



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

September 13, 2022

Max Trehus
PDC Energy
4000 Burlington Ave.
Evans, CO 80620

Work Order: **HS22081560**

Laboratory Results for: **Brant LD 08-162HNX**

Dear Max Trehus ,

ALS Environmental received 2 sample(s) on Aug 27, 2022 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Bernadette A. Fini
Project Manager

Client: PDC Energy
Project: Brant LD 08-162HNX
Work Order: HS22081560

SAMPLE SUMMARY

| Lab Samp ID | Client Sample ID | Matrix | TagNo | Collection Date | Date Received | Hold |
|---------------|------------------|--------|-------|-------------------|-------------------|--------------------------|
| HS22081560-01 | 08-162HNX A | Water | | 24-Aug-2022 11:00 | 27-Aug-2022 08:40 | <input type="checkbox"/> |
| HS22081560-02 | 08-162HNX B | Water | | 24-Aug-2022 11:00 | 27-Aug-2022 08:40 | <input type="checkbox"/> |

Client: PDC Energy
Project: Brant LD 08-162HNX
Work Order: HS22081560

CASE NARRATIVE

GC Semivolatiles by Method RSK-175

Batch ID: R416366

Sample ID: HS22081267-02MS

- MS and MSD are for an unrelated sample

GC Semivolatiles by Method SW8015M

Batch ID: 183075

Sample ID: 08-162HNX A (HS22081560-01)

- The surrogate recoveries could not be determined due to dilution below the calibration range.

GC Volatiles by Method SW8015

Batch ID: R416438

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

GCMS Volatiles by Method SW8260

Batch ID: R416606

Sample ID: 08-162HNX A (HS22081560-01)

- Lowest practical dilution due to foamy matrix.

Metals by Method E200.8

Batch ID: 183370

Sample ID: 08-162HNX A (HS22081560-01)

- The reporting limit is elevated due to dilution for high concentrations of non-target analytes. (Magnesium)

Batch ID: 183258

Sample ID: HS22090004-04MS

- MS and MSD are for an unrelated sample

WetChemistry by Method SM2320B

Batch ID: R416640

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

WetChemistry by Method E300

Batch ID: R416622

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R416692

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: PDC Energy
Project: Brant LD 08-162HNX
Work Order: HS22081560

CASE NARRATIVE

WetChemistry by Method M2540C

Batch ID: R416391

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
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Client: PDC Energy
 Project: Brant LD 08-162HNX
 Sample ID: 08-162HNX A
 Collection Date: 24-Aug-2022 11:00

ANALYTICAL REPORT
 WorkOrder:HS22081560
 Lab ID:HS22081560-01
 Matrix:Water

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|---|---------------|-----------------------|---------------|---------------------------|-------------|-----------------|-------------------|
| LOW LEVEL VOLATILES BY SW8260C | | Method:SW8260 | | Analyst: AKP | | | |
| Benzene | U | | 1000 | 5000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| Ethylbenzene | U | | 1500 | 5000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| m,p-Xylene | 3,300 | J | 2500 | 10000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| o-Xylene | U | | 1500 | 5000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| Toluene | U | | 1000 | 5000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| Xylenes, Total | 3,300 | J | 1500 | 5000 | ug/L | 5000 | 06-Sep-2022 15:55 |
| Surr: 1,2-Dichloroethane-d4 | 105 | | | 70-126 | %REC | 5000 | 06-Sep-2022 15:55 |
| Surr: 4-Bromofluorobenzene | 102 | | | 77-113 | %REC | 5000 | 06-Sep-2022 15:55 |
| Surr: Dibromofluoromethane | 103 | | | 77-123 | %REC | 5000 | 06-Sep-2022 15:55 |
| Surr: Toluene-d8 | 104 | | | 82-127 | %REC | 5000 | 06-Sep-2022 15:55 |
| GASOLINE RANGE ORGANICS BY SW8015C | | Method:SW8015 | | Analyst: FT | | | |
| Gasoline Range Organics | 178 | | 5.00 | 25.0 | mg/L | 500 | 02-Sep-2022 13:15 |
| Surr: 4-Bromofluorobenzene | 114 | | | 70-123 | %REC | 500 | 02-Sep-2022 13:15 |
| DISSOLVED GASES BY RSK-175 | | Method:RSK-175 | | Analyst: PPM | | | |
| Ethane | 527 | J | 144 | 1000 | ug/L | 1000 | 01-Sep-2022 13:19 |
| Methane | 2,550 | | 107 | 500 | ug/L | 1000 | 01-Sep-2022 13:19 |
| Propane | 1,190 | | 1000 | 1000 | ug/L | 1000 | 01-Sep-2022 13:19 |
| TPH DRO/ORO BY SW8015C | | Method:SW8015M | | Prep:SW3511 / 31-Aug-2022 | | Analyst: PPM | |
| DRO (>C10 - C28) | 860 | | 21 | 53 | mg/L | 1000 | 07-Sep-2022 11:22 |
| Surr: 2-Fluorobiphenyl | 0 | JS | | 60-135 | %REC | 1000 | 07-Sep-2022 11:22 |
| TOTAL METALS BY E200.8, REV 5.4, 1994 | | Method:E200.8 | | Prep:E200.8 / 09-Sep-2022 | | Analyst: YP | |
| Calcium | 485 | | 0.180 | 5.00 | mg/L | 10 | 12-Sep-2022 21:43 |
| Magnesium | 0.459 | J | 0.0390 | 2.50 | mg/L | 5 | 13-Sep-2022 13:25 |
| Potassium | 1,730 | | 0.330 | 5.00 | mg/L | 10 | 12-Sep-2022 21:43 |
| Sodium | 3,190 | | 4.20 | 40.0 | mg/L | 200 | 13-Sep-2022 13:27 |
| ANIONS BY E300.0, REV 2.1, 1993 | | Method:E300 | | Analyst: TH | | | |
| Chloride | 5,090 | | 20.0 | 50.0 | mg/L | 100 | 07-Sep-2022 11:31 |
| Sulfate | 344 | | 1.00 | 2.50 | mg/L | 5 | 06-Sep-2022 17:53 |
| TOTAL DISSOLVED SOLIDS BY SM2540C-2011 | | Method:M2540C | | Analyst: CWG | | | |
| Total Dissolved Solids (Residue, Filterable) | 14,400 | | 5.00 | 10.0 | mg/L | 1 | 31-Aug-2022 16:36 |
| ALKALINITY BY SM 2320B-2011 | | Method:SM2320B | | Analyst: JAC | | | |
| Alkalinity, Bicarbonate (As CaCO3) | U | | 25.0 | 25.0 | mg/L | 5 | 06-Sep-2022 19:23 |
| Alkalinity, Carbonate (As CaCO3) | 558 | | 25.0 | 25.0 | mg/L | 5 | 06-Sep-2022 19:23 |
| Alkalinity, Total (As CaCO3) | 801 | | 25.0 | 25.0 | mg/L | 5 | 06-Sep-2022 19:23 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: PDC Energy
 Project: Brant LD 08-162HNX
 Sample ID: 08-162HNX B
 Collection Date: 24-Aug-2022 11:00

ANALYTICAL REPORT

WorkOrder:HS22081560
 Lab ID:HS22081560-02
 Matrix:Water

| ANALYSES | RESULT | QUAL | MDL | REPORT LIMIT | UNITS | DILUTION FACTOR | DATE ANALYZED |
|--|--------|------|--------|--------------|---------------------------|-----------------|-------------------|
| DISSOLVED METALS BY E200.8, REV 5.4, Method:E200.8 (dissolved) 1994 | | | | | Prep:E200.8 / 07-Sep-2022 | | Analyst: YP |
| Calcium | 447 | | 0.0900 | 2.50 | mg/L | 5 | 13-Sep-2022 15:00 |
| Magnesium | 0.0985 | J | 0.0390 | 2.50 | mg/L | 5 | 13-Sep-2022 15:00 |
| Potassium | 1,520 | | 1.65 | 25.0 | mg/L | 50 | 13-Sep-2022 15:48 |
| Sodium | 2,740 | | 1.05 | 10.0 | mg/L | 50 | 13-Sep-2022 15:48 |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

Batch ID: 183003 **Start Date:** 29 Aug 2022 18:30 **End Date:** 29 Aug 2022 19:00
Method: SAMPLE FILTRATION - 0.45 MICRON FILTER **Prep Code:** FILTRATION

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---------------|-----------|---------------|--------------|-------------|---------------------|
| HS22081560-02 | | 100 (mL) | 100 (mL) | 1 | 120 mL Plastic Neat |

Batch ID: 183075 **Start Date:** 31 Aug 2022 09:13 **End Date:** 01 Sep 2022 16:00
Method: SW3511 **Prep Code:** 3511_DRO

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---------------|-----------|---------------|--------------|-------------|-------------|
| HS22081560-01 | | 30.9 (mL) | 2 (mL) | 0.06472 | 40 mL Amber |

Batch ID: 183258 **Start Date:** 07 Sep 2022 14:30 **End Date:** 07 Sep 2022 17:30
Method: DISSOLVED METALS DIGESTION BY E200.8,REV 5.4,1994 **Prep Code:** 200.8_DISSPR

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---------------|-----------|---------------|--------------|-------------|---------------------|
| HS22081560-02 | | 10 (mL) | 10 (mL) | 1 | 120 mL Plastic Neat |

Batch ID: 183370 **Start Date:** 09 Sep 2022 10:00 **End Date:** 09 Sep 2022 19:00
Method: TOTAL METALS PREP BY E200.8, REV 5.4, 1994 **Prep Code:** 200.8PR

| Sample ID | Container | Sample Wt/Vol | Final Volume | Prep Factor | |
|---------------|-----------|---------------|--------------|-------------|-------------------------------|
| HS22081560-01 | | 10 (mL) | 10 (mL) | 1 | 250 mL plastic, HNO3 to pH <2 |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

DATES REPORT

| Sample ID | Client Samp ID | Collection Date | Leachate Date | Prep Date | Analysis Date | DF |
|--------------------------------|----------------|--|---------------|-------------------|----------------------|------|
| Batch ID: 183075 (0) | | Test Name : TPH DRO/ORO BY SW8015C | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | 31 Aug 2022 09:13 | 07 Sep 2022 11:22 | 1000 |
| Batch ID: 183258 (0) | | Test Name : DISSOLVED METALS BY E200.8, REV 5.4, 1994 | | | Matrix: Water | |
| HS22081560-02 | 08-162HNX B | 24 Aug 2022 11:00 | | 07 Sep 2022 14:30 | 13 Sep 2022 15:48 | 50 |
| HS22081560-02 | 08-162HNX B | 24 Aug 2022 11:00 | | 07 Sep 2022 14:30 | 13 Sep 2022 15:00 | 5 |
| Batch ID: 183370 (0) | | Test Name : TOTAL METALS BY E200.8, REV 5.4, 1994 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | 09 Sep 2022 10:00 | 13 Sep 2022 13:27 | 200 |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | 09 Sep 2022 10:00 | 13 Sep 2022 13:25 | 5 |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | 09 Sep 2022 10:00 | 12 Sep 2022 21:43 | 10 |
| Batch ID: R416366 (0) | | Test Name : DISSOLVED GASES BY RSK-175 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 01 Sep 2022 13:19 | 1000 |
| Batch ID: R416391 (0) | | Test Name : TOTAL DISSOLVED SOLIDS BY SM2540C-2011 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 31 Aug 2022 16:36 | 1 |
| Batch ID: R416438 (0) | | Test Name : GASOLINE RANGE ORGANICS BY SW8015C | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 02 Sep 2022 13:15 | 500 |
| Batch ID: R416606 (0) | | Test Name : LOW LEVEL VOLATILES BY SW8260C | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 06 Sep 2022 15:55 | 5000 |
| Batch ID: R416622 (0) | | Test Name : ANIONS BY E300.0, REV 2.1, 1993 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 06 Sep 2022 17:53 | 5 |
| Batch ID: R416640 (0) | | Test Name : ALKALINITY BY SM 2320B-2011 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 06 Sep 2022 19:23 | 5 |
| Batch ID: R416692 (0) | | Test Name : ANIONS BY E300.0, REV 2.1, 1993 | | | Matrix: Water | |
| HS22081560-01 | 08-162HNX A | 24 Aug 2022 11:00 | | | 07 Sep 2022 11:31 | 100 |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: 183075 (0) **Instrument:** FID-16 **Method:** TPH DRO/ORO BY SW8015C

| MBLK | | Sample ID: MBLK-183075 | | Units: mg/L | | Analysis Date: 01-Sep-2022 19:30 | | | | |
|-------------------------------|---------|-------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| Client ID: | | Run ID: FID-16_416524 | | SeqNo: 6834866 | | PrepDate: 31-Aug-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (>C10 - C28) | U | 0.050 | | | | | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 0.03792 | 0.0050 | 0.06 | 0 | 63.2 | 60 - 135 | | | | |

| LCS | | Sample ID: LCS-183075 | | Units: mg/L | | Analysis Date: 01-Sep-2022 19:59 | | | | |
|-------------------------------|---------|------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| Client ID: | | Run ID: FID-16_416524 | | SeqNo: 6834867 | | PrepDate: 31-Aug-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (>C10 - C28) | 0.5229 | 0.050 | 0.6 | 0 | 87.1 | 70 - 130 | | | | |
| <i>Surr: 2-Fluorobiphenyl</i> | 0.03699 | 0.0050 | 0.06 | 0 | 61.6 | 60 - 135 | | | | |

| LCSD | | Sample ID: LCSD-183075 | | Units: mg/L | | Analysis Date: 01-Sep-2022 20:29 | | | | |
|-------------------------------|---------|-------------------------------|---------|-----------------------|------|---|---------------|--------------|-----------|------|
| Client ID: | | Run ID: FID-16_416524 | | SeqNo: 6834868 | | PrepDate: 31-Aug-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| DRO (>C10 - C28) | 0.4602 | 0.050 | 0.6 | 0 | 76.7 | 70 - 130 | 0.5229 | 12.7 | 20 | |
| <i>Surr: 2-Fluorobiphenyl</i> | 0.03652 | 0.0050 | 0.06 | 0 | 60.9 | 60 - 135 | 0.03699 | 1.27 | 20 | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: R416366 (0) **Instrument:** FID-4 **Method:** DISSOLVED GASES BY RSK-175

| MBLK | | Sample ID: MBLK-220901 | Units: ug/L | | | Analysis Date: 01-Sep-2022 09:00 | | | | |
|-------------|--------|-------------------------------|-----------------------|---------------|-----------|---|---------------|------|-----------|------|
| Client ID: | | Run ID: FID-4_416366 | SeqNo: 6830915 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Ethane | U | 1.00 | | | | | | | | |
| Methane | U | 0.500 | | | | | | | | |
| Propane | U | 1.00 | | | | | | | | |

| LCS | | Sample ID: LCS-220901 | Units: ug/L | | | Analysis Date: 01-Sep-2022 09:24 | | | | |
|------------|--------|------------------------------|-----------------------|---------------|-----------|---|---------------|------|-----------|------|
| Client ID: | | Run ID: FID-4_416366 | SeqNo: 6830916 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Ethane | 18.83 | 1.00 | 18.04 | 0 | 104 | 75 - 125 | | | | |
| Methane | 8.649 | 0.500 | 9.647 | 0 | 89.7 | 75 - 125 | | | | |
| Propane | 30.78 | 1.00 | 26.46 | 0 | 116 | 75 - 125 | | | | |

| MS | | Sample ID: HS22081267-02MS | Units: ug/L | | | Analysis Date: 01-Sep-2022 10:43 | | | | |
|------------|--------|-----------------------------------|-----------------------|---------------|-----------|---|---------------|------|-----------|------|
| Client ID: | | Run ID: FID-4_416366 | SeqNo: 6830920 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Ethane | 22.76 | 1.00 | 18.04 | 0 | 126 | 75 - 125 | | | | S |
| Methane | 1869 | 0.500 | 9.647 | 1838 | 320 | 75 - 125 | | | | SEO |
| Propane | 28.16 | 1.00 | 26.46 | 0 | 106 | 75 - 125 | | | | |

| MSD | | Sample ID: HS22081267-02MSD | Units: ug/L | | | Analysis Date: 01-Sep-2022 10:57 | | | | |
|------------|--------|------------------------------------|-----------------------|---------------|-----------|---|---------------|-------|-----------|------|
| Client ID: | | Run ID: FID-4_416366 | SeqNo: 6830921 | | PrepDate: | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Ethane | 22.41 | 1.00 | 18.04 | 0 | 124 | 75 - 125 | 22.76 | 1.54 | 30 | |
| Methane | 1863 | 0.500 | 9.647 | 1838 | 258 | 75 - 125 | 1869 | 0.318 | 30 | SEO |
| Propane | 28.22 | 1.00 | 26.46 | 0 | 107 | 75 - 125 | 28.16 | 0.211 | 30 | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| | | | | | | | | | |
|--------------------------------|--------------------------------|---------------------------|---------|---|---|---------------|---------------|------|----------------|
| Batch ID: R416438 (0) | | Instrument: FID-20 | | Method: GASOLINE RANGE ORGANICS BY SW8015C | | | | | |
| MBLK | Sample ID: MBLK-2200902 | Units: mg/L | | | Analysis Date: 02-Sep-2022 09:48 | | | | |
| Client ID: | Run ID: FID-20_416438 | SeqNo: 6832490 | | PrepDate: | | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|-----------------------------------|---------------|----------------|------------|----------|------------|-----------------|--|--|--|
| Gasoline Range Organics | U | 0.0500 | | | | | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>0.1074</i> | <i>0.00500</i> | <i>0.1</i> | <i>0</i> | <i>107</i> | <i>70 - 121</i> | | | |

| | | | | | | | | | |
|------------|------------------------------|-----------------------|---------|---------------|---|---------------|---------------|------|----------------|
| LCS | Sample ID: LCS-220902 | Units: mg/L | | | Analysis Date: 02-Sep-2022 09:16 | | | | |
| Client ID: | Run ID: FID-20_416438 | SeqNo: 6832488 | | PrepDate: | | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|-----------------------------------|----------------|----------------|------------|----------|-------------|-----------------|--|--|--|
| Gasoline Range Organics | 0.8371 | 0.0500 | 1 | 0 | 83.7 | 76 - 124 | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>0.09048</i> | <i>0.00500</i> | <i>0.1</i> | <i>0</i> | <i>90.5</i> | <i>52 - 138</i> | | | |

| | | | | | | | | | |
|-------------|-------------------------------|-----------------------|---------|---------------|---|---------------|---------------|------|----------------|
| LCSD | Sample ID: LCSD-220902 | Units: mg/L | | | Analysis Date: 02-Sep-2022 09:32 | | | | |
| Client ID: | Run ID: FID-20_416438 | SeqNo: 6832489 | | PrepDate: | | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |

| | | | | | | | | | |
|-----------------------------------|---------------|----------------|------------|----------|-------------|-----------------|----------------|-------------|-----------|
| Gasoline Range Organics | 0.7874 | 0.0500 | 1 | 0 | 78.7 | 76 - 124 | 0.8371 | 6.12 | 20 |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>0.0808</i> | <i>0.00500</i> | <i>0.1</i> | <i>0</i> | <i>80.8</i> | <i>52 - 138</i> | <i>0.09048</i> | <i>11.3</i> | <i>20</i> |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: 183258 (0) **Instrument:** ICPMS07 **Method:** DISSOLVED METALS BY E200.8, REV 5.4, 1994 (DISSOLVED)

| MBLK | | Sample ID: MBLKF2-183258 | | Units: ug/L | | Analysis Date: 08-Sep-2022 15:04 | | | | |
|------------|--------|--------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| Client ID: | | Run ID: ICPMS07_416731 | | SeqNo: 6839804 | | PrepDate: 07-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 44.6 | 500 | | | | | | | | J |
| Magnesium | 36.63 | 500 | | | | | | | | J |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 224.1 | 200 | | | | | | | | |

| MBLK | | Sample ID: MBLKF4-183258 | | Units: ug/L | | Analysis Date: 08-Sep-2022 15:08 | | | | |
|------------|--------|--------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| Client ID: | | Run ID: ICPMS07_416731 | | SeqNo: 6839806 | | PrepDate: 07-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | U | 500 | | | | | | | | |
| Magnesium | 14.62 | 500 | | | | | | | | J |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 46.39 | 200 | | | | | | | | J |

| MBLK | | Sample ID: MBLKF5-183258 | | Units: ug/L | | Analysis Date: 08-Sep-2022 15:10 | | | | |
|------------|--------|--------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| Client ID: | | Run ID: ICPMS07_416731 | | SeqNo: 6839807 | | PrepDate: 07-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 55.41 | 500 | | | | | | | | J |
| Magnesium | 20.5 | 500 | | | | | | | | J |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 51.08 | 200 | | | | | | | | J |

| MBLK | | Sample ID: MBLKF3-183258 | | Units: ug/L | | Analysis Date: 08-Sep-2022 15:06 | | | | |
|------------|--------|--------------------------|---------|----------------|------|----------------------------------|---------------|-------|-----------|------|
| Client ID: | | Run ID: ICPMS07_416731 | | SeqNo: 6839805 | | PrepDate: 07-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | U | 500 | | | | | | | | |
| Magnesium | 14.62 | 500 | | | | | | | | J |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 49.19 | 200 | | | | | | | | J |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| Batch ID: 183258 (0) | | Instrument: ICPMS07 | | Method: DISSOLVED METALS BY E200.8, REV 5.4, 1994 (DISSOLVED) | | | | | | |
|------------------------|-----------------------------------|-----------------------|---------|---|------|---------------|---------------|------|----------------|--|
| MBLK | Sample ID: MBLK-F1-183258 | Units: ug/L | | Analysis Date: 08-Sep-2022 15:02 | | | | | | |
| Client ID: | Run ID: ICPMS07_416731 | SeqNo: 6839803 | | PrepDate: 07-Sep-2022 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Calcium | 54.08 | 500 | | | | | | | J | |
| Magnesium | 48.08 | 500 | | | | | | | J | |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 329.9 | 200 | | | | | | | | |
| MBLK | Sample ID: MBLK-183258 | Units: ug/L | | Analysis Date: 08-Sep-2022 15:00 | | | | | | |
| Client ID: | Run ID: ICPMS07_416731 | SeqNo: 6839802 | | PrepDate: 07-Sep-2022 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Calcium | U | 500 | | | | | | | | |
| Magnesium | U | 500 | | | | | | | | |
| Potassium | U | 500 | | | | | | | | |
| Sodium | 55.2 | 200 | | | | | | | J | |
| LCS | Sample ID: LCS-183258 | Units: ug/L | | Analysis Date: 08-Sep-2022 15:12 | | | | | | |
| Client ID: | Run ID: ICPMS07_416731 | SeqNo: 6839808 | | PrepDate: 07-Sep-2022 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Calcium | 4862 | 500 | 5000 | 0 | 97.2 | 85 - 115 | | | | |
| Magnesium | 5298 | 500 | 5000 | 0 | 106 | 85 - 115 | | | | |
| Potassium | 5175 | 500 | 5000 | 0 | 103 | 85 - 115 | | | | |
| Sodium | 5123 | 200 | 5000 | 0 | 102 | 85 - 115 | | | | |
| MS | Sample ID: HS22090004-04MS | Units: ug/L | | Analysis Date: 08-Sep-2022 15:26 | | | | | | |
| Client ID: | Run ID: ICPMS07_416731 | SeqNo: 6839968 | | PrepDate: 07-Sep-2022 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Calcium | 65050 | 500 | 5000 | 56400 | 173 | 85 - 115 | | | SO | |
| Magnesium | 34940 | 500 | 5000 | 28630 | 126 | 85 - 115 | | | SO | |
| Potassium | 14190 | 500 | 5000 | 8550 | 113 | 85 - 115 | | | | |
| Sodium | 103500 | 200 | 5000 | 95250 | 165 | 85 - 115 | | | SO | |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| | | | | | | | | | | |
|-------------------------------|------------------------------------|----------------------------|---------|--|---|---------------|---------------|-------|-----------|------|
| Batch ID: 183258 (0) | | Instrument: ICPMS07 | | Method: DISSOLVED METALS BY E200.8, REV 5.4, 1994 (DISSOLVED) | | | | | | |
| MSD | Sample ID: HS22090004-04MSD | Units: ug/L | | | Analysis Date: 08-Sep-2022 15:28 | | | | | |
| Client ID: | Run ID: ICPMS07_416731 | SeqNo: 6839969 | | PrepDate: 07-Sep-2022 | | DF: 1 | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 63450 | 500 | 5000 | 56400 | 141 | 85 - 115 | 65050 | 2.5 | 20 | SO |
| Magnesium | 34420 | 500 | 5000 | 28630 | 116 | 85 - 115 | 34940 | 1.52 | 20 | SO |
| Potassium | 13950 | 500 | 5000 | 8550 | 108 | 85 - 115 | 14190 | 1.72 | 20 | |
| Sodium | 102500 | 200 | 5000 | 95250 | 146 | 85 - 115 | 103500 | 0.909 | 20 | SO |

The following samples were analyzed in this batch: HS22081560-02

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| Batch ID: 183370 (0) | | Instrument: ICPMS07 | | Method: TOTAL METALS BY E200.8, REV 5.4, 1994 | | | | | | |
|------------------------|-----------------------------------|-----------------------|------------------------------|---|---|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: MBLK-183370 | Units: ug/L | | | Analysis Date: 12-Sep-2022 21:21 | | | | | |
| Client ID: | Run ID: ICPMS07_416918 | SeqNo: 6845117 | PrepDate: 09-Sep-2022 | DF: 1 | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | U | 500 | | | | | | | | |
| Magnesium | 11.81 | 500 | | | | | | | | J |
| Potassium | U | 500 | | | | | | | | |
| Sodium | U | 200 | | | | | | | | |
| LCS | Sample ID: LCS-183370 | Units: ug/L | | | Analysis Date: 12-Sep-2022 21:23 | | | | | |
| Client ID: | Run ID: ICPMS07_416918 | SeqNo: 6845118 | PrepDate: 09-Sep-2022 | DF: 1 | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 5007 | 500 | 5000 | 0 | 100 | 85 - 115 | | | | |
| Magnesium | 5157 | 500 | 5000 | 0 | 103 | 85 - 115 | | | | |
| Potassium | 5223 | 500 | 5000 | 0 | 104 | 85 - 115 | | | | |
| Sodium | 5132 | 200 | 5000 | 0 | 103 | 85 - 115 | | | | |
| MS | Sample ID: HS22090215-01MS | Units: ug/L | | | Analysis Date: 12-Sep-2022 21:32 | | | | | |
| Client ID: | Run ID: ICPMS07_416918 | SeqNo: 6845123 | PrepDate: 09-Sep-2022 | DF: 1 | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 127000 | 500 | 5000 | 121100 | 118 | 70 - 130 | | | | O |
| Magnesium | 18300 | 500 | 5000 | 13170 | 103 | 70 - 130 | | | | |
| Potassium | 21390 | 500 | 5000 | 16200 | 104 | 70 - 130 | | | | |
| Sodium | 160600 | 200 | 5000 | 156200 | 87.0 | 70 - 130 | | | | O |
| MS | Sample ID: HS22081624-01MS | Units: ug/L | | | Analysis Date: 12-Sep-2022 21:27 | | | | | |
| Client ID: | Run ID: ICPMS07_416918 | SeqNo: 6845120 | PrepDate: 09-Sep-2022 | DF: 1 | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Calcium | 116600 | 500 | 5000 | 111300 | 105 | 70 - 130 | | | | O |
| Magnesium | 10950 | 500 | 5000 | 6083 | 97.3 | 70 - 130 | | | | |
| Potassium | 8850 | 500 | 5000 | 3940 | 98.2 | 70 - 130 | | | | |
| Sodium | 36870 | 200 | 5000 | 32050 | 96.2 | 70 - 130 | | | | O |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: 183370 (0) **Instrument:** ICPMS07 **Method:** TOTAL METALS BY E200.8, REV 5.4, 1994

| MSD | | Sample ID: HS22090215-01MSD | | | Units: ug/L | | Analysis Date: 12-Sep-2022 21:34 | | | | |
|------------|--------|-----------------------------|---------|---------------|----------------|---------------|----------------------------------|-------|-----------|------|--|
| Client ID: | | Run ID: ICPMS07_416918 | | | SeqNo: 6845124 | | PrepDate: 09-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Calcium | 125900 | 500 | 5000 | 121100 | 96.6 | 70 - 130 | 127000 | 0.851 | 20 | O | |
| Magnesium | 18370 | 500 | 5000 | 13170 | 104 | 70 - 130 | 18300 | 0.398 | 20 | | |
| Potassium | 21330 | 500 | 5000 | 16200 | 102 | 70 - 130 | 21390 | 0.279 | 20 | | |
| Sodium | 160800 | 200 | 5000 | 156200 | 91.1 | 70 - 130 | 160600 | 0.125 | 20 | O | |

| MSD | | Sample ID: HS22081624-01MSD | | | Units: ug/L | | Analysis Date: 12-Sep-2022 21:28 | | | | |
|------------|--------|-----------------------------|---------|---------------|----------------|---------------|----------------------------------|--------|-----------|------|--|
| Client ID: | | Run ID: ICPMS07_416918 | | | SeqNo: 6845121 | | PrepDate: 09-Sep-2022 | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Calcium | 115800 | 500 | 5000 | 111300 | 89.0 | 70 - 130 | 116600 | 0.7 | 20 | O | |
| Magnesium | 10990 | 500 | 5000 | 6083 | 98.2 | 70 - 130 | 10950 | 0.424 | 20 | | |
| Potassium | 8855 | 500 | 5000 | 3940 | 98.3 | 70 - 130 | 8850 | 0.0549 | 20 | | |
| Sodium | 36970 | 200 | 5000 | 32050 | 98.3 | 70 - 130 | 36870 | 0.28 | 20 | O | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: R416606 (0) **Instrument:** VOA7 **Method:** LOW LEVEL VOLATILES BY SW8260C

MBLK Sample ID: **VBLKW-220906** Units: **ug/L** Analysis Date: **06-Sep-2022 09:57**
 Client ID: Run ID: **VOA7_416606** SeqNo: **6836571** PrepDate: DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

| | | | | | | | | | | |
|------------------------------------|--------------|------------|-----------|----------|------------|-----------------|--|--|--|--|
| Benzene | U | 1.0 | | | | | | | | |
| Ethylbenzene | U | 1.0 | | | | | | | | |
| m,p-Xylene | U | 2.0 | | | | | | | | |
| o-Xylene | U | 1.0 | | | | | | | | |
| Toluene | U | 1.0 | | | | | | | | |
| Xylenes, Total | U | 1.0 | | | | | | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>53.06</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>106</i> | <i>70 - 123</i> | | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>51.21</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>102</i> | <i>77 - 113</i> | | | | |
| <i>Surr: Dibromofluoromethane</i> | <i>51.73</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>103</i> | <i>73 - 126</i> | | | | |
| <i>Surr: Toluene-d8</i> | <i>52.16</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>104</i> | <i>81 - 120</i> | | | | |

LCS Sample ID: **VLCSW-220906** Units: **ug/L** Analysis Date: **06-Sep-2022 09:17**
 Client ID: Run ID: **VOA7_416606** SeqNo: **6836594** PrepDate: DF: **1**
 Analyte Result PQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

| | | | | | | | | | | |
|------------------------------------|--------------|------------|-----------|----------|-------------|-----------------|--|--|--|--|
| Benzene | 20.87 | 1.0 | 20 | 0 | 104 | 74 - 120 | | | | |
| Ethylbenzene | 19.17 | 1.0 | 20 | 0 | 95.9 | 77 - 117 | | | | |
| m,p-Xylene | 39.35 | 2.0 | 40 | 0 | 98.4 | 77 - 122 | | | | |
| o-Xylene | 19.86 | 1.0 | 20 | 0 | 99.3 | 75 - 119 | | | | |
| Toluene | 19.7 | 1.0 | 20 | 0 | 98.5 | 77 - 118 | | | | |
| Xylenes, Total | 59.21 | 1.0 | 60 | 0 | 98.7 | 75 - 122 | | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>53.75</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>107</i> | <i>70 - 123</i> | | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>47.77</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>95.5</i> | <i>77 - 113</i> | | | | |
| <i>Surr: Dibromofluoromethane</i> | <i>51.23</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>102</i> | <i>73 - 126</i> | | | | |
| <i>Surr: Toluene-d8</i> | <i>48</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>96.0</i> | <i>81 - 120</i> | | | | |

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

Batch ID: R416606 (0) **Instrument:** VOA7 **Method:** LOW LEVEL VOLATILES BY SW8260C

| MS | | Sample ID: HS22090166-01MS | | Units: ug/L | | Analysis Date: 06-Sep-2022 16:59 | | | |
|------------------------------------|--------------|-----------------------------------|-----------|-----------------------|------------|---|---------------|--------------|----------------|
| Client ID: | | Run ID: VOA7_416606 | | SeqNo: 6836592 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 19.9 | 1.0 | 20 | 0.2029 | 98.5 | 70 - 127 | | | |
| Ethylbenzene | 20.16 | 1.0 | 20 | 0 | 101 | 70 - 124 | | | |
| m,p-Xylene | 41.46 | 2.0 | 40 | 0 | 104 | 70 - 130 | | | |
| o-Xylene | 20.27 | 1.0 | 20 | 0 | 101 | 70 - 124 | | | |
| Toluene | 20.32 | 1.0 | 20 | 0 | 102 | 70 - 123 | | | |
| Xylenes, Total | 61.73 | 1.0 | 60 | 0 | 103 | 70 - 130 | | | |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>53.03</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>106</i> | <i>70 - 126</i> | | | |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>51.35</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>103</i> | <i>77 - 113</i> | | | |
| <i>Surr: Dibromofluoromethane</i> | <i>51</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>102</i> | <i>77 - 123</i> | | | |
| <i>Surr: Toluene-d8</i> | <i>52.49</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>105</i> | <i>82 - 127</i> | | | |

| MSD | | Sample ID: HS22090166-01MSD | | Units: ug/L | | Analysis Date: 06-Sep-2022 17:19 | | | |
|------------------------------------|--------------|------------------------------------|-----------|-----------------------|------------|---|---------------|--------------|----------------|
| Client ID: | | Run ID: VOA7_416606 | | SeqNo: 6836593 | | PrepDate: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual |
| Benzene | 19.28 | 1.0 | 20 | 0.2029 | 95.4 | 70 - 127 | 19.9 | 3.15 | 20 |
| Ethylbenzene | 19.51 | 1.0 | 20 | 0 | 97.5 | 70 - 124 | 20.16 | 3.29 | 20 |
| m,p-Xylene | 39.96 | 2.0 | 40 | 0 | 99.9 | 70 - 130 | 41.46 | 3.69 | 20 |
| o-Xylene | 20 | 1.0 | 20 | 0 | 100 | 70 - 124 | 20.27 | 1.34 | 20 |
| Toluene | 19.54 | 1.0 | 20 | 0 | 97.7 | 70 - 123 | 20.32 | 3.91 | 20 |
| Xylenes, Total | 59.96 | 1.0 | 60 | 0 | 99.9 | 70 - 130 | 61.73 | 2.91 | 20 |
| <i>Surr: 1,2-Dichloroethane-d4</i> | <i>51.42</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>103</i> | <i>70 - 126</i> | <i>53.03</i> | <i>3.09</i> | <i>20</i> |
| <i>Surr: 4-Bromofluorobenzene</i> | <i>51.14</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>102</i> | <i>77 - 113</i> | <i>51.35</i> | <i>0.409</i> | <i>20</i> |
| <i>Surr: Dibromofluoromethane</i> | <i>51.51</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>103</i> | <i>77 - 123</i> | <i>51</i> | <i>0.977</i> | <i>20</i> |
| <i>Surr: Toluene-d8</i> | <i>52.21</i> | <i>1.0</i> | <i>50</i> | <i>0</i> | <i>104</i> | <i>82 - 127</i> | <i>52.49</i> | <i>0.526</i> | <i>20</i> |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| Batch ID: R416391 (0) | | Instrument: Balance1 | | Method: TOTAL DISSOLVED SOLIDS BY SM2540C-2011 | | | | | | |
|--|------------------------------------|-----------------------|---------|--|------|---------------|---------------|-------|----------------|--|
| MBLK | Sample ID: WBLK-083122 | Units: mg/L | | Analysis Date: 31-Aug-2022 16:36 | | | | | | |
| Client ID: | Run ID: Balance1_416391 | SeqNo: 6831408 | | PrepDate: | | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Total Dissolved Solids (Residue, Filterable) | | U | 10.0 | | | | | | | |
| LCS | Sample ID: WLCS-083122 | Units: mg/L | | Analysis Date: 31-Aug-2022 16:36 | | | | | | |
| Client ID: | Run ID: Balance1_416391 | SeqNo: 6831409 | | PrepDate: | | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Total Dissolved Solids (Residue, Filterable) | | 1070 | 10.0 | 1000 | 0 | 107 | 85 - 115 | | | |
| DUP | Sample ID: HS22081439-03DUP | Units: mg/L | | Analysis Date: 31-Aug-2022 16:36 | | | | | | |
| Client ID: | Run ID: Balance1_416391 | SeqNo: 6831402 | | PrepDate: | | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Total Dissolved Solids (Residue, Filterable) | | 1512 | 10.0 | | | | 1508 | 0.265 | 5 | |
| DUP | Sample ID: HS22081394-01DUP | Units: mg/L | | Analysis Date: 31-Aug-2022 16:36 | | | | | | |
| Client ID: | Run ID: Balance1_416391 | SeqNo: 6831397 | | PrepDate: | | | DF: 1 | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit Qual | |
| Total Dissolved Solids (Residue, Filterable) | | 794 | 10.0 | | | | 798 | 0.503 | 5 | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| | | |
|--------------------------------|----------------------------------|--|
| Batch ID: R416622 (0) | Instrument: ICS-Integrion | Method: ANIONS BY E300.0, REV 2.1, 1993 |
|--------------------------------|----------------------------------|--|

| | | | | | | | | | | |
|-------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| MBLK | Sample ID: MBLK | Units: mg/L | Analysis Date: 06-Sep-2022 15:14 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837017 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate U 0.500

| | | | | | | | | | | |
|------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| LCS | Sample ID: LCS | Units: mg/L | Analysis Date: 06-Sep-2022 15:20 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837018 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate 20.32 0.500 20 0 102 90 - 110

| | | | | | | | | | | |
|------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| MS | Sample ID: HS22090164-01MS | Units: mg/L | Analysis Date: 06-Sep-2022 15:57 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837025 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate 39.79 0.500 10 30.17 96.2 80 - 120

| | | | | | | | | | | |
|------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| MS | Sample ID: HS22081522-02MS | Units: mg/L | Analysis Date: 06-Sep-2022 15:41 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837022 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate 14.33 0.500 10 4.37 99.6 80 - 120

| | | | | | | | | | | |
|------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| MSD | Sample ID: HS22090164-01MSD | Units: mg/L | Analysis Date: 06-Sep-2022 16:02 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837026 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate 39.79 0.500 10 30.17 96.2 80 - 120 39.79 0.00628 20

| | | | | | | | | | | |
|------------|-------------------------------------|-----------------------|---|---------------|------|---------------|---------------|----------|-----------|------|
| MSD | Sample ID: HS22081522-02MSD | Units: mg/L | Analysis Date: 06-Sep-2022 15:46 | | | | | | | |
| Client ID: | Run ID: ICS-Integrion_416622 | SeqNo: 6837023 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit | Qual |

Sulfate 14.29 0.500 10 4.37 99.2 80 - 120 14.33 0.274 20

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| | | |
|--------------------------------|------------------------------|--|
| Batch ID: R416640 (0) | Instrument: ManTech01 | Method: ALKALINITY BY SM 2320B-2011 |
|--------------------------------|------------------------------|--|

| | | | | | | | | | | |
|------------------------------------|---------------------------------|-----------------------|---|---------------|------|---------------|---------------|------|-----------|------|
| MBLK | Sample ID: WBLKW1-220906 | Units: mg/L | Analysis Date: 06-Sep-2022 18:28 | | | | | | | |
| Client ID: | Run ID: ManTech01_416640 | SeqNo: 6837385 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Alkalinity, Bicarbonate (As CaCO3) | U | 5.00 | | | | | | | | |
| Alkalinity, Carbonate (As CaCO3) | U | 5.00 | | | | | | | | |
| Alkalinity, Hydroxide (As CaCO3) | U | 5.00 | | | | | | | | |
| Alkalinity, Total (As CaCO3) | U | 5.00 | | | | | | | | |

| | | | | | | | | | | |
|----------------------------------|---------------------------------|-----------------------|---|---------------|------|---------------|---------------|------|-----------|------|
| LCS | Sample ID: LCS1-220906 | Units: mg/L | Analysis Date: 06-Sep-2022 18:36 | | | | | | | |
| Client ID: | Run ID: ManTech01_416640 | SeqNo: 6837386 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Alkalinity, Carbonate (As CaCO3) | 961.1 | 5.00 | 1000 | 0 | 96.1 | 85 - 115 | | | | |
| Alkalinity, Total (As CaCO3) | 985.6 | 5.00 | 1000 | 0 | 98.6 | 85 - 115 | | | | |

| | | | | | | | | | | |
|----------------------------------|---------------------------------|-----------------------|---|---------------|------|---------------|---------------|-------|-----------|------|
| LCSD | Sample ID: LCSD1-220906 | Units: mg/L | Analysis Date: 06-Sep-2022 18:45 | | | | | | | |
| Client ID: | Run ID: ManTech01_416640 | SeqNo: 6837387 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Alkalinity, Carbonate (As CaCO3) | 958.4 | 5.00 | 1000 | 0 | 95.8 | 85 - 115 | 961.1 | 0.28 | 20 | |
| Alkalinity, Total (As CaCO3) | 983 | 5.00 | 1000 | 0 | 98.3 | 85 - 115 | 985.6 | 0.263 | 20 | |

| | | | | | | | | | | |
|------------------------------------|------------------------------------|-----------------------|---|---------------|------|---------------|---------------|--------|-----------|------|
| DUP | Sample ID: HS22081221-01DUP | Units: mg/L | Analysis Date: 06-Sep-2022 19:07 | | | | | | | |
| Client ID: | Run ID: ManTech01_416640 | SeqNo: 6837390 | PrepDate: DF: 1 | | | | | | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Alkalinity, Bicarbonate (As CaCO3) | 389.8 | 5.00 | | | | | 390 | 0.0436 | 20 | |
| Alkalinity, Carbonate (As CaCO3) | 15.2 | 5.00 | | | | | 14.01 | 8.15 | 20 | |
| Alkalinity, Hydroxide (As CaCO3) | U | 5.00 | | | | | 0 | 0 | 20 | |
| Alkalinity, Total (As CaCO3) | 405 | 5.00 | | | | | 404 | 0.255 | 20 | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

QC BATCH REPORT

| Batch ID: R416692 (0) | | Instrument: ICS-Integrion | | Method: ANIONS BY E300.0, REV 2.1, 1993 | | | | | | |
|-------------------------|------------------------------------|-------------------------------------|---------|---|---|---------------|---------------|--------------|----------------|--|
| MBLK | Sample ID: MBLK | Units: mg/L | | | Analysis Date: 07-Sep-2022 10:49 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838498 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | U | 0.500 | | | | | | | | |
| LCS | Sample ID: LCS | Units: mg/L | | | Analysis Date: 07-Sep-2022 10:54 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838499 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | 19.97 | 0.500 | 20 | 0 | 99.9 | 90 - 110 | | | | |
| MS | Sample ID: HS22090239-01MS | Units: mg/L | | | Analysis Date: 07-Sep-2022 11:05 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838501 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | 76.07 | 0.500 | 10 | 66.83 | 92.4 | 80 - 120 | | | O | |
| MS | Sample ID: HS22081687-01MS | Units: mg/L | | | Analysis Date: 07-Sep-2022 11:21 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838504 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | 46.38 | 0.500 | 10 | 36.48 | 99.0 | 80 - 120 | | | | |
| MSD | Sample ID: HS22090239-01MSD | Units: mg/L | | | Analysis Date: 07-Sep-2022 11:10 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838502 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | 76.03 | 0.500 | 10 | 66.83 | 92.0 | 80 - 120 | 76.07 | 0.0487 | 20 O | |
| MSD | Sample ID: HS22081687-01MSD | Units: mg/L | | | Analysis Date: 07-Sep-2022 11:26 | | | | | |
| Client ID: | | Run ID: ICS-Integrion_416692 | | SeqNo: 6838505 | | PrepDate: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | RPD %RPD | RPD Limit Qual | |
| Chloride | 46.31 | 0.500 | 10 | 36.48 | 98.4 | 80 - 120 | 46.38 | 0.145 | 20 | |

The following samples were analyzed in this batch: HS22081560-01

Client: PDC Energy
Project: Brant LD 08-162HNX
WorkOrder: HS22081560

**QUALIFIERS,
ACRONYMS, UNITS**

| Qualifier | Description |
|------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL/SDL |

| Acronym | Description |
|----------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| Unit Reported | Description |
|----------------------|----------------------|
| Date | |
| mg/L | Milligrams per Liter |

CERTIFICATIONS,ACCREDITATIONS & LICENSES

| Agency | Number | Expire Date |
|-----------------|--------------------|--------------------|
| Arkansas | 22-041-0 | 27-Mar-2023 |
| California | 2919 2022-2023 | 30-Apr-2023 |
| Dept of Defense | L21-682 | 31-Dec-2023 |
| Florida | E87611-36 | 30-Jun-2023 |
| Illinois | 2000322022-9 | 09-May-2023 |
| Kansas | E-10352; 2022-2023 | 31-Jul-2023 |
| Kentucky | 123043, 2022-2023 | 30-Apr-2023 |
| Louisiana | 03087, 2022-2023 | 30-Jun-2023 |
| Maryland | 343, 2022-2023 | 30-Jun-2023 |
| North Carolina | 624-2022 | 31-Dec-2022 |
| North Dakota | R-193 2022-2023 | 30-Apr-2023 |
| Oklahoma | 2022-141 | 31-Aug-2023 |
| Texas | T104704231-22-29 | 30-Apr-2023 |
| Utah | TX026932022-13 | 31-Jul-2023 |

Sample Receipt Checklist

Work Order ID: HS22081560

Date/Time Received: **27-Aug-2022 08:40**

Client Name: PDC Energy 80620

Received by: **Paresh M. Giga**

| | | | |
|--|-------------------|--|-------------------|
| Completed By: <u>/S/ Nilesch D. Ranchod</u> | 29-Aug-2022 15:54 | Reviewed by: <u>/S/ Kori Bagsby</u> | 30-Aug-2022 10:22 |
| eSignature | Date/Time | eSignature | Date/Time |

Matrices: **W**

Carrier name: **FedEx**

- | | | | |
|---|---|-----------------------------|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| VOA/TX1005/TX1006 Solids in hermetically sealed vials? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | 1 Page(s) |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samplers name present on COC? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

| | | |
|--|---|---|
| Temperature(s)/Thermometer(s): | 4.2uc/4.0c | IR31 |
| Cooler(s)/Kit(s): | Blue | |
| Date/Time sample(s) sent to storage: | 8/27/2022 13:00 | |
| Water - VOA vials have zero headspace? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> No VOA vials submitted <input type="checkbox"/> |
| Water - pH acceptable upon receipt? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> N/A <input type="checkbox"/> |
| pH adjusted? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> |
| pH adjusted by: | | |

Login Notes:

Client Contacted: _____ Date Contacted: _____ Person Contacted: _____

Contacted By: _____ Regarding: _____

Comments:

Corrective Action:



ALS Environmental

225 Commerce Drive, Fort Collins, Colorado 80524
 TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

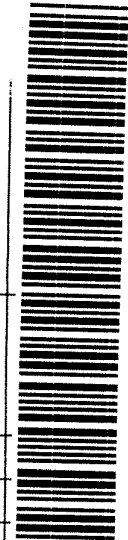
Chain-of-Custody

Form 202r8

| | |
|-------------|----|
| WORKORDER # | |
| PAGE | of |

| | | | | | | | | | |
|----------------|----------------------|--|-----------------|------------|--|--|------------|------|--|
| PROJECT NAME | Brant LD 08-162HNX | | SAMPLER | Max Trohus | | | | DATE | |
| PROJECT No. | | | SITE ID | | | | TURNAROUND | | |
| COMPANY NAME | PDC | | EDD FORMAT | | | | | | |
| SEND REPORT TO | Max Trohus | | PURCHASE ORDER | | | | | | |
| ADDRESS | Jennifer Hankkarinen | | BILL TO COMPANY | | | | | | |
| CITY/STATE/ZIP | Jessica Johannsen | | INVOICE ATTN TO | | | | | | |
| PHONE | | | ADDRESS | | | | | | |
| FAX | | | CITY/STATE/ZIP | | | | | | |
| E-MAIL | | | PHONE | | | | | | |
| | | | FAX | | | | | | |
| | | | E-MAIL | | | | | | |

| Lab ID | Field ID | Matrix | Sample Date | Sample Time | # Bottles | Pres. | QC | Dissolved Gases | BTEX | DRO | ARO | Anions, Alk, IDS | D Metals | TIC Metal |
|--------|-------------|--------|-------------|-------------|-----------|-------|----|-----------------|------|-----|-----|------------------|----------|-----------|
| | 08-162HNX A | W | 8/24/22 | 11:00 | 3 | - | | | | | | | | |
| | 08-162HNX A | | | | 3 | 1 | | X | | | | | | |
| | 08-162HNX A | | | | 3 | 1 | | | X | | | | | |
| | 08-162HNX A | | | | 3 | 1 | | | | X | | | | |
| | 08-162HNX A | | | | 2 | - | | | | | X | | | |
| | 08-162HNX B | | | | 1 | - | | | | | | X | | |
| | 08-162HNX A | | | | 1 | 2 | | | | | | | X | |



HS22081560
 PDC Energy
 Brant LD 08-162HNX

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

| | |
|--|---|
| Comments: Facility ID: 460112 Water source diminished before full sample, 1st 2nd TDS (125mL) | QC PACKAGE (check below) |
| | <input type="checkbox"/> LEVEL II (Standard QC) |
| | <input type="checkbox"/> LEVEL III (Std QC + forms) |
| | <input type="checkbox"/> LEVEL IV (Std QC + forms + raw data) |
| Preservative Key: | 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-NaHSO4 7-Other 8-4 degrees C 9-5035 |

| | SIGNATURE | PRINTED NAME | DATE | TIME |
|-----------------|--------------------|--------------|---------|-------|
| RELINQUISHED BY | <i>[Signature]</i> | Max Trohus | 8/26/22 | 10:55 |
| RECEIVED BY | <i>[Signature]</i> | Karen Craven | 8-26-22 | 1055 |
| RELINQUISHED BY | <i>[Signature]</i> | Karen Craven | 8-26-22 | 1530 |
| RECEIVED BY | <i>[Signature]</i> | P. G. ... | 8/27/22 | 08:40 |
| RELINQUISHED BY | | | | |
| RECEIVED BY | | | | |

Blue AUG 27 2022

ORIGIN ID: FTCA (970) 490-1511
SAMPLE CONTROL
ALS LABORATORY GROUP
225 COMMERCE DRIVE
FORT COLLINS, CO 80524
UNITED STATES US

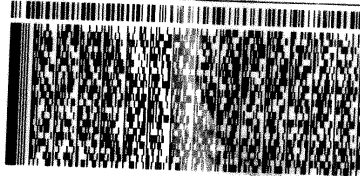
SHIP DATE: 26AUG22
ACTWT: 25.30 LB
CAD: 0730234/CAF3511
DIMS: 17x14x13 IN
BILL THIRD PARTY

TO **SAMPLE RECEIVING**
ALS ENVIRONMENTAL
10450 STANCLIFF RD.
SUITE 210
HOUSTON TX 77099

Blue

(201) 630-6666

REF: 6710-ENV-FC-LB-00



FedEx
Express



TRK# 5066 7517 4620
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO SGRA

77099
TX--US IAH



Part # 167077-434-MTW EXP 06/22