Conformance, OR.D6R.9 Section 42 142 Fire prevention, Major

(c) The KEC documentation did not provide the information for the fire-fighting apparatus, the equipment's automated shut down valve, and the wellhead automated emergency shut off valve to the well production sale line.

(d) KEC should verify there are no vehicles or items of machinery parked/stored that can be an obstruction with fire-fighting emergencies.

(e) Electric motors were not covered in the documentation provided.

Specification

Section 42-142. Fire prevention.

(c) Fire prevention; sources of ignition. Firefighting apparatus and supplies as approved by the Fire Department and required by any applicable federal, state, or local law shall be provided by the Operator, at the Operators cost, and shall be maintained on the site at all times during operations. The Operator shall be responsible for the maintenance and upkeep of such equipment. All equipment, other than wellheads, shall be equipped with an automated valve that closes or shuts down the equipment in the event of an abnormal change in operating pressure. All well heads shall contain an automated emergency shut off valve to the well production sale line.

(d) Equipment and vehicles. No vehicle or item of machinery shall be parked or stored on any street, right-of-way or in any driveway, alley or upon any site which constitutes a fire hazard or an obstruction to or interference with fighting or controlling fires except that equipment which is necessary on the site. The Fire Marshal shall be the entity that determines whether equipment on the site shall constitute a fire hazard.

(e) Electric motors. Only electric prime movers or motors shall be permitted for the purpose of pumping wells. No electric power shall be generated on location outside of the duration of drilling operations. All electrical installations and equipment shall conform to the City ordinances and the appropriate national codes.

Corrective Action Request 6

The non-conformance was subsequently closed by ADC on 22-Mar-2021.

(c) KEC stated they will maintain 2 A-150-SP ABC dry chemical wheeled stored pressure fire extinguishers and also there will be ABC and CO2 portable fire extinguishers on location. KEC provided the fire extinguisher documentation. The fire extinguisher rig location drawing was provided. All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.

(d) KEC stated there is ample parking on site and vehicles and equipment will be placed not to interfere with ingress and egress for fire-fighting equipment.

(e) KEC stated that only electric prime motors will be used for the purpose of pumping wells. All electrical installations and equipment will conform to the City ordinances and the appropriate national codes.



Section 42-143. Well control equipment and procedures.

The KEC ERP included general well control response actions. The SPCCP included blowout prevention systems. The well control equipment and the components of the pressure control system were not covered in the documentation provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the well control equipment will follow the RRCT guidelines. KEC provided certification for the 13-5/8" double U ram body, 13-5/8" single BOP ram body, and 13-5/8" annular. The certification was over 5 years old and would require recertification.

Non-Conformance, OR.D6R.10 Section 42 143 Well control equipment and procedures, Major

The well control equipment and the components of the pressure control system were not covered in the documentation provided.

Specification

Section 42-143. Well control equipment and procedures.

- (a) The pressure control equipment and all components in the pressure control system shall all be sourced from a recognized American Petroleum Institute licensed OEM and of origin from the United States or Western Europe.
- (b) All pressure control equipment and all components of the pressure control system shall be certified at a minimum of once per year. No equipment shall be used on site with a certificate expiration date that will expire during its expected time of use on the well.
- (c) A copy of the data books for each pressure control component shall be maintained and available on the drilling location for review.
- (d) Prior to setting equipment and in areas where liquids or dry materials are likely to be spilled, install rollout impermeable barriers. The tarps shall be rolled up and cleaned at a suitable facility when equipment is rigged down.
- (e) The Operator shall conduct function testing and pressure testing of all components of the pressure control system. Alternately, function and pressure testing shall be conducted every five (5) days.
- (f) All components of the pressure control system must be function tested and pressure tested to full rated working pressure before the rig is accepted to commence operations.
- (g) All drilling wells must be equipped with blowout preventers, flowlines, and valves commensurate with the working pressure involved as required by the Railroad Commission.
- (h) In all cases, blowout prevention equipment including shear rams and pipe rams shall be used on all wells being drilled, worked-over or in which tubing is being changed. Protection shall be provided to prevent blowout during operations as required by and in conformance with the requirements of the Railroad Commission and be in compliance with all American Petroleum Institute Specifications and Recommended Practices, whichever is more restrictive for the particular issue under consideration.
- (i) A blowout preventer stack must be configured with a minimum of four (4) ram type and one (1) annular type preventers.



- (j) A set of blind shear rams with suitable operators shall be installed in the blowout preventer stack capable of shearing all grades of tubulars on location.
- (k) A set of casing shear rams with suitable operators capable of shearing all grades of casing in the well design must be installed in the stack.
- (l) Blowout prevention equipment shall be actuated periodically to ensure operational readiness utilizing these frequencies:
 - (1) Every 12-hour shift, perform the following:
 - (i) Check the accumulator pressure;
 - (ii) Check the pressure of the emergency back-up system;
 - (iii) Check the hydraulic fluid level in the blowout preventer closing unit;
 - (iv) Check air pressure to support system; and
 - (v) Record all of the above in the IADC log book and well ledger.
 - (2) Every 12-hour shift, perform an IADC pit drill, to include, but not limited to, the following:
 - (i) Operate all Kelly cocks;
 - (ii) Check drill pipe safety valve;
 - (iii) Function test any HCR (hydraulically control remote) valve(s); and
 - (iv) Record all of the above in the IADC log book and well ledger.
- (m) A drill pipe float valve must always be in place when running in the hole.
- (n) In the event of the loss of control of any well, the Operator shall immediately take all reasonable steps to regain control regardless of any other provision of this Ordinance and shall notify the Oil and Gas Compliance Officer as soon as practicable. A written report with a summary of the incident shall also be submitted in accordance with the regulations for incident reports noted in this Chapter.
- (o) If danger to persons and property exist because of loss of well control and the Operator is not taking or is unable to take all reasonable and necessary steps to regain control of such well, then the City may employ any well control expert or experts or other contractors or suppliers of special services, or may incur any other expenses for labor and material which the City deems necessary to regain control of such well. The City shall then have a valid lien against the interest in the well of all working interest owners to secure payment of any expenditure made by the City pursuant to such action of the City in gaining control of said well.

Corrective Action Request 7

Section 42-144. Hoisting and rigging equipment.

The KEC SEMS included lifting and hoisting procedures before each lift. The procedures included assessment of the lift, operator's certification, verifying the equipment is certified every 12 months, load does not exceed capabilities, all safety devices are operational, and all equipment has been visually inspected by competent personnel. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-145. Mud pits and flow lines.

The KEC documentation provided did not include whether the mud pits and flow lines were covered. Additional information was required to fully satisfy this ordinance regulation.



Follow-up: KEC stated the mud system is a closed loop system and there are no open pits. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.11 Section 42 145 Mud pits and flow lines, Minor

The KEC documentation provided did not include whether the mud pits and flow lines were covered.

Specification

Section 42-145. Mud pits and flow lines.

All mud pits and flow lines shall be fully enclosed (covered top).

The non-conformance was subsequently closed by ADC on 24-Mar-2021.

KEC stated the mud system is a closed loop system and there are no open pits.

Section 42-146. Storage vessel labels.

The PDC SEMS contained a handling hazardous substances section with chemical storage procedures. PDC ensures containers of hazardous products intended for use on company worksites are properly and legibly labeled and accompanied by an MSDS/SDS. KEC should verify all chemical containers are labeled on two sides with chemical hazard labels per the COLC drilling ordinance. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the updated SPCCP that included section 17.3 Storage Vessel Labels. This section stated all storage vessels containing chemicals will be labelled on two sides with NFPA chemical hazard labels. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.12 Section 42 146 Storage vessel labels, Minor

KEC should verify all chemical containers are labeled on two sides with chemical hazard labels per the COLC drilling ordinance.

Specification

Section 42-146. Storage vessel labels.

All storage vessels containing chemicals shall be labeled on two (2) sides with National Fire Protection Association (NFPA) chemical hazard labels.

The non-conformance was subsequently closed by ADC on 24-Mar-2021.

KEC provided the updated SPCCP that included section 17.3 Storage Vessel Labels. This section stated all storage vessels containing chemicals will be labelled on two sides with NFPA chemical hazard labels.

Section 42-148. Access management.

- (a) The drill site is on private property. The city streets should not be blocked/obstructed.
- (b) The size of the access road was not provided.
- (c) The KEC SWPPP includes uncontaminated water used for dust suppression.
- (d) The hours of operation of vehicles was not provided in the documentation package.



(e) Emergency access and turnabouts were not provided in the documentation package.

Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated there are no new roads and the existing road and turnabout approved with the Tidwell #1 well will be used. The service trucks will be scheduled during daily hours as much as possible. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.13 Section 42 148 Access management, Minor

(b) The size of the access road was not provided.

(d) The hours of operation of vehicles was not provided in the documentation package.

(e) Emergency access and turnabouts were not provided in the documentation package.

Specification

Section 42-148. Access management.

(b) Drilling and workover permits prior to the commencement of operations, all roads used for access to the site shall be at least twenty-four (24) feet wide, have an overhead clearance of fourteen (14) feet and shall be surfaced with concrete, asphalt, gravel or caliche. In particular cases, these requirements governing surfacing of private roads may be altered at the discretion of the City after consideration of all circumstances including, but not limited to: distances from streets and highways; distances from adjoining and nearby property owners whose surface rights are not leased by the operation; the purpose for which the property of such owners is or may be used; topographical features; nature of the soil; and exposure to wind.

(d) The Department of Public Works may restrict the hours of operation of vehicles based upon the location of the property and adjoining land uses.

(e) Emergency access and turnabouts shall be included as deemed appropriate by the Fire Marshal. The access route should be of appropriate width to accommodate emergency response equipment. Street turnabouts should be of adequate turning radius to facilitate forward or reverse hose lays and/or exit of any emergency response equipment.

The non-conformance was subsequently closed by ADC on 24-Mar-2021.

KEC stated there are no new roads and the existing road and turnabout approved with the Tidwell #1 well will be used. The service trucks will be scheduled during daily hours as much as possible.

Section 42-149. Maintenance of sites.

The KEC SPCCP contains daily inspections of the wellhead, vessels, tanks, flowlines, valves, secondary containment, area around the facility, chemical storage, etc. The KEC SEMS includes maintenance and testing of critical equipment. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Section 42-150. Waste disposal.

(a) All petroleum products, fuel, lubricants, and other chemicals used on the project site should be stored in sealed drums or containers, which should not be exposed to precipitation or runoff. Any waste oil produced should be collected and stored in drums for proper offsite disposal. The KEC documentation did not include if above ground tanks or a closed loop mud system would be used.

(b) The PDC SEMS waste section covers handling storage, and disposal of hazardous chemicals.

(c) The KEC documentation did not include the offsite disposal frequency.

(d) The PDC SEMS contained a general safe camp accommodation requirements section that included onsite water tank storage

(e) The PDC SEMS included a waste management plan that contains processes and procedures for storing, labeling, and removal of wastes.

Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated a closed loop mud system will be used. KEC provided the updated SPCCP that included sections 14.5 Gas Venting and 14.6 Waste Management. Section 14.5 states the Tidwell production facility features a closed loop system. Section 14.6 states any materials classified as hazardous waste according to the EPA will be disposed in accordance with EPA standards and materials will be removed from the site not less than every 30 days. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.14 Section 42 150 Waste disposal, Minor

(a) The KEC documentation did not include if above ground tanks or a closed loop mud system would be used.

(c) The KEC documentation did not include the offsite disposal frequency.

Specification

Section 42-150. Waste disposal.

(a) Drilling mud, cuttings, liquid hydrocarbons, salt water and all other field waste derived or resulting from or connected with the drilling, workover or deepening of any well shall be discharged into above-ground tanks or a closed loop mud system. All disposals must be in accordance with the rules of the Railroad Commission and any other appropriate local, state or federal agency.

(c) Unless otherwise directed by the Railroad Commission, waste materials shall be removed from the site and transported to an off-site disposal facility not less often than every thirty (30) days.

The non-conformance was subsequently closed by ADC on 24-Mar-2021.

KEC stated a closed loop mud system will be used. KEC provided the updated SPCCP that included sections 14.5 Gas Venting and 14.6 Waste Management. Section 14.5 states the Tidwell production facility features a closed loop system. Section 14.6 states any materials classified as hazardous waste according to the EPA will be disposed in accordance with EPA standards and materials will be removed from the site not less than every 30 days.



Section 42-151. Hours of operation.

The KEC documentation provided did not contain the hours of operation, plans for a guard on location, or daylight/night-time operations information. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: The drilling operations will be conducted 24 hours a day and there will be a guard on duty 24 hours a day.

Non-Conformance, OR.D6R.15 Section 42 151 Hours of operation, Minor

The KEC documentation provided did not contain the hours of operation, plans for a guard on location, or daylight/night-time operations information.

Specification

Section 42-151. Hours of operation.

- (a) Site preparation, well servicing, truck deliveries and pick-up of equipment and materials, and other related work conducted on the drill site shall be limited to daytime hours. The restriction on work hours shall not apply in cases of fires, blowouts, explosions and any other emergencies or where the delivery of equipment is necessary to prevent the cessation of drilling.
- (b) The Operator shall have a guard on location during the drilling operation from dusk until dawn, regardless of other staffing. The guard shall walk the fence line perimeter a minimum of once per hour.
- (c) The Operator shall conduct on-site meetings to inform all personnel of night-time operation noise control requirements.
- (d) Unless otherwise noted in the approved Special Use Permit, the following operations shall only be conducted during daytime hours:
 - (1) All formation fracture stimulation operations.
 - (2) Swabbing or bailing.
 - (3) The operation of vehicles with audible back-up alarms. (These alarms may be replaced with approved non-auditory signaling systems, such as spotters or flagmen.)
 - (4) Drill stem testing.

The non-conformance was subsequently closed by ADC on 31-Mar-2021.

The drilling operations will be conducted 24 hours a day and there will be a guard on duty 24 hours a day.

Section 42-152. Drilling foreman.

There was no documentation provided for the drilling foreman personnel onsite. Qualifications and training records were not in the documentation provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.



Non-Conformance, OR.D6R.16 Section 42 152 Drilling foreman, Minor

There was no documentation provided for the drilling foreman personnel onsite. Qualifications and training records were not in the documentation provided.

Specification

Section 42-152. Drilling foreman.

(a) Drilling and workover permits the operator must keep a minimum of two personnel on site to provide 24-hour continuous coverage during the drilling or workover of a well until such time the well is completed, tested and considered ready for production.

(b) Qualifications for these personnel, including certifications and training, are subject to review and approval in advance by the Oil and Gas Compliance Officer.

Section 42-153. Watchman.

There was no documentation provided for the watchman personnel onsite. Qualifications and training records were not in the documentation provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.

Non-Conformance, OR.D6R.17 Section 42 153 Watchman, Minor

There was no documentation provided for the watchman personnel onsite. Qualifications and training records were not in the documentation provided.

Specification

Section 42-153. Watchman.

(a) Drilling and workover permits The Operator must keep a watchman or security personnel on site for 24 hours during the drilling and/or workover of a well until such time the well is completed, tested and considered ready for production.

(b) Drilling and workover permits The perimeter of the site shall be patrolled every two (2) hours.

Section 42-154. Crew training-drilling contractor.

The PDC new employee orientation training was accredited by IADC. PDC SEMS document contained their sample training matrix. The training records for the individual working on the Tidwell #2 project should be provided before operations commence. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.



Non-Conformance, OR.D6R.18 Section 42 154 Crew training drilling contractor, Minor

The training records for the individual working on the Tidwell #2 project should be provided before operations commence.

Specification

Section 42-154. Crew training-drilling contractor.

The drilling contractor must have an IADC accredited competency program for all the rig crew positions, as well as office based supervisory positions.

Section 42-156. Signage.

The information for the sign to be displayed at the gate was not provided. Additional information was required to fully satisfy this ordinance regulation.

Follow-up: KEC provided the updated SPCCP that contained section 14.7 Signage. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.

Non-Conformance, OR.D6R.19 Section 42 156 Signage, Minor

The information for the sign to be displayed at the gate was not provided.

Specification

Section 42-156. Signage.

(a) A sign shall be immediately and prominently displayed at the gate on the fencing erected pursuant to this Article. Such sign shall be durable material, maintained in good condition and, unless otherwise required by the Railroad Commission, shall have a surface area of not less than two (2) square feet nor more than four (4) square feet and shall be lettered with the following:

- (1) Well name and number;
- (2) Name of Operator;
- (3) The emergency 911 number; and
- (4) Telephone numbers of two (2) persons responsible for the well who may be contacted in case of emergency.

(b) A sign shall be posted at the entrance of the well site advising the public of all fracture stimulation operations at least 72 hours prior to commencement.

The non-conformance was subsequently closed by ADC on 24-Mar-2021. KEC provided the updated SPCCP that contained section 14.7 Signage.

Section 42-157. Storage of equipment and chemicals.

MSDS sheets were provided for BAROID, AQUAGEL, caustic soda, lime, CARBONOX, aluminum stearate, WALL-NUT medium, sodium bicarbonate, BARO-TROL PLUS, EZ-MUD, PAC-L, BARACARB 50, BARACARB 150, INVERMUL, EZ MUL, GELTONE V, DURATONE, calcium chloride powder, DRILTREAT, BAROID oil absorbent, and QUIK-THIN. The MSDS were not provided for Desco or DURATONE HT, and the list of chemicals did not include QUIK-THIN. See the non-conformance in Section 42-90.

PDC HSEMS Standards document contained handling, labeling, and storage plans for drilling muds, chemicals, toxic substances, and hazardous materials. Additional information was required to fully satisfy this ordinance regulation.



Follow-up: KEC provided an MSDS master list and MSDS for all the drilling chemicals, oil products, lubricants, fuels, and cleaning products. KEC provided the Desco MSDS. KEC provided the DURATONE E MSDS to replace the DURATONE HT. The evidence for this ordinance regulation was reviewed by ADC and deemed acceptable.



Safety and Environmental Management System

General Description

API Bulletin 75L states the following:

"There are many models for creating a SEMS and they contain a wide variety of system elements. This should be part of the consideration when designing your SEMS. No combination is wrong, remembering that it must be tailored to your needs. Many systems can be accessed via the web, but for the purposes of developing an API SEMS, the following are 12 suggested system elements: Safety and Environmental Information, Hazards Analysis, Procedures to Manage Change, Operating Procedures, Safe Work Practices, Training, Assurance of Quality and Mechanical Integrity of Critical Equipment, Pre-start Review, Emergency Response and Control, Investigation of Incidents, Audit of Safety and Environmental Management System Elements, and Records and Documentation."

The following sections describe the (12) SEMS elements of API Bulletin 75L and discuss KEC's and PDC's compliance with those elements.

Safety and Environmental Information

API Bulletin 75L Section A.1 discusses safety and environmental information. It suggests that a system be in place and that management consider a compilation of any potential safety and environmental hazards and high risk activities in determining the extent of information be developed and maintained for any facility subject to API Bulletin 75L. The information may include documentation on process and mechanical design. The individual elements of the information may exist in various forms and locations and may be referenced in the compilation. Process, mechanical, and facilities design information may be retained for the life of the facility.

KEC provided an ERP and SPCCP that contained the site information, safety and environmental response actions/guidelines, protection and recovery, preventions systems, production equipment, and storage tanks. There was a Phase I Environmental Site Assessment submitted for the site that included the pre-environmental assessment of the site. There was a drilling facility drawing, drilling plan with vertical and horizontal plots, and production facility drawing provided with the equipment locations. During the review process, the rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided. Additional information is required to fully close out this SEMS element.

Follow-up: KEC provided the PDC fire protection system and evaluation procedures; emergency procedures, planning, and preparedness; rig site emergency response plan; fire prevention and control; and PDC crisis management plan. KEC stated that all equipment is equipped with automatic shutdown systems that will shut down the



system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.

KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected.

Non-Conformance, SE.SEI.2 Safety and Environmental Information, Major

The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.

Specification

API Bulletin 75L Section A.1 Safety and Environmental Information

Process, mechanical, and facilities design information may be retained for the life of the facility.

Corrective Action Request 8

Hazards Analysis

API Bulletin 75L Section A.2 states that hazards analysis should be performed for any facility where potential hazards may exist. The purpose of the hazards analysis is to identify, evaluate, consider human factors, and where unacceptable, reduce the likelihood and/or minimize safety or environmental incidents.

The KEC ERP, SPCCP, and SWPPP identified hazards and response actions, protection, and recovery. The ERP included a site safety plan form; that included the work plan, personnel, emergency plan, pre-entry briefing, attachments, site characterization, and control measures. The KEC SEMS included a hazards analysis section that discussed hazard recognition and control. The KEC SEMS included a general hazard register that contained access, chemical/materials, environmental, physical, potential uncontrolled energy, tool/equipment, scaffolds, and other. The KEC documentation provided included material safety data sheets (MSDS), but there were MSDS missing for a couple chemicals. There was a major non-conformance raised for the MSDS in Division 3. Applications Section 42-90.

The PDC SEMS (June 2016) hazard assessment section included critical task assessments, job safety analysis, field level hazard assessments, risk assessment matrix, safety meetings, incident notifications and HSE alerts, step back process, hazard identification program, safety observation program, permit to work, HSE and equipment inspections, regulatory inspections and audits, and corrective action register. There was a critical task assessment and job safety analysis decision tree flowchart provided to determine whether a critical task assessment and/or job safety analysis will be performed. The critical task assessments contained responsibilities of personnel, procedures, a sample critical task, review requirements, risks, and control methods. The sample critical task included the steps performed, personnel involved, potential loss during each step (injury/equipment), initial risk, controls used to reduce the risk, and residual risk. The job safety analysis contained identifying steps,



assessing risks and hazards, recommendations to eliminate/reduce hazard, and PPE requirements. The field level hazard assessment was a tool for third party and subcontractors to use if they did not have their own hazard assessment. The risk assessment matrix considered probability and severity potential of risks, and there was also a post incident response matrix. The risk levels from the risk assessment matrix are used for incident investigation and management of change approvals. The hazard identification program included observing, immediate action, communicate/document, control/eliminate the hazard, and review/follow-up to make sure the hazard is adequately eliminated or controlled. The safety observation program included observation cards, continuous process, reinforcement of safe acts, and at risk behaviors/corrective actions. The permit to work section included hot and cold work. The corrective action section covered preventive and corrective actions.

There was not a complete hazard register for the Tidwell #2 drilling and production facility that contained hazard identification and evaluation, considering human factors, and where unacceptable, reduction in the likelihood and/or minimization of safety or environmental incidents. Additional information is required to fully close out this SEMS element.

Follow-up: KEC provided the MSDS for the missing chemicals. The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Non-Conformance, SE.HAS.2 Hazards Analysis, Minor

There was not a complete hazard register for the Tidwell #2 drilling and production facility that contained hazard identification and evaluation, considering human factors, and where unacceptable, reduction in the likelihood and/or minimization of safety or environmental incidents.

Specification

API Bulletin 75L section A.2 Hazards Analysis

The purpose of this analysis is to identify, evaluate, and, where unacceptable, reduce the likelihood and/or minimize the consequences of safety or environmental incidents including uncontrolled releases. Human factors may be considered in this analysis.

The non-conformance was subsequently closed by ADC on 24-Mar-2021. KEC provided the MSDS for the missing chemicals. The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood.

Procedures to Manage Change

API Bulletin 75L Section A.3 discusses procedures to manage change. The overall agenda of this suggested element is to establish procedures to identify and control hazards associated with change and maintain the accuracy of safety information.

The KEC SEMS requires a management of change for temporary and permanent changes to the organization, personnel, safety systems, processes, policies and

procedures, equipment, products, chemicals and materials, laws, and regulations. The MOC includes a risk assessment on the impact of change and the development of a work plan that specifies timescale and control measures to be implemented.

The PDC SEMS divides the MOC process into five categories; physical changes, procedural changes, critical personnel changes, emergency changes, and customer requests. There were procedures, roles and responsibilities, risk assessment, controls, anticipated duration, and approval based on risk rating. PDC had two MOC forms: management of change initiation form and the management of change project form. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Operating Procedures

API Bulletin 75L Section A.4 references the need for operating procedures. This segment includes written facility operating procedures designed to enhance efficient, safe, and environmentally sound operations. These operating procedures should directly address human factors issues association with the interaction between facilities and personnel.

The KEC SEMS operating procedures section requires operating procedures for initial start-up, normal operations, all emergency operations, normal shutdown, bypassing out of service equipment, deviations, chemical handling and hazards, raw material quality control, control of hazardous chemical inventory, and impacts to the environment based on the hazards analysis.

The PDC SEMS contains operational safe work instructions for the boiler and steam operations, BOP systems, building stands in mousehole while rotating, cementing, chains, compressed air and equipment, crown block, derrick and mast, drawworks, drilling rig best practices, drilling fluid hoses, drilling line, drilling swivel and Kelly, engines and generators, handling tubulars, high pressure pumping operations, mud tanks, shale shakers, flow lines, mud pumps, pipe elevators, rigging up/out, rotary table and heads, running casing, slips, slipping and cutting drill line, tongs, top drives, travelling block, tripping pipe, and well testing. The operational safe work instructions covered equipment operations, maintenance, and modifications. Prior to operations commencing, specific equipment operating procedures should be provided and confirmed. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Follow-up: KEC stated they will submit specific operating procedures prior to commencing operations.

Observation, SE.OPP.2 Operating Procedures

Prior to operations commencing, specific equipment operating procedures should be provided and confirmed.

Safe Work Practices

API Bulletin 75L Section A.5 establishes safe work practices. This part of the bulletin calls for the management system to establish and implement safe work practices

which should be designed to minimize the risks associated with operating, maintenance, and modification activities that could affect health, safety, and environment.

The KEC SEMS safe work practices section requires JSA to be completed when the work involves potential hazards. KEC requires the energy sources to be isolated when working on energized systems. Permits are required for confined space entry and hot work. The KEC SEMS included procedures for confined space entry, hot work, gas monitor testing, welding, energy isolation, electrical safety, classified areas, motor maintenance, flash/blast hazards, working at heights, hearing protection, and lifting.

PDC uses critical task assessments and JSAs for any work that has a potential hazard. They use a permit to work system for hot work, cold work, and confined space. The PDC HSEMS safe work practices include standards for general safety, camp and accommodations, confined space entry and restricted space entry, danger zones, dropped object prevention, electrical safety (under development), fatigue management, walkways and stairways, ground disturbance, hand and power tools, handling hoses, harmful substances and chemical exposure, high pressure lines, housekeeping, forklifts and manlifts, machinery safeguards, management of hazardous energy, manual lifting and ergonomics, personal protective equipment, preventive maintenance, respiratory protection, rigging and critical lifts, third party and subcontractor management, trapped torque, vehicle safety and operating, journey management, wildlife awareness, welding and cutting, working alone, and working at height. The electrical safety standard was under development and should be added into Precisions HSEMS Manual revision June 2016. The PDC HSEMS also contains operational safe work instructions as discussed above in the operating procedures section that contained equipment operations, maintenance, and modifications. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Follow-up: KEC stated the electrical safety standard is being revised based on NFPA 70E 2021. PDC electrical equipment section was provided and it contains classification of hazardous areas, general safety procedures, control panels, switchboards, cables, repairs, lighting, power lines, grounding, bonding, and batteries. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Observation, SE.SWP.2 Safe Work Practices

The electrical safety standard was under development and should be added into Precisions HSEMS Manual revision June 2016.

Training

API Bulletin 75L Section A.6 states that training should address operating procedures, safe work practices, and emergency response and control measures. Training should be provided by qualified instructors or by employees with relevant years of experience and documented as appropriate.

KEC states everyone will be trained and familiar with behavior based safety.

The PDC HSEMS included the global training standard, short service employee program, training matrix, and example training matrices for various roles and responsibilities. The global training standard gives an overview of the training requirements based on job title/position. Training comes from formal classes, manual, videos, computer based training, and on the job training. All new employees go through the new employee orientation course accredited by IADC under the Rig Pass program. The Rig Pass program centers on understanding and controlling hazards and mitigating risks to keep the work place safe. The training matrix tracks the global minimum training requirements and the regulatory training requirements. The global minimum training requirements are the new employee orientation, planned safety observation, first aid/CPR, fall protection, confined space, rigging and slinging, forklift/loader, and well control training with certification. The regulatory training included defensive driving, permit to work, safety leadership, HAZCOM/respiratory protection, emergency response, H₂S, gas tester, fire-fighting, ABS welder, air hoist operator, lifeboat, rig rescue, and spill prevention training. The short service evaluation monitors the workers performance and progression. The short service evaluation includes compliance with policies and procedures, safety programs, proper PPE, understands right to refuse, fit for duty, and other character based requirements. The training matrix has the requirements listed for office and rig based personnel. There were specific training matrices for shop employees, professional development, Precision directional services US, and requirements for other regions/countries. Prior to operations commencing, individual training records should be provided and confirmed. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Follow-up: KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training. KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Observation, SE.TRA.2 Training

Prior to operations commencing, individual training records should be provided and confirmed.

Assurance of Quality and Mechanical Integrity of Critical Equipment

API Bulletin 75L Section A.7 references the need for the assurance of quality and mechanical integrity of critical equipment. This SEMS element states that the management system should include proper procedures for all critical equipment to ensure design, fabrication, installation, testing, inspection, and maintenance are carried out with the appropriate service requirements, manufacturers recommendations, and industry standards. These procedures should not only be in place, but they should also be carried out at appropriate time intervals. This element also includes all contractor's quality assurance systems that are already in place for their own critical equipment.



The KEC SEMS states critical equipment for any Kaler facility is designed, fabricated, installed, tested, inspected, monitored, and maintained with appropriate service requirements, manufacturer's recommendations, or industry standards. KEC requires contractors to have programs in place to address their own critical equipment. Critical equipment includes surface safety systems, subsurface safety valve systems, relief and vent systems, containment systems, BOPs, wellhead, and tree. The assurance of quality of mechanical integrity section discusses procurement, fabrication, installation, maintenance, and testing and inspection.

The PDC HSEMS included an HSE and equipment inspections section that contained inspections supporting incident prevention, reduction of risks, detection of wear and potential failure of equipment, ensuring no misuse of equipment, identification of training requirements, improvement of housekeeping standards, and identification of opportunities to improve the company's management standards. PDC had inspection checklists for HSE equipment and areas based on frequency (each shift, weekly, monthly, quarterly). Before startup operations, PDC performs safety commissioning, mechanical commissioning, and electrical commissioning. PDC states equipment will be maintained and inspected in accordance with company standards using the Green Book. There were no examples for Green Book to show how the system prompts the user when maintenance is due and what time intervals/category level equipment maintenance is performed. Additional information is required to fully close out this SEMS element.

Follow-up: KEC provided an example overview screenshot of Green Book. KEC stated the specific rig documentation and Green Book will be provided once the rig is selected.

Non-Conformance, SE.QMI.2 Assurance of Quality and Mechanical Integrity of Critical Equipment, Minor

There were no examples for Green Book to show how the system prompts the user when maintenance is due and what time intervals/category level equipment maintenance is performed.

Specification

API Bulletin 75L section A.7 Assurance of Quality and Mechanical Integrity of Critical Equipment

Contractors should have systems in place to address their own critical equipment.

Pre-Startup Review

API Bulletin 75L Section A.8 states that the management system may require the commissioning process to include a pre-startup safety and environmental review. This SEMS element has (7) requirements for any new or significantly modified facilities, wells, or operations: construction and equipment are in accordance with specifications; safety, environmental, operating, maintenance, and emergency procedures are in place and are adequate; safety and environmental information is current; hazards analysis recommendations have been considered addressed and implemented as appropriate; training of operating personnel has been completed; system to address procedures to manage changes and other elements of this publication are in place; and safe work practices are in place.



KEC SEMS states the pre-startup review checklist program will verify the construction and equipment are in accordance with specifications, procedures are in place, safety and environmental information is current, hazards analysis recommendations have been considered/implemented, training of personnel is completed, MOC processes are in place, and safe work practices have been established. KEC provided the Phase I Environmental Site Assessment, Railroad Commission documentation, ERP, SPCCP, SWPPP, geologic impacts report. The Gulf Coast Water Authority Agreement and the hazard register for this specific site were not provided.

PDC provided operational safe work practices for the equipment, their HSE standards that contain all the safe work practices, and the MOC process. Before startup operations, PDC performs safety commissioning, mechanical commissioning, and electrical commissioning. The MOC initiation and project forms, the operating personnel training records, safety commissioning, mechanical commissioning, and electrical commissioning documents were not provided for review.

Additionally, see the non-conformance in the Safety and Environmental Information section. The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.

Additional information is required to fully close out this SEMS element.

Follow-up: KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations.

The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood.

All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.

KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected.

KEC provided the pre-spud inspection documentation that contained various areas around the rig.

KEC provided the initiation and project MOC forms. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Non-Conformance, SE.PSR.2 Pre Start Up Review, Major

The Gulf Coast Water Authority Agreement and the hazard register for this specific site were not provided.

The MOC initiation and project forms, the operating personnel training records, safety commissioning, mechanical commissioning, and electrical commissioning documents were not provided for review.

The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.

Specification

API Bulletin 75L section A.8 Pre-Startup Review

The management system may require:

- a) construction and equipment are in accordance with specifications;
- b) safety, environmental, operating, maintenance, and emergency procedures are in place and are adequate;
- c) safety and environmental information is correct;
- d) hazards analysis recommendations have been considered/addressed, and implemented as appropriate;
- e) training of operating personnel has been completed;
- f) systems to address procedures to manage changes and other elements of this publication are in place;
- g) safe work practices are in place.

Corrective Action Request 9

The non-conformance was subsequently closed by ADC on 24-Mar-2021.

KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood. All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line. KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected. KEC provided the pre-spud inspection documentation that contained various areas around the rig. KEC provided the initiation and project MOC forms.

Emergency Response and Control

API Bulletin 75L Section A.9 references the need for emergency response and control. This SEMS element requires that emergency information is readily available and control plans are in place and are ready for immediate implementation. These plans should be carried out in regularly scheduled drills.



The KEC documentation included an ERP, a SPCCP, and a SWPPP. The ERP with revision date August 2020 contained the site information, notifications, general response, spill response, well control response, fire response actions, medical emergency response, site safety plan, and protection and recovery. The SPCCP with revision date August 2020 contained the plan review, facility information, response guidelines, notifications, severe weather, response team, protection/response, prevention systems, piping/flowlines, production equipment, storage tanks, training, inspections, and forms. The SWPPP with revision date September 2019 contained the contact information, site/project description, best management practices, procedures for inspection/maintenance/corrective actions, employee training, certification, and modifications. KEC also had a standby emergency response agreement with CleanHarbors Environmental Services.

PDC SEMS included an Emergency Preparedness and Response section that contained emergency procedures, planning, preparedness, incident management, blood-borne pathogens exposure control plan, business continuity program, and security management. The business continuity program and security management sections were under development and should be added into Precisions HSEMS manual revision June 2016. The PDC SEMS contained an environmental management section that contained spill prevention and response and waste management. The PDC HSEMS addressed the requirement for emergency drills for BOP, confined space rescue, man down, H₂S release/rescue, fire, rescue from heights, rig evacuation, office/shop emergency response/fire, and spill response. The drill frequency table was provided that showed the weekly, monthly, quarterly, and biannual schedule requirements. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Follow-up: KEC provided the crisis management plan, emergency business relocation plan, and prevention and response plan. The crisis management plan included response management phases, priorities, classification of incidents, incident command system, plan and response team, authorities. The crisis management plan also included alerts and notifications, response resources, crisis management team, response procedures, response facilities, incident investigation, hazard analysis, training, and planned maintenance. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Observation, SE.ERC.2 Emergency Response and Control

The business continuity program and security management sections were under development and should be added into Precisions HSEMS manual revision June 2016.

Investigation of Incidents

API Bulletin 75L Section A.10 states the need for incident investigations. This SEMS element outlines the process for investigating all incidents with serious safety or environmental consequences. The purpose of the incident investigation is not to place blame, but to learn from the incident and help prevent similar incidents. A corrective action system may be established based on the findings of the investigation in order to analyze incidents for common root causes. Only trained

personnel knowledgeable to the processes involved should conduct the incident investigations. Investigations as well as the findings and recommendations should be conducted in a timely manner.

KEC initiates incident investigations as promptly as possible, considering the necessity of securing the incident scene and protecting people and the environment. The incident investigation is conducted by a third party contractor. KEC requires the investigation to address nature of the incident, the factors that contributed to the initiation and its escalation/control, and recommended changes identified as result of the investigation. The corrective action program will retain the findings for a minimum of 2 years, determine and document the response to each finding to ensure to corrective actions are completed, and implement a system whereby conclusions of investigations are distributed to similar facilities. The KEC incident report form contained reporting personnel, responsible personnel, incident description, material, response action, impact, additional information, weather conditions, and notifications.

PDC SEMS risk assessment rating determines who is responsible for appointing the investigation team. PDC SEMS included an incident investigation procedure that contained types of incidents, response procedure based on severity/risk assessment rating, investigation kits, systematic cause analysis technique chart, communication flowchart, notifications, report requirements, HSE alert procedure, and training. The example forms for the different investigation severities were provided. PDC maintains a corrective action register. The HSE managers conducting the serious and major incidents will go through DNV investigation training. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Audit of Safety and Environmental Management System Elements

API Bulletin 75L Section A.11 references the need for audits of safety and environmental management system elements. This SEMS element states that safety and environmental management systems should conduct periodic audits of the system to ensure the system elements have been properly implemented and maintained. The audit program and procedures should cover the following (5) items outlined by API Bulletin 75L: the activities and areas to be considered in audits, the frequency of audits, the audit team, how audits will be conducted, and audit reporting.

The KEC SEMS included an audit program that covers activities and areas, frequency, audit team, how audits will be conducted, and audit reporting. The activities and areas were facility design, equipment, site characterization, company and contract personnel, safety systems, and environmental protection. The audit timeframe is every 3 years. The audit team will consist of a senior member of KEC and representatives from third party contractors familiar with SEMS. The audit report will address all components of SEMS including discussions and recommendations by the audit team. The audit documentation will be maintained at the KEC corporate office for 5 years from the audit date.

The PDC HSEMS included a regulatory inspections and audits section that contained responsibilities, and procedures, inspection/reporting requirements, and special requirements for what to do when being audited. PDC HSEMS HSE assessment (worksite) included inspections by the site manager, HSE standards assessments completed by the HSE department, HSE management system assessments completed by the HSE department and operations management, and external HSE audits completed by third party audit firms. The PDC documentation did not include the frequency of audits.

There were no example audits of the KEC SEMS/facilities or PDC HSEMS/facilities provided for review. Additional information is required to fully close out this SEMS element.

Follow-up: KEC stated that HSE assessments are performed annually. KEC provided an example rig 750 HSE Assessment 12-7-20. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Non-Conformance, SE.AMS.2 Audit of Safety and Environmental Management System Elements, Minor

The PDC documentation did not include the frequency of audits.

There were no example audits of the KEC SEMS/facilities or PDC HSEMS/facilities provided for review.

Specification

API Bulletin 75L section A.11 Audit of Safety and Environmental Management System Elements

The operators (and contractors with SEMS) may establish and maintain an audit system and procedures for the periodic audit of the safety and environmental management system in order to determine if the system elements have been properly implemented and maintained and to provide information on the results of the audit to management.

*The non-conformance was subsequently closed by ADC on 24-Mar-2021.
KEC stated that HSE assessments are performed annually. KEC provided an example rig 750 HSE Assessment 12-7-20.*

Records and Documentation

API Bulletin 75L Section A.12 references the need for a records and documentation systems to be in place. This SEMS element allows the operator or contractor to establish and keep their own form of record keeping and only requires that all SEMS records be kept.

KEC states they will maintain all SEMS records at the corporate office for a minimum of 5 years. The contractors operating procedures and SEMS documents will be maintained by the contractor.



The requirement for keeping records was throughout the individual sections of the PDC HSEMS documentation provided. The PDC documentation and records storage location was not provided.

This SEMS element requires all of the documentation and records gathered from each of the SEMS elements. Once the additional missing information is provided for the remaining SEMS elements, this section will be closed out.

Follow-up: KEC stated that the PDC policy, records retention, documentation, and records are stored in Microsoft SharePoint sites and within SAP business management system. KEC provided the PDC policy records retention document and screen shots of the SharePoint site that included the retention schedule functions. The evidence for this SEMS element was reviewed by ADC and deemed acceptable.

Non-Conformance, SE.RAD.2 Records and Documentation, Minor

The PDC HSEMS documentation and records storage location was not provided. This SEMS element requires all of the documentation and records gathered from each of the SEMS elements. The additional missing information should be provided for the remaining SEMS elements.

Specification

API Bulletin 75L section A.12 Records and Documentation

A documentation system for the safety and environmental management system may be established to ensure that records and documents are maintained in a manner sufficient to implement the management system.

The non-conformance was subsequently closed by ADC on 24-Mar-2021. KEC stated that the PDC policy, records retention, documentation, and records are stored in Microsoft SharePoint sites and within SAP business management system. KEC provided the PDC policy records retention document and screen shots of the SharePoint site that included the retention schedule functions.

6.0 Conclusions

ADC conducted a desktop audit on the Oil and Gas Drilling, Workover, or Amending Permit Application submittal by KEC between 16 November and 07 December 2020.

COLC requested ADC to perform a follow-up desktop audit using the additional documentation provided by KEC to close out the non-conformances.

When comparing the KEC documentation provided and the COLC Drilling Ordinance - Production, ADC found that Divisions 2, 3, and 6 were missing or lacking information on 35 sections during the initial documentation review. There was no documentation provided to ADC for Divisions 4, 5, 7, and 8. The division sections may exist in KEC's full scope of documentation. Additional information was required from KEC to satisfy all the requirements of the COLC Drilling Ordinance - Drilling.

When comparing the KEC SEMS and PDC HSEMS manuals with API Bulletin 75L, 6 of the 12 SEMS elements were lacking in depth and required additional documentation to fully satisfy the elements.

The missing documentation for the drilling ordinance and SEMS elements should be requested by the COLC to ensure that KEC fully complies with the COLC Drilling Ordinance - Drilling, Chapter 42, Article III and API Bulletin 75L reflecting the Tidwell #2 project.

KEC provided documentation to close out the non-conformances raised during the initial documentation review. During the follow-up review, the non-conformances in Division 2 and 3 were all closed. There were 6 non-conformances open in Division 6 and 2 non-conformances open for the SEMS elements. Most of the remaining non-conformances can be addressed and closed out during the rig inspection prior to operations beginning.

There were 2 major non-conformances for the setback distance and the flare that will require agreement between the COLC and KEC.

ADC would like to take this opportunity to thank the COLC for using us to assist in the COLC Tidwell #2 permit application review.



7.0 Appendices



Appendix 1 - Non Conformance List

[NonConformanceList.xlsx](#)



Appendix 2 - Corrective Action Request Sheets



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 1
Area	Drilling Ordinance		
Audit Criteria	Division 3. Applications		
Description	Section 42 88 Applicable state permits		
Date Opened	Thursday, 26th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
<p>There was no evidence supplied for the water board letter. There was no evidence provided for casing exceptions applied for and/or granted.</p> <p>KEC provided the Railroad Commission permit # 862791 dated 8 September 2020, but the name of the filer was listed as RRC user and doesn't contain a name, phone number, or email. There was not an approved permit in the documentation provided. The Railroad Commission of Texas Certificate of Compliance and Transportation Authority P04 document had a typo on the form submitted by Kaler Energy Corp. for the name of the company (COPR. instead of CORP.).</p>			
Specification			
<p>Section 42-88. Applicable state permits. Submit a copy of the application filed with the Railroad Commission along with the approved permit by the Commission for operations within the City, copies of the "Water Board" letter from the Texas Commission on Environmental Quality, and any casing exceptions applied for and/or granted.</p>			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	
Follow-up and Close Out			
Proposed Follow-up Date			
Close Out Details			
<p>The Groundwater Protection Determination was provided. KEC provided the Railroad Commission Form W-1 permit with the filer information filled out.</p>			
Signature (ADC Auditor or Client Rep)		CAR Close Out Date	
		Wednesday, 31st March 2021	



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 2
Area	Drilling Ordinance		
Audit Criteria	Division 3. Applications		
Description	Section 42 89 Preliminary drilling program		
Date Opened	Thursday, 26th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
<p>(a) Fire hydrants, water supply, power supply, and topographic features were not provided in the rig layout drawing.</p> <p>(b) There was no documentation provided in the nature and volume of waste materials generated during rigging-up operations and drilling.</p> <p>(d, e) There was not an evaluation of potential shallow gas or H2S provided.</p>			
Specification			
<p>Section 42-89. Preliminary Drilling Program.</p> <p>Drilling and workover permits – Submit a preliminary Drilling Program including, but not limited to, the following:</p> <p>(a) Preliminary general arrangement drawings of the site showing, but not limited to, specific wellhead locations; major components, improvements and equipment; rigs; compressors; separators; storage sheds; fire hydrants; water and power supply; impacted vegetation, creeks and other topographic features; easements; and adjoining roadways, property, parks, buildings, and structures.</p> <p>(b) Nature and volume of waste materials generated during rigging-up operations and drilling.</p> <p>(d) Evaluation of shallow gas hazard.</p> <p>(e) Evaluation of potential H2S hazard.</p>			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	
Follow-up and Close Out			
Proposed Follow-up Date			
Close Out Details			
<p>stored pressure fire extinguisher, line heater, well location, buffer zone, and existing Tidwell #1 location. KEC provided the PDC US rig waste plan created by Terracon that contained storage and handling procedures for used oil wastes, non-hazardous wastes, and universal wastes. KEC stated there is no anticipated H2S. Tidwell 1 on the same location had no H2S. According to the USGS</p>			



survey, the only field in Galveston County known to produce H₂S is the High Island Field over 35 miles away on the Bollivar Peninsula.

Signature (ADC Auditor or Client Rep)	CAR Close Out Date
	Monday, 22nd March 2021



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 3
Area	Drilling Ordinance		
Audit Criteria	Division 3. Applications		
Description	Section 42 90 Site plans and construction documents		
Date Opened	Thursday, 26th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
<p>The MSDS were not provided for Desco or DURATONE HT, and the list of chemicals did not include QUIK-THIN. The operational phases at which the chemicals will be utilized were not provided. The products list included DURATONE HT but the MSDS was provided for DURATONE. When reviewing the differences in DURATONE products, the MSDS for DURATONE HT filtration control agent states it is replaced with DURATONE E filtration control agent to comply with local environmental regulations.</p>			
Specification			
<p>Section 42-90. Site plans and construction documents. Submit a hazardous materials inventory statement including MSDS sheets on all products being used and at which operation phases they are being utilized, including all chemicals used during any fracking process.</p>			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	
Follow-up and Close Out			
Proposed Follow-up Date			
Close Out Details			
<p>KEC provided an MSDS master list and MSDS for all the drilling chemicals, oil products, lubricants, fuels, and cleaning products. KEC provided the Desco MSDS. KEC provided the DURATONE E MSDS to replace the DURATONE HT.</p>			
Signature (ADC Auditor or Client Rep)		CAR Close Out Date	
		Monday, 22nd March 2021	



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 4
Area	Drilling Ordinance		
Audit Criteria	Division 6. Regulations		
Description	Section 42 134 Distancing and setbacks		
Date Opened	Monday, 30th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
KEC documentation did not contain the distancing and setback information.			
Specification			
<p>Section 42-134. Distancing and setbacks.</p> <p>The distancing and setback requirements noted in this subsection shall apply to all new permits for drilling and workovers shall be consistent with the approved Special Use Permit. These requirements shall not apply to any renewal permits for existing operations that have state and federal permits in good standing.</p> <p>(a) The proposed drill site shall not be within fifty (50) feet of any alley, street, road, highway, right-of-way or future right-of-way as shown on the Thoroughfare Plan of the City or equivalent thereof. (The Department of Public Works may permit temporary access in with consideration of the nature of the request and the number of hours and/or days that any street or alley may be blocked, encumbered or closed.)</p> <p>(b) The proposed well bore shall not be within six hundred (600) feet of any fresh water well. The measurement shall be in a direct line from the closest well bore to the fresh water well bore. The setback may be reduced to no less than two hundred (200) feet from the fresh water well if all surface property owners within a radius of two hundred (200) to six hundred (600) feet from the fresh water well signed a notarized affidavit consenting to the encroachment when the Special Use Permit was granted. The reduction of the distance requirement for fresh water wells is subject to the regulations of the Texas Commission on Environmental Quality, Railroad Commission and any other state or federal requirements.</p> <p>(c) The proposed well bore shall not be within three hundred (300) feet of any off-site building or structure for the support, shelter, enclosure or partial enclosure of movable property of any kind unless the Operator or designated representative secured notarized affidavits consenting to the encroachment from the affected surface property owners within three hundred (300) feet of the well bore. The reduction of the distance requirement is subject to the regulations of the Railroad Commission and any other state or federal requirements.</p> <p>(d) The proposed well bore shall not be within six hundred (600) feet of any off-site pool, building or structure for the support, shelter, enclosure or partial enclosure of persons or animals unless the Operator or designated representative secured notarized affidavits consenting to the encroachment from the surface property owners within the affected radius when the Special Use Permit was granted. The measurement shall be in a direct line from the closest well bore to the nearest portion of the building or structure. The reduction of the distance requirement is subject to the regulations of the Railroad Commission and any other state or federal requirements.</p> <p>(e) The proposed well bore shall not be within six hundred (600) feet of a public or private park or within six hundred (600) feet of a dwelling unit, religious assembly building, hospital building, public or private school boundary, or day care boundary for which a building permit has been issued on or before the date the Special Use Permit application was accepted by the City. The distance shall be calculated from the proposed well bore, in a straight line, without regard to intervening structures or objects, to the primary structure of the protected use or boundaries of a park, school or day care, whichever is applicable. The Planning and Zoning Commission may recommend and the City Council may approve a reduction in the setback distance. The applicant must show that the</p>			



reduction is necessary in order to gain access to minerals owned by or leased to the applicant. Upon showing evidence that there are no other viable alternatives that would impact the adjacent property owners to a lesser degree while still providing access to the minerals, a reduction in the setback distance may be approved. If a reduction is approved, then additional requirements may be imposed for nuisance and aesthetic control.	
(f) Salt water disposal lines, flowlines, and intralease piping shall be prohibited within one hundred (100) feet of any natural stream high bank, drainage canal easement, designated wetland preservation area or mean high tide.	
Signature (Auditor)	Signature (Department Representative)
Corrective Action	
Signature (Rig Manager)	Date
Action taken to prevent recurrence of non-conformance	
Date for completion of action to prevent recurrence	
Signature	Date
Follow-up and Close Out	
Proposed Follow-up Date	
Close Out Details	
The nearest residential home is located approximately 490 ft to the north of the well location. KEC are requested for the site to be grandfathered.	
Signature (ADC Auditor or Client Rep)	CAR Close Out Date



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 5
Area	Drilling Ordinance		
Audit Criteria	Division 6. Regulations		
Description	Section 42 139 Illicit discharges		
Date Opened	Monday, 30th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
Section 42-139. Illicit Discharges. (b) KEC did not provide documentation on whether they will have a flare. (e) The letter of credit was not provided by KEC.			
Specification			
Section 42-139. Illicit discharges. (b) No person shall allow, cause or permit gases to be vented into the atmosphere or to be burned by open flame. (e) Operator expressly consents by applying for a permit to allow a draw down of any bond or letter of credit to cover any clean up expenses. In the event that the bond or letter of credit is exhausted, Operator agrees to immediately replenish the amount. City shall have the right to contact the Railroad Commission in order to facilitate the removal of all waste materials from the property affected by such spill, leak or malfunction.			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	
Follow-up and Close Out			
Proposed Follow-up Date			
Close Out Details			
KEC provided the documentation for the gas buster and the flare. KEC stated the letter of credit will be provided once the permit is approved.			
Signature (ADC Auditor or Client Rep)		CAR Close Out Date	



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020		CAR No 6
Area	Drilling Ordinance		
Audit Criteria	Division 6. Regulations		
Description	Section 42 142 Fire prevention		
Date Opened	Monday, 30th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
<p>(c) The KEC documentation did not provide the information for the fire-fighting apparatus, the equipment's automated shut down valve, and the wellhead automated emergency shut off valve to the well production sale line.</p> <p>(d) KEC should verify there are no vehicles or items of machinery parked/stored that can be an obstruction with fire-fighting emergencies.</p> <p>(e) Electric motors were not covered in the documentation provided.</p>			
Specification			
<p>Section 42-142. Fire prevention.</p> <p>(c) Fire prevention; sources of ignition. Firefighting apparatus and supplies as approved by the Fire Department and required by any applicable federal, state, or local law shall be provided by the Operator, at the Operator's cost, and shall be maintained on the site at all times during operations. The Operator shall be responsible for the maintenance and upkeep of such equipment. All equipment, other than wellheads, shall be equipped with an automated valve that closes or shuts down the equipment in the event of an abnormal change in operating pressure. All well heads shall contain an automated emergency shut off valve to the well production sale line.</p> <p>(d) Equipment and vehicles. No vehicle or item of machinery shall be parked or stored on any street, right-of-way or in any driveway, alley or upon any site which constitutes a fire hazard or an obstruction to or interference with fighting or controlling fires except that equipment which is necessary on the site. The Fire Marshal shall be the entity that determines whether equipment on the site shall constitute a fire hazard.</p> <p>(e) Electric motors. Only electric prime movers or motors shall be permitted for the purpose of pumping wells. No electric power shall be generated on location outside of the duration of drilling operations. All electrical installations and equipment shall conform to the City ordinances and the appropriate national codes.</p>			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	



Follow-up and Close Out	
Proposed Follow-up Date	
Close Out Details	
<p>(c) KEC stated they will maintain 2 A-150-SP ABC dry chemical wheeled stored pressure fire extinguishers and also there will be ABC and CO2 portable fire extinguishers on location. KEC provided the fire extinguisher documentation. The fire extinguisher rig location drawing was provided. All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.</p> <p>(d) KEC stated there is ample parking on site and vehicles and equipment will be placed not to interfere with ingress and egress for fire-fighting equipment.</p> <p>(e) KEC stated that only electric prime motors will be used for the purpose of pumping wells. All electrical installations and equipment will conform to the City ordinances and the appropriate national codes.</p>	
Signature (ADC Auditor or Client Rep)	CAR Close Out Date
	Monday, 22nd March 2021



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020	CAR No	7
Area	Drilling Ordinance		
Audit Criteria	Division 6. Regulations		
Description	Section 42 143 Well control equipment and procedures		
Date Opened	Monday, 30th November 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
The well control equipment and the components of the pressure control system were not covered in the documentation provided.			
Specification			
<p>Section 42-143. Well control equipment and procedures.</p> <p>(a) The pressure control equipment and all components in the pressure control system shall all be sourced from a recognized American Petroleum Institute licensed OEM and of origin from the United States or Western Europe.</p> <p>(b) All pressure control equipment and all components of the pressure control system shall be certified at a minimum of once per year. No equipment shall be used on site with a certificate expiration date that will expire during its expected time of use on the well.</p> <p>(c) A copy of the data books for each pressure control component shall be maintained and available on the drilling location for review.</p> <p>(d) Prior to setting equipment and in areas where liquids or dry materials are likely to be spilled, install rollout impermeable barriers. The tarps shall be rolled up and cleaned at a suitable facility when equipment is rigged down.</p> <p>(e) The Operator shall conduct function testing and pressure testing of all components of the pressure control system. Alternately, function and pressure testing shall be conducted every five (5) days.</p> <p>(f) All components of the pressure control system must be function tested and pressure tested to full rated working pressure before the rig is accepted to commence operations.</p> <p>(g) All drilling wells must be equipped with blowout preventers, flowlines, and valves commensurate with the working pressure involved as required by the Railroad Commission.</p> <p>(h) In all cases, blowout prevention equipment including shear rams and pipe rams shall be used on all wells being drilled, worked-over or in which tubing is being changed. Protection shall be provided to prevent blowout during operations as required by and in conformance with the requirements of the Railroad Commission and be in compliance with all American Petroleum Institute Specifications and Recommended Practices, whichever is more restrictive for the particular issue under consideration.</p> <p>(i) A blowout preventer stack must be configured with a minimum of four (4) ram type and one (1) annular type preventers.</p> <p>(j) A set of blind shear rams with suitable operators shall be installed in the blowout preventer stack capable of shearing all grades of tubulars on location.</p> <p>(k) A set of casing shear rams with suitable operators capable of shearing all grades of casing in the well design must be installed in the stack.</p> <p>(l) Blowout prevention equipment shall be actuated periodically to ensure operational readiness utilizing these frequencies:</p> <p>(1) Every 12-hour shift, perform the following:</p> <p>(i) Check the accumulator pressure;</p> <p>(ii) Check the pressure of the emergency back-up system;</p> <p>(iii) Check the hydraulic fluid level in the blowout preventer closing unit;</p> <p>(iv) Check air pressure to support system; and</p>			



<p>(v) Record all of the above in the IADC log book and well ledger.</p> <p>(2) Every 12-hour shift, perform an IADC pit drill, to include, but not limited to, the following:</p> <p>(i) Operate all Kelly cocks;</p> <p>(ii) Check drill pipe safety valve;</p> <p>(iii) Function test any HCR (hydraulically control remote) valve(s); and</p> <p>(iv) Record all of the above in the IADC log book and well ledger.</p> <p>(m) A drill pipe float valve must always be in place when running in the hole.</p> <p>(n) In the event of the loss of control of any well, the Operator shall immediately take all reasonable steps to regain control regardless of any other provision of this Ordinance and shall notify the Oil and Gas Compliance Officer as soon as practicable. A written report with a summary of the incident shall also be submitted in accordance with the regulations for incident reports noted in this Chapter.</p> <p>(o) If danger to persons and property exist because of loss of well control and the Operator is not taking or is unable to take all reasonable and necessary steps to regain control of such well, then the City may employ any well control expert or experts or other contractors or suppliers of special services, or may incur any other expenses for labor and material which the City deems necessary to regain control of such well. The City shall then have a valid lien against the interest in the well of all working interest owners to secure payment of any expenditure made by the City pursuant to such action of the City in gaining control of said well.</p>	
Signature (Auditor)	Signature (Department Representative)
Corrective Action	
Signature (Rig Manager)	Date
Action taken to prevent recurrence of non-conformance	
Date for completion of action to prevent recurrence	
Signature	Date
Follow-up and Close Out	
Proposed Follow-up Date	
Close Out Details	
KEC stated the well control equipment will follow the RRCT guidelines. KEC provided example certification for the 13-5/8" double U ram body, 13-5/8" single BOP ram body, and 13-5/8" annular.	
Signature (ADC Auditor or Client Rep)	CAR Close Out Date



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020	CAR No	8
Area	Safety and Environmental Management System		
Audit Criteria	Safety and Environmental Information		
Description	Safety and Environmental Information		
Date Opened	Friday, 4th December 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.			
Specification			
API Bulletin 75L Section A.1 Safety and Environmental Information Process, mechanical, and facilities design information may be retained for the life of the facility.			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			
Signature		Date	
Follow-up and Close Out			
Proposed Follow-up Date			
Close Out Details			
The automatic shutdown information was provided. All the rig information, capabilities, and certification will be provided once the rig is selected.			
Signature (ADC Auditor or Client Rep)		CAR Close Out Date	



Corrective Action Request (CAR)			
Audit	Tidwell #2, November 2020	CAR No	9
Area	Safety and Environmental Management System		
Audit Criteria	Pre-Startup Review		
Description	Pre Start Up Review		
Date Opened	Friday, 4th December 2020		
Auditor		Department Representative	
Lance Norris		Company Rep	
Non-Conformance			
<p>The Gulf Coast Water Authority Agreement and the hazard register for this specific site were not provided.</p> <p>The MOC initiation and project forms, the operating personnel training records, safety commissioning, mechanical commissioning, and electrical commissioning documents were not provided for review.</p> <p>The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.</p>			
Specification			
<p>API Bulletin 75L section A.8 Pre-Startup Review</p> <p>The management system may require:</p> <ul style="list-style-type: none"> a) construction and equipment are in accordance with specifications; b) safety, environmental, operating, maintenance, and emergency procedures are in place and are adequate; c) safety and environmental information is correct; d) hazards analysis recommendations have been considered/addressed, and implemented as appropriate; e) training of operating personnel has been completed; f) systems to address procedures to manage changes and other elements of this publication are in place; g) safe work practices are in place. 			
Signature (Auditor)		Signature (Department Representative)	
Corrective Action			
Signature (Rig Manager)		Date	
Action taken to prevent recurrence of non-conformance			
Date for completion of action to prevent recurrence			



Signature	Date
Follow-up and Close Out	
Proposed Follow-up Date	
Close Out Details	
<p>KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations.</p> <p>The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood.</p> <p>All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.</p> <p>KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected.</p> <p>KEC provided the pre-spud inspection documentation that contained various areas around the rig.</p> <p>KEC provided the initiation and project MOC forms.</p>	
Signature (ADC Auditor or Client Rep)	CAR Close Out Date
	Wednesday, 24th March 2021

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

Inspection Type			Audit Conducted By		Inspection Date	Observations identified during Audit	Non-conformances identified during Audit		Non-conformances closed during Audit
Tidwell #2 Permit Application Review					November 2020	7	34		26
CRITICAL									
The Non Conformance refers to essential equipment, processes and systems that are being inappropriately used, exceed operational limits, are out of service or obsolete to a point that may lead to loss of life, a serious injury or environmental damage									
MAJOR									
The Non Conformance refers to essential equipment, processes and systems that are being ineffectively used, approaching operational limits or experiences some downtime to a point that may lead to damage to essential equipment or have a detrimental effect on the drilling operation.									
MINOR									
The Non Conformance refers to equipment, processes and systems that may have minor deficiencies observed that may lead to a situation that contributes to an incident or to circumstances in which the required standards of operation are not met.									
OBSERVATION									
Observations highlight equipment condition, processes or systems that, although not considered non-conformances during the audit, are noteworthy to the client. Observations may or may not be referenced to a specific standard, rule or guidance and should not require further action. However, they are considered useful findings and may become non-conformances in future.									
ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
2		The Articles of Incorporation and any "doing business as" filings were not provided.□	Section 42-83. Operator or Production Representative information. □ Provide name, address and contact information of the operator, production representative and any corporate officers, registered agents, general and limited partners, as well as, a copy of the Articles of Incorporation and any "Doing Business As" filings.	Minor			26-Nov-2020	31-Mar-2021	KEC provided the Texas Articles of Incorporation of a Business Corporation. There was a typo in the title (coporation). After discussions with COLC this item was closed.□
3	1	There was no evidence supplied for the water board letter. There was no evidence provided for casing exceptions applied for and/or granted.□ □ KEC provided the Railroad Commission permit # 862791 dated 8 September 2020, but the name of the filer was listed as RRC user and doesn't contain a name, phone number, or email. There was not an approved permit in the documentation provided. The Railroad Commission of Texas Certificate of Compliance and Transportation Authority P04 document had a typo on the form submitted by Kaler Energy Corp. for the name of the company (COPR. instead of CORP.).□	Section 42-88. Applicable state permits. □ Submit a copy of the application filed with the Railroad Commission along with the approved permit by the Commission for operations within the City, copies of the "Water Board" letter from the Texas Commission on Environmental Quality, and any casing exceptions applied for and/or granted.	Major	Tidwell #2□ Company Rep		26-Nov-2020	31-Mar-2021	The Groundwater Protection Determination was provided. KEC provided the Railroad Commission Form W-1 permit with the filer information filled out.□

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
4	2	(a) Fire hydrants, water supply, power supply, and topographic features were not provided in the rig layout drawing. □ (b) There was no documentation provided in the nature and volume of waste materials generated during rigging-up operations and drilling. □ (d, e) There was not an evaluation of potential shallow gas or H2S provided. □	Section 42.89. Preliminary Drilling Program. □ Drilling and workover permits – Submit a preliminary Drilling Program including, but not limited to, the following: □ (a) Preliminary general arrangement drawings of the site showing, but not limited to, specific wellhead locations; major components, improvements and equipment; rigs; compressors; separators; storage sheds; fire hydrants; water and power supply; impacted vegetation, creeks and other topographic features; easements; and adjoining roadways, property, parks, buildings, and structures. □ (b) Nature and volume of waste materials generated during rigging-up operations and drilling. □ (d) Evaluation of shallow gas hazard. □ (e) Evaluation of potential H2S hazard.	Major	Tidwell #2 □ Company Rep		26-Nov-2020	22-Mar-2021	KEC provided the drill site diagram that contained locations for fire hydrant assembly, dry chemical stored pressure fire extinguisher, line heater, well location, buffer zone, and existing Tidwell #1 location. KEC provided the PDC US rig waste plan created by Terracon that contained storage and handling procedures for used oil wastes, non-hazardous wastes, and universal wastes. KEC stated there is no anticipated H2S. Tidwell 1 on the same location had no H2S. According to the USGS survey, the only field in Galveston County known to produce H2S is the High Island Field over 35 miles away on the Bolivar Peninsula. □
5	3	The MSDS were not provided for Desco or DURATONE HT, and the list of chemicals did not include QUIK-THIN. The operational phases at which the chemicals will be utilized were not provided. The products list included DURATONE HT but the MSDS was provided for DURATONE. When reviewing the differences in DURATONE products, the MSDS for DURATONE HT filtration control agent states it is replaced with DURATONE E filtration control agent to comply with local environmental regulations. □	Section 42-90. Site plans and construction documents. □ Submit a hazardous materials inventory statement including MSDS sheets on all products being used and at which operation phases they are being utilized, including all chemicals used during any fracking process.	Major	Tidwell #2 □ Company Rep		26-Nov-2020	22-Mar-2021	KEC provided an MSDS master list and MSDS for all the drilling chemicals, oil products, lubricants, fuels, and cleaning products. KEC provided the Desco MSDS. KEC provided the DURATONE E MSDS to replace the DURATONE HT. □
6		There was no documentation provided for the Gulf Coast Water Authority. □	Section 42-91. Alternative water supply. □ Drilling, and workover permits – Submit plans for alternative method of water supply in the event that city water supply is unavailable due to conditions described in this Chapter.	Minor			26-Nov-2020	22-Mar-2021	KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. □
8		KEC stated that all lighting will be directed inwards and away from surrounding residences during the drilling process. The sound wall will also serve as a light block to screen light from the adjoining houses. The KEC SPCCP facility security section stated lighting is not installed at this facility. There was not a lighting plan provided detailing the lighting for the grounds, equipment, and any apparatus or structure including the type of light to be used, location, height, and degree of illumination up to 1,000 feet as demonstrated by a photometric study. □	Section 42-93. Lighting plan. □ Drilling, and workover permits – Submit lighting plan demonstrating how lighting will be provided in conformance with the Special Use Permit and City ordinance. The plan shall reflect the lighting for the entire site, including the grounds, equipment and any drilling apparatus or structure including the type of light to be used, location, height and degree of illumination up to 1,000 feet as demonstrated by a photometric study.	Minor			26-Nov-2020	31-Mar-2021	KEC stated there will be no permanent lighting installed on site. The lighting during the drilling process will be shielded and faced towards the ground to minimize the lighting impacts offsite. The existing tree coverage and buffer yards help shield the lighting as well. □

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
9		The contractor Precision Drilling SEMS does noise level surveys of the rig equipment periodically and the results are posted on sound layout diagrams for all the rig equipment. The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and nighttime hours. □	Section 42-95. Environmental management – noise. □ Drilling and workover permits – To establish noise levels different than what is required by this Chapter, submit a pre-drilling ambient noise level report with twenty-four (24) hour measurements in one (1) hour increments for seven (7) consecutive days in a week without a holiday. The plan shall document how mitigation measures will be utilized so that the noise level does not exceed permitted decibel levels in accordance with the Special Use Permit and the regulations of this article. The plan shall include details on how the equipment will be utilized in the drilling, completion, transportation, and production in order to meet the permitted noise levels. The plan shall take into consideration: the location, type, nature, and proximity of adjacent development; seasonal and prevailing weather patterns; vegetative cover on or adjacent to the site; and topography.	Minor			26-Nov-2020	31-Mar-2021	KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. After discussions with the COLC this was closed. □
10		There was not a hazard register for the site that contained the air emissions/pollutants and how they are monitored and managed. □	Section 42-96. Environmental management – air emissions. □ Drilling, and workover permits – Submit documentation demonstrating how the surrounding environment will be protected, monitored, and managed against adverse noxious odor impacts and emissions of regulated air pollutants per the Clean Air Act as administered by Texas Commission on Environmental Quality.	Minor			26-Nov-2020	31-Mar-2021	KEC provided an updated hazard register that included emissions/pollutants for vehicles and equipment. □
11		The SWPPP certification by Edge was not signed and dated. □	Section 42-100. Environmental management – storm water pollution prevention plan. □ Submit a storm water pollution prevention plan adhering to Environmental Protection Agency and Texas Commission on Environmental Quality standards for the testing of storm water samples and performing best management practices.	Minor			26-Nov-2020	22-Mar-2021	KEC provided the updated SWPPP signed and dated 12 December 2020. □
12		KEC did not provide information on how they plan to protect, monitor, and manage the surrounding environment against geologic impacts during the drilling process. □	Section 42-101. Environmental management – geologic impacts report. □ Submit report demonstrating how the surrounding environment will be protected, monitored, and managed against adverse geologic impacts during the drilling process.	Minor			26-Nov-2020	22-Mar-2021	The site has a 4-1/2 foot berm around the location to prevent and discharges from leaving the pad. The site will be monitored for geologic impacts during the drilling process. □

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
13		KEC did not provide the Gulf Coast Water Authority water board letter. <input type="checkbox"/>	Section 42-132. Water supply source. <input type="checkbox"/> The source of water supply for all drilling and workover operations shall be through the municipal water system. The connection size shall be based upon the availability of the water supply. The alternative water supply as approved with the permit shall be utilized in the following conditions: <input type="checkbox"/> (a) Water demand for the city is 90 percent of the available contracted surface water sources per day for a seven-day average; or <input type="checkbox"/> (b) City wells are producing at 40 percent of their capacity to augment an inadequate supply of contracted surface water over a seven-day average.	Minor			30-Nov-2020	31-Mar-2021	KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. A water line was tied to the public water supply during Tidwell #1 and will be used as the primary water source. <input type="checkbox"/>
14		The KEC documentation did not provide information on electrical lines or production power lines. <input type="checkbox"/>	Section 42-133. Location of electric lines. <input type="checkbox"/> All electric lines to site development and/or drilling facilities shall be located in a manner compatible to those already installed in the surrounding area or subdivision. Production power lines shall be placed underground.	Minor			30-Nov-2020	22-Mar-2021	KEC stated they will supply electricity for the site using generators on-site. All the power lines will be run underground and there will be no above ground power lines for this project. <input type="checkbox"/>

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
15	4	KEC documentation did not contain the distancing and setback information. <input type="checkbox"/>	<p>Section 42-134. Distancing and setbacks. <input type="checkbox"/></p> <p>The distancing and setback requirements noted in this subsection shall apply to all new permits for drilling and workovers shall be consistent with the approved Special Use Permit. These requirements shall not apply to any renewal permits for existing operations that have state and federal permits in good standing. <input type="checkbox"/></p> <p>(a) The proposed drill site shall not be within fifty (50) feet of any alley, street, road, highway, right-of-way or future right-of-way as shown on the Thoroughfare Plan of the City or equivalent thereof. (The Department of Public Works may permit temporary access in with consideration of the nature of the request and the number of hours and/or days that any street or alley may be blocked, encumbered or closed.) <input type="checkbox"/></p> <p>(b) The proposed well bore shall not be within six hundred (600) feet of any fresh water well. The measurement shall be in a direct line from the closest well bore to the fresh water well bore. The setback may be reduced to no less than two hundred (200) feet from the fresh water well if all surface property owners within a radius of two hundred (200) to six hundred (600) feet from the fresh water well signed a notarized affidavit consenting to the encroachment when the Special Use Permit was granted.</p>	Major	Tidwell #2 Company Rep		30-Nov-2020		The nearest residential home is located approximately 490 ft to the north of the well location. KEC are requested for the site to be grandfathered. <input type="checkbox"/>

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
17		The KEC SPCCP facility security section stated fencing will be installed around the facility perimeter to prevent unauthorized access to the facility. The KEC documentation did not provide any information on gates or know box locks.□	<p>Section 42-136. Screening and fences □ Screening and fences shall be installed on the site in accordance with approved plans and the Special Use Permit prior to issuance of the permit. □</p> <p>(a) The perimeter of the location shall be secured with a commercial quality fence with a minimum height of six (6) feet, regardless of on-site supervision.□</p> <p>(b) Any secured entrance gate shall contain a Knox-Box keybox or pad lock or equivalent. □</p> <p>(c) All fences shall be equipped with at least one (1) gate. The gate shall meet the following specifications: □</p> <p>(1) All gates shall be equipped with a 911 override control switch. Gate specifications must be submitted to the Fire Marshal's Office and approved prior to installation. □</p> <p>(2) Each gate shall be not less than twelve (12) feet wide and be composed of two (2) gates, each of which is not less than six (6) feet wide, or one (1) sliding gate not less than twelve (12) feet wide. If two (2) gates are used, gates shall latch and lock in the center of the span. □</p> <p>(3) The gates shall be provided with a combination catch and locking attachment device for a padlock, and shall be kept locked except when being used for access to the site. □</p>	Minor			30-Nov-2020	22-Mar-2021	KEC stated all fencing was installed as part of Tidwell #1 and all the existing fire marshal approved Knox locks are still installed. □

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
18		The documentation does not provide information for a noise study/report at the required setbacks or 600' to measure decibels during daytime and nighttime hours. <input type="checkbox"/>	<p>Section 42.138. Noise. <input type="checkbox"/></p> <p>(a) The usage of a muffler cutout, bypass or straight exhaust on any motor machinery is prohibited. <input type="checkbox"/></p> <p>(b) Permitted sound levels <input type="checkbox"/></p> <p>(1) Drilling, workover, backflow, and fracking operations – When measured at the required setbacks, the decibel levels shall not exceed the greater of seventy (70) decibels during daytime and nighttime hours. If utilizing a noise study to establish an ambient noise level, then the decibel level shall not be five (5) decibels above the established ambient noise level during the daytime hours and three (3) decibels above the established ambient noise level during the nighttime hours. <input type="checkbox"/></p> <p>(2) The exterior noise level generated by the drilling, re-drilling or other related operations located within six hundred (600) feet of a protected use or within 600 feet of any off-site pool, building or structure for the support, shelter, enclosure, or partial enclosure of movable property of any kind shall be continuously monitored to ensure compliance. The cost of such monitoring shall be borne by the Operator or Production Representative. <input type="checkbox"/></p> <p>(c) Acoustical blankets, sound walls, mufflers or other alternative methods may be used to ensure compliance. All</p>	Minor			30-Nov-2020	22-Mar-2021	KEC stated the operator will take sound readings at the subdivision line on the north property line twice daily. KEC is not requesting approval for noise levels in excess of those allowed by the Drilling Ordinance. <input type="checkbox"/>
19	5	<p>Section 42-139. Illicit Discharges. <input type="checkbox"/></p> <p>(b) KEC did not provide documentation on whether they will have a flare. <input type="checkbox"/></p> <p>(e) The letter of credit was not provided by KEC. <input type="checkbox"/></p>	<p>Section 42.139. Illicit discharges. <input type="checkbox"/></p> <p>(b) No person shall allow, cause or permit gases to be vented into the atmosphere or to be burned by open flame. <input type="checkbox"/></p> <p>(e) Operator expressly consents by applying for a permit to allow a draw down of any bond or letter of credit to cover any clean up expenses. In the event that the bond or letter of credit is exhausted, Operator agrees to immediately replenish the amount. City shall have the right to contact the Railroad Commission in order to facilitate the removal of all waste materials from the property affected by such spill, leak or</p>	Major	Tidwell #2 Company Rep		30-Nov-2020		KEC provided the documentation for the gas buster and the flare. KEC stated the letter of credit will be provided once the permit is approved. <input type="checkbox"/>

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
20	6	<p>(c) The KEC documentation did not provide the information for the fire-fighting apparatus, the equipment's automated shut down valve, and the wellhead automated emergency shut off valve to the well production sale line.□</p> <p>(d) KEC should verify there are no vehicles or items of machinery parked/stored that can be an obstruction with fire-fighting emergencies.□</p> <p>(e) Electric motors were not covered in the documentation provided.□</p>	<p>Section 42.142. Fire prevention. □</p> <p>(c) Fire prevention; sources of ignition. Firefighting apparatus and supplies as approved by the Fire Department and required by any applicable federal, state, or local law shall be provided by the Operator, at the Operator's cost, and shall be maintained on the site at all times during operations. The Operator shall be responsible for the maintenance and upkeep of such equipment. All equipment, other than wellheads, shall be equipped with an automated valve that closes or shuts down the equipment in the event of an abnormal change in operating pressure. All well heads shall contain an automated emergency shut off valve to the well production sale line. □</p> <p>(d) Equipment and vehicles. No vehicle or item of machinery shall be parked or stored on any street, right-of-way or in any driveway, alley or upon any site which constitutes a fire hazard or an obstruction to or interference with fighting or controlling fires except that equipment which is necessary on the site. The Fire Marshal shall be the entity that determines whether equipment on the site shall constitute a fire hazard. □</p> <p>(e) Electric motors. Only electric prime movers or motors shall be permitted for the purpose of pumping wells. No electric power</p>	Major	Tidwell #2□ Company Rep		30-Nov-2020	22-Mar-2021	<p>(c) KEC stated they will maintain 2 A-150-SP ABC dry chemical wheeled stored pressure fire extinguishers and also there will be ABC and CO2 portable fire extinguishers on location. KEC provided the fire extinguisher documentation. The fire extinguisher rig location drawing was provided. All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line.□</p> <p>(d) KEC stated there is ample parking on site and vehicles and equipment will be placed not to interfere with ingress and egress for fire-fighting equipment. □</p> <p>(e) KEC stated that only electric prime motors will be used for the purpose of pumping wells. All electrical installations and equipment will conform to the City ordinances and the appropriate national codes.□</p>

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
21	Z	The well control equipment and the components of the pressure control system were not covered in the documentation provided.□	Section 42-143. Well control equipment and procedures. □ (a) The pressure control equipment and all components in the pressure control system shall all be sourced from a recognized American Petroleum Institute licensed OEM and of origin from the United States or Western Europe. □ □ (b) All pressure control equipment and all components of the pressure control system shall be certified at a minimum of once per year. No equipment shall be used on site with a certificate expiration date that will expire during its expected time of use on the well. □ □ (c) A copy of the data books for each pressure control component shall be maintained and available on the drilling location for review. □ (d) Prior to setting equipment and in areas where liquids or dry materials are likely to be spilled, install rollout impermeable barriers. The tarps shall be rolled up and cleaned at a suitable facility when equipment is rigged down. □ (e) The Operator shall conduct function testing and pressure testing of all components of the pressure control system. Alternately, function and pressure testing	Major	Tidwell #2□ Company Rep		30-Nov-2020		KEC stated the well control equipment will follow the RRCT guidelines. KEC provided example certification for the 13-5/8" double U ram body, 13-5/8" single BOP ram body, and 13-5/8" annular.□
22		The KEC documentation provided did not include whether the mud pits and flow lines were covered.□	Section 42-145. Mud pits and flow lines. □ All mud pits and flow lines shall be fully enclosed (covered top).	Minor			30-Nov-2020	24-Mar-2021	KEC stated the mud system is a closed loop system and there are no open pits. □
23		KEC should verify all chemical containers are labeled on two sides with chemical hazard labels per the COLC drilling ordinance.□	Section 42-146. Storage vessel labels. □ All storage vessels containing chemicals shall be labeled on two (2) sides with National Fire Protection Association (NFPA) chemical hazard labels.	Minor			30-Nov-2020	24-Mar-2021	KEC provided the updated SPCCP that included section 17.3 Storage Vessel Labels. This section stated all storage vessels containing chemicals will be labelled on two sides with NFPA chemical hazard labels. □

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
24		<p>(b) The size of the access road was not provided. <input type="checkbox"/></p> <p>(d) The hours of operation of vehicles was not provided in the documentation package. <input type="checkbox"/></p> <p>(e) Emergency access and turnabouts were not provided in the documentation package. <input type="checkbox"/></p>	<p>Section 42-148. Access management. <input type="checkbox"/></p> <p>(b) Drilling and workover permits – Prior to the commencement of operations, all roads used for access to the site shall be at least twenty-four (24) feet wide, have an overhead clearance of fourteen (14) feet and shall be surfaced with concrete, asphalt, gravel or caliche. In particular cases, these requirements governing surfacing of private roads may be altered at the discretion of the City after consideration of all circumstances including, but not limited to: distances from streets and highways; distances from adjoining and nearby property owners whose surface rights are not leased by the operation; the purpose for which the property of such owners is or may be used; topographical features; nature of the soil; and exposure to wind. <input type="checkbox"/></p> <p>(d) The Department of Public Works may restrict the hours of operation of vehicles based upon the location of the property and adjoining land uses. <input type="checkbox"/></p> <p>(e) Emergency access and turnabouts shall be included as deemed appropriate by the Fire Marshal. The access route should be of appropriate width to accommodate emergency response equipment. Street turnabouts should be of adequate turning radius to facilitate forward or reverse hose lays and/or exit of any emergency response</p>	Minor			30-Nov-2020	24-Mar-2021	KEC stated there are no new roads and the existing road and turnabout approved with the Tidwell #1 well will be used. The service trucks will be scheduled during daily hours as much as possible. <input type="checkbox"/>
25		<p>(a) The KEC documentation did not include if above ground tanks or a closed loop mud system would be used. <input type="checkbox"/></p> <p>(c) The KEC documentation did not include the offsite disposal frequency. <input type="checkbox"/></p>	<p>Section 42-150. Waste disposal. <input type="checkbox"/></p> <p>(a) Drilling mud, cuttings, liquid hydrocarbons, salt water and all other field waste derived or resulting from or connected with the drilling, workover or deepening of any well shall be discharged into above-ground tanks or a closed loop mud system. All disposals must be in accordance with the rules of the Railroad Commission and any other appropriate local, state or federal agency. <input type="checkbox"/></p> <p>(c) Unless otherwise directed by the Railroad Commission, waste materials shall be removed from the site and transported to an off-site disposal facility not less often</p>	Minor			30-Nov-2020	24-Mar-2021	KEC stated a closed loop mud system will be used. KEC provided the updated SPCCP that included sections 14.5 Gas Venting and 14.6 Waste Management. Section 14.5 states the Tidwell production facility features a closed loop system. Section 14.6 states any materials classified as hazardous waste according to the EPA will be disposed in accordance with EPA standards and materials will be removed from the site not less than every 30 days. <input type="checkbox"/>

Non Conformance List



City of League City, Tidwell #2, Tidwell #2 Permit Application Review, Nov 2020

ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
26		The KEC documentation provided did not contain the hours of operation, plans for a guard on location, or daylight/nighttime operations information.□	Section 42-151. Hours of operation. □ (a) Site preparation, well servicing, truck deliveries and pick-up of equipment and materials, and other related work conducted on the drill site shall be limited to daytime hours. The restriction on work hours shall not apply in cases of fires, blowouts, explosions and any other emergencies or where the delivery of equipment is necessary to prevent the cessation of drilling. □ (b) The Operator shall have a guard on location during the drilling operation from dusk until dawn, regardless of other staffing. The guard shall walk the fence line perimeter a minimum of once per hour. □ (c) The Operator shall conduct on-site meetings to inform all personnel of nighttime operation noise control requirements. □ (d) Unless otherwise noted in the approved Special Use Permit, the following operations shall only be conducted during daytime hours: □ (1) All formation fracture stimulation operations. □ (2) Swabbing or bailing. □ (3) The operation of vehicles with audible back-up alarms. (These alarms may be replaced with approved non-auditory signaling systems, such as spotters or	Minor			30-Nov-2020	31-Mar-2021	The drilling operations will be conducted 24 hours a day and there will be a guard on duty 24 hours a day.□
27		There was no documentation provided for the personnel onsite. Qualifications and training records were not in the documentation provided.□	Section 42-152. Drilling foreman. □ (a) Drilling and workover permits – The Operator must keep a minimum of two personnel on site to provide 24-hour continuous coverage during the drilling or workover of a well until such time the well is completed, tested and considered ready for production. □ (b) Qualifications for these personnel, including certifications and training, are subject to review and approval in advance	Minor			30-Nov-2020		KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.□
28		There was no documentation provided for the personnel onsite. Qualifications and training records were not in the documentation provided.□	Section 42-153. Watchman. □ (a) Drilling and workover permits – The Operator must keep a watchman or security personnel on site for 24 hours during the drilling and/or workover of a well until such time the well is completed, tested and considered ready for production. □ (b) Drilling and workover permits – The perimeter of the site shall be patrolled every two (2) hours.	Minor			30-Nov-2020		KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.□

Non Conformance List

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ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
29		The training records for the individual working on the Tidwell #2 project should be provided before operations commence.□	Section 42-154. Crew training-drilling contractor. □ The drilling contractor must have an IADC accredited competency program for all the rig crew positions, as well as office based supervisory positions.	Minor			30-Nov-2020		KEC stated the qualifications and training records are based on the final rig selected and will be provided during the rig inspection. KEC provided the Precision Rig 750 training summary for a sample of training records that included the courses, personnel who completed the training, and the expiration dates for the training.□
30		The information for the sign to be displayed at the gate was not provided.□	Section 42-156. Signage. □ (a) A sign shall be immediately and prominently displayed at the gate on the fencing erected pursuant to this Article. Such sign shall be durable material, maintained in good condition and, unless otherwise required by the Railroad Commission, shall have a surface area of not less than two (2) square feet nor more than four (4) square feet and shall be lettered with the following:□ (1) Well name and number; □ (2) Name of Operator; □ (3) The emergency 911 number; and □ (4) Telephone numbers of two (2) persons responsible for the well who may be contacted in case of emergency. □ (b) A sign shall be posted at the entrance of the well site advising the public of all fracture stimulation operations at least 72	Minor			30-Nov-2020	24-Mar-2021	KEC provided the updated SPCCP that contained section 14.7 Signage. □
31	8	The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided.□	API Bulletin 75L Section A.1 Safety and Environmental Information□ Process, mechanical, and facilities design information may be retained for the life of the facility.	Major	Tidwell #2□ Company Rep		04-Dec-2020		The automatic shutdown information was provided. All the rig information, capabilities, and certification will be provided once the rig is selected.□
32		There was not a complete hazard register for the Tidwell #2 drilling and production facility that contained hazard identification and evaluation, considering human factors, and where unacceptable, reduction in the likelihood and/or minimization of safety or environmental incidents.□	API Bulletin 75L section A.2 Hazards Analysis□ The purpose of this analysis is to identify, evaluate, and, where unacceptable, reduce the likelihood and/or minimize the consequences of safety or environmental incidents including uncontrolled releases. Human factors may be considered in this analysis.	Minor			04-Dec-2020	24-Mar-2021	KEC provided the MSDS for the missing chemicals. The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood. □
36		There were no examples for Green Book to show how the system prompts the user when maintenance is due and what time intervals/category level equipment maintenance is performed.□	API Bulletin 75L section A.7 Assurance of Quality and Mechanical Integrity of Critical Equipment□ Contractors should have systems in place to address their own critical equipment.	Minor			04-Dec-2020		□

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ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
37	9	<p>The Gulf Coast Water Authority Agreement and the hazard register for this specific site were not provided. <input type="checkbox"/></p> <p>The MOC initiation and project forms, the operating personnel training records, safety commissioning, mechanical commissioning, and electrical commissioning documents were not provided for review. <input type="checkbox"/></p> <p>The rig information, capabilities, and certifications were not included in the documentation provided (rig size/load rating, well control equipment, critical drilling equipment, mud system, electrical area classifications, fire protections systems, evacuation procedures). The production facility information for the monitoring equipment, automated shut down equipment, and the wellhead automated emergency shut off valve to the well production sale line was not provided. <input type="checkbox"/></p>	<p>API Bulletin 75L section A.8 Pre-Startup Review <input type="checkbox"/></p> <p>The management system may require: <input type="checkbox"/></p> <p>a) construction and equipment are in accordance with specifications; <input type="checkbox"/></p> <p>b) safety, environmental, operating, maintenance, and emergency procedures are in place and are adequate; <input type="checkbox"/></p> <p>c) safety and environmental information is correct; <input type="checkbox"/></p> <p>d) hazards analysis recommendations have been considered/addressed, and implemented as appropriate; <input type="checkbox"/></p> <p>e) training of operating personnel has been completed; <input type="checkbox"/></p> <p>f) systems to address procedures to manage changes and other elements of this publication are in place; <input type="checkbox"/></p> <p>g) safe work practices are in place. <input type="checkbox"/></p>	Major	Tidwell #2 <input type="checkbox"/> Company Rep		04-Dec-2020	24-Mar-2021	<p>KEC stated they will use Texas Quality Mats, LLC to provide the secondary water source. The Texas Quality Mats letter stated they will supply 2 x 500 BBS frac tanks and keep them full of water during drilling operations. <input type="checkbox"/></p> <p>The hazard register was included that contained economical applications ratings to minimize, monitor, and control. The hazard register also included descriptions for controls to reduce the likelihood. <input type="checkbox"/></p> <p>All equipment is equipped with automatic shutdown systems that will shut down the system in the event of an abnormal change in operating pressure. All wellheads contain an automated emergency shut off valve to the well production sale line. <input type="checkbox"/></p> <p>KEC provided example COCs for the BOP stack. All the rig information, capabilities, and certification will be provided once the rig is selected. <input type="checkbox"/></p> <p>KEC provided the pre-spud inspection documentation that contained various areas around the rig. <input type="checkbox"/></p> <p>KEC provided the initiation and project MOC <input type="checkbox"/></p>
39		<p>The PDC documentation did not include the frequency of audits. <input type="checkbox"/></p> <p>There were no example audits of the KEC SEMS/facilities or PDC SEMS/facilities provided for review. <input type="checkbox"/></p>	<p>API Bulletin 75L section A.11 Audit of Safety and Environmental Management System Elements <input type="checkbox"/></p> <p>The operators (and contractors with SEMS) may establish and maintain an audit system and procedures for the periodic audit of the safety and environmental management system in order to determine if the system elements have been properly implemented and maintained and to provide information on the results of the audit to management. <input type="checkbox"/></p>	Minor			04-Dec-2020	24-Mar-2021	<p>KEC stated that HSE assessments are performed annually. KEC provided an example rig 750 HSE Assessment 12-7-20. <input type="checkbox"/></p>
40		<p>The PDC documentation and records storage location was not provided. <input type="checkbox"/></p> <p>This SEMS element requires all of the documentation and records gathered from each of the SEMS elements. The additional missing information should be provided for the remaining SEMS elements. <input type="checkbox"/></p>	<p>API Bulletin 75L section A.12 Records and Documentation <input type="checkbox"/></p> <p>A documentation system for the safety and environmental management system may be established to ensure that records and documents are maintained in a manner sufficient to implement the management system. <input type="checkbox"/></p>	Minor			04-Dec-2020	24-Mar-2021	<p>KEC stated that the PDC policy, records retention, documentation, and records are stored in Microsoft SharePoint sites and within SAP business management system. KEC provided the PDC policy records retention document and screen shots of the SharePoint site that included the retention schedule functions. <input type="checkbox"/></p>

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ID	C.A.R	Non Conformance Description	Standard	Status	Responsibility	Photograph	Opened	Closed	Comments
41		In the introduction section for management approval, professional engineer certification, and substantial harm criteria checklist, these sections were not signed and dated. □	Section 42-97. Environmental management – spill prevention, control and countermeasure plan. Submit a spill prevention, control and countermeasure plan utilizing requirements established by the Environmental Protection Agency, Texas Commission on Environmental Quality, Department of Transportation, and the Texas Railroad Commission (or their	Minor			10-Dec-2020	22-Mar-2021	KEC provided the updated SPCCP with the signed and dated management approval, professional engineer certification, and substantial harm criteria checklist. □
Non-conformances raised as of 31-Mar-2021									
Total	Open	Closed							
0	0	0							
9	4	5							
25	4	21							
34	8	26							