

# Phase 3 Handling Protocol

## Aliso Canyon RCA: SS-25 Phase 3 Wellsite Equipment Handling Protocol for Houston, TX Warehouse

**Prepared For:**

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**Purpose:**

Protocol for storage and handling the SS-25 tubulars and wellhead at the warehouse

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**Table of Contents**

1 Introduction ..... 4

    1.1 Background ..... 4

2 Warehouse Location and Description ..... 6

    2.1 Location ..... 6

    2.2 Warehouse Features ..... 8

3 Security system ..... 10

    3.1 Alarm Code ..... 11

4 Access control ..... 12

    4.1 Access Card Request ..... 12

    4.2 Access Log ..... 14

5 Video Surveillance ..... 15

    5.1 Remote Viewing ..... 16

6 Handling and Lifting ..... 17

7 Shipping and Receiving ..... 18

8 Tubing Handling Procedures ..... 19

    8.1 Tubing Unloading ..... 19

9 7” Casing Handling Procedures ..... 21

10 Wellhead Handling Procedures ..... 22

Appendix – A: Chain of Custody ..... 23

    10.1 Detailed Examples on Numbering When Sectioning ..... 23

    10.2 Sectioning Traceability – Casing COC Structure for Sections ..... 25

Appendix – B: Evidence Data Sheet ..... 29

Appendix – C: Tubing Bolster Matrices ..... 33

Appendix – D: Form Listing ..... 35

## 1 Introduction

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This document describes the warehouse specific procedures for handling the SS-25 wellsite equipment as part of Phase 3 of the Root Cause Analysis (RCA) work. The wellsite equipment is comprised of, but not limited to the wellhead, tubing and casing. The objective of this document is to ensure preservation and traceability of the equipment during Phase 4 (NDE and Laboratory Metallurgical Examination) of the RCA. Procedures are presented detailing the following:

- Security system,
- Access control,
- Video surveillance,
- Shipping and receiving,
- Handling and lifting,
- Placement and storage.

### 1.1 Background

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Blade has provisional authority as granted by the CPUC to conduct a Root Cause Analysis on well SS-25. During the work, the Blade Team and those parties under Blade's direction are responsible for directing the work of contractors retained to perform the extraction of Well SS-25 wellhead, tubing and casing - and the preservation and protection of associated evidence. The person in charge (PIC) of the extraction activities and the protection of evidence on-site is the Blade Team Lead, Ravi Krishnamurthy. Should clarification be required or disagreements arise, CPUC, DOGGR and Blade shall meet and attempt to agree on steps going forward. If the entities are unable to agree on any activities described for tubulars handling for SS-25, Blade will document such differences and the designated regulatory agency will act as the arbiter, and make the final decision.

All well and wellbore equipment, including tubing and casing, shall be considered potential evidence. Therefore, every effort shall be taken to improve the chance for recovery of the tubing and casing and to avoid inadvertent damage to equipment and/or evidence.

Each joint has been numbered as it is extracted to identify its location in the well, and each joint was visually inspected after it was laid out to identify any damage. The damaged sections have been preserved for later inspection. Each joint has been cleaned and a corrosion inhibitor has been applied. The extracted tubulars will then be loaded onto trucks for transport to a secure, climate controlled warehouse in preparation for the metallurgical examination and full length phased array pipe body ultra-sonic pipe inspection. Likewise, each wellhead section has been numbered, visually inspected, cleaned, a corrosion inhibitor applied, and the section crated for storage and transport. The logistics associated with transporting the tubulars are addressed in a separate protocol document.

The Blade Team and the parties under Blade's direction are responsible for handling and protecting evidence during examination, cleaning and preparation for storage, and transport. The person in charge (PIC) of these activities is the Blade Team Lead, Ravi Krishnamurthy.

Blade reserves the right to deviate from these procedures as unique situations arise in the field. Furthermore, the Blade team shall document any significant deviation from these procedures that may affect the ability to collect data and evidence for RCA purposes, and will notify the CPUC, and DOGGR. Blade shall obtain approvals from the CPUC and DOGGR in advance of

### **AC-RCA SS-25 Phase 3 Protocol – Warehouse Protocol**

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subsequent activity, however, should agreement not be reached, Blade will document such differences and the designated regulatory agency will act as the arbiter, and make the final decision.

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## 2 Warehouse Location and Description

### 2.1 Location

The warehouse is located on Clara Road South of Tanner Rd in Northwest Houston. The physical address is:

5504 Clara Rd  
Houston, TX, 77041

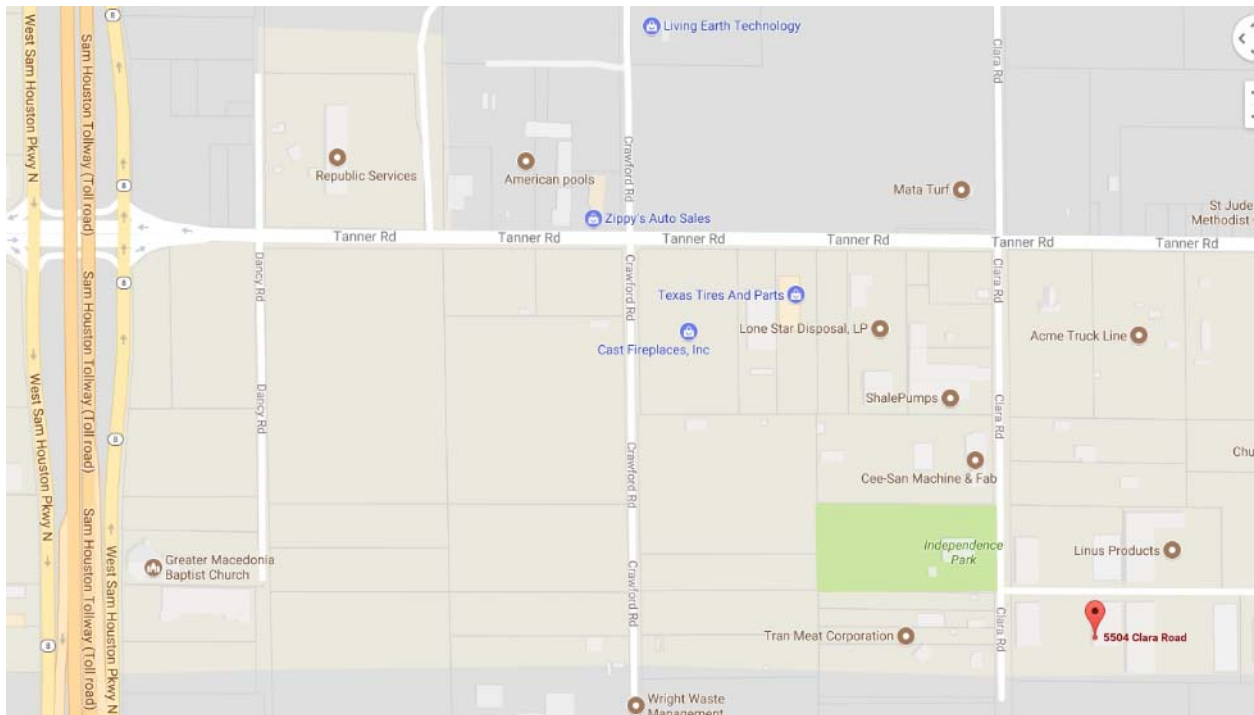
Figure 1 shows the ground level view of the warehouse. Figure 2, Figure 3, and Figure 4 show the location of the warehouse.



**Figure 1—Ground Level View of 5504 Clara Rd**



**Figure 2—Aerial Image of 5504 Clara Rd**



**Figure 3— Adjacent Roads to 5504 Clara Rd**

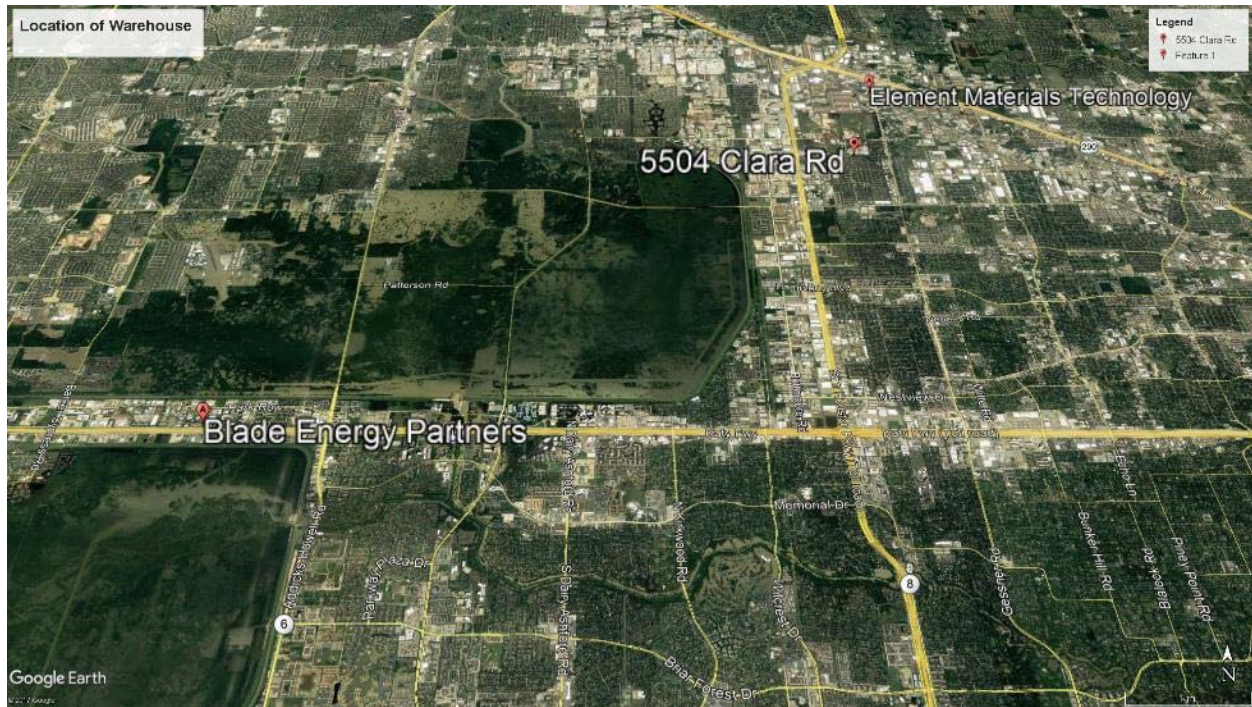


Figure 4— Location of 5504 Clara Road in Northwest Houston

## 2.2 Warehouse Features

The warehouse features:

- 15,000 ft<sup>2</sup> space: 12,900 ft<sup>2</sup> warehouse and 2,100 ft<sup>2</sup> office, see Figure 5 for layout and Figure 6 is a photograph of the inside of the warehouse.
- Length of 150 ft, width of 100 ft and 24 ft eave height,
- Heating, ventilation and air conditioning in warehouse and office,
- Two 5 ton overhead cranes,
- Two grade level overhead doors,
- Two offices with desks,
- One conference room with conference table and chairs,
- Two break rooms,
- One lobby area with desk,
- High speed internet with wireless and wired connections.
- Security, access control and surveillance system
- Multifunction printer, scanner, fax machine.



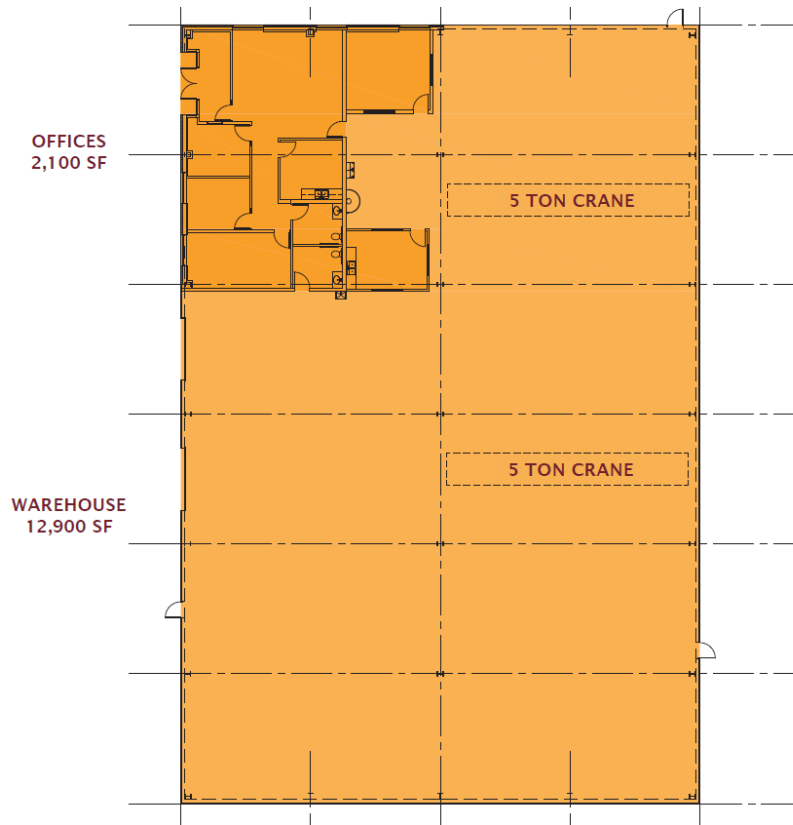


Figure 5— Warehouse Layout



Figure 6— Warehouse Indoor View

### 3 Security system

The security system was provided by OMNI Fire and Security System. Figure 7 shows the appearance and location of the two (2) Honeywell control panels. The Primary Panel is accessible through the front office doors. The Secondary Panel should not be used unless the Primary Panel is inoperable.

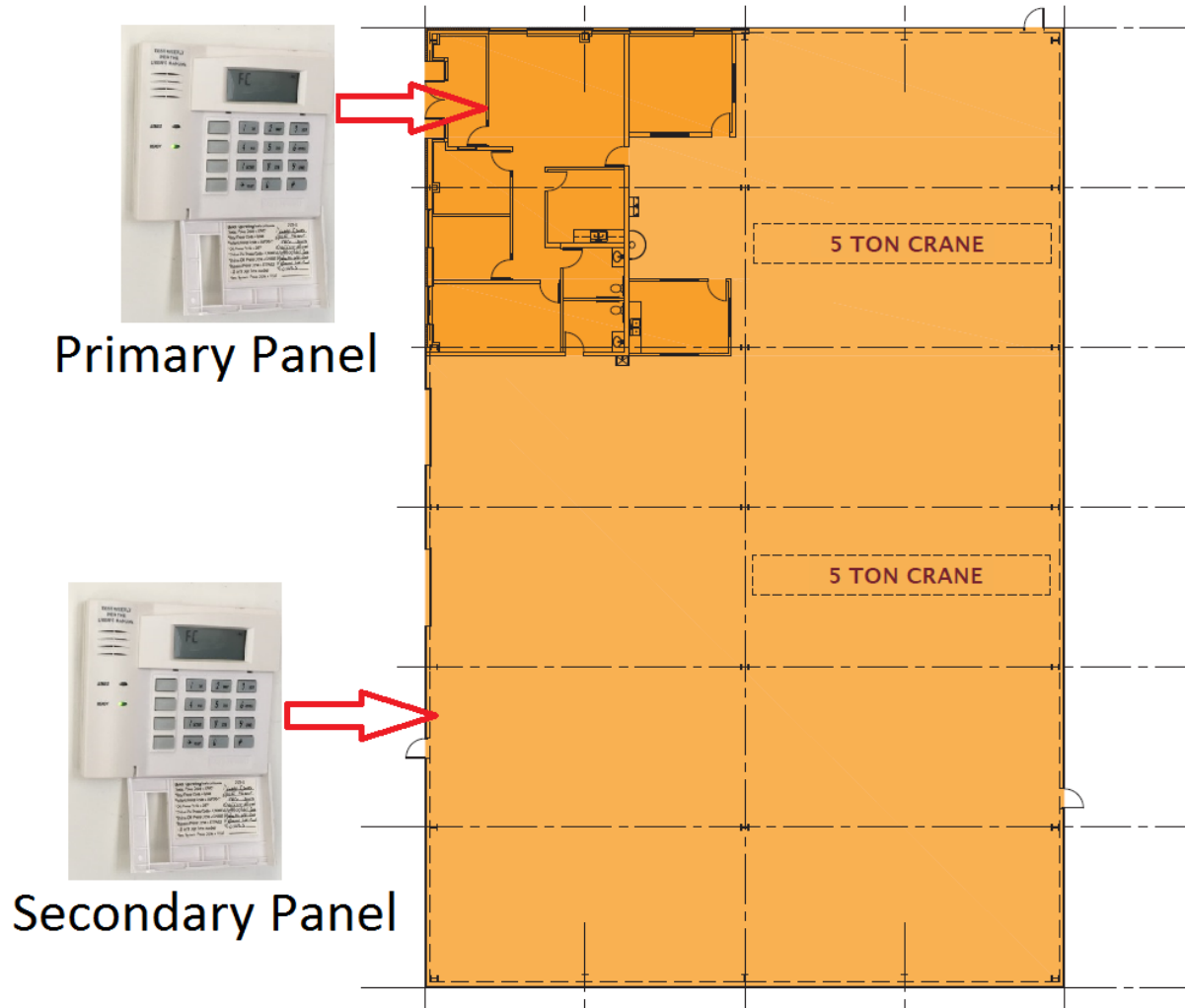


Figure 7— Location of OMNI Security Panels

All exterior opening windows and doors have magnetic contacts. There are seven (7) zones configured as shown in Figure 8 which are linked to the magnetic contacts. If a zone has open doors or windows, then that zone will be indicated on the Primary and Secondary Panels.

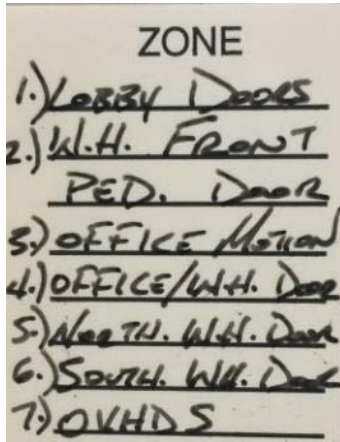


Figure 8— Zone Description for OMNI Security System

### 3.1 Alarm Code

For authorized personnel, the code for arming and disarming the security system is available to Blade personnel only. Arming and disarming the alarm will be conducted by Blade personnel only.

## 4 Access control

AECOM has installed an access control panel which controls three (3) doors. Their location is shown in Figure 9. The door marked “1” is the door from the front entrance to the office area. The door marked “2” is the door that leads from office to the warehouse. The door marked “3” leads to the access control hardware. Each access control door has an electric door strike in the frame. A manual key may be used to open the access controlled doors but is logged as a forced opening.

There are card readers on only one side of the door to activate the electric door strike and enter secure areas. A motion sensing device is installed that allows for free exit from secure areas.

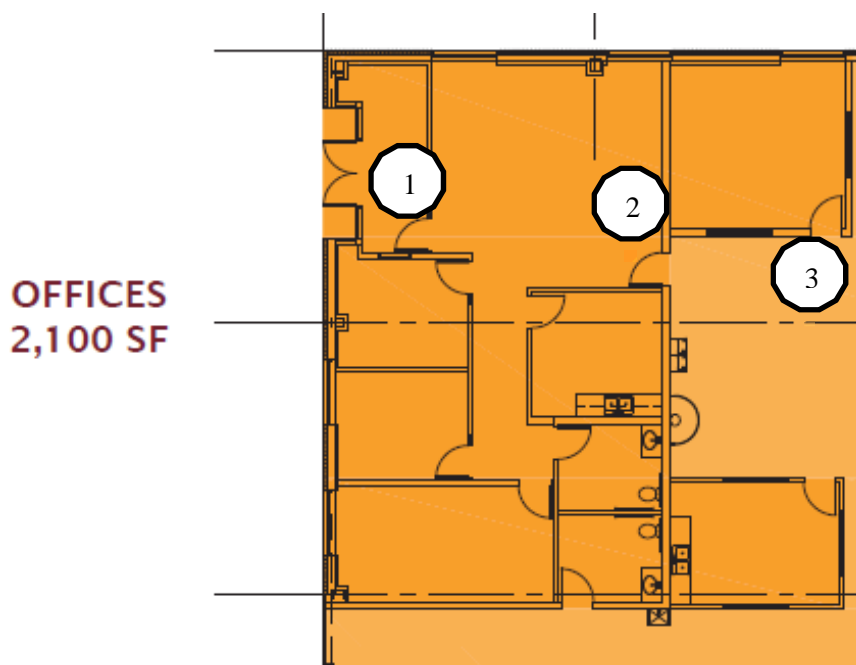


Figure 9— Location of Access Controlled Doors, 3 total

### 4.1 Access Card Request

Access cards may be requested by completing and submitting the form shown in Figure 10. Requests will be reviewed and approved by Ravi Krishnamurthy.

**ACCESS CARD REGISTRATION FORM**  
5504 CLARA RD, HOUSTON, TX 77041

NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

PHONE #: \_\_\_\_\_

VEHICLE INFORMATION: YEAR: \_\_\_\_\_ COLOR: \_\_\_\_\_

MAKE: \_\_\_\_\_ MODEL: \_\_\_\_\_

VEHICLE LICENSE PLATE: \_\_\_\_\_

\_\_\_\_\_  
Card Holder Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Ravi Krishnamurthy

\_\_\_\_\_  
Date

**FOR OFFICE USE ONLY:**

ACCESS CARD NO: \_\_\_\_\_

GRANTED ACCESS TIMES:

- ( ) All Doors, 24/7 Access
- ( ) Entry and Warehouse Doors, 24/7 Access
- ( ) Entry and Warehouse Doors, 7am-6pm M-F

DATE ISSUED: \_\_\_\_\_ INITIALS: \_\_\_\_\_

**Figure 10— Access Control Application Form**

## 4.2 Access Log

An automated log will be generated each time the access controlled doors are opened and closed as shown in Figure 11. The date, time, user name, door name and activity (e.g., opened, closed) is logged.

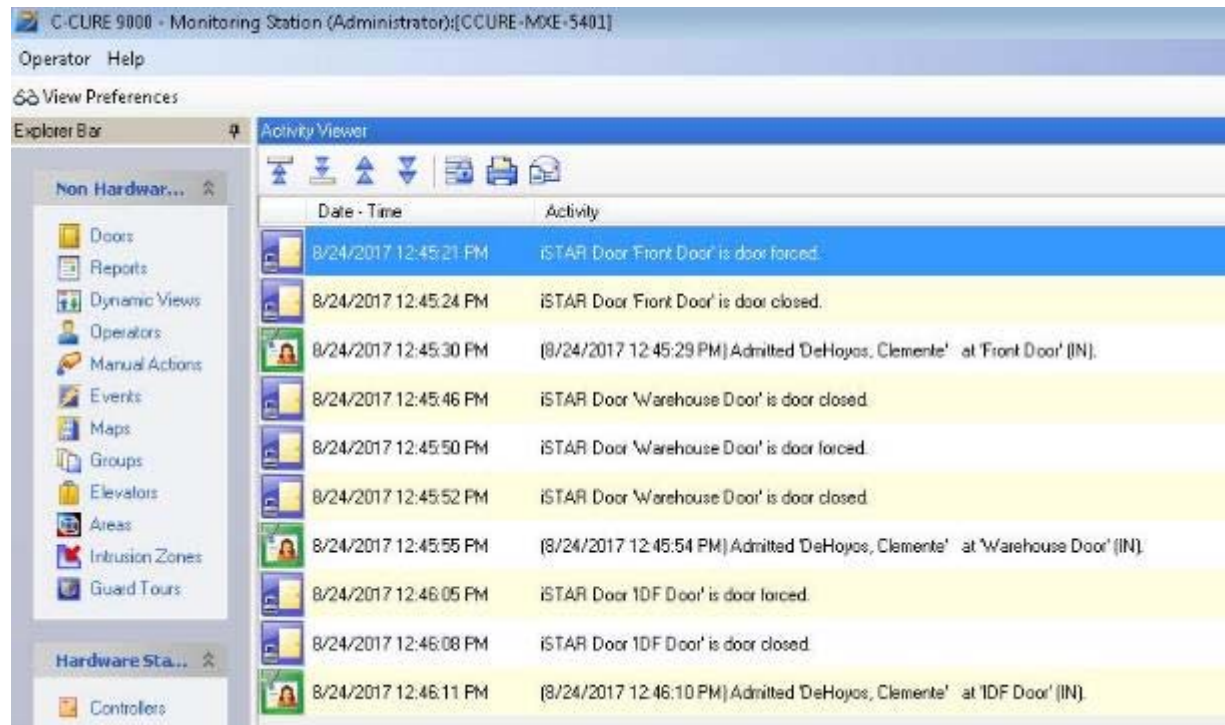


Figure 11— Access Control Activity Viewer

## 5 Video Surveillance

AECOM has installed seven (7) cameras that in locations shown in Figure 12. The locations are:

1. Front Entry
2. Exterior, facing warehouse entrance
3. Exterior, facing car parking lot
4. Warehouse, Northeast corner
5. Warehouse, Southeast corner
6. Warehouse, Southwest corner
7. Warehouse, East wall middle

The video surveillance data acquisition parameters at the warehouse are the same as at the SS-25 wellsite; camera feeds are recording 24hrs, all days, and no overwriting of data.

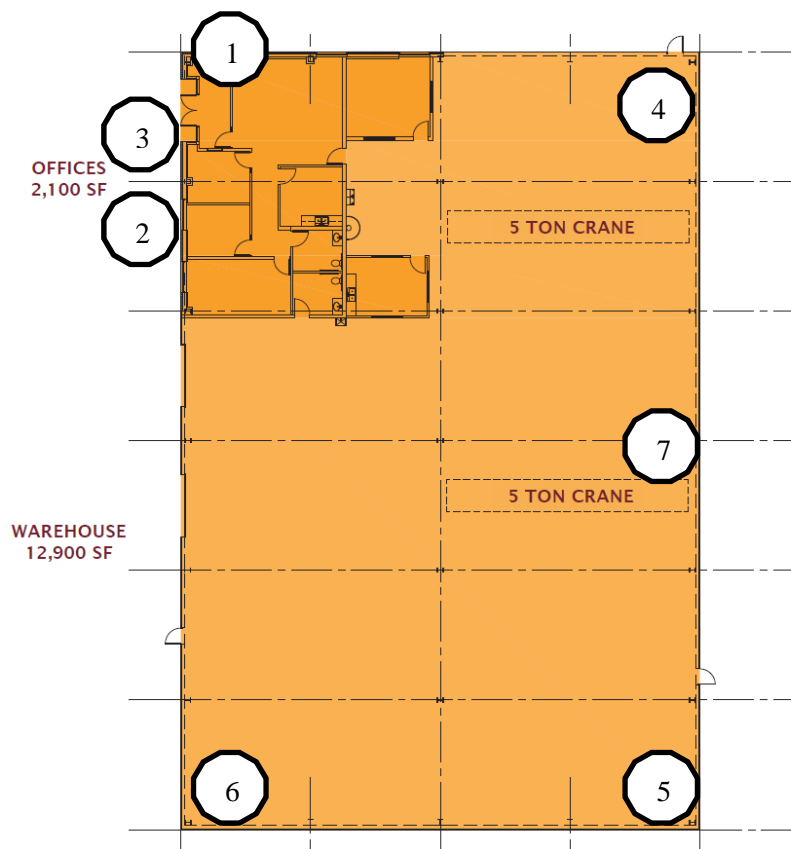


Figure 12— Camera Surveillance Locations, 7 locations, (North is up)

### 5.1 Remote Viewing

Approximately 10 laptops have been configured with a Video Client Viewer that remotely connects to the warehouse servers to live-stream the camera footage and/or peruse historical data. A screenshot from the Video Client Viewer is shown in Figure 13.

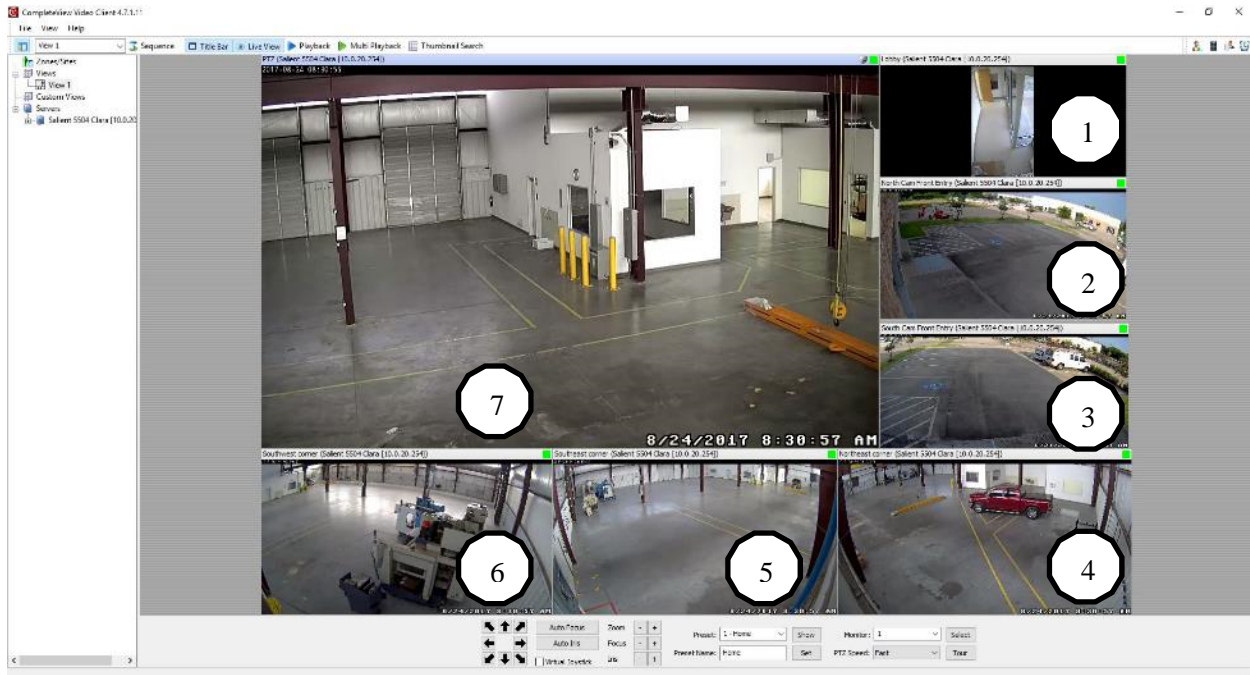


Figure 13— Video Client Viewer, 7 cameras (see previous figure for camera locations)



## 6 Handling and Lifting

Two (2) 5-ton overhead cranes, shown Figure 14 below, will be used for unloading the wellsite equipment from the trucks and for intra-warehouse moves. The overhead crane shall be operated by qualified crane operators. A spreader beam and nylon slings shall be used for all tubulars greater than 25 ft. Tag lines shall be used for all bolsters and individual joints.



Figure 14— Overhead Cranes

## 7 Shipping and Receiving

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Only wellsite equipment and related handling equipment shall be stored at the warehouse. All wellsite equipment entering or leaving the warehouse shall follow the procedures specified in Appendix – A: Chain of Custody.

## 8 Tubing Handling Procedures

The tubing from SS-25 will be transported to the warehouse per latest version of the Tubing Logistics Work Plan.

### 8.1 Tubing Unloading

1. Blade Energy Partners shall be contacted to receive the tubing and offload the trucks.
  - a. Contact Details: Ravi Krishnamurthy, Mobile Tel 832.309.6087
2. The tubing has been bolstered per Appendix – C: Tubing Bolster Matrices.
3. The bolsters have been housed within a protective wood enclosure as show below in Figure 15. There are tie-down straps holding the wooden enclosures in place. The locking mechanism for these straps will be sealed with numbered Blade zip ties, which will be used to identify tampering during transportation. The numbers of the Blade zip ties shall be logged on a COC form. Additionally, all wood enclosures and crates will have tamper-evident tape.



**Figure 15— Tubing Bolsters within Wood Enclosure**

4. At the warehouse, the wood enclosure shall be inspected for damage and tampering. The COC forms for the Blade zip ties shall be reviewed and compared with as-received

numbers. The tamper-evident tape shall be inspected. If the wood enclosures have been damaged or tampered with, record per Appendix – B: Evidence Data Sheet.

5. The wood enclosure shall be dismantled prior to offloading the bolsters.
6. The trucks will back into a warehouse and an overhead crane will offload the bolsters. Crane operators and slings for offloading will be provided by Blade.
7. The tubing bolsters should be single stacked in neat rows on the warehouse floor with at least 3 ft between bolsters. Approximately 1,000 ft<sup>2</sup> (30 ft x 33 ft) will be required.
8. The total number of tubing joints within the bolsters shall be counted and crosschecked with shipping documentation. Tubing will be visually examined for any sign of damage that could have been caused due to transportation. Such damage will be recorded. The transportation methodology used here should cause no damage.
9. The tubing will be relinquished by the trucking company and will be received by Blade. The COC document will be updated to show the transfer of possession from the trucking company to Blade.
10. The crate containing three (3) joints of tubing should be opened but the moisture barrier bag should not be disturbed unless there are indications of damage.

## **9 7” Casing Handling Procedures**

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The procedures for receiving and handling the 7” casing will be similar to that of the tubing. The exact manner in which the 7” casing will be transported has yet to be determined at this time, but will be promulgated prior to transportation.

There may be sectioning activities performed at the warehouse. The information contained in Appendix – A: Chain of Custody and Appendix – B: Evidence Data Sheet elaborate on how each section should be recorded.

## 10 Wellhead Handling Procedures

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All of the SS-25 tree and part of the wellhead has been cleaned, inspected, corrosion inhibited, vacuum packed and crated. The handling procedures are as follows:

1. The crates will be inspected for damage and tampering.
2. If the crates are damaged or the tamper-evident tape indicates a break of seal, the crates shall be opened and the vacuum packaging should be inspected. If there is no damage to the vacuum packaging, leave as-is. If the vacuum packaging is damaged, unpack the item and inspect the items per Appendix – B: Evidence Data Sheet.
3. Inventory the number of crates and complete the COC forms as per Appendix – A: Chain of Custody

## Appendix – A: Chain of Custody

The Chain of Custody (COC) form documents the possession and transfer/movement history of the tubulars, sections and samples that are extracted or removed. Each COC form will have a COC Form Number that has been tied to individual Evidence Data Sheets through the Joint Sequence Number or Section Number.

- **Wellhead/Tree COC**

Each wellhead/tree section will have its own individual COC form. The Section Number has been entered on the COC form, and the COC Form Number has been entered on the Evidence Data Sheet.

The wellhead COC Form Numbers has been as follows:

- Wellhead section: AC-RCA-25-W001, AC-RCA-25-W002, AC-RCA-25-W003....

- **2-7/8" Tubing COC**

Every 2 7/8" joint will have its own COC form.

The Joint Sequence Number for each joint covered under a particular COC form has been entered on the COC form, and the COC Form Number will also be entered on the Evidence Data Sheet for each joint covered under the COC form.

The tubing COC Form numbers has been as follows:

- 2 7/8" tubing joints: AC-RCA-25-T001, AC-RCA-25-T002, AC-RCA-25-T003...

- **7.0" Casing COC**

Every 7.0" casing joint will have its own individual COC form. The Joint Sequence Number will entered on the COC form, and the COC Form Number will entered on the Evidence Data Sheet.

The casing COC Form numbers has been as follows:

- 7" casing joints: AC-RCA-25-C001, AC-RCA-25-C002, AC-RCA-25-C003...

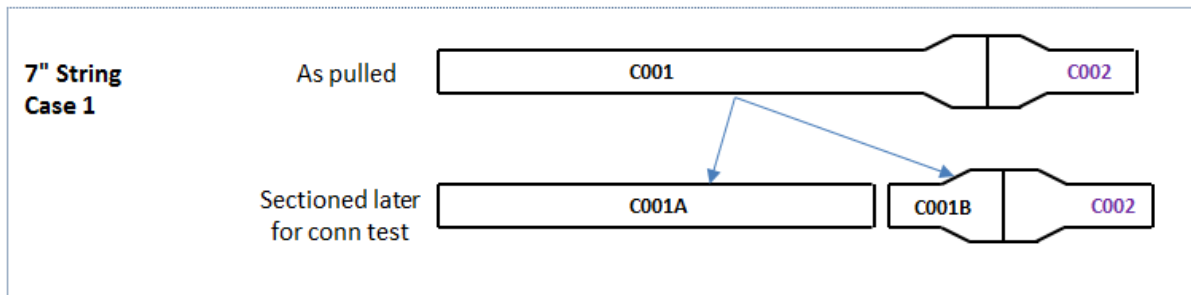
Once completed, a scanned copy of the COC form has been made. The original tubing and casing COC forms will travel with the bolsters and/or crated samples. Original wellhead COC forms will travel with the crate for that section. The COC forms will therefore travel with the joint/section as it is moved from one location to another. The receiver has been instructed to complete the COC form upon receipt of the evidence and a copy has been sent to the Blade RCA team. The movement history has been recorded in the Blade COC log. As such, the movement history of every tubing, casing and wellhead section that is extracted from the wellbore has been identified and tracked. Examples of Chain of Custody forms are shown in Figure 16 through Figure 18.

### ***10.1 Detailed Examples on Numbering When Sectioning***

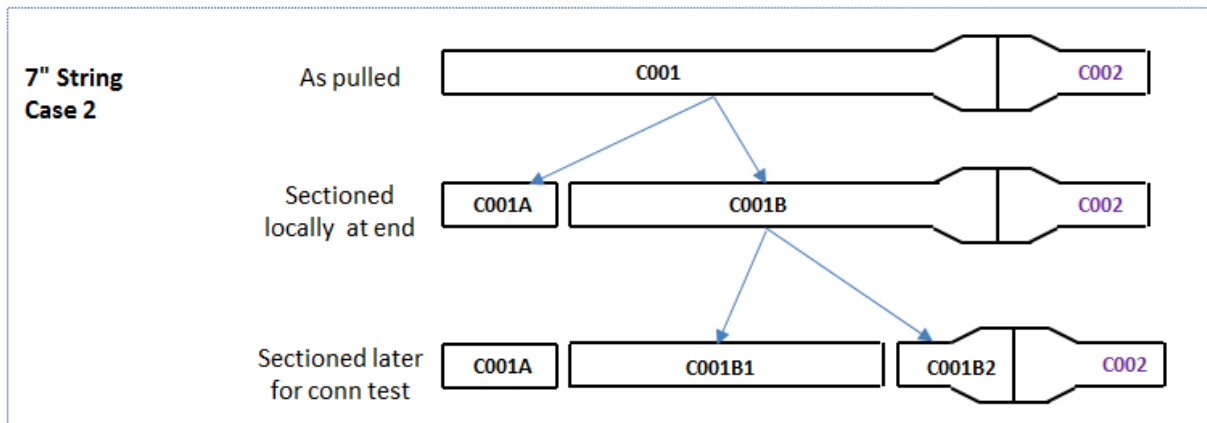
Below are 3 similar example cases for the 7" casing showing how JSN's are assigned after a joint is sectioned. The 7" process is complicated by the fact that a 7 inch "joint" actually consists of parts of two different joints. Further the connections require

sectioning either prior to or after transportation to Houston. The three cases below discuss the numbering / naming convention that will be followed.

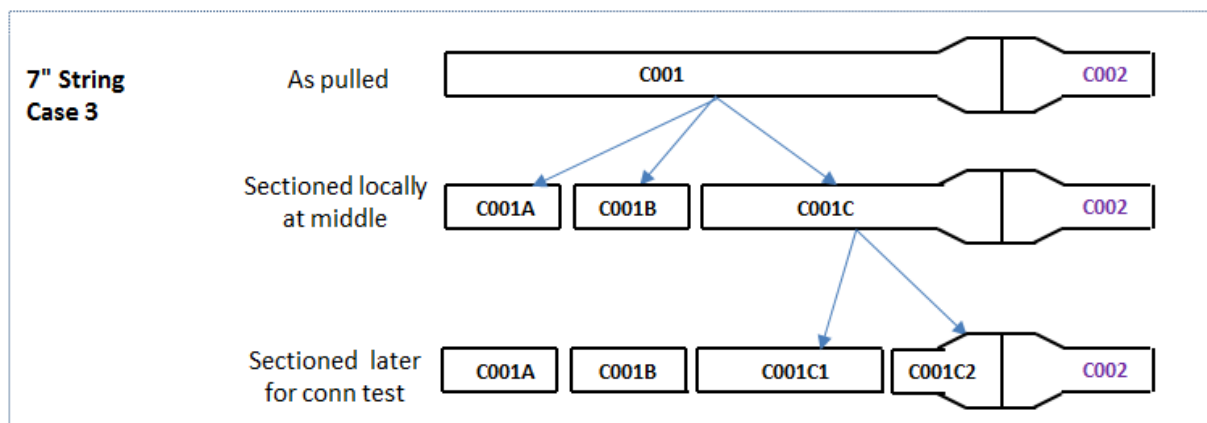
Case 1: This scenario assumes the 7" joint is sectioned in Houston for the connection test. The casing is transported with connection. Note that the JSN of the **short C002 end is not considered for the purposes of traceability**, which is instead based around the JSN of the "long" end.



Case 2: This scenario assumes a local sectioning at one end of the 7" occurs at Aliso, and the sectioning of the connection in Houston.



Case 3: This scenario assumes a local section in the middle of the joint followed later by sectioning for the connection test.





### 10.2 Sectioning Traceability – Casing COC Structure for Sections

The following examples show how the COC forms headers should be filled out (blue text) to ensure that cut Sections can be properly traced back to the parent joint.

- The COC header for a joint just after is pulled would be completed as follows:

<b>AC-RCA Chain of Custody Form (7" Casing)</b>	<b>Form No: AC-RCA-25-C001</b>
Joint Sequence Number (1 joint maximum) and Description (if applicable)	Page: _____
JSN = C001	

- Suppose the joint is sectioned locally at one end, resulting in two pieces/Sections C001A and C001B. The headers for the two new COC's would be completed as follows:

<b>AC-RCA Chain of Custody Form (7" Casing)</b>	<b>Form No: AC-RCA-25- C001A</b>
Joint Sequence Number (1 joint maximum) and Description (if applicable)	Page: _____
JSN = C001A, Section from parent joint C001 Reference original COC: AC-RCA-25-C001	

<b>AC-RCA Chain of Custody Form (7" Casing)</b>	<b>Form No: AC-RCA-25- C001B</b>
Joint Sequence Number (1 joint maximum) and Description (if applicable)	Page: _____
JSN = C001B, Section from parent joint C001 Reference original COC: AC-RCA-25-C001	

- Now suppose that C001B is sectioned again later for the connection test, resulting in two additional pieces/Sections C001B1 and C001B2. The headers for the two new COC's would be completed as follows:

<b>AC-RCA Chain of Custody Form (7" Casing)</b>	<b>Form No: AC-RCA-25- C001B1</b>
Joint Sequence Number (1 joint maximum) and Description (if applicable)	Page: _____
JSN = C001B1, Section from C001B, from parent joint C001 Reference original COC: AC-RCA-25-C001, and Section COC: AC-RCA-25-C001B	

<b>AC-RCA Chain of Custody Form (7" Casing)</b>	<b>Form No: AC-RCA-25- C001B2</b>
Joint Sequence Number (1 joint maximum) and Description (if applicable)	Page: _____
JSN = C001B2, Section from C001B, from parent joint C001 Reference original COC: AC-RCA-25-C001, and Section COC: AC-RCA-25-C001B	

- The format for the EDS forms that are generated for each new Section is as follows:

BLADE EVIDENCE DATA SHEET - CASING		BLADE ENERGY PARTNERS
Description:	<u>7" Casing</u>	
Joint Sequence Number:	<u>C001B2</u>	Photos Taken: Y <input type="checkbox"/> N <input type="checkbox"/>
Sample No. (if applicable):	_____	Video Taken: Y <input type="checkbox"/> N <input type="checkbox"/>
Date & Time Collected:	<u>8-Aug, 2017 1440 hrs</u>	Has Label: Y <input type="checkbox"/> N <input type="checkbox"/>
COC Form Number:	<u>AC-RCA-25-C001B2</u>	_____
Inspection Location:	_____	Blade Rep _____



**Form No: AC-RCA-25-T001**

**AC-RCA Chain of Custody Form (2-7/8" Tubing)**

Page: \_\_\_\_\_

Joint Sequence Number (1 joint maximum) and Description (if applicable)

--

Provide signature, company, date/time, and quantity of sample(s) to document evidence of transfers. Discuss any changes and alterations to the sample in the comment section.

1. Relinquished By: (Company Name)	2. Received By: (Company Name)	Date/Time/Joint ID/LoC	Date/Time/Joint ID/LoC	Comment
Print Name:  Signature:  Tag/Seal No:	Print Name:  Signature:  Tag/Seal No:			If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N)_____ If yes, explain:
3. Relinquished By: (Company Name)	4. Received By: (Company Name)	Date/Time/Joint ID/LoC	Date/Time/Joint ID/LoC	Comment If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N)_____ If yes, explain:
Print Name:  Signature:  Tag/Seal No:	Print Name:  Signature:  Tag/Seal No:			
5. Relinquished By: (Company Name)	6. Received By: (Company Name)	Date/Time/Joint ID/LoC	Date/Time/Joint ID/LoC	Comment If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N)_____ If yes, explain:
Print Name:  Signature:  Tag/Seal No:	Print Name:  Signature:  Tag/Seal No:			

\* If tag/seal number does not match shipper's noted tag number, immediately notify shipper.

Figure 16—2-7/8" Tubing COC Forms

**Form No: AC-RCA-25-C001**  
**AC-RCA Chain of Custody Form (7" Casing)**

Page: \_\_\_\_\_

Joint Sequence Number (1 joint maximum) and Description (if applicable) \_\_\_\_\_

1. Relinquished By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	2. Received By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	Comment
Print Name:  Signature:  Tag/Seal No:		Print Name:  Signature:  Tag/Seal No:		If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____
3. Relinquished By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	4. Received By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	Comment
Print Name:  Signature:  Tag/Seal No:		Print Name:  Signature:  Tag/Seal No:		If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____
5. Relinquished By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	6. Received By: <i>(Company Name)</i>	Date/Time/Joint ID/Loc	Comment
Print Name:  Signature:  Tag/Seal No:		Print Name:  Signature:  Tag/Seal No:		If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____. If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____

\* If tag/seal number does not match shipper's noted tag number, immediately notify shipper.

Figure 17—7.0” Casing Form



**AC-RCA Chain of Custody Form (Wellhead and Tree)** **Form No: AC-RCA-25-W001**

Section Number and Description (if applicable) \_\_\_\_\_ Page: \_\_\_\_\_

	1. Relinquished By: <i>(Company Name)</i>	2. Received By: <i>(Company Name)</i>	Comment
Provide signature, company, date/time, and quantity of sample(s) to document evidence of transfers. Discuss any changes and alterations to the sample in the comment section.	Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____ If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____ If yes, explain:
Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  3. Relinquished By: <i>(Company Name)</i>  Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  4. Received By: <i>(Company Name)</i>  Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  Comment  If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____ If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____ If yes, explain:
Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  5. Relinquished By: <i>(Company Name)</i>  Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  6. Received By: <i>(Company Name)</i>  Print Name:  Signature:  Tag/Seal No:	Date/Time/Joint ID/Loc  Comment  If applicable, Does Tag/Seal No. * Match Shipper? (Y/N) _____ If No, explain (or notate any evidence of package tampering):  Any changes to sample(s)? (Y/N) _____ If yes, explain:

\* If tag/seal number does not match shipper's noted tag number, immediately notify shipper.

Figure 18—Wellhead/Tree COC Form

## Appendix – B: Evidence Data Sheet

An Evidence Data Sheet has been generated for every tubing and casing joint extracted from the wellbore as well as for each section removed from the wellhead/tree. The Evidence Data Sheet will contain all the relevant data for each individual joint or wellhead section including quantitative measurements such dimensional measurements, visual observations and so on.

- 1) The Evidence Data Sheet for casing/tubing will use the Joint Sequence Number as a unique traceability identifier. The Evidence Data Sheet for Wellhead/Tree will use the Section Number as a unique traceability identifier.
- 2) Corrosion/scale samples that are collected has been considered “samples” of the parent joint. Each sample has been identified by a unique Sample Number that will tie the sample back to the parent joint. The Sample Number has been generated by adding S1, S2, S3, and so on to the Joint Sequence Number.
  - a) Example: if a scale sample is taken from joint number T001, the scale Sample Number has been “T001S1”. A label with the sample number has been affixed to the bag containing the sample.
- 3) If a portion of a casing or tubing joint is cut and removed, the cut section has been considered as a “section” of the parent joint. Each section has been identified by a unique Section Number that will tie the section back to the parent joint. The Section Number has been generated by adding 'A', 'B', 'C' and so on to the Joint Sequence Number. This Section Number has been stenciled on the OD of the cut section.
  - a) Example: If a section is cut/removed from joint number C001, the Section Number for the different sections has been identified as “C001A”, “C001B” and so on.
- 4) Likewise, if a wellhead section is disassembled a unique letter has been assigned to each of the sub-sections. For example, if section W001 is disassembled the different sub-sections has been “W001A”, “W001B” and so on.
- 5) A separate Evidence Data Sheet has been generated for each sample or section described above.
- 6) A separate COC form has been generated for each sample or section. The Evidence Data Sheet will also reference the COC Form Number.
- 7) This process for identifying samples/sections has been followed regardless of whether, for example, a joint is sectioned locally or later at the lab.

Once completed, Blade will retain the original form and a scanned copy of the Evidence Data Sheet has been made. As such, there has been a unique identifier for everything that is extracted from SS-25. Examples of Evidence Data Sheet forms are shown in Figure 19 through Figure 21.



**AC-RCA**  
**BLADE EVIDENCE DATA SHEET - WELLHEAD/TREE**



<b>Description:</b>		
<b>Wellhead/Tree Section No:</b>	_____	<b>Photos Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>Sample No. (if applicable)</b>	_____	<b>Video Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>Date &amp; Time Collected:</b>	_____	<b>Has Label:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>COC Form Number:</b>	_____	_____
		<b>Blade Rep</b>
<b>Physical Observations:</b>		
<b>Flaw or Anomaly Description:</b>		
<b>Scale Samples Collected and Location:</b>		
<b>Other Notes:</b>		

**Figure 19—Wellhead/Tree Evidence Data Sheet**



## AC-RCA BLADE EVIDENCE DATA SHEET - TUBING



<b>Description:</b>		
<b>Joint Sequence Number:</b>	_____	<b>Photos Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>Sample No. (if applicable):</b>	_____	<b>Video Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>Date &amp; Time Collected:</b>	_____	<b>Has Label:</b> Y <input type="checkbox"/> N <input type="checkbox"/>
<b>COC Form Number:</b>	_____	_____
<b>Inspection Location:</b>	_____	<b>Blade Rep</b>
<b>Joint Tally Length (TL):</b> _____		
<b>Joint Classification:</b>	<b>Flawed</b>	<b>No Flaws</b>
<b>Scale Samples Collected and Location:</b>		
<b>Pin/Box Connection &amp; Pipe Body Description Along With Any Flaws or Anomalies:</b>		
<b>Visual Inspection Quick Reference:</b>		<b>Tong Marks (T):</b> <input type="checkbox"/> <b>Slip Marks (S):</b> <input type="checkbox"/> <b>Gripper Marks (G):</b> <input type="checkbox"/> <b>Corrosion (C):</b> <input type="checkbox"/> <b>Scale (K):</b> <input type="checkbox"/> <b>Pitting (P):</b> <input type="checkbox"/>
<b>Other Visual Observations or Comments:</b>		

**Figure 20—Tubing Evidence Data Sheet**



## AC-RCA BLADE EVIDENCE DATA SHEET - CASING



<p><b>Description:</b> _____</p> <p><b>Joint Sequence Number:</b> _____</p> <p><b>Sample No. (if applicable):</b> _____</p> <p><b>Date &amp; Time Collected:</b> _____</p> <p><b>COC Form Number:</b> _____</p> <p><b>Inspection Location:</b> _____</p>	<p><b>Photos Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/></p> <p><b>Video Taken:</b> Y <input type="checkbox"/> N <input type="checkbox"/></p> <p><b>Has Label:</b> Y <input type="checkbox"/> N <input type="checkbox"/></p> <p>_____</p> <p><b>Blade Rep</b></p>
<p><b>Length to Connection (LTC):</b> _____</p> <p><b>Overall Length (OAL):</b> _____</p> <p><b>Joint Classification:</b>            <b>Flawed</b>                            <b>No Flaws</b></p>	
<p><b>Scale Samples Collected and Location:</b></p>  	
<p><b>Connection OD &amp; Pipe Body Description Along With Any Flaws or Anomalies:</b></p>    	
<p><b>Visual Inspection Quick Reference:</b></p>	
<p>Tong Marks (T): <input type="checkbox"/></p> <p>Slip Marks (S): <input type="checkbox"/></p> <p>Gripper Marks (G): <input type="checkbox"/></p> <p>Corrosion (C): <input type="checkbox"/></p> <p>Scale (K): <input type="checkbox"/></p> <p>Pitting (P): <input type="checkbox"/></p>	
<div style="border: 1px solid black; width: 80%; margin: 0 auto; height: 20px;"></div>	
<p><i>Note: Draw Location of Connection</i></p>	
<p><b>Other Visual Observations or Comments:</b></p>  	

**Figure 21—Casing Evidence Data Sheet**



## Appendix – C: Tubing Bolster Matrices

<p style="text-align: center;"><b>SS-25 RCA Bolster Mapping Record</b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>25-August, 2017</u> Bolster Number: <u>1</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>SK, ST, JS</u></p> <p><b>Comments:</b> <span style="float: right;"><small>ITRAC.LP: 4NR6439</small></span>          Bolstering started at 0915 on 24-Aug. 30 JTs loaded by end of day. T033-T040 bolstered on 25-Aug. Frame bolts tightened to 70 ft-lbs. T028 and T029 were wrapped in VCI to be crated separately.  <span style="float: right;"><small>Pipe weight = 7,756 lbs Frames weight = 480 lbs</small></span></p> <p><small>Reference: Looking forward from back of trailer</small></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr><td>T034</td><td>T035</td><td>T036</td><td>T037</td><td>T038</td><td>T039</td><td>T040</td></tr> <tr><td>T025</td><td>T026</td><td>T027</td><td>T033</td><td>T030</td><td>T031</td><td>T032</td></tr> <tr><td>T019</td><td>T020</td><td>T021</td><td></td><td>T022</td><td>T023</td><td>T024</td></tr> <tr><td>T013</td><td>T014</td><td>T015</td><td></td><td>T016</td><td>T017</td><td>T018</td></tr> <tr><td>T007</td><td>T008</td><td>T009</td><td></td><td>T010</td><td>T011</td><td>T012</td></tr> <tr><td>T001</td><td>T002</td><td>T003</td><td></td><td>T004</td><td>T005</td><td>T006</td></tr> </table> <p style="text-align: center;">Total Bolster Weight = 8,195 lbs</p>	T034	T035	T036	T037	T038	T039	T040	T025	T026	T027	T033	T030	T031	T032	T019	T020	T021		T022	T023	T024	T013	T014	T015		T016	T017	T018	T007	T008	T009		T010	T011	T012	T001	T002	T003		T004	T005	T006	<p style="text-align: center;"><b>SS-25 RCA Bolster Mapping Record</b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>26-August, 2017</u> Bolster Number: <u>2</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>ST, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>ITRAC.LP: 4NR6439</small></span>          Bolstering started at 25-Aug. Completed on 26-Aug.  <span style="float: right;"><small>Pipe weight = 7,482 lbs Frames weight = 480 lbs</small></span></p> <p><small>Reference: Looking forward from back of trailer</small></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr><td>T071</td><td>T072</td><td>T073</td><td>T074</td><td>T075</td><td>T076</td><td>T077</td></tr> <tr><td>T065</td><td>T066</td><td>T067</td><td></td><td>T068</td><td>T069</td><td>T070</td></tr> <tr><td>T059</td><td>T060</td><td>T061</td><td></td><td>T062</td><td>T063</td><td>T064</td></tr> <tr><td>T053</td><td>T054</td><td>T055</td><td></td><td>T056</td><td>T057</td><td>T058</td></tr> <tr><td>T047</td><td>T048</td><td>T049</td><td></td><td>T050</td><td>T051</td><td>T052</td></tr> <tr><td>T041</td><td>T042</td><td>T043</td><td></td><td>T044</td><td>T045</td><td>T046</td></tr> </table> <p style="text-align: center;">Total Bolster Weight = 7,952 lbs</p>	T071	T072	T073	T074	T075	T076	T077	T065	T066	T067		T068	T069	T070	T059	T060	T061		T062	T063	T064	T053	T054	T055		T056	T057	T058	T047	T048	T049		T050	T051	T052	T041	T042	T043		T044	T045	T046
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T025	T026	T027	T033	T030	T031	T032																																																																															
T019	T020	T021		T022	T023	T024																																																																															
T013	T014	T015		T016	T017	T018																																																																															
T007	T008	T009		T010	T011	T012																																																																															
T001	T002	T003		T004	T005	T006																																																																															
T071	T072	T073	T074	T075	T076	T077																																																																															
T065	T066	T067		T068	T069	T070																																																																															
T059	T060	T061		T062	T063	T064																																																																															
T053	T054	T055		T056	T057	T058																																																																															
T047	T048	T049		T050	T051	T052																																																																															
T041	T042	T043		T044	T045	T046																																																																															
<p style="text-align: center;"><b>SS-25 RCA Bolster Mapping Record</b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>26-August, 2017</u> Bolster Number: <u>3</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>ST, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>ITRAC.LP: 4NR6439</small></span>          Bolstering started at 27-Aug. Completed on 27-Aug.  <span style="float: right;"><small>Pipe weight = 7,474 lbs Frames weight = 480 lbs</small></span></p> <p><small>Reference: Looking forward from back of trailer</small></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr><td>T108</td><td>T109</td><td>T110</td><td>T112</td><td>T111</td><td>T113</td><td>T114</td></tr> <tr><td>T102</td><td>T103</td><td>T104</td><td></td><td>T105</td><td>T106</td><td>T107</td></tr> <tr><td>T096</td><td>T097</td><td>T098</td><td></td><td>T099</td><td>T100</td><td>T101</td></tr> <tr><td>T090</td><td>T091</td><td>T092</td><td></td><td>T093</td><td>T094</td><td>T095</td></tr> <tr><td>T084</td><td>T085</td><td>T086</td><td></td><td>T087</td><td>T088</td><td>T089</td></tr> <tr><td>T078</td><td>T079</td><td>T080</td><td></td><td>T081</td><td>T082</td><td>T083</td></tr> </table> <p style="text-align: center;">Total Bolster Weight = 7,934 lbs</p>	T108	T109	T110	T112	T111	T113	T114	T102	T103	T104		T105	T106	T107	T096	T097	T098		T099	T100	T101	T090	T091	T092		T093	T094	T095	T084	T085	T086		T087	T088	T089	T078	T079	T080		T081	T082	T083	<p style="text-align: center;"><b>SS-25 RCA Bolster Mapping Record</b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>27-August, 2017</u> Bolster Number: <u>4</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>ST, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>ITRAC.LP: 4NR6439</small></span>          Bolstering started at 27-Aug (T115-T122). Completed on 28-Aug (T123-T152). T116 was bent and would not fit in the bolster. Thus it was included in the crate with joints T028 and T029 on 30-Aug.  <span style="float: right;"><small>Pipe weight = 7,472 lbs Frames weight = 480 lbs</small></span></p> <p><small>Reference: Looking forward from back of trailer</small></p> <table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr><td>T146</td><td>T147</td><td>T148</td><td>T149</td><td>T150</td><td>T151</td><td>T152</td></tr> <tr><td>T140</td><td>T141</td><td>T142</td><td></td><td>T143</td><td>T144</td><td>T145</td></tr> <tr><td>T134</td><td>T135</td><td>T136</td><td></td><td>T137</td><td>T138</td><td>T139</td></tr> <tr><td>T128</td><td>T129</td><td>T130</td><td></td><td>T131</td><td>T132</td><td>T133</td></tr> <tr><td>T122</td><td>T123</td><td>T124</td><td></td><td>T125</td><td>T126</td><td>T127</td></tr> <tr><td>T115</td><td>T117</td><td>T118</td><td></td><td>T119</td><td>T120</td><td>T121</td></tr> </table> <p style="text-align: center;">Total Bolster Weight = 7,932 lbs</p>	T146	T147	T148	T149	T150	T151	T152	T140	T141	T142		T143	T144	T145	T134	T135	T136		T137	T138	T139	T128	T129	T130		T131	T132	T133	T122	T123	T124		T125	T126	T127	T115	T117	T118		T119	T120	T121
T108	T109	T110	T112	T111	T113	T114																																																																															
T102	T103	T104		T105	T106	T107																																																																															
T096	T097	T098		T099	T100	T101																																																																															
T090	T091	T092		T093	T094	T095																																																																															
T084	T085	T086		T087	T088	T089																																																																															
T078	T079	T080		T081	T082	T083																																																																															
T146	T147	T148	T149	T150	T151	T152																																																																															
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T115	T117	T118		T119	T120	T121																																																																															

AC-RCA SS-25 Phase 3 Protocol – Warehouse Protocol

<p style="text-align: center;"><b>SS-25 RCA</b> <b><u>Bolster Mapping Record</u></b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>29-August, 2017</u> Bolster Number: <u>5</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>ST, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>Trailer LP: 4NC1414</small></span>          Bolstering started at 29-Aug (T153-T182). Completed on 29-Aug (T183-T188)</p> <p style="text-align: right;"><small>Pipe weight = 7,186 lbs Frames weight = 480 lbs</small></p> <p><small>Reference: Looking forward from back of trailer</small></p> <p style="text-align: center;">Total Bolster Weight = 7,655 lbs</p>	<p style="text-align: center;"><b>SS-25 RCA</b> <b><u>Bolster Mapping Record</u></b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>2-September, 2017</u> Bolster Number: <u>6</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>RM, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>Trailer LP: 4NC1414</small></span>          Bolstering started at 29-Aug (T189-T209). Completed on 2-Sept (T210-T218)</p> <p style="text-align: right;"><small>Pipe weight = 8,009 lbs Frames weight = 480 lbs</small></p> <p><small>Reference: Looking forward from back of trailer</small></p> <p style="text-align: center;">Total Bolster Weight = 6,469 lbs</p>
<p style="text-align: center;"><b>SS-25 RCA</b> <b><u>Bolster Mapping Record</u></b></p> <p style="text-align: right;"><small>BLADE</small></p> <p>Rev. Date: <u>2-September, 2017</u> Bolster Number: <u>7</u>          Location: <u>PS-20</u> Loading Status: <u>Complete</u>          Prepared By: <u>RM, BW</u></p> <p><b>Comments:</b> <span style="float: right;"><small>Trailer LP: 4NC1414</small></span>          Bolstering completed on 2-Sept. Joints X500 to X800 are extra joints to be used by the inspection company for parameter testing prior to UT'ing the tubing, and did <u>not</u> come from the SS-25 well.</p> <p style="text-align: right;"><small>Pipe weight = 6,806 lbs Frames weight = 480 lbs</small></p> <p><small>Reference: Looking forward from back of trailer</small></p> <p style="text-align: center;">Total Bolster Weight = 6,365 lbs</p>	



## Appendix – D: Form Listing

Description	File Name	Location
2-7/8” Tubing COC Forms		
7.0” Casing Form		
Wellhead/Tree COC Form		
Wellhead/Tree Evidence Data Sheet		
Tubing Evidence Data Sheet		
Casing Evidence Data Sheet		
Tubing Bolster Matrix		