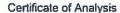


| ISC 190, Cha<br>J<br>usc.edu   | PHONE: 843 CELL: (843 Capacity: 15,00   | 3-323-0425 3) 792-3524 0  | In the second of |
|--|---|---|--|
| ISC 190, Cha<br>J<br>usc.edu   | PHONE: 843 CELL: (843 Capacity: 15,00   | 3-323-0425 3) 792-3524 0  | rial: DSI  |
| ISC 190, Cha<br>J<br>usc.edu   | PHONE: 843 CELL: (843 Capacity: 15,00   | 0 Mater  Divery Services ?  | In the second of |
| usc.edu  | PHONE: 843 CELL: (843 Capacity: 15,00   | 0 Mater  Divery Services ?  | In the second of |
| usc,edu  | CELL: (843 Capacity: 15,00  | 0 Mater  Divery Services ?  | In the second of |
|  | Capacity: 15,00   | O Mater   | In the second of |
| `ype : <u>UST</u>  | um Rec<br>wet North C<br>125-1993 (1  | Dvery Services ?c   | Indian Recovery Services and Brist Part Characters, South Caronia, 2019  |
|  | total North C   | harleston, South Caroline Bra<br>1777) Fait: 843-377-0412<br>Debryatryicas.com  | Sens 35.225 (1995 1777) Co. South Carolina June  |
|  | total North C   | harleston, South Caroline Bra<br>1777) Fait: 843-377-0412<br>Debryatryicas.com  | Sens 35.225 (1995 1777) Co. South Carolina June  |
|  | total North C   | harleston, South Caroline Bra<br>1777) Fait: 843-377-0412<br>Debryatryicas.com  | Sens St. 225, 1989 17772 Co.   |
|  | total North C   | harleston, South Caroline Bra<br>1777) Fait: 843-377-0412<br>Debryatryicas.com  | Sens 35.225 (1995 1777) Co. South Carolina June  |
|  | total North C   | harleston, South Caroline Bra<br>1777) Fait: 843-377-0412<br>Debryatryicas.com  | Sens 35.225 (1995 1777) Co. South Carolina June  |
|  |   | DVSV/SETVICES.EDE   | Sens 35.225 (1995 1777) Co. South Carolina June  |
|  |   |   |  |
|  |   | 9   | 11 17  |
|  | *   | (Blue)  | PUSE   |
|  | 4 758   |   | Se SI Enery plat   |
|  | \$1   | Equipment # 358-359   | Equipment 9: 3573-3017   |
|  |   | THE RESERVE   |  |
|  | 100   | 100   | The same of the sa |
|  | 10 186  |   |  |
|  |   | - The second second   |  |
|  |   | top to  |  |
|  |   |   |  |
|  |   |   |  |
|  |   |   |  |
|  |   | Carlo de la   |  |
| CONTAMINA  | NTS FOUND.  | VICTIAL E   | THE DATING   |
|  |   | Pre-Clear   | Post Clean   |
|  |   | Refine  | ry Fresh   |
|  |   |   |  |
| Sus  | pended Water  |   | Closely  |
| Mic  | ro-organisms  |   | ced Aging  |
|  |   |   | lot Recommended  |
| - Contract C |   |   | :-Do Not Use   |
| Sluc   | ige   | Severe  | -Do Not Ose  |
| AR & RRIGHT  | " THIS TAN  | K PASSES TH   | E ASTM D975 "CLEAR &   |
|  |   |   |  |
|  |   |   | fuel parameters based on 🚩   |
| CONTROL BANKS  |   |   |  |
| sample is on t   | he left and the after of  | leaning samp  | ole is on the right  |
|  |   |   |  |
|  |   |   |  |
|  |   |   |  |
|  | Pre-Clean  Nor  Bull  Sus  Mic  Sed  Rus  Sluc  AR & BRIGHT  ction ONLY. Lab R  cutions  sample is on t | CONTAMINANTS FOUND:  Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  AR & BRIGHT" Lab Report Lab Report ASTM D97  sample is on the left and the after C | CONTAMINANTS FOUND: Pre-Clean  |



ABORATORIES

Laboratory Number: 73119538

UST

Loretta Shaw 07/11/2019 Sample Collection Date: Petroleum Recovery Services Date Received: 07/31/2019 4310 Amsterdam St. Date Released: 08/5/2019

North Charleston, SC 29418 Component Make:

843-225-1777 Component Model:

Sample Taken From: 358-30822 Tank Capacity: 15,000 g Sample ID: 358-30822 Quantity in Tank:

PO: 632498

Test Package: **PRS Package** ULSD

WO: MUSC - Hospital - Post Type of Fuel: Serial Number:

Test Limits Methods Result API Gravity by Hydrometer ASTM D1298-99 report 38 Cetane Index 40 minimum **ASTM D976-01** 45.9 **Cloud Point** report °C **ASTM D2500-99** -11 Copper Strip Corrosion 3 maximum ASTM D130-04 1a Distillation, 50% report °C ASTM D86-08a 241.11 282 - 338 °C Distillation, 90% **ASTM D86-08a** 307.22 Flash Point 52 °C minimum **ASTM D93-10** 63.33 Microbial Growth report Micro/Culture Medium Negative **Particulate Contamination** report in milligrams/liter **ASTM D6217-08** 0.7 Sulfur 15 ppm maximum ASTM D5453-09 Visual ASTM D4176-04

17 Visual Appearance Clear, Trace Particles Water and Sediment 0.05 maximum (% volume) **ASTM D2709** 0.001 Water by Karl Fischer report in ppm ASTM D6304-16 67

#### Comments

High Sulfur: Too much sulfur can cause wear in diesel engines as a result of the corrosive nature of its combustion by-products. It also increases the amount of deposits in the combustion chamber and on the pistons. ASTM sets limits at 15ppm ULSD, 500ppm LSD & 5,000 High Sulfur.

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



|  | 1  | DATE: 7-11-19  |
|--|--|--|
| CUSTOMER: MUSC   | tall harmonic design   | INFO-OTHER: Hospital tanks   |
| FACILITY: Building 358 SCEP (Sa  | abin St) UST 20k (358-0151-UST   |  |
| ADDRESS: 112 Jonathan Lucas SI   |  |  |
| CONTACT: Rick Burt, Matthew Lo   |  | <u>.</u> 843-323-0426  |
|  |  |  |
| MAILburtd@musc.edu, Longmat@   | emusc.edu CELL: (  | (843) 792-3525   |
| Unit Id: 358-30823   | Type: UST Capacity: 20   | 0,000 Material: Dsl  |
| ast Tank Service: 2018   | 712  | 143  |
| TUEL SAMPLE TAKEN:   |  |  |
| Annual/Pre-Clean   |  |  |
| Post Clean None  |  | v Services PAS Recovery Services   |
| ERVICES PERFORMED:   | - Production   | South Carolina 29418 Seven Street, North Charleston, South Ciroling 2019   |
| Maintenance  | 20,077 F   | MS-377-0412 PMS-377-0412 PMS-377-042 PMS-377-042 PMS-377-042 PMS-377-0412 PMS-377-0 |
| STI 001 Inspection   | <u> </u>   | Musc   |
| ✓ Tank Cleaning  | in the state of th | (adas) Stor St Erogy Phot  |
| Bottom Sweep   | L tap  | 157-10131 - 500 Farmer 37-304  |
| Pre-clean Lab Analysis   | Carried Control of the Control of th |  |
| Post-clean Lab Analysis  |  |  |
| uel Treatment:  ✓ HydroClean   |  | Therefore I A Value of the Control o |
| ILFC 1032  |  |  |
|  |  |  |
| Biocide Predator 6000  |  |  |
| Biocide Predator 6000 None   |  |  |
| None   |  |  |
| None erior Tank Condition:   |  |  |
| None Prior Tank Condition:   | Activities and activities activities and activities activities and activities activities and activities activities activities and activities activi |  |
| None  erior Tank Condition: Good Bad   | Activities and a   |  |
| None  erior Tank Condition:  dood Bad  |  |  |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  | CONTAMINANTS FOUND:  | VISUAL FUEL RATING:  |
| None Prior Tank Condition: Good Bad Recommend Inspection TS CONDITION:   | Pre-Clean Post Clean   | Pre-Clean Post Clean   |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  DOOD Bad N/A -Fill Cap   | Pre-Clean Post Clean None  | Pre-Clean Post Clean Refinery Fresh  |
| None  rior Tank Condition:  riood Bad  Recommend Inspection  TS CONDITION:  rood Bad N/A -Fill Cap  rood Bad N/A - Vent  rood Bad N/A - Fill Port  | Pre-Clean Post Clean None Bulk Water   | Pre-Clean Post Clean Refinery Fresh Good   |
| None  Prior Tank Condition:  Frior Tank Condi | Pre-Clean Post Clean None Bulk Water Suspended Water   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| None  Prior Tank Condition:  Frior Tank Condi | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms   | Pre-Clean Post Clean Refinery Fresh Good   |
| None  Prior Tank Condition:  Frior Tank Condi | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  Dood Bad N/A - Fill Cap  Dood Bad N/A - Vent  Dood Bad N/A - Spill Port  Dood Bad N/A - Spill Bucket  Dood Bad N/A - Gauge   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  Dood Bad N/A - Fill Cap  Dood Bad N/A - Vent  Dood Bad N/A - Spill Port  Dood Bad N/A - Spill Bucket  Dood Bad N/A - Gauge  Dood Bad N/A - Gaskets   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  Dood Bad N/A - Fill Cap  Dood Bad N/A - Vent  Dood Bad N/A - Spill Port  Dood Bad N/A - Spill Bucket  Dood Bad N/A - Gauge  Dood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "C  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR   |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  FOOD BAD N/A - Fill Cap  FOOD BAD N/A - Vent  FOOD BAD N/A - Sump  FOOD BAD N/A - Spill Bucket  FOOD BAD N/A - Gauge  FOOD BAD N/A - Gaskets   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY, Lab Report  Pre-Clean Post Clean This BRIG   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION.   |
| None  erior Tank Condition: Good Bad  Recommend Inspection  CTS CONDITION: Dood Bad N/A - Fill Cap Dood Bad N/A - Fill Port Dood Bad N/A - Spill Bucket Dood Bad N/A - Spill Bucket Dood Bad N/A - Gauge Dood Bad N/A - Gauge Dood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "CAL INSPECTION Cleaning is recommended based on Visual Fuel Incommenced parameters based on ASTAI D975 Spill   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY Lab Report  *Lab ASTA   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION. Report will determine fuel parameters based on 11 D975 Specifications   |
| None  erior Tank Condition: Good Bad  Recommend Inspection  ETS CONDITION:  FOOD BAD N/A - Fill Cap FOOD BAD N/A - Fill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  ETANK DOES NOT PASS ASTM D975 "CAL INSPECTION  Eleaning is recommended based on Visual Fuel In  Eleaning fuel parameters based on ASTAL D975 Specific Spile Sp | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY Lab Report  *Lab ASTA   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION.  Report will determine fuel parameters based on   |
| None  Prior Tank Condition:  Good Bad  Recommend Inspection  TS CONDITION:  FOOD BAD N/A - Fill Cap  FOOD BAD N/A - Fill Port  FOOD BAD N/A - Spill Bucket  FOOD BAD N/A - Gauge  FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaske | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY Lab Report  *Lab ASTA   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION. Report will determine fuel parameters based on 11 D975 Specifications   |
| None  erior Tank Condition: Good Bad  Recommend Inspection  ETS CONDITION: Good Bad N/A - Fill Cap Good Bad N/A - Fill Port Good Bad N/A - Spill Bucket Good Bad N/A - Spill Bucket Good Bad N/A - Gauge Good Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "CAL INSPECTION Cleaning is recommended based on Visual Fuel In Germine fuel parameters based on ASTAI D975 Specific Parameters based on ASTAI D975 Spec | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY Lab Report  *Lab ASTA   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION. Report will determine fuel parameters based on 11 D975 Specifications   |
| Recommend Inspection  RTS CONDITION:  Dood Bad N/A - Fill Cap  Dood Bad N/A - Vent  Dood Bad N/A - Spill Port  Dood Bad N/A - Spill Bucket  Dood Bad N/A - Gauge  Dood Bad N/A - Gauge  Dood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "CAL INSPECTION  Cleaning is recommended based on Visual Fuel In  Description of the commended based on ASTAI D975 Spill  Dood Bad N/A - Gaskets  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" Spection ONLY Lab Report  *Lab ASTA   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR GHT" VISUAL INSPECTION.  Report will determine fuel parameters based on 11 1975 Specifications  |



77



Laboratory Number: 73119539

Loretta ShawSample Collection Date:07/11/2019Petroleum Recovery ServicesDate Received:07/31/20194310 Amsterdam St.Date Released:08/5/2019

North Charleston, SC 29418 Component Make:

843-225-1777 Component Model: UST
Sample Taken From: 358-30823 Tank Capacity: 20,000 g

Sample ID: 358-30823 Quantity in Tank:

PO: 632498 Test Package: PRS Package
WO: MUSC - Hospital - Post Type of Fuel: ULSD

Serial Number:

Methods Result Limits Test API Gravity by Hydrometer report ASTM D1298-99 38 40 minimum ASTM D976-01 45.5 Cetane Index Cloud Point report °C ASTM D2500-99 -9 3 maximum ASTM D130-04 Copper Strip Corrosion 1a report °C 240.0 Distillation, 50% **ASTM D86-08a** Distillation, 90% 282 - 338 °C **ASTM D86-08a** 307.22 Flash Point 52 °C minimum **ASTM D93-10** 71.11 Microbial Growth report Micro/Culture Medium Negative **Particulate Contamination** report in milligrams/liter ASTM D6217-08 0.7 36 Sulfur 15 ppm maximum ASTM D5453-09 Clear, Trace Particles Visual Appearance Visual ASTM D4176-04 Water and Sediment 0.05 maximum (% volume) **ASTM D2709** 0.001

Comments

Water by Karl Fischer

High Sulfur: Too much sulfur can cause wear in diesel engines as a result of the corrosive nature of its combustion by-products. It also increases the amount of deposits in the combustion chamber and on the pistons. ASTM sets limits at 15ppm ULSD, 500ppm LSD & 5,000 High Sulfur.

**ASTM D6304-16** 

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.

report in ppm



| MUICO  | h          |   |  | DATE: 7-24-2019   |
|--|------------|---|--|---|
| CUSTOMER: MUSC   |            |   |  | INFO-OTHER: Hospital tanks  |
| FACILITY: Building 580 Rutledge  | Tower DT   | 2   |  | 1545  |
| ADDRESS: 113 Jonathan Lucas 8  | St. MSC 19 | 0, Char   | leston, SC 294   | 25  |
| CONTACT: Rick Burt, Matthew I  | ong        |   |  | E: 843-323-0427   |
| EMAIL.burtd@musc.edu, Longmat  | @musc.ed   | u   | CELL: _  | (843) 792-3526  |
| Unit Id: 580-0152-DT2  | _ Type : _ | AST   | Capacity: 1  | 50 Material: Dsl  |
| Last Tank Service: 2018  |            |   |  |   |
| FUEL SAMPLE TAKEN:  Annual/Pre-Clean  Post Clean None  ERVICES PERFORMED:  Maintenance  STI 001 Inspection  Tank Cleaning  Bottom Sweep  Pre-clean Lab Analysis  Post-clean Lab Analysis  Uel Treatment:  HydroClean  ILFC 1032  Biocide Predator 6000  None   |            |   |  |   |
| teriorTank Condition:  |            |   |  |   |
| teriorTank Condition:  |            |   |  |   |
| teriorTank Condition: Good Bad Recommend Inspection  |            |   | NTS FOUND:   | VISUAL FUEL RATING:   |
| teriorTank Condition:  Good Bad  Recommend Inspection  RTS CONDITION:  GOOD Bad N/A -Fill Cap  |            | re-Clean  | Post Clean   | Pre-Clean Post Clean  |
| Recommend Inspection  RTS CONDITION:  TOO Bad N/A -Fill Cap  TOO Bad N/A - Vent  |            | re-Clean<br>Non                                   | Post Clean   | Pre-Clean Post Clean Refinery Fresh   |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A - Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Fill Port   |            | re-Clean<br>Non<br>Bulk                           | Post Clean  Water  | Pre-Clean Post Clean Refinery Fresh Good  |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A -Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Fill Port  Good Bad N/A - Sump   |            | Pre-Clean Non Bulk Susp                           | Post Clean  Water ended Water  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely  |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A - Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Spill Port  Good Bad N/A - Spill Bucket   |            | Pre-Clean Non Bulk Susp                           | Post Clean  Water ended Water o-organisms                                    | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging   |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A - Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Sump  Good Bad N/A - Spill Bucket  Good Bad N/A - Gauge   |            | Pre-Clean Non Bulk Susp                           | Post Clean  Water  eended Water  o-organisms  ments                          | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended   |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A - Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Spill Port  Good Bad N/A - Spill Bucket   |            | Pre-Clean Non Bulk Susp Mici                      | Post Clean  Water  eended Water  o-organisms  ments                          | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging   |
| Recommend Inspection  RTS CONDITION:  Good Bad N/A - Fill Cap  Good Bad N/A - Vent  Good Bad N/A - Sump  Good Bad N/A - Spill Bucket  Good Bad N/A - Gauge   | CLEAR & B  | Pre-Clean Non Bulk Susp Micr Sedi Rust Slud       | Post Clean  Water  ended Water  o-organisms  ments  ge  THI  BRI  *Laa.      | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended   |
| Recommend Inspection  RTS CONDITION:  Tood Bad N/A - Fill Cap  Tood Bad N/A - Vent  Tood Bad N/A - Spill Port  Tood Bad N/A - Spill Bucket  TOOD BAD N/A - Gauge  TOOD BAD N/A - Gauge  TOOD BAD N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "  AL INSPECTION  Cleaning is recommended based on Visual Fuel  Termine fuel parameters based on ASTM D975 S  | CLEAR & B  | Pre-Clean Non Bulk Susp Micr Sedi Rust Slud RIGHT | Post Clean  Water  bended Water  o-organisms  ments  ge  THI  BRI  *La.  AST | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  IS TANK PASSES THE ASTM D975 "CLEAR & IGHT" VISUAL INSPECTION. bb Report will determine fuel parameters based on                       |
| Recommend Inspection  RTS CONDITION:  Tood Bad N/A - Fill Cap  Tood Bad N/A - Fill Port  Tood Bad N/A - Spill Bucket  Tood Bad N/A - Spill Bucket  Tood Bad N/A - Gauge  Tood Bad N/A - Gauge  Tood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "  The before sheed on ASTM D975 Section of the parameters based on ASTM D975 Section of the | CLEAR & B  | Pre-Clean Non Bulk Susp Micr Sedi Rust Slud RIGHT | Post Clean  Water  bended Water  o-organisms  ments  ge  THI  BRI  *La.  AST | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  IS TANK PASSES THE ASTM D975 "CLEAR & IGHT" VISUAL INSPECTION. b Report will determine fuel parameters based on IM D975 Specifications |
| Recommend Inspection  RTS CONDITION:  Tood Bad N/A - Fill Cap  Tood Bad N/A - Fill Port  Tood Bad N/A - Spill Bucket  Tood Bad N/A - Spill Bucket  Tood Bad N/A - Gauge  Tood Bad N/A - Gauge  Tood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "  The before sheed on ASTM D975 Section of the parameters based on ASTM D975 Section of the | CLEAR & B  | Pre-Clean Non Bulk Susp Micr Sedi Rust Slud RIGHT | Post Clean  Water  bended Water  o-organisms  ments  ge  THI  BRI  *La.  AST | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  IS TANK PASSES THE ASTM D975 "CLEAR & IGHT" VISUAL INSPECTION. b Report will determine fuel parameters based on IM D975 Specifications |



0.001

79



Laboratory Number: 80219525

Loretta Shaw Petroleum Recovery Services 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO:

WO:

580-0152-DT2 580-0152-DT2

632503

MUSC - Hospital - Post

Sample Collection Date:

07/24/2019 08/2/2019 08/7/2019

AST

150 g

Date Released: Component Make:

Date Received:

Component Model: Tank Capacity:

Quantity in Tank:

PRS Package Test Package:

**ASTM D2709** 

ASTM D6304-16

Type of Fuel: Serial Number: ULSD

| Test                      | Limits                     | Methods              | Result                 |
|---------------------------|----------------------------|----------------------|------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 38                     |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 46.2                   |
| Cloud Point               | report *C                  | ASTM D2500-99        | -8                     |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                     |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 242.22                 |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 307.78                 |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 78.89                  |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative               |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 0                      |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 67                     |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Trace Particles |

#### Comments

Water and Sediment

Water by Karl Fischer

High Sulfur: Too much sulfur can cause wear in diesel engines as a result of the corrosive nature of its combustion by-products. It also increases the amount of deposits in the combustion chamber and on the pistons. ASTM sets limits at 15ppm ULSD, 500ppm LSD & 5,000 High Sulfur.

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.

0.05 maximum (% volume)

report in ppm



|  |  | INF  | O-OTHER: Hospital tanks  |
|--|--|--|--|
| USTOMER: MUSC  | Tower DT1)   | /  |  |
| ACILITY: Building 580 Rutledge   | MSC 190 Charles  | on SC 29425  | The Management of the Control of the |
| DDRESS: 114 Jonathan Lucas St  | . IVIGO 130, Chanes  | 040  | 200 0400   |
| ONTACT: Rick Burt, Matthew Lo  | ong  | PHONE: 843-3   |  |
| MAIL burtd@musc.edu, Longmat@  | emusc.eau  | CELL: (843)  |  |
| nit Id: 580-0153-DT1   | Type: AST C  | apacity: 150   | Material: Dsl  |
| ast Tank Service: 2018   |  |  |  |
| FUEL SAMPLE TAKEN:   |  |  |  |
| Annual/Pre-Clean   |  |  |  |
| Post Clean   |  | //   |  |
| None ERVICES PERFORMED:  |  | Hamilton   |  |
| Maintenance  |  |  |  |
| S 001 Inspection   |  |  |  |
| Tan Cleaning   |  |  |  |
| Bottom Sweep<br>re-clean Lab Analysis  |  |  | THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRESS O |
| V st-clean Lab Analysis  |  | - In-  |  |
| Fuctatment:  |  |  |  |
| √ droClean   |  |  |  |
| C 1032   |  |  |  |
| cide Predator 6000   |  |  |  |
| 1  |  | 199  |  |
| 2  |  |  |  |
| Exteric Condition:   |  | The state of the state of  |  |
| Exteric Condition:   |  |  |  |
| Go Bad   |  |  |  |
|  |  |  |  |
| Go Bad Red Inspection PART TION:   | CONTAMINANT  |  | VISUAL FUEL RATING:  |
| Red Inspection  PART FION:  Goo N/A -Fill Cap  | ✓ Pre-Clean  |  | Pre-Clean Post Clean   |
| PART FION:  Goo N/A -Fill Cap  | ✓ Pre-CleanNone  | Post Clean   | Pre-Clean Post Clean Refinery Fresh  |
| PARTIFION:  Goo N/A -Fill Cap  Goo N/A - Vent  | Pre-Clean None Buik W  | Post Clean ater  | Pre-Clean Post Clean Refinery Fresh Good   |
| Goo N/A -Fill Cap  Goo N/A -Fill Port  Goo N/A -Sump   | Pre-Clean None Bulk W Suspen   | Post Clean   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Goo Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Spill Port  Goo N/A - Spill Bucket  | Pre-Clean None Bulk W Suspen   | Post Clean Tater The ded Water Torganisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| Goo N/A -Fill Cap  Goo N/A -Fill Port  Goo N/A -Sump   | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust  | Post Clean Tater The ded Water Torganisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended  |
| Go Bad  Red Inspection  PART FION:  Goo N/A -Fill Cap  N/A - Vent  Goo N/A - Fill Port  N/A - Spill Bucket  Goo N/A - Gauge  | Pre-Clean None Bulk W Suspend Micro-C  | Post Clean Tater The ded Water Torganisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| Goo Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Spill Port  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge   | Post Clean Tater ded Water organisms nts   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  |
| PART FION:  Goo N/A -Fill Cap  Goo N/A -Fill Port  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "C  | Pre-Clean None Bulk W Suspene Micro-c Sedime Rust Sludge   | Post Clean  ater ded Water organisms onts  THIS TANK                                 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended  |
| Goo Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Spill Port  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "C  | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge   | Post Clean  ater ded Water organisms ints  THIS TANK BRIGHT'' V *Lab Report          | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on  |
| Go Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Sump  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "C  "Tank chal based on Visual Fuel Inwill detectors on ASTM D975 Sp   | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported in Control of the Co | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |
| Go Bad  Red Inspection  PART TION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Spill Port  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "C   | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported in Control of the Co | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |
| Go'Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Sump  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "Constant of the second of t | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported in Control of the Co | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |
| Go'Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Sump  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "Constant of the second of t | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported Specifications**   | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |
| Go'Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Sump  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "Constant of the second of t | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported Specifications**   | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |
| Go'Bad  Red Inspection  PART FION:  Goo N/A - Fill Cap  Goo N/A - Vent  Goo N/A - Sump  Goo N/A - Spill Bucket  Goo N/A - Gauge  Goo N/A - Gaskets  THIS T PASS ASTM D975 "Constant of the second of t | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge **LEAR & BRIGHT"  **Espection ONLY, Lab Reported Specifications**   | Post Clean  ater ded Water organisms nts  THIS TANK BRIGHT'' V *Lab Report ASTM D975 | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR & "ISUAL INSPECTION. will determine fuel parameters based on Specifications   |

77-252-6396 (Toll Free) • 843-225-1777 • 843-377-0412 (Fax)
4310 Amsterdam St., N. Charleston, SC 29418
www.petroleumrecoveryservices.com







Loretta Shaw

Petroleum Recovery Services

4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO:

WO:

580-0153-DT1

580-0153-DT1 632503

MUSC - Hospital - Post

Sample Collection Date:

Date Received:

Date Released:

Component Make:

Component Model:

Tank Capacity:

Quantity in Tank:

Test Package:

Type of Fuel:

Serial Number:

07/24/2019

08/2/2019

08/7/2019

AST

150 g

PRS Package

ULSD

| Test                      |
|---------------------------|
| API Gravity by Hydrometer |
| Cetane Index              |
| Cloud Point               |
| Copper Strip Corrosion    |
| Distillation, 50%         |
| Distillation, 90%         |
| Flash Point               |
| Microbial Growth          |

Particulate Contamination

Sulfur

Visual Appearance Water and Sediment

Water by Karl Fischer

Limits report

40 minimum report °C

3 maximum report °C

282 - 338 °C 52 °C minimum

report report in milligrams/liter

15 ppm maximum

Visual 0.05 maximum (% volume) report in ppm

Methods

ASTM D1298-99 **ASTM D976-01** ASTM D2500-99 **ASTM D130-04 ASTM D86-08a** ASTM D86-08a ASTM D93-10

Micro/Culture Medium ASTM D6217-08

**ASTM D5453-09** 

ASTM D4176-04 **ASTM D2709** ASTM D6304-16

Result 1a 248.89 308.33 73.33 Negative 1.3

38

48

-8

Clear) Particles 0.001

79

#### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.

These results are submitted pursuant to our terms, conditions and limitations and laboratory pricing policy. No re assumed for the manner in which these results are used or interpreted.

915 Jefferson St., Vancouver, WA 98660: 360-546-3835



| GROUP INFO: MUSC Health  |   | DATE: 7-16-19  |
|--|---|--|
| CUSTOMER: MUSC   |   | FO-OTHER: Hospital tanks   |
| FACILITY: Building 580 Rutledge  | Tower (Parking) BOIL (580-NOID-BOI            |  |
| ADDRESS: 115 Jonathan Lucas St   | t. MSC 190, Charleston, SC 29425              | - Versit   |
| CONTACT: Rick Burt, Matthew Lo   | ong PHONE: 843                                | -323-0429  |
| EMAIL burtd@musc.edu, Longmat@   | @musc.edu CELL: (843)                         | 792-3528   |
| Unit Id: 590-FT-19   | Type: UST Capacity: 15,000                    | Material: Dsl  |
| Last Tank Service: 2018  |   |  |
| FUEL SAMPLE TAKEN:  Annual/Pre-Clean  Post Clean  None  SERVICES PERFORMED:  Maintenance  STI 001 Inspection  Tank Cleaning  Bottom Sweep  Pre-clean Lab Analysis  Post-clean Lab Analysis  Fuel Treatment:  HydroClean  ILFC 1032  Biocide Predator 6000  None  Exterior Tank Condition:  Good Bad  Recommend Inspection  |   |  |
| Good Bad N/A -Fill Cap Good Bad N/A - Vent Good Bad N/A - Fill Port Good Bad N/A - Spill Bucket Good Bad N/A - Spill Bucket Good Bad N/A - Gauge Good Bad N/A - Gaskets  IS TANK DOES NOT PASS ASTM D975 "C SUAL INSPECTION ank cleaning is recommended based on Visual Fuel In I determine fuel parameters based on ASTM D975 Spi DMMENTS: The before cleaning sample | spection ONLY. Lab Report BRIGHT" *Lab Report | VISUAL FUEL RATING: Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  K PASSES THE ASTM D975 "CLEAR & VISUAL INSPECTION. It will determine fuel parameters based on Specifications  ample is on the right |





Loretta ShawSample Collection Date:07/16/2019Petroleum Recovery ServicesDate Received:07/31/20194310 Amsterdam St.Date Released:08/5/2019

North Charleston, SC 29418 Component Make:

843-225-1777 Component Model: UST
Sample Taken From: 590-FT-19 Tank Capacity: 15,000 g

Sample ID: 590-FT-19 Quantity in Tank:

PO: 632498 Test Package: PRS Package
WO: MUSC - Hospital - Post Type of Fuel: ULSD

Serial Number:

Methods Result Limits Test ASTM D1298-99 38 API Gravity by Hydrometer report 40 minimum ASTM D976-01 48.2 Cetane Index -12 **Cloud Point** report °C **ASTM D2500-99** 3 maximum ASTM D130-04 1a Copper Strip Corrosion report °C **ASTM D86-08a** 249.44 Distillation, 50% 307.78 282 - 338 °C **ASTM D86-08a** Distillation, 90% Flash Point 52 °C minimum **ASTM D93-10** 64.44 Microbial Growth report Micro/Culture Medium Negative 2.7 Particulate Contamination report in milligrams/liter ASTM D6217-08 4 Sulfur ASTM D5453-09 15 ppm maximum Visual ASTM D4176-04 Clear, Trace Particles Visual Appearance Water and Sediment 0.05 maximum (% volume) **ASTM D2709** 0.001 Water by Karl Fischer report in ppm ASTM D6304-16 54

#### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC Health   | 1                                | DATE: 7-17-19   |
|---|----------------------------------|---|
| CUSTOMER: MUSC  |                                  | INFO-OTHER: Hospital tanks  |
| FACILITY: Building 580 Rutledge   | Tower GEN - 580-NOID-GEN)        |   |
| ADDRESS: 116 Jonathan Lucas S   | t. MSC 190, Charleston, SC 29425 |   |
| CONTACT: Rick Burt, Matthew L   |                                  | 843-323-0430  |
| MAIL burtd@musc.edu, Longmat  | @musc.edu CELL: (8               | 343) 792-3529   |
| Jnit Id : 590-FT-20   | Type: UST Capacity: 15.          | ,000 Material: Dsl  |
| ast Tank Service: 2018  | 100 100                          |   |
| Annual/Pre-Clean  Post Clean None  ERVICES PERFORMED:  Maintenance  STI 001 Inspection  Tank Cleaning  Bottom Sweep  Pre-clean Lab Analysis  Post-clean Lab Analysis  Vel Treatment:  HydroClean  ILFC 1032  Biocide Predator 6000  None  Prior Tank Condition:  Good  Bad  Recommend Inspection  |                                  |   |
| RTS CONDITION:  ood Bad N/A -Fill Cap  ood Bad N/A - Vent  ood Bad N/A - Fill Port  ood Bad N/A - Spill Bucket  ood Bad N/A - Spill Bucket  ood Bad N/A - Gauge  ood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "CAL INSPECTION  cleaning is recommended based on Visual Fuel Is  termine fuel parameters based on ASTM D975 Sy  MENTS: The before cleaning sample | Inspection ONLY. Lab Report BRIG | VISUAL FUEL RATING:  Pre-Clean Post Clean  Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  TANK PASSES THE ASTM D975 "CLEAR ANT" VISUAL INSPECTION.  Report will determine fuel parameters based on 1975 Specifications  Ing sample is on the right |

877-252-6396 (Toll Free) • 843-225-1777 • 843-377-0412 (Fax)
4310 Amsterdam St., N. Charleston, SC 29418
www.petroleumrecoveryservices.com





07/17/2019

07/31/2019

08/5/2019

Loretta Shaw Sample Collection Date: Petroleum Recovery Services Date Received: 4310 Amsterdam St. Date Released:

North Charleston, SC 29418 Component Make:

843-225-1777 Component Model: UST Sample Taken From: 590-FT-20 Tank Capacity: 15,000 g

Sample ID: 590-FT-20 Quantity in Tank:

PO: 632498 Test Package: PRS Package WO: MUSC - Hospital - Post Type of Fuel: ULSD

Serial Number:

| Test                      | Limits                     | Methods              | Result                 |
|---------------------------|----------------------------|----------------------|------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 37                     |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 44.5                   |
| Cloud Point               | report °C                  | ASTM D2500-99        | -11                    |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                     |
| Distillation, 50%         | report *C                  | ASTM D86-08a         | 242.22                 |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 307.22                 |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 71.11                  |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative               |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 6                      |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 62                     |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Trace Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.001                  |

2 S Water by Karl Fischer report in ppm ASTM D6304-16 68

### Comments

High Sulfur: Too much sulfur can cause wear in diesel engines as a result of the corrosive nature of its combustion by-products. It also increases the amount of deposits in the combustion chamber and on the pistons. ASTM sets limits at 15ppm ULSD, 500ppm LSD & 5,000 High Sulfur.

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC Heal   | th  |                                       | DATE: 7-16-19  |
|---|---|---------------------------------------|--|
| CUSTOMER: MUSC  | INF   | O-OTHER: Hospital tanks               |  |
| ACILITY: Building 600 Clinical  | Science 3 (600-CE-3/  |                                       |  |
| ADDRESS: 117 Jonathan Lucas   | St. MSC 190, Charles  | ton, SC 29425                         |  |
| CONTACT: Rick Burt, Matthew   | Long  | PHONE: 843-                           | 323-0431   |
| MAIL burtd@musc.edu, Longma   | t@musc.edu  | CELL: (843)                           | 792-3530   |
| Unit Id : 600-FT-08   | Type:AST_C  | apacity : 3,000                       | Material: Dsl  |
| ast Tank Service: 2018  | 3070006   |                                       |  |
| UEL SAMPLE TAKEN:   |   |                                       |  |
| Annual/Pre-Clean  Post Clean  |   | - 1                                   |  |
| None  |   |                                       |  |
| ERVICES PERFORMED:  |   |                                       |  |
| Maintenance   |   |                                       |  |
| STI 001 Inspection  |   |                                       |  |
| Tank Cleaning   |   |                                       |  |
| Bottom Sweep  |   |                                       | THE REAL PROPERTY.   |
| Pre-clean Lab Analysis  |   | -                                     |  |
| Post-clean Lab Analysis uel Treatment:  |   |                                       |  |
| ✓ HydroClean  |   | -                                     |  |
| ILFC 1032   |   |                                       |  |
| Biocide Predator 6000   |   |                                       |  |
| None None   |   |                                       |  |
|   |   |                                       |  |
| erior Tank Condition:   |   |                                       |  |
| iood 🔲 Bad  |   |                                       |  |
| Recommend Inspection  |   |                                       |  |
| TS CONDITION:   | CONTAMINANT   | 'S FOUND:                             | VISUAL FUEL RATING:  |
| ood Bad N/A -Fill Cap   | ✓ Pre-Clean   | Post Clean                            | Pre-Clean Post Clean   |
| ood Bad N/A - Vent  | None  |                                       | Refinery Fresh   |
| ood Bad N/A - Vent  | Bulk Wa   | ater                                  | ✓ Good   |
| ood Bad N/A -Sump   | Suspend   | ed Water                              | Watch Closely  |
| od Bad N/A - Spill Bucket   | Micro-o   | rganisms                              | Advanced Aging   |
| od Bad N/A - Gauge  | Sedimen   | nts                                   | Bad-Not Recommended  |
|   | D .   |                                       | Bad-Not Recommended  |
|   | Rust  |                                       | 0 0 11.11  |
| od Bad N/A - Gaskets  | Rust<br>Sludge  |                                       | Severe-Do Not Use  |
| Dod Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "   | Sludge  |                                       | PASSES THE ASTM D975 "CLEA   |
| ood Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 " AL INSPECTION   | Sludge "CLEAR & BRIGHT"   | BRIGHT" V                             | PASSES THE ASTM D975 "CLEAR<br>ISUAL INSPECTION.   |
| Dod Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "   | Sludge CLEAR & BRIGHT" Inspection ONLY, Lab Report                | BRIGHT" V                             | PASSES THE ASTM D975 "CLEA' ISUAL INSPECTION. will determine fuel parameters based on                        |
| TANK DOES NOT PASS ASTM D975 " AL INSPECTION cleaning is recommended based on Visual Fuel ermine fuel parameters based on ASTM D975 : | Sludge CLEAR & BRIGHT" Inspection ONLY, Lab Report Specifications | BRIGHT" V<br>*Lab Report<br>ASTM D975 | PASSES THE ASTM D975 "CLEA<br>ISUAL INSPECTION.<br>will determine fuel parameters based or<br>Specifications |
| DOD Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 " AL INSPECTION  Cleaning is recommended based on Visual Fuel                     | Sludge CLEAR & BRIGHT" Inspection ONLY, Lab Report Specifications | BRIGHT" V<br>*Lab Report<br>ASTM D975 | PASSES THE ASTM D975 "CLEA<br>ISUAL INSPECTION.<br>will determine fuel parameters based or<br>Specifications |
| TANK DOES NOT PASS ASTM D975 " AL INSPECTION cleaning is recommended based on Visual Fuel ermine fuel parameters based on ASTM D975 : | Sludge CLEAR & BRIGHT" Inspection ONLY, Lab Report Specifications | BRIGHT" V<br>*Lab Report<br>ASTM D975 | PASSES THE ASTM D975 "CLEA<br>ISUAL INSPECTION.<br>will determine fuel parameters based or<br>Specifications |
| TANK DOES NOT PASS ASTM D975 " AL INSPECTION cleaning is recommended based on Visual Fuel ermine fuel parameters based on ASTM D975 : | Sludge CLEAR & BRIGHT" Inspection ONLY, Lab Report Specifications | BRIGHT" V<br>*Lab Report<br>ASTM D975 | PASSES THE ASTM D975 "CLEA<br>ISUAL INSPECTION.<br>will determine fuel parameters based or<br>Specifications |





PRS Package

Loretta ShawSample Collection Date:07/16/2019Petroleum Recovery ServicesDate Received:07/31/20194310 Amsterdam St.Date Released:08/5/2019

North Charleston, SC 29418 Component Make:

843-225-1777 Component Model: AST
Sample Taken From: 600-FT-08 Tank Capacity: 3,000 g

Sample ID: 600-FT-08 Quantity in Tank:

WO: MUSC - Hospital - Post Type of Fuel: ULSD

Serial Number:

632498

Result Methods Test Limits API Gravity by Hydrometer report ASTM D1298-99 38 40 minimum **ASTM D976-01** 46 Cetane Index **ASTM D2500-99** -10 Cloud Point report °C Copper Strip Corrosion 3 maximum ASTM D130-04 1a 241.67 Distillation, 50% report °C **ASTM D86-08a** 307.22 Distillation, 90% 282 - 338 °C **ASTM D86-08a** Flash Point 52 °C minimum **ASTM D93-10** 61.67 Microbial Growth report Micro/Culture Medium Negative Particulate Contamination report in milligrams/liter ASTM D6217-08 2.7 20 Sulfur 15 ppm maximum ASTM D5453-09 Clear, Trace Particles Visual Appearance Visual ASTM D4176-04 **ASTM D2709** 0.001 Water and Sediment 0.05 maximum (% volume) report in ppm ASTM D6304-16 Water by Karl Fischer 64

Test Package:

### Comments

PO:

High Sulfur: Too much sulfur can cause wear in diesel engines as a result of the corrosive nature of its combustion by-products. It also increases the amount of deposits in the combustion chamber and on the pistons. ASTM sets limits at 15ppm ULSD, 500ppm LSD & 5,000 High Sulfur.

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC Health                           | ı - T       |          |                      | D/                | ATE: 7-2                                    | 2-19   |
|---|-------------|----------|----------------------|-------------------|---|--|
| CUSTOMER: MUSC                                    |             |          |                      | INFO-0            | OTHER:                                      | Hospital tanks   |
| FACILITY: Building 850 - Day (Ro                  | of) (580-01 | -01DF    | )                    |                   |   |  |
| ADDRESS: 118 Jonathan Lucas Si                    |             |          |                      | 29425             |   |  |
|   |             | , Orial  |                      |                   |   |  |
| CONTACT: Rick Burt, Matthew Li                    |             |          |                      | ONE: 843-323      |   |  |
| EMAIL burtd@musc.edu, Longmat@                    | @musc.edu   |          | CEL                  | .L: (843) 79      | 2-3531                                      |  |
| Unit Id: 850-01-128/129                           | _ Type : _  | AST      | Capacity             | : 400             | Mater                                       | ial: Dsl   |
| Last Tank Service: 2018                           |             |          |                      |                   |   |  |
| FUEL SAMPLE TAKEN:                                |             |          |                      | 11                | 1   |  |
| Annual/Pre-Clean                                  |             |          |                      | -                 | -51   |  |
| Post Clean None                                   |             |          |                      | 4 m               | - 70  | Recovery Services  |
| SERVICES PERFORMED:                               |             |          |                      |                   | 100   | SPECIAL PROPERTY OF SPECIA |
| Maintenance                                       |             |          |                      | Jesteum Recovery  | Bervices A                                  | 119  |
| STI 001 Inspection                                |             |          |                      | STATE OF STATE OF | house Carolina 2019<br>MCCCCCA612<br>MLVCCC | mishing SC   |
| ✓ Tank Cleaning                                   |             |          |                      | 1 7               |   | Badward # \$68 -01-111/ht  |
| Bottom Sweep                                      |             |          |                      | 1400 A. R         | 1   | 100  |
| Pre-clean Lab Analysis                            |             |          |                      | Louise            | · I for it and                              |  |
| Post-clean Lab Analysis                           |             |          |                      |                   |   |  |
| Fuel Treatment:                                   |             |          |                      | 18                | Samuel Sale                                 | The second second  |
| HydroClean ILFC 1032                              |             |          |                      |                   |   |  |
| Biocide Predator 6000                             |             |          |                      |                   | 1000  |  |
| None None   |             |          |                      |                   |   |  |
|   |             |          |                      | of the latest     |   | PART MODELLA CONT.   |
| terior Tank Condition:                            |             |          |                      | The same of       |   |  |
| Good Bad  |             |          |                      |                   |   |  |
| Recommend Inspection                              |             |          |                      |                   |   |  |
| RTS CONDITION:                                    | CONTA       | MINA     | NTS FOU              | ND: V             | ISUAL F                                     | UEL RATING:  |
| Good Bad N/A -Fill Cap                            | Pr          | e-Clean  | ✓ Post Clea          | in _              | Pre-Clear                                   | ✓ Post Clean   |
| Good Bad N/A - Vent                               | V           | _Non     |                      |                   | Refine                                      | ry Fresh   |
| Good Bad N/A -Fill Port                           | 2/          | _        | Water                |                   | / Good                                      |  |
| Good Bad N/A -Sump                                |             |          | ended Wate           |                   | Watch                                       | Closely  |
| good Bad N/A - Spill Bucket                       |             |          | o-organism:          | 5                 |   | ced Aging  |
| Good Bad N/A - Gauge                              |             |          | ments                |                   |   | ot Recommended   |
| Good Bad N/A - Gaskets                            | -           | _Rust    |                      |                   |   | -Do Not Use  |
|   | 1           | Slud     | ge                   |                   |   |  |
| S TANK DOES NOT PASS ASTM D975 "C                 | LEAR & BR   | IGHT"    |                      | THIS TANK PA      | ASSES TH                                    | E ASTM D975 "CLEAR &   |
| JAL INSPECTION                                    |             |          |                      | BRIGHT" VIS       |   |  |
| c cleaning is recommended based on Visual Fuel II |             | . Lab Ro | port                 |                   | 10.   | fuel parameters based on 🚩   |
| letermine fuel parameters based on ASTM D975 Sp   |             |          | and the Paris of the | ASTM D975 Spe     |   | 1 1 1 1 1 1 1  |
| MMENTS: Picture of the before cleaning            | ng sample i | is on t  | ne lett and          | the after clean   | ing samp                                    | ie is on the right   |
|   |             |          |                      |                   |   |  |
|   |             |          |                      |                   |   |  |
|   |             |          |                      |                   |   |  |
|   |             |          |                      |                   |   |  |
|   |             | ,        |                      |                   |   |  |





Loretta Shaw **Petroleum Recovery Services** 4310 Amsterdam St. North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO: WO: 850-01-128/129 850-01-128/129

632503

MUSC - Hospital - Post

Sample Collection Date:

07/22/2019 08/2/2019 08/7/2019

AST

400 g

Date Released: Component Make:

Date Received:

Component Model: Tank Capacity:

Quantity in Tank:

Test Package:

PRS Package Type of Fuel: ULSD

Serial Number:

| Test                      | Limits                     | Methods              | Result                 |
|---------------------------|----------------------------|----------------------|------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 38                     |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 48.3                   |
| Cloud Point               | report °C                  | ASTM D2500-99        | -12                    |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                     |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 250.0                  |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 308.33                 |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 73.33                  |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative               |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 4.7                    |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 4                      |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Trace Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.001                  |
| Water by Karl Fischer     | report in ppm              | ASTM D6304-16        | 58                     |

### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC Health  |  | DATE: 7-8-19   |
|--|--|--|
| CUSTOMER: MUSC   | INI  | FO-OTHER: Hospital tanks   |
| FACILITY: Building 850 Phsych C  |  |  |
| ADDRESS: 119 Jonathan Lucas St   | t. MSC 190, Charleston, SC 29425   |  |
| CONTACT: Rick Burt, Matthew Lo   |  | -323-0433  |
| EMAIL burtd@musc.edu, Longmat@   |  |  |
| Unit Id: 850-FT-12   | Type: UST Capacity: 8,000  |  |
| Last Tank Service: 2018  |  |  |
| FUEL SAMPLE TAKEN:  Annual/Pre-Clean  Post Clean None  SERVICES PERFORMED:  Maintenance  STI 001 Inspection  Tank Cleaning  Bottom Sweep  Pre-clean Lab Analysis  Post-clean Lab Analysis  Fuel Treatment:  HydroClean  ILFC 1032  Biocide Predator 6000  None  sterior Tank Condition:  Good Bad  | Recovery Services to Outeron, South Carefus 953 UTF Fire A54-377-0412 SERBOROMOTION, COD.  9  (B. C. L. H. C. L. | 29416 The State of St |
| Recommend Inspection   |  |  |
| Good Bad N/A -Fill Cap Good Bad N/A -Fill Cap Good Bad N/A - Vent Good Bad N/A - Fill Port Good Bad N/A - Spill Bucket Good Bad N/A - Spill Bucket Good Bad N/A - Gauge Good Bad N/A - Gaskets  S TANK DOES NOT PASS ASTM D975 "C UAL INSPECTION & cleaning is recommended based on Visual Fuel In letermine fuel parameters based on ASTM D975 Spi MMENTS: Picture of the before cleaning | spection ONLY. Lab Report *Lab Report  | VISUAL FUEL RATING:  Pre-Clean   |





Loretta Shaw Petroleum Recovery Services 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From: Sample ID:

PO:

WO:

850-FT-12

850-FT-12 632498

MUSC - Hospital - Post

Sample Collection Date:

07/8/2019 Date Received: 07/31/2019 Date Released: 08/5/2019

Component Make:

Component Model: Tank Capacity:

UST 8,000 g

ULSD

Quantity in Tank:

Test Package: PRS Package

Type of Fuel:

Serial Number:

| Test                      | Limits                     | Methods              | Result                 |
|---------------------------|----------------------------|----------------------|------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 38                     |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 48.4                   |
| Cloud Point               | report °C                  | ASTM D2500-99        | -11                    |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                     |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 250.56                 |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 307.78                 |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 71.67                  |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative               |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 0.7                    |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 15                     |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Trace Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.001                  |
| Water by Karl Fischer     | report in ppm              | ASTM D6304-16        | 68                     |

### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC H   | ealth  | DATE: 7-8-19   |
|--|--|--|
| CUSTOMER: MUSC   | Company and the company  | INFO-OTHER: Hospital tanks   |
| ACILITY: Building 850 Phs  | ych Center #13 (850 #1)  |  |
|  | cas St. MSC 190, Charlesto 42  | 5  |
| ONTACT: Rick Burt, Matth   |  | 843-323-0434   |
| MAIL burtd@musc.edu, Long  |  | 843) 792-3533  |
| nit Id: 850-FT-13  | Type: UST C: 10  |  |
| ast Tank Service: 2018   |  |  |
| UEL SAMPLETAKEN:   |  | 100  |
| Annual/Pre-Clean   |  |  |
| Post Clean  None   |  | Control of the Contro |
| RVICES PERFORMED:  | Tributal Article   |  |
| Maintenance  | THE STATE OF THE PARTY OF THE P |  |
| STI 001 Inspection   |  | mam Recovery Services minum Recovery Services  |
| Liank Cleaning   |  | min Recovery Services  put North Chemisters, South Caroline 2944  put North Chemisters, South Caroline 2944  put Caroline 2944  |
| ottom Sweep  | 1  |  |
| te-clean Lab Analysis  |  | 14 To Rend Cake are Clade 12 500 Photoschools  |
| Fuentment:   |  | to the State of th |
| droClean   |  |  |
| C 1032   | Marine Alle 1  |  |
| Mida Danii   |  |  |
| pide Predator 6000   |  |  |
| tide rredator 6000   |  |  |
| 1  |  |  |
| 1  |  |  |
| Extek Condition:   |  |  |
| Exter Condition:  Gad  Rd Inspection   |  |  |
| Extence Condition:  GBad  Rd Inspection  PAR TION:   | CONTAMINANTS FOUND:  | VISUAL FUEL RATING:  |
| Extent Condition:  GBad  RI Inspection  PAR TION:  GOO N/A -Fill Cap   | Pre-Clean Post Clean   | Pre-Clean Post Clean   |
| Exter Condition:  GBad  RI Inspection  PAR TION:  GO N/A -Fill Cap  GO N/A - Vent  | Pre-Clean Post Clean None  | Pre-Clean Post Clean Refinery Fresh  |
| Extence Condition:  Grad  Rul Inspection  PAR TION:  Go N/A -Fill Cap  N/A - Vent  | Pre-Clean Post Clean None Bulk Water   | Pre-Clean Post Clean Refinery Fresh Good   |
| Extex Condition:  GBad  RI Inspection  PAR TION:  GO N/A -Fill Cap  N/A - Vent  N/A -Fill Port  GO N/A - Sump  | Pre-Clean Post Clean None Bulk Water Suspended Water   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Exter Condition:  GBad  Rd Inspection  PAR TION:  GO N/A -Fill Cap N/A - Vent N/A - Fill Port N/A - Spill Bucket GO N/A - Spill Bucket   | Pre-Clean Post Clean None Bulk Water   | Pre-Clean ✓ Post Clean  Refinery Fresh ✓ Good  Watch Closely  Advanced Aging   |
| Exter Condition:  GBad  Rd Inspection  PAR TION:  GO N/A -Fill Cap N/A - Vent N/A - Fill Port N/A - Spill Bucket GO N/A - Spill Bucket   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended  |
| Extex Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap  Go N/A -Vent  Go N/A -Fill Port  Go N/A -Sump   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| Extek Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap  Go N/A - Vent  Go N/A - Fill Port  Go N/A - Spill Bucket  Go N/A - Gauge  Go N/A - Gaskets  THIS T PASS ASTM DOZE UC  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  |
| Exter Condition:  G Bad  Rd Inspection  PAR TION:  God N/A -Fill Cap N/A - Vent N/A -Fill Port N/A - Spill Bucket N/A - Spill Bucket N/A - Gauge N/A - Gaskets  THIS T PASS ASTM D975 "C   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended  |
| Exter Condition:  GBad  RI Inspection  PAR TION:  GO N/A -Fill Cap N/A - Vent N/A -Fill Port N/A - Spill Bucket N/A - Spill Bucket N/A - Gauge N/A - Gaskets  THIS T PASS ASTM D975 "C   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR &   |
| Exter Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap  N/A - Vent  N/A - Fill Port  N/A - Spill Bucket  N/A - Spill Bucket  God N/A - Gauge  N/A - Gaskets  THIS T PASS ASTM D975 "C  VISUA  *Tank collect based on Visual Fuel In will dete spissed on ASTM D975 Specification.   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR & GIIT" VISUAL INSPECTION. Report will determine fuel parameters based on MD975 Specifications  |
| Extek Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap  N/A -Fill Port  Go N/A - Spill Bucket  N/A - Spill Bucket  N/A - Gauge  God N/A - Gaskets  THIS T PASS ASTM D975 "C  VISUA  Tank colled based on Visual Fuel Inwill dete  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  S TANK PASSES THE ASTM D975 "CLEAR & GHT" VISUAL INSPECTION. Report will determine fuel parameters based on   |
| Exter Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap N/A - Vent N/A - Fill Port N/A - Spill Bucket N/A - Spill Bucket N/A - Gauge N/A - Gaskets  THIS T PASS ASTM D975 "C VISUA  *Tank c led based on Visual Fuel In will dete v based on ASTM D975 Spec  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR & GIIT" VISUAL INSPECTION. Report will determine fuel parameters based on MD975 Specifications  |
| Exter Condition:  G Bad  Rd Inspection  PAR TION:  Go N/A -Fill Cap N/A - Vent N/A - Fill Port N/A - Spill Bucket N/A - Spill Bucket N/A - Gauge N/A - Gaskets  THIS T PASS ASTM D975 "C VISUA  *Tank c led based on Visual Fuel In will dete v based on ASTM D975 Spec  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR & GIIT" VISUAL INSPECTION. Report will determine fuel parameters based on MD975 Specifications  |
| Extex Condition:  GBad  Rd Inspection  PAR TION:  GO N/A -Fill Cap N/A - Vent N/A -Fill Port N/A - Spill Bucket N/A - Spill Bucket N/A - Gauge N/A - Gaskets  THIS T PASS ASTM D975 "C VISUA *Tank collect based on Visual Fuel Inwill detern a based on ASTM D975 Specific Spill Port will detern a based on ASTM D975 Specific Spill Port N/A - Gasket Spill Bucket VISUA *Tank collect based on Visual Fuel Inwill detern a based on ASTM D975 Specific Spill Port N/A - GASTM D975 Specific Spill Port N/A - GASTM D975 Spill Port N/A - GASTM D97 | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR & GIIT" VISUAL INSPECTION. Report will determine fuel parameters based on MD975 Specifications  |
| Extex Condition:  GBad  Rd Inspection  PAR TION:  GO N/A -Fill Cap N/A - Vent GO N/A - Fill Port GO N/A - Spill Bucket GO N/A - Spill Bucket GO N/A - Gauge GOON/A - Gaskets  THIS T PASS ASTM D975 "C VISUA  Tank colled based on Visual Fuel Inwill detern abused on ASTM D975 Specific  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  LEAR & BRIGHT" THIS spection ONLY, Lab Report *Lab Report *Lab ASTA*   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  STANK PASSES THE ASTM D975 "CLEAR & GIIT" VISUAL INSPECTION. Report will determine fuel parameters based on MD975 Specifications  |

877-252-6396 (Toll Free) • 843-225-1777 • 843-377-0412 (Fax)
4310 Amsterdam St., N. Charleston, SC 29418
www.petroleumrecoveryservices.com



Certificate of Analysis

Laboratory Number: 73119544

Loretta Shaw

Petroleum Recovery Services

4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO:

WO:

850-FT-13

850-FT-13 632498

MUSC - Hospital - Post

nple Collection Date:

e Received:

e Released:

rponent Make: ponent Model:

k Capacity:

ntity in Tank:

Packago

of Fuel:

I Number:

07/8/2019

07/31/2019

08/5/2019

UST 10,000

PRS Package

ULSD

Test

API Gravity by Hydrometer

Cetane Index

Cloud Point

Copper Strip Corrosion

Distillation, 50%

Distillation, 90% Flash Point

Microbial Growth

Particulate Contamination

Sulfur

Visual Appearance

Water and Sediment

Water by Karl Fischer

Limits

report

40 minimum

report °C

3 maximum report °C

282 - 338 °C

52 °C minimum

report

report in milligrams/liter

15 ppm maximum

Visual

0.05 maximum (% volume) report in ppm

Methods

ASTM D1298-99 ASTM 0976-01

ASTM D2500-99 ASTM D130-04

ASTM D86-08a

ASTM D86-088 **ASTM D93-10** 

MicrolCulture Medium

ASTI D6217-08

ASTN 5453-09 ASTM 1178-04

**ASTM 02709** 

ASTM DEJON 16

Result

38

47.9 -13

1a

248.33 307.78

60.56

egative

6 3

Clear articles

0.001 69

#### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuer transleum Recovery Services recommends fuer maintenance/filtration on any fuel with 200 ppm or higher of water present

These results are submitted pursuant to our terms, conditions and limitations and laboratory pricing policy. No res assumed for the manner in which these results are used or interpreted.

915 Jefferson St., Vancouver, WA 98660 : 360-546-3835



| GROUP INFO: MUSC Healt   | h = = =  | DATE: 7-24-2019  |
|--|--|--|
| CUSTOMER: MUSC   |  | NFO-OTHER: Hospital tanks  |
| ACILITY: CAC - Generator Belly   |  | 31300  |
| ADDRESS: 126 Jonathan Lucas S  | St. MSC 190, Charleston, SC 29425              |  |
| CONTACT: Rick Burt, Matthew L  | ong PHONE: 8                                   | 43-323-0440  |
| EMAIL burtd@musc.edu, Longmat  |  | 3) 792-3539  |
| Unit Id: NEW-CAC-Gen-SBT-231   | 9 Type: SBT Capacity: 2,31                     |  |
| ast Tank Service: New  |  |  |
| FUEL SAMPLE TAKEN:   |  |  |
| ✓ Annual/Pre-Clean   |  |  |
| Post Clean   |  |  |
| None ERVICES PERFORMED:  |  |  |
| Maintenance  |  |  |
| STI 001 Inspection   |  |  |
| Tank Cleaning  |  | 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |
| Bottom Sweep   |  |  |
| Pre-clean Lab Analysis   |  |  |
| Post-clean Lab Analysis  |  |  |
| uel Treatment:   |  |  |
| HydroClean   |  | THE RESERVE TO SERVE THE PARTY OF THE PARTY  |
| ILFC 1032  |  | The second second  |
| Biocide Predator 6000  |  | The same of the same of  |
| None   |  | Control State of the State of t |
| erior Tank Condition:  |  |  |
| Good Bad   |  |  |
| Recommend Inspection   |  |  |
| Recommend hispection   |  |  |
| TS CONDITION:  | CONTAMINANTS FOUND:                            | VISUAL FUEL RATING:  |
|  | Pre-Clean Post Clean                           | Pre-Clean Post Clean   |
|  | ✓ None   | Refinery Fresh   |
| bod Bad N/A - Vent<br>Bad N/A - Fill Port  | Bulk Water                                     | <b>✓</b> Good  |
| ood Bad N/A -Sump  | Suspended Water                                | Watch Closely  |
| ood Bad N/A - Spill Bucket   | Micro-organisms                                | 100000000000000000000000000000000000000  |
| ood Bad N/A - Gauge  | Sediments                                      | Advanced Aging   |
| ood Bad N/A - Gaskets  | Rust   | Bad-Not Recommended  |
| Dad  | Sludge   | Severe-Do Not Use  |
| TABLE DODE NOT DACE ACTA DOSE HE   | THE T  | ANK PASSES THE ASTM D975 "CLEA   |
|  | LEAR & DRIGHT ******************************** | " VISUAL INSPECTION.   |
| TANK DOES NOT PASS ASTM D975 "C<br>AL INSPECTION   | BRIGHT   |  |
| TANK DUES NOT PASS ASTM D9/5 "C<br>AL INSPECTION<br>cleaning is recommended based on Visual Fuel I         |  |  |
| AL INSPECTION  | nspection ONLY, Lab Report *Lab Rep            | port will determine fuel parameters based of<br>1975 Specifications  |
| AL INSPECTION cleaning is recommended based on Visual Fuel I. ermine fuel parameters based on ASTM D975 Sp | nspection ONLY, Lab Report *Lab Report ASTM D  | port will determine fuel parameters based o  |
| AL INSPECTION cleaning is recommended based on Visual Fuel I.  | nspection ONLY, Lab Report *Lab Report ASTM D  | port will determine fuel parameters based o  |
| AL INSPECTION cleaning is recommended based on Visual Fuel I. ermine fuel parameters based on ASTM D975 Sp | nspection ONLY, Lab Report *Lab Report ASTM D  | port will determine fuel parameters based o  |
| AL INSPECTION cleaning is recommended based on Visual Fuel I. ermine fuel parameters based on ASTM D975 Sp | nspection ONLY, Lab Report *Lab Report ASTM D  | port will determine fuel parameters based o  |





Loretta Shaw

Petroleum Recovery Services

4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO:

WO:

NEW-CAC-GEN-SBT-2319

NEW-CAC-2319

632501

MUSC - Hospital - Pre

Sample Collection Date:

07/24/2019 08/2/2019 08/7/2019

Date Received: Date Released:

Component Make:

Component Model: Tank Capacity: SBT 2,319 g

ULSD

Quantity in Tank:

Test Package:

PRS Package

Type of Fuel:

Serial Number:

| Test                      | Limits                     | Methods              | Result                 |
|---------------------------|----------------------------|----------------------|------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 37                     |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 46.9                   |
| Cloud Point               | report °C                  | ASTM D2500-99        | -9                     |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                     |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 251.11                 |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 308.33                 |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 61.11                  |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative               |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 2.7                    |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 4                      |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Trace Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | <b>ASTM D2709</b>    | 0.001                  |
| Water by Karl Fischer     | report in ppm              | ASTM D6304-16        | 78                     |

### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| CUSTOMER: MUSC  FACILITY: SJCH - Day Tank - 1  ADDRESS: 124 Jonathan Lucas St. MSC 190, CONTACT: Rick Burt, Matthew Long  EMAIL burtd@musc.edu, Longmat@musc.edu  Jnit Id: NEW-SJCH-Day 1-225g Type: Sl.  ast Tank Service: New  FUEL SAMPLE TAKEN:  Annual/Pre-Clean Post Clean None ERVICES PERFORMED: Maintenance STI 001 Inspection | Charleston, SC 29425 PHONE: 84 CELL: (844) | 3) 792-3537  |
|---|--|--|
| ADDRESS: 124 Jonathan Lucas St. MSC 190, CONTACT: Rick Burt, Matthew Long  EMAIL burtd@musc.edu, Longmat@musc.edu  Jnit Id: NEW-SJCH-Day 1-225g Type: St. ast Tank Service: New  FUEL SAMPLE TAKEN:  Mannual/Pre-Clean Post Clean None  ERVICES PERFORMED: Maintenance  | Charleston, SC 29425 PHONE: 84 CELL: (844) | 3-323-0438<br>3) 792-3537  |
| ADDRESS: 124 Jonathan Lucas St. MSC 190, CONTACT: Rick Burt, Matthew Long  EMAIL burtd@musc.edu, Longmat@musc.edu  Jnit Id: NEW-SJCH-Day 1-225g Type: St. ast Tank Service: New  FUEL SAMPLE TAKEN:  Mannual/Pre-Clean Post Clean None  ERVICES PERFORMED: Maintenance  | PHONE: 84<br>CELL: (843                    | 3) 792-3537  |
| CONTACT: Rick Burt, Matthew Long  EMAIL burtd@musc.edu, Longmat@musc.edu  Unit Id: NEW-SJCH-Day 1-225g Type: Sl  ast Tank Service: New  FUEL SAMPLE TAKEN:  Annual/Pre-Clean Post Clean None ERVICES PERFORMED: Maintenance   | PHONE: 84<br>CELL: (843                    | 3) 792-3537  |
| EMAIL burtd@musc.edu, Longmat@musc.edu  Jnit Id: NEW-SJCH-Day 1-225g Type: Sl ast Tank Service: New  UEL SAMPLE TAKEN:  Annual/Pre-Clean Post Clean None  ERVICES PERFORMED: Maintenance  | CELL: (843                                 | 3) 792-3537  |
| Jnit Id: NEW-SJCH-Day 1-225g Type: Slast Tank Service: New  UEL SAMPLE TAKEN:  Annual/Pre-Clean Post Clean None  ERVICES PERFORMED: Maintenance   |  |  |
| ast Tank Service: New  UEL SAMPLE TAKEN:  Annual/Pre-Clean Post Clean None  ERVICES PERFORMED: Maintenance  | BT Capacity: 225                           | Material: Dsl  |
| UEL SAMPLE TAKEN:  Annual/Pre-Clean  Post Clean  None  CRVICES PERFORMED:  Maintenance  |  |  |
| Annual/Pre-Clean<br>Post Clean<br>None<br>RVICES PERFORMED:<br>Maintenance  |  |  |
| Post Clean None RVICES PERFORMED: Maintenance   |  |  |
| None CRVICES PERFORMED: Maintenance   |  |  |
| RVICES PERFORMED:  Maintenance  |  |  |
|   |  |  |
| STI 001 Inspection  |  |  |
| m tot :   |  | Nederland St. Comp. Statement 1  |
| Tank Cleaning Bottom Sweep  |  |  |
| Pre-clean Lab Analysis  | 100  | 100  |
| Post-clean Lab Analysis   | ( A  |  |
| el Treatment:   |  |  |
| HydroClean  | 100  |  |
| ILFC 1032   | 100  | A STATE OF THE PARTY OF THE PAR |
| Biocide Predator 6000 None  |  |  |
| None  | 1.0  |  |
| erior Tank Condition:   |  |  |
| ood Bad   |  |  |
| tecommend Inspection  |  |  |
| CONTANT   | IN ANTO POLIND                             |  |
| Pro Cl  | INANTS FOUND:                              | VISUAL FUEL RATING:  Pre-Clean Post Clean  |
| od Bad N/A -Fill Cap  |  | Refinery Fresh   |
|   | Bulk Water                                 | ✓ Good   |
| nd Bad N/A -SumpS   | Suspended Water                            | Watch Closely  |
| od Bad N/A - Spill Bucket ——  | Micro-organisms                            | Advanced Aging   |
| od Bad N/A - Gauge ——   | Sediments                                  | Bad-Not Recommended  |
| IIII I Dau I II II - Ouskeis  | Rust<br>Sludge                             | Severe-Do Not Use  |
|   | muge                                       |  |
| ANK DOES NOT PASS ASTM D975 "CLEAR & BRIG   |  | NK PASSES THE ASTM D975 "CLEAR   |
| L INSPECTION  |  | VISUAL INSPECTION.   |
| leuning is recommended hased on Visual Fuel Inspection ONLY. Le<br>rmine fuel parameters based on ASTM D975 Specifications  |  | ort will determine fuel parameters based on<br>75 Specifications   |
| This is your before cleaning sample.  | ASTREDY.                                   | э оргодишта  |
| IEN 15: This is your before cleaning sample.  |  |  |
|   |  |  |
|   |  |  |





Loretta Shaw Petroleum Recovery Services 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO: WO:

PO:

632501 MUSC - Hospital - Pre

NEW-SJCH-Day 1-225g

NEW-Day 1-225g

Sample Collection Date: Date Received: 07/24/2019 08/2/2019

08/7/2019

Date Released:

Component Make: Component Model:

SBT 225 g

ULSD

Tank Capacity: Quantity in Tank:

Test Package:

PRS Package

Type of Fuel:

Serial Number:

| Test                      | Limits                     | Methods              | Result               |
|---------------------------|----------------------------|----------------------|----------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 37                   |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 44.6                 |
| Cloud Point               | report °C                  | ASTM D2500-99        | -9                   |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                   |
| Distillation, 50%         | report <sup>®</sup> C      | ASTM D86-08a         | 242.78               |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 308.89               |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 65.56                |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative             |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 6.7                  |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 5                    |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Few Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.005                |
| Water by Karl Fischer     | report in ppm              | ASTM D6304-16        | 94                   |

### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.



| GROUP INFO: MUSC Healt   | .0  | DATE: 7-24-2019  |
|--|---|--|
| CUSTOMER: MUSC   |   | INFO-OTHER: Hospital tanks   |
| FACILITY: SJCH - Day Tank - 2  |   |  |
| ADDRESS: 125 Jonathan Lucas S  | St. MSC 190, Charleston, SC   | 29425  |
| CONTACT: Rick Burt, Matthew I  | ong PHC   | ONE: 843-323-0439  |
| MAIL burtd@musc.edu, Longmat   |   | L: (843) 792-3538  |
| Unit Id : NEW-SJCH-Day 2-225g  |   |  |
| ast Tank Service: New  | ,,,-,,,   | professor Accepted   |
| FUEL SAMPLE TAKEN:   | 127 10/2-17 (10)  | *  |
| ✓ Annual/Pre-Clean   |   |  |
| Post Clean   |   |  |
| None ERVICES PERFORMED:  |   |  |
| Maintenance  |   | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| STI 001 Inspection   |   | Spine Santray Control of   |
| Tank Cleaning  |   |  |
| Bottom Sweep   |   |  |
| Pre-clean Lab Analysis   |   |  |
| Post-clean Lab Analysis  |   |  |
| uel Treatment:   |   |  |
| HydroClean ILFC 1032   |   |  |
| Biocide Predator 6000  |   |  |
| None None  |   |  |
| TVOILE   |   |  |
|  |   | The state of the s |
| erior Tank Condition:  |   |  |
| erior Tank Condition:  |   |  |
|  |   |  |
| Good Bad   |   |  |
| Good Bad   | CONTAMINANTS FOUN   |  |
| Recommend Inspection  TS CONDITION:  DOG Bad N/A -Fill Cap   | Pre-CleanPost Clear   | Pre-Clean Post Clean   |
| Good Bad Recommend Inspection RTS CONDITION:   | ✓ Pre-CleanPost Clea  | Pre-Clean Post Clean Refinery Fresh  |
| Recommend Inspection  TS CONDITION:  DOG Bad N/A -Fill Cap   | ✓ Pre-Clean Post Clea ✓ None Bulk Water   | Pre-Clean Post Clean Refinery Fresh Good   |
| Recommend Inspection  TS CONDITION:  Dod Bad N/A -Fill Cap  Dod Bad N/A - Vent  Dod Bad N/A - Fill Port  Dod Bad N/A - Sump  | ✓ Pre-CleanPost Clea  ✓ None  Bulk Water Suspended Water  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Recommend Inspection  TS CONDITION:  Dod Bad N/A - Fill Cap  Dod Bad N/A - Vent  Dod Bad N/A - Fill Port  Dod Bad N/A - Sump  Dod Bad N/A - Spill Bucket   | Pre-CleanPost Clean None Bulk Water Suspended Water Micro-organisms   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Recommend Inspection  TS CONDITION:  Dod Bad N/A -Fill Cap  Dod Bad N/A - Vent  Dod Bad N/A - Fill Port  Dod Bad N/A - Sump  Dod Bad N/A - Spill Bucket  Dod Bad N/A - Gauge   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Recommend Inspection  TS CONDITION:  Dod Bad N/A - Fill Cap  Dod Bad N/A - Vent  Dod Bad N/A - Fill Port  Dod Bad N/A - Sump  Dod Bad N/A - Spill Bucket   | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust   | Pre-CleanPost Clean Refinery Fresh Good Watch CloselyAdvanced AgingBad-Not Recommended   |
| Recommend Inspection  RTS CONDITION:  DOOL Bad N/A - Fill Cap  DOOL Bad N/A - Vent  DOOL Bad N/A - Fill Port  DOOL Bad N/A - Spill Bucket  DOOL Bad N/A - Gauge  DOOL Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "O   | Pre-CleanPost CleanNoneBulk WaterSuspended WaterMicro-organismsSedimentsRustSludge  CLEAR & BRIGHT"   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAD BRIGHT" VISUAL INSPECTION.  |
| Recommend Inspection  TS CONDITION:  Dod Bad N/A -Fill Cap  Dod Bad N/A - Vent  Dod Bad N/A - Fill Port  Dod Bad N/A - Sump  Dod Bad N/A - Spill Bucket  Dod Bad N/A - Gauge  Dod Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975  | Pre-CleanPost CleanNoneBulk WaterSuspended WaterMicro-organismsSedimentsRustSludge  CLEAR & BRIGHT"  Inspection ONLY, Lab Report                      | Pre-CleanPost CleanRefinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAN BRIGHT" VISUAL INSPECTION.  |
| Recommend Inspection  TS CONDITION:  DOD BAD N/A - Fill Cap  DOD BAD N/A - Vent  DOD BAD N/A - Spill Port  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Gauge  DOD BAD N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "ONLY INSPECTION  Cleaning is recommended based on Visual Fuel is cermine fuel parameters based on ASTM D975 S.  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT"  Inspection ONLY Lab Report pecifications | Pre-CleanPost CleanRefinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAN BRIGHT" VISUAL INSPECTION. *Lab Report will determine fuel parameters based on  |
| Recommend Inspection  RTS CONDITION:  DOOL Bad N/A - Fill Cap  DOOL Bad N/A - Vent  DOOL Bad N/A - Fill Port  DOOL Bad N/A - Spill Bucket  DOOL Bad N/A - Spill Bucket  DOOL Bad N/A - Gauge  DOOL Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "CAL INSPECTION  Cleaning is recommended based on Visual Fuel in the contraction of the contr | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT"  Inspection ONLY Lab Report pecifications | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAR BRIGHT" VISUAL INSPECTION. *Lab Report will determine fuel parameters based on  |
| Recommend Inspection  TS CONDITION:  DOD BAD N/A - Fill Cap  DOD BAD N/A - Vent  DOD BAD N/A - Spill Port  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Gauge  DOD BAD N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "ONLY INSPECTION  Cleaning is recommended based on Visual Fuel is cermine fuel parameters based on ASTM D975 S.  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT"  Inspection ONLY Lab Report pecifications | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAR BRIGHT" VISUAL INSPECTION. *Lab Report will determine fuel parameters based on  |
| Recommend Inspection  TS CONDITION:  DOD BAD N/A - Fill Cap  DOD BAD N/A - Vent  DOD BAD N/A - Spill Port  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Spill Bucket  DOD BAD N/A - Gauge  DOD BAD N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "ONLY INSPECTION  Cleaning is recommended based on Visual Fuel is cermine fuel parameters based on ASTM D975 S.  | Pre-Clean Post Clean None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT"  Inspection ONLY Lab Report pecifications | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  THIS TANK PASSES THE ASTM D975 "CLEAF BRIGHT" VISUAL INSPECTION. *Lab Report will determine fuel parameters based on  |



0.005

109



Laboratory Number: 80219516

Loretta Shaw **Petroleum Recovery Services** 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO: WO:

632501

MUSC - Hospital - Pre

NEW-Day 2-225g

NEW-SJCH-Day 2-225g

Sample Collection Date: Date Received:

07/24/2019 08/2/2019

08/7/2019

Date Released:

Component Make: Component Model:

SBT 225 g

Tank Capacity:

Quantity in Tank:

**ASTM D2709** ASTM D6304-16 PRS Package

Test Package: Type of Fuel: Serial Number:

ULSD

| Limits                     | Methods   | Result   |
|----------------------------|---|--|
| report                     | ASTM D1298-99   | 37   |
| 40 minimum                 | ASTM D976-01  | 44.6   |
| report *C                  | ASTM D2500-99   | -10  |
| 3 maximum                  | ASTM D130-04  | 1a   |
| report °C                  | ASTM D86-08a  | 242.78   |
| 282 - 338 °C               | ASTM D86-08a  | 308.89   |
| 52 °C minimum              | ASTM D93-10   | 73.33  |
| report                     | Micro/Culture Medium  | Negative   |
| report in milligrams/liter | ASTM D7321-08   | 2  |
| 15 ppm maximum             | ASTM D5453-09   | 5  |
| Visual                     | ASTM D4176-04   | Clear, Trace Particles   |
|                            | report 40 minimum report °C 3 maximum report °C 282 - 338 °C 52 °C minimum report report in milligrams/liter 15 ppm maximum | report ASTM D1298-99  40 minimum ASTM D976-01 report "C ASTM D2500-99  3 maximum ASTM D130-04 report "C ASTM D86-08a 282 - 338 "C ASTM D86-08a 52 "C minimum ASTM D93-10 report Micro/Culture Medium report in milligrams/liter ASTM D7321-08 15 ppm maximum ASTM D5453-09 |

### Comments

Water and Sediment

Water by Karl Fischer

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.

0.05 maximum (% volume)

report in ppm



| GROUP INFO: MUSC Healt   | <u>h                                     </u>  | I   | DATE: 7-24-2019   |
|--|--|---|---|
| CUSTOMER: MUSC   |  | INFO  | O-OTHER: Hospital tanks   |
| FACILITY: SJCH - Tank - 1  |  |   |   |
| ADDRESS: 122 Jonathan Lucas S  | St MSC 190 Charles   | ston SC 29425   |   |
|  |  |   |   |
| CONTACT: Rick Burt, Matthew L  |  | PHONE: 843-3  |   |
| MAIL burtd@musc.edu, Longmat   | @musc.edu  | CELL: (843) 7   | '92-3535  |
| Init Id: NEW-SJCH-Tank 1-12k   | Type: SBT C  | Capacity: 12,000  | Material: Dsl   |
| ast Tank Service: New  |  |   |   |
| UEL SAMPLE TAKEN:  |  |   |   |
| Annual/Pre-Clean   |  |   |   |
| Post Clean   |  |   |   |
| None<br>CRVICES PERFORMED:   |  | Proc  | om flactoring Sarvius N   |
| Maintenance  |  |   |   |
| STI 001 Inspection   |  |   |   |
| Tank Cleaning  |  | 74  | Aller St. Salas   |
| Bottom Sweep   |  |   |   |
| Pre-clean Lab Analysis   |  |   |   |
| Post-clean Lab Analysis  |  | 7   |   |
| el Treatment:  |  |   |   |
| /HydroClean<br>ILFC 1032   |  |   |   |
| Biocide Predator 6000  |  |   |   |
| None None  |  |   | TENSION AND ADDRESS OF  |
| None   |  |   |   |
| rior Tank Condition:   |  |   |   |
| ood Bad  |  |   |   |
| 4 V  |  |   |   |
| ecommend inspection  |  |   |   |
| ecommend Inspection  |  |   |   |
| TS CONDITION:  | CONTAMINAN   |   | VISUAL FUEL RATING:   |
| TS CONDITION:  | ✓ Pre-Clean  |   | Pre-Clean Post Clean  |
| TS CONDITION:  | Pre-CleanNone  | Post Clean  | Pre-Clean Post Clean Refinery Fresh   |
| TS CONDITION: od Bad N/A -Fill Cap   | Pre-Clean None Bulk W  | Post Clean atter  | Pre-Clean Post Clean  |
| rs condition:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Sump  | Pre-Clean None Bulk W Suspend  | Post Clean ater ded Water   | Pre-Clean Post Clean Refinery Fresh   |
| rs condition:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  | Pre-Clean None Bulk W Suspend Micro-C  | Post Clean  ater ded Water organisms  | Pre-Clean Post Clean Refinery Fresh Good  |
| rs condition:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  | Pre-Clean None Bulk W Suspend Micro-C  | Post Clean  ater ded Water organisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely  |
| rs condition:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust  | Post Clean  ater ded Water organisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended   |
| TS CONDITION:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  | Pre-Clean None Bulk W Suspend Micro-C  | Post Clean  ater ded Water organisms  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging   |
| rs condition:  od Bad N/A -Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  | Pre-Clean  None  Bulk W  Suspend  Micro-C  Sedime  Rust  Słudge  | Post Clean  ater ded Water organisms nts  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use   |
| od Bad N/A - Fill Cap od Bad N/A - Vent od Bad N/A - Fill Port od Bad N/A - Spill Bucket od Bad N/A - Spill Bucket od Bad N/A - Gauge od Bad N/A - Gaskets  CANK DOES NOT PASS ASTM D975 "CLINSPECTION   | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge   | Post Clean  THIS TANK I   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  PASSES THE ASTM D975 "CLEAR SUAL INSPECTION.                                       |
| od Bad N/A - Fill Cap od Bad N/A - Vent od Bad N/A - Fill Port od Bad N/A - Spill Bucket od Bad N/A - Spill Bucket od Bad N/A - Gauge od Bad N/A - Gaskets  CANK DOES NOT PASS ASTM D975 "CLINSPECTION deaning is recommended based on Visual Fuel In  | Pre-Clean None Bulk W Suspend Micro-C Sedime Rust Sludge  CLEAR & BRIGHT"  | Post Clean  ater ded Water organisms ints  THIS TANK I BRIGHT" VII *Lab Report with | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use PASSES THE ASTM D975 "CLEAF SUAL INSPECTION. Ill determine fuel parameters based on |
| TS CONDITION:  od Bad N/A - Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  od Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "C  L INSPECTION  eaning is recommended based on Visual Fuel In  rmine fuel parameters based on ASTM D975 Sp | Pre-Clean  None  Bulk W  Suspend  Micro-C  ✓ Sedime  Rust  Sludge  CLEAR & BRIGHT"  Inspection ONLY, Lab Repart  eccifications | Post Clean  THIS TANK I   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use PASSES THE ASTM D975 "CLEAF SUAL INSPECTION. Ill determine fuel parameters based on |
| od Bad N/A - Fill Cap od Bad N/A - Vent od Bad N/A - Fill Port od Bad N/A - Spill Bucket od Bad N/A - Spill Bucket od Bad N/A - Gauge od Bad N/A - Gaskets  CANK DOES NOT PASS ASTM D975 "CLINSPECTION deaning is recommended based on Visual Fuel In  | Pre-Clean  None  Bulk W  Suspend  Micro-C  ✓ Sedime  Rust  Sludge  CLEAR & BRIGHT"  Inspection ONLY, Lab Repart  eccifications | Post Clean  ater ded Water organisms ints  THIS TANK I BRIGHT" VII *Lab Report with | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use PASSES THE ASTM D975 "CLEAR SUAL INSPECTION. Ill determine fuel parameters based on |
| TS CONDITION:  od Bad N/A - Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  od Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "C  L INSPECTION  eaning is recommended based on Visual Fuel In  rmine fuel parameters based on ASTM D975 Sp | Pre-Clean  None  Bulk W  Suspend  Micro-C  ✓ Sedime  Rust  Sludge  CLEAR & BRIGHT"  Inspection ONLY, Lab Repart  eccifications | Post Clean  ater ded Water organisms ints  THIS TANK I BRIGHT" VII *Lab Report with | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use PASSES THE ASTM D975 "CLEAR SUAL INSPECTION. Ill determine fuel parameters based on |
| TS CONDITION:  od Bad N/A - Fill Cap  od Bad N/A - Vent  od Bad N/A - Fill Port  od Bad N/A - Spill Bucket  od Bad N/A - Spill Bucket  od Bad N/A - Gauge  od Bad N/A - Gaskets  TANK DOES NOT PASS ASTM D975 "C  L INSPECTION  eaning is recommended based on Visual Fuel In  rmine fuel parameters based on ASTM D975 Sp | Pre-Clean  None  Bulk W  Suspend  Micro-C  ✓ Sedime  Rust  Sludge  CLEAR & BRIGHT"  Inspection ONLY, Lab Repart  eccifications | Post Clean  ater ded Water organisms ints  THIS TANK I BRIGHT" VII *Lab Report with | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use PASSES THE ASTM D975 "CLEAR SUAL INSPECTION. Ill determine fuel parameters based on |

877-252-6396 (Toll Free) • 843-225-1777 • 843-377-0412 (Fax)
4310 Amsterdam St., N. Charleston, SC 29418
www.petroleumrecoveryservices.com



95



Laboratory Number: 80219513

Loretta Shaw Petroleum Recovery Services 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

PO: WO:

Sample ID:

NEW-SJCH-Tank1-12k NEW-Tank 1-12k

632501

MUSC - Hospital - Pre

Sample Collection Date:

07/24/2019 08/2/2019

08/7/2019

Date Received: Date Released:

Component Make: Component Model:

SBT 12,000 g

Tank Capacity:

Quantity in Tank: Test Package:

PRS Package

Type of Fuel: Serial Number: ULSD

ASTM D6304-16

| Test                      | Limits                     | Methods              | Result                      |
|---------------------------|----------------------------|----------------------|-----------------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 38                          |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 46.2                        |
| Cloud Point               | report °C                  | ASTM D2500-99        | -10                         |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                          |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 242.22                      |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 308.89                      |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 64.44                       |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative                    |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 38.7                        |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 4                           |
|                           | 10                         | ACTM D4475 04        | Clear, Light Sediment, Some |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Particles                   |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.01                        |

#### Comments

Water by Karl Fischer

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.

report in ppm



| GROUP INFO: MUSC Healt   | 11   | DATE: 7-24-2019  |
|--|--|--|
| CUSTOMER: MUSC   |  | INFO-OTHER: Hospital tanks   |
| FACILITY: SJCH - Tank - 2  |  |  |
| ADDRESS. 123 Jonathan Lucas S  | St. MSC 190, Charleston, SC 29425  |  |
| CONTACT: Rick Burt, Matthew L  |  | 843-323-0437   |
| MAIL burtd@musc.edu, Longmat   |  | 43) 792-3536   |
|  |  | 2010 444   |
| Jnit Id: NEW-SJCH-Tank 2-12k   | Type: SBT Capacity: 12,  | 000 Material: Dsl  |
| ast Tank Service: New  |  |  |
| TUEL SAMPLE TAKEN:   |  |  |
| Annual/Pre-Clean   | 15.0   | AT 15 15 25 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1  |
| Post Clean None  | and the second second  |  |
| ERVICES PERFORMED:   | PARTY AND DESCRIPTION OF THE PARTY AND DESCRI |  |
| Maintenance  | The state of the s |  |
| STI 001 Inspection   |  |  |
| Tank Cleaning  | national and a second second   |  |
| Bottom Sweep   | ASSESSED TO PAGE   |  |
| Pre-clean Lab Analysis   | A ARROST A   |  |
| Post-clean Lab Analysis  |  |  |
| uel Treatment:   |  |  |
| HydroClean   |  |  |
|  | LESS PROPERTY AND ADMINISTRATION OF THE PROPERTY AN |  |
| ILFC 1032  |  |  |
| Biocide Predator 6000  |  |  |
|  | INTERNAL TO STATE OF THE STATE  |  |
| Biocide Predator 6000  |  |  |
| Biocide Predator 6000 None   |  |  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad   |  | a motified 4   |
| Biocide Predator 6000 None erior Tank Condition:   |  |  |
| Biocide Predator 6000 None Prior Tank Condition: Good Bad Recommend Inspection   | CONTAMINANTS FOUND:  | VISUAL FUEL RATING:  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION:   | CONTAMINANTS FOUND:  Pre-CleanPost Clean   | VISUAL FUEL RATING:  VPre-Clean Post Clean   |
| Biocide Predator 6000 None Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: Good Bad N/A -Fill Cap   |  | VISUAL FUEL RATING:  VPre-Clean Post Clean  Refinery Fresh   |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: Good Bad N/A -Fill Cap Good Bad N/A - Vent  | Pre-Clean Post Clean None Bulk Water   | Pre-Clean Post Clean   |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad  Recommend Inspection  TS CONDITION: Good Bad N/A - Fill Cap Good Bad N/A - Vent Good Bad N/A - Fill Port   | Pre-CleanPost CleanNoneBulk WaterSuspended Water   | Pre-Clean Post Clean Refinery Fresh Good   |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad  Recommend Inspection  TS CONDITION: Dood Bad N/A -Fill Cap Dood Bad N/A - Vent Dood Bad N/A - Sump   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely   |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad  Recommend Inspection  TS CONDITION: Good Bad N/A - Fill Cap Good Bad N/A - Vent Good Bad N/A - Fill Port   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: Dood Bad N/A -Fill Cap Dood Bad N/A - Vent Dood Bad N/A - Fill Port Dood Bad N/A - Spill Bucket Dood Bad N/A - Spill Bucket Dood Bad N/A - Gauge  | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: Dood Bad N/A -Fill Cap Dood Bad N/A - Vent Dood Bad N/A - Fill Port Dood Bad N/A - Spill Bucket   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A - Fill Cap FOOD BAD N/A - Vent FOOD BAD N/A - Spill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A -Fill Cap FOOD BAD N/A - Vent FOOD BAD N/A - Spill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gaskets  FANK DOES NOT PASS ASTM D975 "CONDITION:  Prior Tank Condition: FOOD BAD N/A - Gaskets   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" THIS   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  |
| Biocide Predator 6000 None  Prior Tank Condition: Food Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A - Fill Cap FOOD BAD N/A - Vent FOOD BAD N/A - Spill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaskets   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" THIS T   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  FANK PASSES THE ASTM D975 "CLI  |
| Biocide Predator 6000 None  Prior Tank Condition: Good Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A -Fill Cap FOOD BAD N/A - Vent FOOD BAD N/A - Spill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT"  Inspection ONLY. Lab Report  Post Clean Bulk Water Micro-organisms Sediments Rust Bulk Water THIS THIS TO BRIGHT *Lab R   | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  FANK PASSES THE ASTM D975 "CLE IT" VISUAL INSPECTION.   |
| Biocide Predator 6000 None  Prior Tank Condition: Food Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A - Fill Cap FOOD BAD N/A - Fill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaskets | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" Inspection ONLY, Lab Report  pocifications  Post Clean  THIS TO BRIGH *Lab R ASTM  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  TANK PASSES THE ASTM D975 "CLE IT" VISUAL INSPECTION.  eport will determine fuel parameters based |
| Biocide Predator 6000 None  Prior Tank Condition: Food Bad Recommend Inspection  TS CONDITION: Food Bad N/A - Fill Cap Food Bad N/A - Fill Port Food Bad N/A - Spill Bucket Food Bad N/A - Gauge Food Bad N/A - Gaskets  FANK DOES NOT PASS ASTM D975 "CAL INSPECTION  Food Book Book Book Book Book Book Book B   | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" Inspection ONLY, Lab Report  pocifications  Post Clean  THIS TO BRIGH *Lab R ASTM  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  TANK PASSES THE ASTM D975 "CLE IT" VISUAL INSPECTION.  eport will determine fuel parameters based |
| Biocide Predator 6000 None  Prior Tank Condition: Food Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A - Fill Cap FOOD BAD N/A - Fill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaskets | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" Inspection ONLY, Lab Report  pocifications  Post Clean  THIS TO BRIGH *Lab R ASTM  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  TANK PASSES THE ASTM D975 "CLE IT" VISUAL INSPECTION.  eport will determine fuel parameters based |
| Biocide Predator 6000 None  Prior Tank Condition: Food Bad Recommend Inspection  TS CONDITION: FOOD BAD N/A - Fill Cap FOOD BAD N/A - Fill Port FOOD BAD N/A - Spill Bucket FOOD BAD N/A - Gauge FOOD BAD N/A - Gauge FOOD BAD N/A - Gaskets  FOOD BAD N/A - Gaskets | Pre-CleanPost Clean  None Bulk Water Suspended Water Micro-organisms Sediments Rust Sludge  CLEAR & BRIGHT" Inspection ONLY, Lab Report  pocifications  Post Clean  THIS TO BRIGH *Lab R ASTM  | Pre-Clean Post Clean Refinery Fresh Good Watch Closely Advanced Aging Bad-Not Recommended Severe-Do Not Use  TANK PASSES THE ASTM D975 "CLE IT" VISUAL INSPECTION.  eport will determine fuel parameters based |





Loretta Shaw Petroleum Recovery Services 4310 Amsterdam St.

North Charleston, SC 29418

843-225-1777

Sample Taken From:

Sample ID:

PO:

632501

WO:

NEW-SJCH-Tank 2-12k NEW-Tank 2-12k

MUSC - Hospital - Pre

Sample Collection Date:

07/24/2019 08/2/2019

08/7/2019

12,000 g

Date Received: Date Released:

Component Make:

Component Model: SBT

Tank Capacity:

Quantity in Tank: Test Package:

PRS Package

Type of Fuel:

ULSD

| Seri | al N | lum | ber |
|------|------|-----|-----|
|      |      |     |     |

| Test                      | Limits                     | Methods              | Result               |
|---------------------------|----------------------------|----------------------|----------------------|
| API Gravity by Hydrometer | report                     | ASTM D1298-99        | 37                   |
| Cetane Index              | 40 minimum                 | ASTM D976-01         | 44.6                 |
| Cloud Point               | report °C                  | ASTM D2500-99        | -10                  |
| Copper Strip Corrosion    | 3 maximum                  | ASTM D130-04         | 1a                   |
| Distillation, 50%         | report °C                  | ASTM D86-08a         | 242.78               |
| Distillation, 90%         | 282 - 338 °C               | ASTM D86-08a         | 308.89               |
| Flash Point               | 52 °C minimum              | ASTM D93-10          | 66.67                |
| Microbial Growth          | report                     | Micro/Culture Medium | Negative             |
| Particulate Contamination | report in milligrams/liter | ASTM D6217-08        | 6.7                  |
| Sulfur                    | 15 ppm maximum             | ASTM D5453-09        | 4                    |
| Visual Appearance         | Visual                     | ASTM D4176-04        | Clear, Few Particles |
| Water and Sediment        | 0.05 maximum (% volume)    | ASTM D2709           | 0.005                |
| Water by Karl Fischer     | report in ppm              | ASTM D6304-16        | 97                   |

#### Comments

Limits for Particulate Contamination are 10 mg/L in Marine diesel fuel; Petroleum Recovery Services recommends fuel maintenance/filtration on any fuel with 200 ppm or higher of water present.