

a member of The GEL Group INC



PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407

P 843.556.8171 F 843.766.1178

www.gel.com

July 08, 2011

Mr. Robert E. McPeak Energy Solutions, LLC 100 Mill Plain Road 2nd Floor Mail Box 106 Danbury, Connecticut 06811

Re: Energy Solution (GELP11-0764)

Work Order: 281060

Dear Mr. McPeak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 02, 2011. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

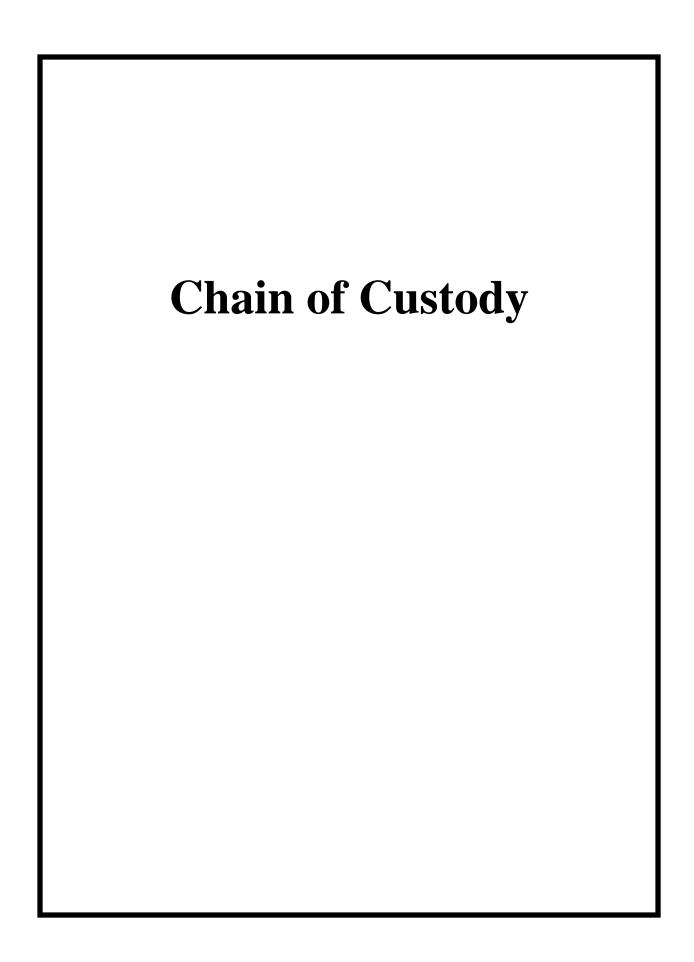
Sincerely,

LaToya Hughes Project Manager

LeTaya D. Hughes

Purchase Order: 614762

Enclosures



| age: 1 of 1 | GEL Chain of | hain o | f C | usto | Custody and Analytical Request | Anal | ytic | [a] | Rec | ant | st | | <u> </u> | GEL Laboratories, | orator | GEL Laboratories, LLC | | |
|---|--|--|----------------|----------------------------------|---|--|---------------------------|-----------|----------------------------|---------------|-------------------------------|-----------|------------|--|--------------------|--|---|--------------|
| 3EL Quote #: GELP11-0764 | | **See ww | v.gel.c | om for (| **See www.gel.com for GEL's Sample Acceptance SOP** | e Accep | tance | SOP | * | ŧ | | | <u>4 0</u> | harlest | on, SC | Charleston, SC 29407 | | |
| COC Number (i). | GEL Work Order Number: | | 18e | 81060 | 0 | | | | | | | | E E | Phone: (843) 556-81 Fax: (843) 766-1178 | 843) 5: 3) 766- | Phone: (843) 556-8171 Fax: (843) 766-1178 | | |
| Client Name: Energy Solutions | | Phone #; 801-303-1092 | -303-109 | 2 | | | San | ıple A | nalys | is Rec | Sample Analysis Requested (5) | | Fill in | the nu | mber | of conta | (Fill in the number of containers for each test) | |
| Broject/Site Name: SEFOR - 137116 | | Fax #: | | | | əq əj | ersani | <u></u> | ત | \mathcal{C} | 2 | | 7 | | | | < Preservative Type (6) | ype (6) |
| Address:100 Mill Plain Rd Danbury, CT 06811 | | | | | | Shoul gmss bisnoo | | ası | | l . | ľ | ac | IOW 1 | | - | | | |
| Collected by Orry/Snellnngs Results | Results: Jerry Toumey, GToumey@energysolutions.com | ey@energysolu | tions.com | | | bete | | 08 agn | Н | PA 20 | y 245. | W 906 | 106 ns | | · | | Comments Note: extra sample is | s nple is |
| Sample ID * For composites - indicate start and stop date/time | *Date Collected (mm-dd-yy) | *Time Collected (Military) (hhmm) | OC Code (3) | Field Filtered ⁽³⁾ | Sample Matrix | Radioactive TSCA Regula | mun IstoT | Diesel Ra | d | Metals E | Mercu | 2 muitinT | Gamma Sc | | | | required for sample specific QC | mple |
| C4BOT001 | 7/1/2011 | 1410 | z | z | Aq | | ├ | × | × | × | × | × | × | <u> </u> | | ļ | | |
| C4BOT002 | 7/1/2011 | 1450 | Z | Z | Aq | X | 9 | × | Х | × | × | × | × | | | | | |
| | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | |
| TAT Requested: Normal: Rush: Specify: 31 | Specify: 3 DAY (Subject to Surcharge) Fax Results: | arge) Fax Re | sults: | Yes | / No | 0 | C | ircle D | Circle Deliverable: C of A | ble: C | of A | УС | QC Summary | ary / | Level | Level 1 / Level 2 | / Level 3 / | Level 4 |
| Remarks: Are there any known hazards applicable to these samples? If so, please list the hazards The samples will be send out of Friday for Saturday delivery, the chain is being sent prior to so that the 3 day TAT can be achieved. | sle to these sample he 3 day TAT can | ss? If so, pi be achieve | ease li d. | st the h | azards The s | amples 1 | vill be | send | ont o | f Fria | 'ay for | Satu | rday | | Sar | sample Col Eastern Central | Sample Collection Time Zone Eastern Pacific Central Other | |
| Chain of | Chain of Custody Signatures | S | | | | - | | | | | Samp | le Shi | pping | and I |)elive | Sample Shipping and Delivery Details | SI. | |
| Relinquished By (Signed) Date Time | Received by (signed) | | Date | Time | | 35 | GEL PM: Latoya Hughes | Latc | ya Hu | ghes | | | | | | | | |
| 1Xxx X 7-1-11 1654 | 1. Are | | 7-2-11 | \equiv | 0000 | | Method of Shipment: FEDEX | Shipme | nt: FED | EX | | | | Date Shipped | ipped: | | | |
| 0 0 | 2 | 0 | | | | Air | Airbill #: | | | | | | | | | | | |
| 3 | 3 | | | | | Air | Airbill #: | | | | | | | | | | | |
| 1.) Chain of Custody Number = Client Determined 2.) QC Codes: N = Normal Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike Sample, MSD = Matrix Spike Duplicate Sample, G = Grab, C = Composite | cate, EB = Equipment Blar | ık, MS = Matrix | r Spike Sa | mple, MSD | = Matrix Spike Do | uplicate Sarr | ple, G = | Grab, C | = Com | osite | | | | | | | For Lab Receiving Use Only | Only |
| 3.) Field Filtered: For liquid matrices, indicate with a - Y - for yes the sample was field filtered or - N - for sample was not field filtered. 4.) Matrix Codes: DW =Drinking Water, GW =Groundwater, SW =Surface Water, WW =Water, WI =Wise Liquid, SO =Soil, SD =Sediment, SL =Sludge, SS =Soild Waste, O =Oil, F =Filter, P =Wipe, U =Urine, F =Fecal, N =Nasal | imple was field filtered or - | N - for sample ' | was not fin | ald filtered. | =Soil, SD=Sedimer | ıt, SL=Sludg | e, SS=S | olid Was | ite, 0 =0 | i, F=Fil | ter, P=W | ipe, U≕ | Urine, F | ⊨Fecal,] | N≕Nasal | | Custody Seal Intact? YES NO | 6 |

Cooler Temp:

6.) Preservative Type: HA = Hydrochloric Acid, NI = Nitric Acid, SI = Sodium Hydroxide, SA = Sulfuric Acid, AA = Ascorbic Acid, HX = Hexane, ST = Sodium Thiosulfate, If no preservative is added = leave field blank

WHITE = LABORATORY

YELLOW = FILE

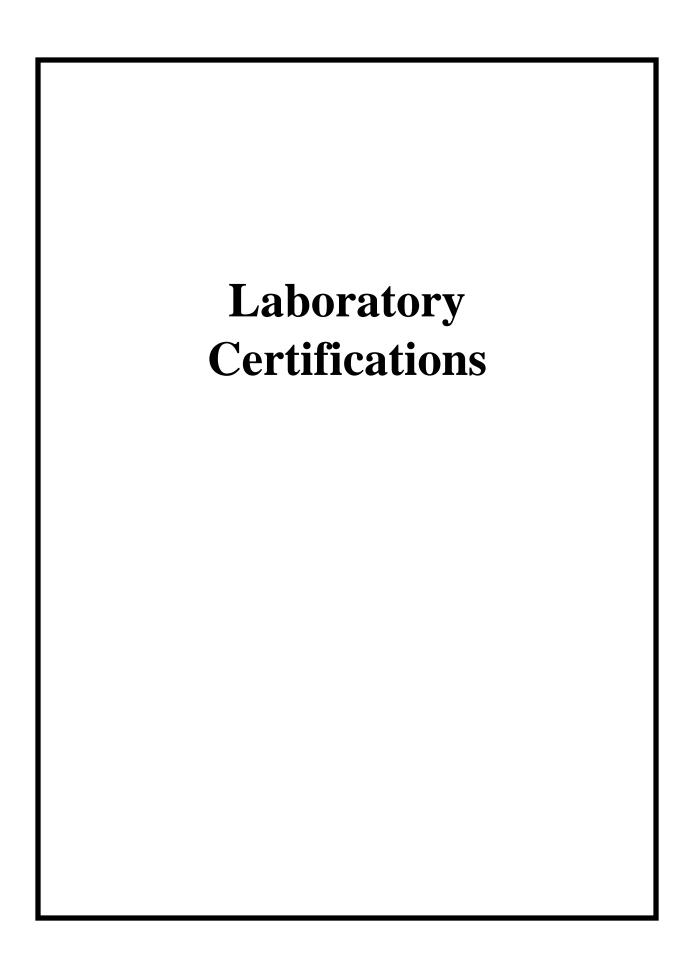
PINK = CLIENT

5.) Sample Analysis Requested: Analytical method requested (i.e. 8260B, 6010B/7470A) and number of containers provided for each (i.e. 8260B - 3, 6010B/7470A - 1).



SAMPLE RECEIPT & REVIEW FORM

| Clie | ent: ENRG eived By: Greg Tyles | | | SD | G/AR/COC/Work Order: 381060 |
|---------------|--|----------|--------|--------|--|
| Rec | eived By: Grea Tyler | | | | e Received: 7-2-11 |
| | pected Hazard Information | Yes | No | | Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group for her investigation. |
| $\overline{}$ | C/Samples marked as radioactive? | X | | Max | kimum Counts Observed*: 60 CpM |
| _ | ssified Radioactive II or III by RSO? C/Samples marked containing PCBs? | - | X | | |
| | oped as a DOT Hazardous? | \vdash | Ś | Haz | ard Class Shipped: UN#: |
| | ples identified as Foreign Soil? | T | X | | |
| F | Sample Receipt Criteria | Yes | AN | 2 2 | Comments/Qualifiers (Required for Non-Conforming Items) |
| 1 | Shipping containers received intact and sealed? | X | | | Circle Applicable: Seals broken Damaged container Leaking container Other (describe) |
| 2 | Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$? | X | | | Ice bags Blue ice Dry ice None Other (describe) |
| 2a | Daily check performed and passed on IR temperature gun? | X | | | Temperature Device Serial #: 61524649 Secondary Temperature Device Serial # (If Applicable): |
| 3 | Chain of custody documents included with shipment? | X | | | |
| 4 | Sample containers intact and sealed? | X | | | Circle Applicable: Seals broken Damaged container Leaking container Other (describe) |
| 5 | Samples requiring chemical preservation at proper pH? | χ | | | Sample ID's, containers affected and observed pH: If Preservation added, Lot#: |
| 6 | VOA vials free of headspace (defined as < 6mm bubble)? | | χ | | Sample ID's and containers affected: |
| 7 | Are Encore containers present? | | χ | | (If yes, immediately deliver to Volatiles laboratory) |
| 8 | Samples received within holding time? | X | | | ID's and tests affected: |
| 9 | Sample ID's on COC match ID's on bottles? | X | | | Sample ID's and containers affected: |
| 10 | Date & time on COC match date & time on bottles? | X | | | Sample ID's affected: |
| 11 | Number of containers received match number indicated on COC? | Χ | | | Sample ID's affected: |
| 12 | Are sample containers identifiable as GEL provided? | X | | | |
| 13 | COC form is properly signed in relinquished/received sections? | λ | | | |
| | Carrier and tracking number. | | | | Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other 8736 6863 4271 |
| Con | ments (Use Continuation Form if needed): | | | | |
| | | | | | |
| | | | | | |
| | Page 4 of 22 | eview | : Init | ials _ | GRT Date 7-2-11 Page 1 of 1 |



List of current GEL Certifications as of 07 July 2011

| State | Certification |
|---------------------------|-------------------|
| Arkansas | 88-0651 |
| CLIA | 42D0904046 |
| California – NELAP | 01151CA |
| Colorado | E87156 (FL/NELAP) |
| Connecticut | PH-0169 |
| DoD ELAP – A2LA | 2567.01 |
| Florida – NELAP | E87156 |
| Foreign Soils Permit USDA | P330-09-00191 |
| Georgia | E87156 (FL/NELAP) |
| Georgia SDWA | 967 |
| Hawaii | E87156 (FL/NELAP) |
| ISO 17025 | 2567.01 |
| Idaho | SC00012 |
| Illinois – NELAP | 200029 |
| Indiana | C-SC-01 |
| Kansas – NELAP | E-10332 |
| Kentucky | 90129 |
| Louisiana – NELAP | 03046 (Al33904) |
| Louisiana SDWA | LA110006 |
| Maryland | 270 |
| Massachusetts | M-SC012 |
| Mississippi | E87156 (FL/NELAP) |
| Nevada | SC00012 |
| New Hampshire | 2054 |
| New Jersey – NELAP | SC002 |
| New Mexico | E87156 (FL/NELAP) |
| New York – NELAP | 11501 |
| North Carolina | 233 |
| North Carolina DW | 45709 |
| Oklahoma | 9904 |
| Pennsylvania – NELAP | 68-00485 |
| South Carolina | 10120001/10120002 |
| Tennessee | TN 02934 |
| Texas – NELAP | T104704235-10-3 |
| Utah – NELAP | SC00012 |
| Vermont | VT87156 |
| Virginia | 00151 |
| Washington | C780 |
| Wisconsin | 999887790 |

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis Report for

ENRG039 Energy Solutions, LLC (GELP11–0764) Client SDG: 281060 GEL Work Order: 281060

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- H Analytical holding time was exceeded
- J Value is estimated
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the detection limit.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, LaToya Hughes.

La Taya D. Hughes

Reviewed by

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date:

ENRG03901

ENRG039

Project:

Client ID:

July 8, 2011

Company: Energy Solutions, LLC

Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

Contact: Mr. Robert E. McPeak

Project: Energy Solution (GELP11-0764)

Client Sample ID: C4BOT001 Sample ID: 281060001

Matrix: Water

Collect Date: 01-JUL-11 14:10

Receive Date: 02-JUL-11 Collector: Client

| Diesel Range Organics | Parameter | Qualifier | Result | DL | RL | Units | DF Ana | yst Date | Tim | e Batch | Method |
|--|---------------------------------------|-------------------|------------------|----------|-------|--------|--------|------------|-------|----------|--------|
| Diesel Range Organics 0.555 0.0613 0.189 mg/L 1 KKR 0.70511 2315 118453 1 1 1 1 1 1 1 1 1 | Diesel Range Organ | nics | | | | | | | | | |
| Diesel Range Organics 0.555 0.0613 0.189 mg/L 1 KKR 0.70511 2315 118453 1 1 1 1 1 1 1 1 1 | 3510C/8015B DRO | Liquid "As Rece | eived" | | | | | | | | |
| SM 4500-H B pH "As Received" Flat map 18.3C | | 1 | | 0.0613 | 0.189 | mg/L | 1 KXR | 2 07/05/11 | 2315 | 1118453 | 1 |
| SM 4500-H B pH "As Received" Flat map 18.3C | | | | | | | | | | | |
| Plate Temp 13.°C | · · · · · · · · · · · · · · · · · · · | As Received" | | | | | | | | | |
| Mercury Analysis-CVAA EPA 245 Mercury "As Received" Section | | | 8.94 | 0.010 | 0.100 | SU | 1 LXA | 1 07/05/11 | 1151 | 1118548 | 2 |
| Part | = | | | ***** | 0.200 | ~ ~ | | | | | _ |
| Mercury | • | | | | | | | | | | |
| Metals Analysis-ICP-MS | • | As Received | 0.256 | 0.066 | 0.200 | ng/I | 1 IXI | 07/06/11 | 1033 | 1118/168 | 3 |
| Arsenic | • | D MC | 0.230 | 0.000 | 0.200 | ug/L | 1 JAL | 07/00/11 | 1033 | 1110400 | 3 |
| Arsenic | • | | 111 | | | | | | | | |
| Beryllium | | _iquid "As Recei | | 1.70 | 5.00 | 7 | 1 541 | 07/06/11 | 1.110 | 1110256 | 4 |
| Cadmium 23.0 0.110 1.00 ug/L 1 IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | | *** | | | | - | | 07/06/11 | 1413 | 1118356 | 4 |
| Chromium 35.1 2.00 10.0 ug/L 1 | • | U | | | | - | | | | | |
| Copper | | | | | | - | _ | | | | |
| Lead | | | | | | - | | | | | |
| Nickel 13.5 0.500 2.00 ug/L 1 I | * * | | | | | | _ | | | | |
| Selenium U 0.607 1.50 5.00 ug/L 1 Column Column <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td></td><td></td><td></td><td></td></t<> | | | | | | | 1 | | | | |
| Silver J 0.371 0.200 1.00 ug/L 1 I PRB 07/06/11 1645 1118356 5 Rad Gamma Spec Analysis Gamma Spec Analysis Gamma, Liquid (Stantard List) "As Received" Actinium-228 U 6.93E-09 2.02E-08 uCi/mL MJHI 07/03/11 0857 1118318 6 Americum-241 U 1.63E-10 7.89E-09 uCi/mL UCi/mL 4 4 0.857 1118318 6 Antimony-124 U 1.03E-09 1.07E-08 uCi/mL UCi/mL UCi/mL 4 4 0.858-09 1.07E-08 uCi/mL UCi/mL 0.81E-09 1.98E-08 uCi/mL UCi/mL 0.81E-09 1.98E-08 uCi/mL UCi/mL 0.81E-09 <td>Selenium</td> <td>U</td> <td>0.607</td> <td></td> <td></td> <td>-</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> | Selenium | U | 0.607 | | | - | 1 | | | | |
| Thallium | Silver | J | | | 1.00 | - | 1 | | | | |
| Rad Gamma Spec Analysis Gammaspec, Gamma, Liquid (Stantard List) "As Received" Actinium-228 U 6.93E-09 2.02E-08 Americium-241 U 1.63E-10 7.89E-09 1.27E-08 Antimony-124 U 1.29E-09 1.07E-08 Antimony-125 U -6.89E-09 1.07E-08 Barium-133 U -4.08E-09 5.13E-09 1.98E-08 BuCi/mL Barium-140 U 1.29E-09 1.98E-08 Beryllium-7 U 6.81E-09 4.04E-08 Bismuth-212 Bismuth-212 U 1.19E-08 7.01E-08 Bismuth-214 U 3.36E-08 1.41E-08 UCi/mL Bismuth-214 U -3.23E-10 A01E-09 UCi/mL Cerium-139 U -3.23E-10 A01E-09 A01E | Thallium | U | 0.007 | 0.450 | 2.00 | | 1 | | | | |
| Gammaspec, Gamma, Liquid (Stantard List) "As Received" Actinium-228 U 6.93E-09 2.02E-08 uCi/mL MJH1 07/03/11 0857 1118318 6 6 Americium-241 U 1.63E-10 7.89E-09 uCi/mL 4 118318 6 6 Antimony-124 U 1.29E-09 1.27E-08 uCi/mL 4 118318 6 6 Antimony-125 U -6.89E-09 1.07E-08 uCi/mL 4 </td <td>Antimony</td> <td>J</td> <td>1.86</td> <td>1.00</td> <td>3.00</td> <td>ug/L</td> <td>1 PRB</td> <td>07/06/11</td> <td>1645</td> <td>1118356</td> <td>5</td> | Antimony | J | 1.86 | 1.00 | 3.00 | ug/L | 1 PRB | 07/06/11 | 1645 | 1118356 | 5 |
| Actinium-228 U 6.93E-09 2.02E-08 uCi/mL MJH1 07/03/11 0857 1118318 6 Americium-241 U 1.63E-10 7.89E-09 uCi/mL Antimony-124 U 1.29E-09 1.27E-08 uCi/mL Antimony-125 U -6.89E-09 1.07E-08 uCi/mL Barium-133 U -4.08E-09 5.13E-09 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | Rad Gamma Spec A | Analysis | | | | | | | | | |
| Actinium-228 U 6.93E-09 2.02E-08 uCi/mL MJH1 07/03/11 0857 1118318 6 Americium-241 U 1.63E-10 7.89E-09 uCi/mL Antimony-124 U 1.29E-09 1.27E-08 uCi/mL Antimony-125 U -6.89E-09 1.07E-08 uCi/mL Barium-133 U -4.08E-09 5.13E-09 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | Gammaspec, Gamm | na, Liquid (Stand | ard List) "As Re | eceived" | | | | | | | |
| Antimony-124 U 1.29E-09 1.27E-08 uCi/mL Antimony-125 U -6.89E-09 1.07E-08 uCi/mL Barium-133 U -4.08E-09 5.13E-09 uCi/mL Barium-140 U 1.29E-09 1.98E-08 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | - | - | | | | uCi/mL | MJH | 1 07/03/11 | 0857 | 1118318 | 6 |
| Antimony-125 U -6.89E-09 1.07E-08 uCi/mL Barium-133 U -4.08E-09 5.13E-09 uCi/mL Barium-140 U 1.29E-09 1.98E-08 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | Americium-241 | U | 1.63E-10 | 7.89E-09 | | uCi/mL | | | | | |
| Barium-133 U -4.08E-09 5.13E-09 uCi/mL Barium-140 U 1.29E-09 1.98E-08 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | Antimony-124 | U | 1.29E-09 | 1.27E-08 | | uCi/mL | | | | | |
| Barium-140 U 1.29E-09 1.98E-08 uCi/mL Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | Antimony-125 | | | 1.07E-08 | | | | | | | |
| Beryllium-7 U 6.81E-09 4.04E-08 uCi/mL Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| Bismuth-212 U -1.19E-08 7.01E-08 uCi/mL Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| Bismuth-214 U 1.36E-08 1.41E-08 uCi/mL Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | • | | | | | | | | | | |
| Cerium-139 U -3.23E-10 4.01E-09 uCi/mL Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| Cerium-141 U -1.38E-10 6.38E-09 uCi/mL Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| Cerium-144 U -3.26E-09 2.74E-08 uCi/mL Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| Cesium-134 U -8.60E-10 4.95E-09 uCi/mL | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 8, 2011

Company: Energy Solutions, LLC Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

Contact: Mr. Robert E. McPeak

Project: Energy Solution (GELP11-0764)

Client Sample ID: C4BOT001 Project: ENRG03901 Sample ID: 281060001 Client ID: ENRG039

| Rad Gamma Spec Analysis Gammapec, Gamma, Liquid (Standard List) "As Received" Cosium-137 | Parameter | Qualifier | Result | DL | RL | Units | DF Analyst Date | Time Batch Method |
|---|------------------|------------------|----------------|-----------|------|--------|-----------------|-------------------|
| Cesium-137 U 7.06E-09 7.50E-09 10.0 uCi/mL Chromium-51 U 1.07E-08 4.08E-08 uCi/mL Cobalt-56 U 6.00E-10 5.31E-09 uCi/mL Cobalt-57 U 1.46E-09 3.66E-09 uCi/mL Cobalt-60 U 1.48E-09 7.17E-09 uCi/mL Europium-152 U 1.78E-09 1.47E-08 uCi/mL Europium-153 U -2.16E-10 1.25E-08 uCi/mL Europium-154 U -3.34E-09 1.21E-08 uCi/mL Europium-155 U -2.16E-10 1.25E-08 uCi/mL Europium-159 U 3.38E-11 4.52E-09 uCi/mL Icad-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mecury-203 U -1.20E-09 4.9E-09 uCi/mL Ned | Rad Gamma Spec A | nalysis | | | | | | |
| Cesium-137 U 7.06E-09 7.50E-09 10.0 uCi/mL Chromium-51 U 1.07E-08 4.08E-08 uCi/mL Cobalt-56 U 6.00E-10 5.31E-09 uCi/mL Cobalt-57 U 1.46E-09 3.66E-09 uCi/mL Cobalt-60 U 1.48E-09 7.17E-09 uCi/mL Europium-152 U 1.78E-09 1.47E-08 uCi/mL Europium-153 U -2.16E-10 1.25E-08 uCi/mL Europium-154 U -3.34E-09 1.21E-08 uCi/mL Europium-155 U -2.16E-10 1.25E-08 uCi/mL Europium-159 U 3.38E-11 4.52E-09 uCi/mL Icad-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mecury-203 U -1.20E-09 4.9E-09 uCi/mL Ned | Gammaspec, Gamm | a, Liquid (Stand | dard List) "As | Received" | | | | |
| Chromium-51 U 1.07E-08 4.08E-08 uCi/mL Cobalt-56 U 6.00E-10 5.31E-09 uCi/mL Cobalt-57 U 1.46E-09 3.66E-09 uCi/mL Cobalt-68 U 2.24E-09 4.94E-09 uCi/mL Europium-152 U 1.78E-09 1.47E-08 uCi/mL Europium-154 U -3.34E-09 1.21E-08 uCi/mL Europium-155 U -2.16E-10 1.25E-08 uCi/mL Indium-192 U 3.38E-11 4.52E-09 uCi/mL Lead-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.48E-09 1.25E-08 uCi/mL Manganese-54 U 2.02E-11 4.24E-09 uCi/mL Mecauty-203 U 1.26E-08 3.54E-08 uCi/mL Neodynium-147 U 9.39E-10 4.69E-09 uCi/mL Neodynium-129 U 7.57E-09 5.28E-09 uCi/mL Promeshium-146 | - | - ' | | | 10.0 | uCi/mL | | |
| Cobalt-56 U 6.00E-10 5.31E-09 uC/mL Cobalt-57 U 1.46E-09 3.66E-09 uC/mL Cobalt-68 U 2.24E-09 4.94E-09 uC/mL Europium-152 U 1.78E-09 1.21E-08 uC/mL Europium-154 U -3.34E-09 1.21E-08 uC/mL Europium-155 U -2.16E-10 1.25E-08 uC/mL Iridium-192 U 3.81E-11 4.5E-09 uC/mL Iron-59 U 2.47E-09 1.03E-08 uC/mL Lead-210 U 8.57E-09 9.85E-09 uC/mL Lead-212 U 8.57E-09 9.85E-09 uC/mL Manganese-54 U -2.02E-11 4.26E-09 uC/mL Mercury-203 U -1.56E-08 3.54E-08 uC/mL Neodymium-147 U -1.56E-08 3.57E-08 uC/mL Niobium-94 U -9.39E-10 4.69E-09 uC/mL Niobium-95 U | Chromium-51 | | | 4.08E-08 | | uCi/mL | | |
| Cobalt-58 U 2.48E.09 4.94E.09 uCi/mL Cobalt-60 U 1.48E.09 7.17E.09 uCi/mL Europium-152 U 1.78E.09 1.47E-08 uCi/mL Europium-154 U 2.34E-09 1.21E-08 uCi/mL Europium-155 U 2.216E-10 1.25E-08 uCi/mL Iridum-192 U 3.81E-11 4.52E-09 uCi/mL Iron-59 U 2.47E-09 1.03E-08 uCi/mL Lead-210 U 4.11E-08 1.09E-07 uCi/mL Lead-214 U 8.85E-09 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mercury-203 U -1.25E-08 3.54E-08 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neotium-94 U -2.93E-10 4.69E-09 uCi/mL Nobium-94 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 U 1.60 | Cobalt-56 | | | 5.31E-09 | | uCi/mL | | |
| Cobalt-60 U 1.48E-09 7.17E-09 uC/mL Europium-152 U 3.34E-09 1.47E-08 uC/mL Europium-154 U -3.34E-09 1.21E-08 uC/mL Europium-155 U -2.16E-10 1.25E-08 uC/mL Iridium-192 U 3.81E-11 4.52E-09 uC/mL Iron-59 U 2.47E-09 1.03E-08 uC/mL Lead-210 U 4.11E-08 1.09E-07 uC/mL Lead-212 U 8.57E-09 9.85E-09 uC/mL Lead-214 U 8.48E-09 1.25E-08 uC/mL Manganese-54 U -2.0E-11 4.24E-09 uC/mL Mercury-203 U -1.20E-09 4.49E-09 uC/mL Neodymium-147 U -1.56E-08 3.54E-08 uC/mL Neodymium-149 U -9.39E-10 4.69E-09 uC/mL Niobium-95 U -1.57E-09 5.28E-09 uC/mL Niobium-96 U -1.0E-09 5.37E-09 uC/mL Promethium-146 U -1.0E-09 5.37E-09 uC/mL Ruthenium-106 | Cobalt-57 | U | | 3.66E-09 | | uCi/mL | | |
| Europium-152 U 1.78E-09 1.47E-08 uC/mL Europium-154 U 3.34E-09 1.21E-08 uC/mL Europium-155 U 2.16E-10 1.25E-08 uC/mL Iridium-192 U 3.81E-11 4.52E-09 uC/mL Iron-59 U 2.47E-09 1.03E-08 uC/mL Lead-210 U 4-11E-08 1.09E-07 uC/mL Lead-212 U 8.57E-09 9.85E-09 uC/mL Lead-214 U 8.48E-09 1.25E-08 uC/mL Manganes-54 U 2-20E-11 4.24E-09 uC/mL Mercury-203 U -1.20E-09 4.49E-09 uC/mL Neodymium-147 U -1.56E-08 3.54E-08 uC/mL Neodymium-93 U -2.44E-09 3.57E-08 uC/mL Niobium-94 U -9.39E-10 4.69E-09 uC/mL Niobium-95 U -1.57E-09 5.28E-09 uC/mL Promethium-144 U -1.60E-09 5.37E-09 uC/mL Ruthenium-106 U -5.42E-11 3.85E-08 uC/mL Ruthenium-228 | Cobalt-58 | U | 2.24E-09 | 4.94E-09 | | uCi/mL | | |
| Europium-154 U 3.34E-09 1.21E-08 uCi/mL Europium-155 U 2.16E-10 1.25E-08 uCi/mL Iridium-192 U 3.81E-11 4.52E-09 uCi/mL Iron-59 U 2.47E-09 1.03E-08 uCi/mL Lead-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Lead-214 U 4.84E-09 1.25E-08 uCi/mL Manganese-54 U -1.20E-09 4.49E-09 uCi/mL Mecrury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neodymium-149 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.17E-07 4.99E-08 uCi/mL Niobium-95 U 1.17E-07 4.99E-08 uCi/mL Promethium-146 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 | Cobalt-60 | U | 1.48E-09 | 7.17E-09 | | uCi/mL | | |
| Europium-155 | Europium-152 | U | 1.78E-09 | 1.47E-08 | | uCi/mL | | |
| Iridium-192 U 3.81E-11 4.52E-09 uCi/mL Iron-59 U 2.47E-09 1.03E-08 uCi/mL Lead-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Lead-214 U 8.48E-09 1.25E-08 uCi/mL Manganes-54 U -1.20E-09 4.99E-09 uCi/mL Mercury-203 U -1.26E-08 3.54E-08 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-95 U -2.44E-09 3.57E-08 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 U 1.16e-07 4.99E-08 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Ruthenium-106 U 5.42E-11 3.85E-08 uCi/mL Solium-22 | Europium-154 | U | -3.34E-09 | 1.21E-08 | | uCi/mL | | |
| Iron-59 U 2.47E-09 1.03E-08 uCi/mL Lead-210 U 4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Lead-214 U 8.48E-09 1.25E-08 uCi/mL Manganese-54 U 2.02E-11 4.24E-09 uCi/mL Mercury-203 U 1.20E-09 4.49E-09 uCi/mL Neodymium-147 U 1.56E-08 3.54E-08 uCi/mL Neptunium-239 U 2.44E-09 3.57E-08 uCi/mL Niobium-94 U 9.39E-10 4.69E-09 uCi/mL Niobium-95 U 1.17E-07 4.99E-08 uCi/mL Potassium-40 U 1.160E-09 5.37E-09 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U 5.42E-11 3.85E-08 uCi/mL Sodium-22 < | Europium-155 | U | -2.16E-10 | 1.25E-08 | | uCi/mL | | |
| Lead-210 U -4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Lead-214 U 8.48E-09 1.25E-08 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mercury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 3.06E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Silver-110m U 5.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Ur | Iridium-192 | U | 3.81E-11 | 4.52E-09 | | uCi/mL | | |
| Lead-210 U -4.11E-08 1.09E-07 uCi/mL Lead-212 U 8.57E-09 9.85E-09 uCi/mL Lead-214 U 8.48E-09 1.25E-08 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mercury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 3.06E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Silver-110m U 5.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Ur | Iron-59 | U | 2.47E-09 | 1.03E-08 | | uCi/mL | | |
| Lead-214 U 8.48E-09 1.25E-08 uCi/mL Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mercury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Solium-22 U -1.30E-09 4.14E-09 uCi/mL Thorium-234 U -6.72E-10 5.62E-09 uCi/mL Uranium-238 | Lead-210 | U | | | | uCi/mL | | |
| Manganese-54 U -2.02E-11 4.24E-09 uCi/mL Mercury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U 9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 I 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 3.06E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Ruthenium-106 U 5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thorium-234 U -6.72E-10 6.03E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Ura | Lead-212 | U | 8.57E-09 | 9.85E-09 | | uCi/mL | | |
| Mercury-203 U -1.20E-09 4.49E-09 uCi/mL Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Ruthenium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thorium-234 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 | Lead-214 | U | 8.48E-09 | 1.25E-08 | | uCi/mL | | |
| Neodymium-147 U -1.56E-08 3.54E-08 uCi/mL Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U 5.42E-11 3.85E-08 uCi/mL Silver-110m U 5.38E-09 5.01E-09 uCi/mL Sodium-22 U 1.30E-09 4.14E-09 uCi/mL Thorium-234 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U 6.18E-10 6.03E-09 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL | Manganese-54 | U | -2.02E-11 | 4.24E-09 | | uCi/mL | | |
| Neptunium-239 U -2.44E-09 3.57E-08 uCi/mL Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U -8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U -6.18E-10 6.03E-09 uCi/mL Zinc-65 U -6.130E-09 1.26E-08 uCi/mL | Mercury-203 | U | -1.20E-09 | 4.49E-09 | | uCi/mL | | |
| Niobium-94 U -9.39E-10 4.69E-09 uCi/mL Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U | Neodymium-147 | U | -1.56E-08 | 3.54E-08 | | uCi/mL | | |
| Niobium-95 U -1.57E-09 5.28E-09 uCi/mL Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U 6.18E-10 6.03E-09 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Neptunium-239 | U | -2.44E-09 | 3.57E-08 | | uCi/mL | | |
| Potassium-40 1.17E-07 4.99E-08 uCi/mL Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U -8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U -6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Niobium-94 | U | -9.39E-10 | 4.69E-09 | | uCi/mL | | |
| Promethium-144 U 1.60E-09 5.37E-09 uCi/mL Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -4.54E-08 1.15E-07 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Niobium-95 | U | -1.57E-09 | 5.28E-09 | | uCi/mL | | |
| Promethium-146 U 3.06E-09 6.83E-09 uCi/mL Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Tin-113 U -4.54E-08 1.15E-07 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Potassium-40 | | 1.17E-07 | 4.99E-08 | | uCi/mL | | |
| Radium-228 U 6.93E-09 2.02E-08 uCi/mL Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Promethium-144 | U | 1.60E-09 | 5.37E-09 | | uCi/mL | | |
| Ruthenium-106 U -5.42E-11 3.85E-08 uCi/mL Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Promethium-146 | U | 3.06E-09 | 6.83E-09 | | uCi/mL | | |
| Silver-110m U -3.38E-09 5.01E-09 uCi/mL Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Radium-228 | U | 6.93E-09 | 2.02E-08 | | uCi/mL | | |
| Sodium-22 U -1.30E-09 4.14E-09 uCi/mL Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Ruthenium-106 | U | -5.42E-11 | 3.85E-08 | | uCi/mL | | |
| Thallium-208 U -6.72E-10 6.03E-09 uCi/mL Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Silver-110m | U | -3.38E-09 | 5.01E-09 | | uCi/mL | | |
| Thorium-234 U -4.54E-08 1.15E-07 uCi/mL Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Sodium-22 | U | -1.30E-09 | 4.14E-09 | | uCi/mL | | |
| Tin-113 U -2.15E-10 5.62E-09 uCi/mL Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Thallium-208 | U | -6.72E-10 | 6.03E-09 | | uCi/mL | | |
| Uranium-235 U 8.44E-10 2.96E-08 uCi/mL Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Thorium-234 | U | -4.54E-08 | 1.15E-07 | | uCi/mL | | |
| Uranium-238 U -4.54E-08 1.15E-07 uCi/mL Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Tin-113 | U | -2.15E-10 | 5.62E-09 | | uCi/mL | | |
| Yttrium-88 U 6.18E-10 6.03E-09 uCi/mL Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Uranium-235 | U | 8.44E-10 | 2.96E-08 | | uCi/mL | | |
| Zinc-65 U -1.30E-09 1.26E-08 uCi/mL | Uranium-238 | U | -4.54E-08 | 1.15E-07 | | uCi/mL | | |
| | Yttrium-88 | U | 6.18E-10 | 6.03E-09 | | uCi/mL | | |
| Zirconium-95 U -1.14E-09 8.60E-09 uCi/mL | Zinc-65 | U | -1.30E-09 | 1.26E-08 | | uCi/mL | | |
| | Zirconium-95 | U | -1.14E-09 | 8.60E-09 | | uCi/mL | | |

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid "As Received"

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 8, 2011

Company: Energy Solutions, LLC Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

Contact: Mr. Robert E. McPeak

o-Terphenyl

Project: Energy Solution (GELP11-0764)

3510C/8015B DRO Liquid "As Received"

Client Sample ID: C4BOT001 Project: ENRG03901 281060001 Client ID: Sample ID: ENRG039

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst Date | Time Batch | Method |
|--------------------------|----------------|-----------------|----------|---------|----------|-------------|---------------|---------------|--------|
| Rad Liquid Scintillation | on Analysis | | | | | | | | |
| LSC, Tritium Dist, Lie | quid "As Recei | ived" | | | | | | | |
| Tritium | - | 0.000178 | 5.50E-07 | 700 | uCi/mL | | GXR1 07/05/11 | 1246 1118472 | 7 |
| The following Prep M | ethods were pe | erformed: | | | | | | | |
| Method | Description | n | | Analyst | Date | Time | e Prep Batc | h | |
| EPA 200.2 | ICP-MS 200.2 | 2 PREP | | BXA1 | 07/05/11 | 1730 | 1118355 | | |
| EPA 245.1/245.2 Prep | EPA 245 Mer | rcury | | TXB3 | 07/05/11 | 1330 | 1118466 | | |
| SW846 3510C | 3510C DRO I | IN LIQ PREP | | RXC1 | 07/05/11 | 1040 | 1118452 | | |
| The following Analyt | ical Methods v | were performed: | | | | | | | |
| Method | Description | 1 | | | | Analyst Coi | mments | | |
| 1 | SW846 8015A | A/B SVOC | | | | - | | | |
| 2 | SM 4500-H B | | | | | | | | |
| 3 | EPA 245.1/24 | 5.2 | | | | | | | |
| 4 | EPA 200.8 | | | | | | | | |
| 5 | EPA 200.8 | | | | | | | | |
| 6 | EPA 901.1 | | | | | | | | |
| 7 | EPA 906.0 Mc | odified | | | | | | | |
| Surrogate/Tracer Reco | overy Test | | | I | Result | Nominal | Recovery% | Acceptable Li | mits |

0.011 mg/L

0.0189

58.1

(30%-118%)

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 8, 2011

Project: Client ID: ENRG03901

ENRG039

Company: Energy Solutions, LLC Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

Contact: Mr. Robert E. McPeak

Project: Energy Solution (GELP11-0764)

Client Sample ID: C4BOT002 Sample ID: 281060002

Matrix: Water
Collect Date: 01-JUL-11 14:50

Receive Date: 02-JUL-11 Collector: Client

| Parameter | Qualifier | Result | DL | RL | Units | DF An | alyst Date | Time | e Batch | Method |
|-----------------------|-------------------|------------------|----------------------|-------|------------------|--------|--------------|------|---------|--------|
| Diesel Range Organ | nics | | | | | | | | | |
| 3510C/8015B DRO | Liquid "As Rece | eived" | | | | | | | | |
| Diesel Range Organics | 1 | 0.674 | 0.0625 | 0.192 | mg/L | 1 KX | R2 07/06/11 | 0105 | 1118453 | 1 |
| Electrode Analysis | | | | | | | | | | |
| SM 4500-H B pH ". | As Received" | | | | | | | | | |
| pH at Temp 19.1C | Н | 8.00 | 0.010 | 0.100 | SU | 1 I.X | A1 07/05/11 | 1223 | 1118548 | 2 |
| Mercury Analysis-C | | 0.00 | 0.010 | 0.100 | 50 | 1 221 | 711 07/05/11 | 1223 | 1110510 | - |
| • | | | | | | | | | | |
| EPA 245 Mercury ' | | 0.101 | 0.066 | 0.200 | /T | 1 17/1 | 1 07/06/11 | 1020 | 1110460 | 2 |
| Mercury | J D.M.C | 0.191 | 0.000 | 0.200 | ug/L | 1 JA | L1 07/06/11 | 1039 | 1118408 | 3 |
| Metals Analysis-IC | | | | | | | | | | |
| 200.2/200.8 Silver l | Liquid "As Recei | | | | | | | | | |
| Arsenic | | 8.11 | 1.70 | 5.00 | ug/L | 1 BA | J 07/06/11 | 1437 | 1118356 | 4 |
| Beryllium | U | -0.001 | 0.200 | 0.500 | ug/L | 1 | | | | |
| Cadmium | | 14.4 | 0.110 | 1.00 | ug/L | 1 | | | | |
| Chromium | | 24.9 | 2.00 | 10.0 | ug/L | 1 | | | | |
| Copper | | 40.1 | 0.350 | 1.00 | ug/L | 1 | | | | |
| Lead | | 340 | 0.500 | 2.00 | ug/L | 1 | | | | |
| Nickel | ** | 10.8 | 0.500 | 2.00 | ug/L | 1 | | | | |
| Selenium | U | 0.513 | 1.50 | 5.00 | ug/L | 1 | | | | |
| Silver | J | 0.809 | 0.200 | 1.00 | ug/L | 1 | | | | |
| Thallium | U | 0.017 | 0.450 | 2.00 | ug/L | 1 00 | D 07/06/11 | 1656 | 1110256 | _ |
| Antimony | J | 1.90 | 1.00 | 3.00 | ug/L | 1 PR | B 07/06/11 | 1030 | 1118356 | 5 |
| Rad Gamma Spec A | • | | | | | | | | | |
| Gammaspec, Gamn | na, Liquid (Stand | ard List) "As Re | eceived" | | | | | | | |
| Actinium-228 | | -3.94E-09 | 1.91E-08 | | uCi/mL | MJ | H1 07/03/11 | 0858 | 1118318 | 6 |
| Americium-241 | | -5.45E-09 | 2.13E-08 | | uCi/mL | | | | | |
| Antimony-124 | U | -2.97E-09 | 1.23E-08 | | uCi/mL | | | | | |
| Antimony-125 | | -7.97E-09 | 1.60E-08 | | uCi/mL | | | | | |
| Barium-133 | U | -4.99E-09 | 7.90E-09 | | uCi/mL | | | | | |
| Barium-140 | U | 3.44E-10 | 2.43E-08 | | uCi/mL | | | | | |
| Beryllium-7 | | -3.13E-09 | 4.55E-08 | | uCi/mL | | | | | |
| Bismuth-212 | | -5.94E-08 | 7.23E-08 | | uCi/mL | | | | | |
| Bismuth-214 | U | 1.12E-08 | 1.85E-08 | | uCi/mL | | | | | |
| Cerium-139 | U | 1.30E-09 | 5.17E-09 | | uCi/mL | | | | | |
| Cerium-141 | U | -4.38E-10 | 9.28E-09 | | uCi/mL | | | | | |
| Cerium-144 | | -1.63E-09 | 3.37E-08 | | uCi/mL uCi/mL | | | | | |
| Cesium-134 | U | 2.04E-09 | 8.02E-09 5.94E-09 | | | | | | | |
| Cesium-136 | U | -2.52E-09 | J.74E-09 | | uCi/mL | | | | | |

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 8, 2011

Company: Energy Solutions, LLC Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

Contact: Mr. Robert E. McPeak

Project: Energy Solution (GELP11-0764)

Client Sample ID: C4BOT002 Project: ENRG03901 Sample ID: 281060002 Client ID: ENRG039

| Parameter | Qualifier | Result | DL | RL | Units | DF Analyst | Date | Time | Batch | Method |
|---------------------|---------------|---------------|--------------|------|--------|------------|------|------|-------|--------|
| Rad Gamma Spec Anal | ysis | | | | | | | | | |
| Gammaspec, Gamma, I | Liquid (Stand | dard List) ". | As Received" | | | | | | | |
| Cesium-137 | U | 1.69E-09 | 6.72E-09 | 10.0 | uCi/mL | | | | | |
| Chromium-51 | U | 1.18E-08 | 5.50E-08 | | uCi/mL | | | | | |
| Cobalt-56 | U | -2.30E-09 | 5.19E-09 | | uCi/mL | | | | | |
| Cobalt-57 | U | -1.05E-09 | 4.70E-09 | | uCi/mL | | | | | |
| Cobalt-58 | U | -2.24E-09 | 5.54E-09 | | uCi/mL | | | | | |
| Cobalt-60 | U | 9.36E-10 | 5.59E-09 | | uCi/mL | | | | | |
| Europium-152 | U | 1.46E-08 | 1.97E-08 | | uCi/mL | | | | | |
| Europium-154 | U | 1.62E-09 | 1.42E-08 | | uCi/mL | | | | | |
| Europium-155 | U | -4.15E-09 | 1.81E-08 | | uCi/mL | | | | | |
| Iridium-192 | U | -1.77E-09 | 5.64E-09 | | uCi/mL | | | | | |
| Iron-59 | U | -6.14E-09 | 8.91E-09 | | uCi/mL | | | | | |
| Lead-210 | U | -5.89E-08 | 4.76E-07 | | uCi/mL | | | | | |
| Lead-212 | U | 3.66E-10 | 1.10E-08 | | uCi/mL | | | | | |
| Lead-214 | U | 6.24E-09 | 1.77E-08 | | uCi/mL | | | | | |
| Manganese-54 | U | -3.11E-09 | 6.08E-09 | | uCi/mL | | | | | |
| Mercury-203 | U | 2.78E-09 | 5.89E-09 | | uCi/mL | | | | | |
| Neodymium-147 | U | -9.70E-10 | 4.13E-08 | | uCi/mL | | | | | |
| Neptunium-239 | U | -2.28E-08 | 4.21E-08 | | uCi/mL | | | | | |
| Niobium-94 | U | -9.24E-10 | 5.35E-09 | | uCi/mL | | | | | |
| Niobium-95 | U | 3.22E-10 | 5.90E-09 | | uCi/mL | | | | | |
| Potassium-40 | U | 2.67E-08 | 1.12E-07 | | uCi/mL | | | | | |
| Promethium-144 | U | 2.85E-09 | 7.09E-09 | | uCi/mL | | | | | |
| Promethium-146 | U | 6.56E-10 | 7.20E-09 | | uCi/mL | | | | | |
| Radium-228 | U | -3.94E-09 | 1.91E-08 | | uCi/mL | | | | | |
| Ruthenium-106 | U | 1.47E-09 | 5.99E-08 | | uCi/mL | | | | | |
| Silver-110m | U | -1.60E-09 | 5.87E-09 | | uCi/mL | | | | | |
| Sodium-22 | U | 5.68E-10 | 4.99E-09 | | uCi/mL | | | | | |
| Thallium-208 | U | 5.82E-09 | 9.66E-09 | | uCi/mL | | | | | |
| Thorium-234 | U | 3.76E-08 | 2.44E-07 | | uCi/mL | | | | | |
| Tin-113 | U | 2.10E-09 | 7.39E-09 | | uCi/mL | | | | | |
| Uranium-235 | U | -9.11E-09 | 3.83E-08 | | uCi/mL | | | | | |
| Uranium-238 | U | 3.76E-08 | 2.44E-07 | | uCi/mL | | | | | |
| Yttrium-88 | U | -2.36E-09 | 5.38E-09 | | uCi/mL | | | | | |
| Zinc-65 | U | -9.98E-09 | 1.19E-08 | | uCi/mL | | | | | |
| Zirconium-95 | U | -1.20E-09 | 1.12E-08 | | uCi/mL | | | | | |

Rad Liquid Scintillation Analysis

LSC, Tritium Dist, Liquid "As Received"

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 8, 2011

Company: Energy Solutions, LLC Address: 100 Mill Plain Road

2nd Floor Mail Box 106 Danbury, Connecticut 06811

3510C/8015B DRO Liquid "As Received"

Contact: Mr. Robert E. McPeak

Project: Energy Solution (GELP11-0764)

Client Sample ID: C4BOT002 Project: ENRG03901 Sample ID: 281060002 Client ID: ENRG039

| Parameter | Qualifier | Result | DL | RL | Units | DF . | Analyst Date | Time Batch | Method |
|------------------------|-----------------|-----------------|----------|--------|----------|-------------|---------------|--------------|--------|
| Rad Liquid Scintillati | on Analysis | | | | | | | | |
| LSC, Tritium Dist, Li | quid "As Recei | ived" | | | | | | | |
| Tritium | | 0.000121 | 5.42E-07 | 700 | uCi/mL | | GXR1 07/05/11 | 1301 1118472 | 7 |
| The following Prep M | lethods were pe | erformed: | | | | | | | |
| Method | Description | n | Α | nalyst | Date | Time | Prep Bato | h | |
| EPA 200.2 | ICP-MS 200. | 2 PREP | В | XA1 | 07/05/11 | 1730 | 1118355 | | |
| EPA 245.1/245.2 Prep | EPA 245 Mei | rcury | T | XB3 | 07/05/11 | 1330 | 1118466 | | |
| SW846 3510C | 3510C DRO | IN LIQ PREP | R | XC1 | 07/05/11 | 1040 | 1118452 | | |
| The following Analy | tical Methods v | were performed: | | | | | | | |
| Method | Description | 1 | | | 1 | Analyst Cor | nments | | |
| 1 | SW846 8015A | A/B SVOC | | | | - | | | |
| 2 | SM 4500-H B | | | | | | | | |
| 3 | EPA 245.1/24 | 5.2 | | | | | | | |
| 4 | EPA 200.8 | | | | | | | | |
| 5 | EPA 200.8 | | | | | | | | |
| 6 | EPA 901.1 | | | | | | | | |
| 7 | EPA 906.0 Me | odified | | | | | | | |
| Surrogate/Tracer Rec | overy Test | | | F | Result | Nominal | Recovery% | Acceptable L | imits |

0.00995 mg/L

0.0192

51.7

(30%-118%)

o-Terphenyl

Report Date: July 8, 2011

Page 1 of 8

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Energy Solutions, LLC 100 Mill Plain Road 2nd Floor Mail Box 106 Danbury, Connecticut

Contact: Mr. Robert E. McPeak

Workorder: 281060

| Parmname | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range A | Anlst | Date Time |
|---|-------|--------|------|---------|-------|---------|------|--------------|-------|----------------|
| Diesel Range Organics | | | | | | | | | | |
| Batch 1118453 | | | | | | | | | | |
| QC1202433024 LCS | | | | | | | | | | |
| Diesel Range Organics | 1.00 | | | 0.787 | mg/L | | 78.7 | (47%-91%) | KXR2 | 07/05/11 22:39 |
| *o-Terphenyl | 0.020 | | | 0.0159 | mg/L | | 79.6 | (30%-118%) | | |
| QC1202433023 MB | | | TT | NID | /T | | | | | 07/05/11 22 02 |
| Diesel Range Organics | 0.020 | | U | ND | mg/L | | 10.2 | (200/ 1100/) | | 07/05/11 22:02 |
| *o-Terphenyl QC1202433025 281060001 MS | 0.020 | | | 0.00967 | mg/L | | 48.3 | (30%-118%) | | |
| Diesel Range Organics | 1.00 | 0.555 | | 1.41 | mg/L | | 85.6 | (24%-113%) | | 07/05/11 23:52 |
| **o-Terphenyl | 0.020 | 0.011 | | 0.0146 | mg/L | | 73 | (30%-118%) | | 0770371123.32 |
| QC1202433026 281060001 MSD | 0.020 | 0.011 | | 0.0110 | mg/L | | | (50% 110%) | | |
| Diesel Range Organics | 1.00 | 0.555 | | 1.41 | mg/L | 0.00851 | 85.6 | (0%-25%) | | 07/06/11 00:28 |
| *o-Terphenyl | 0.020 | 0.011 | | 0.0153 | mg/L | | 76.4 | (30%-118%) | | |
| Electrode Analysis | | | | | | | | | | |
| Batch 1118548 | | | | | | | | | | |
| QC1202433288 281060001 DUP | | | | | | | | | | |
| pH | Н | 8.94 | H | 8.93 | SU | 0.112 | | (0%-10%) | LXA1 | 07/05/11 12:10 |
| QC1202433287 LCS | | | | | | | | | | |
| рН | 7.00 | | | 6.98 | SU | | 99.7 | (95%-105%) | | 07/05/11 11:33 |
| Metals Analysis - ICPMS Batch 1118356 | | | | | | | | | | |
| QC1202432762 281060001 DUP | | | | | | | | | | |
| Antimony | J | 1.86 | J | 1.91 | ug/L | 2.55 ^ | | (+/-3.00) | PRB | 07/06/11 16:48 |
| Arsenic | | 6.43 | | 6.28 | ug/L | 2.42 ^ | | (+/-5.00) | BAJ | 07/06/11 14:19 |
| Beryllium | U | ND | U | ND | ug/L | N/A | | | | |
| Cadmium | | 23.0 | | 24.0 | ug/L | 4.44 | | (0%-20%) | | |
| Chromium | | 35.1 | | 35.8 | ug/L | 1.98 ^ | | (+/-10.0) | | |
| Copper | | 39.7 | | 41.3 | ug/L | 4.03 | | (0%-20%) | | |
| Lead | | 1710 | | 1760 | ug/L | 2.86 | | (0%-20%) | | |
| Nickel | | 13.5 | | 14.2 | ug/L | 5.37 | | (0%-20%) | | |
| Selenium | U | ND | U | ND | ug/L | N/A | | , | | |
| Silver | J | 0.371 | J | 0.403 | ug/L | 8.27 ^ | | (+/-1.00) | | |
| Thallium | U | ND | U | ND | ug/L | N/A | | (, =====) | | |
| QC1202432761 LCS | | - 12 | - | 2 | 6/2 | | | | | |
| Antimony | 50.0 | | | 57.4 | ug/L | | 115 | (85%-115%) | PRB | 07/06/11 16:37 |
| Arsenic | 50.0 | | | 51.8 | ug/L | | 104 | (85%-115%) | BAJ | 07/06/11 13:55 |
| Beryllium | 50.0 | | | 51.8 | ug/L | | 104 | (85%-115%) | | |
| Cadmium | 50.0 | | | 52.4 | ug/L | | 105 | (85%-115%) | | |
| Chromium | 50.0 | | | 50.1 | ug/L | | 100 | (85%-115%) | | |
| Copper | 50.0 | | | 52.6 | ug/L | | 105 | (85%-115%) | | |

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QC Summary

Workorder: 281060 Page 2 of 8 **Parmname NOM** QC Units RPD% REC% Anlst Date Time Sample Qual Range Metals Analysis - ICPMS Batch 1118356 107 50.0 53.4 Lead ug/L (85%-115%) 99.7 49.8 Nickel 50.0 ug/L (85%-115%) BAJ 07/06/11 13:55 52.5 105 Selenium 50.0 ug/L (85% - 115%)107 Silver 50.0 53.4 ug/L (85%-115%) 49.2 98.5 Thallium 50.0 ug/L (85%-115%) QC1202432760 MB U ND ug/L PRB 07/06/11 16:35 Antimony U Arsenic ND ug/L BAJ 07/06/11 13:49 U Beryllium ND ug/L U Cadmium ND ug/L U Chromium ND ug/L U Copper ND ug/L U Lead ND ug/L U Nickel ND ug/L U Selenium ND ug/L U Silver ND ug/L U Thallium ND ug/L QC1202432763 281060001 MS 110 1.86 56.7 07/06/11 16:50 50.0 J ug/L (75% - 125%)PRB Antimony 105 Arsenic 50.0 6.43 59.0 ug/L (75% - 125%)BAJ 07/06/11 14:25 87.2 50.0 U ND 43.6 Beryllium ug/L (75%-125%) 104 Cadmium 50.0 23.0 74.8 ug/L (75% - 125%)35.1 88.6 Chromium 50.0 79.4 ug/L (75%-125%) 90.2 Copper 50.0 39.7 84.7 ug/L (75% - 125%)N/A 50.0 1710 1850 Lead ug/L (75% - 125%)87.3 Nickel 50.0 13.5 57.1 ug/L (75%-125%) 99.3 Selenium 50.0 U ND 50.3 ug/L (75% - 125%)Silver 50.0 J 0.371 50.0 ug/L 99.3 (75%-125%) 96.1 Thallium 50.0 U ND 48.1 (75%-125%) ug/L QC1202432764 281060001 SDILT N/A U Antimony J 1.86 ND ug/L (0%-10%)PRB 07/06/11 16:53 N/A 6.43 U ND Arsenic ug/L (0%-10%)07/06/11 14:31 U N/A U ND ND Beryllium ug/L (0%-10%)2.99 23.0 4.73 Cadmium ug/L (0%-10%)Chromium 7.45 6.21 35.1 J ug/L (0%-10%)39.7 8.38 5.71 Copper ug/L (0%-10%).359 1710 344 ug/L Lead (0%-10%)13.5 2.87 ug/L 6.16 Nickel (0%-10%)N/A U U ND Selenium ND ug/L (0%-10%)Silver J U ND N/A (0%-10%)0.371 ug/L N/A U U Thallium ND ND ug/L (0%-10%)Metals Analysis-Mercury Batch 1118468

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QC Summary

| Workorder: | 281060 | | | | | | | | | Page 3 of 8 | |
|--------------------------------|-----------------|-------|--------|-------------|------|----------------------|--------|--------|------|-----------------|----------------|
| Parmname | | | NOM | Sample | Qual | QC | Units | RPD% | REC% | Range Anlst | Date Time |
| Metals Analysis-Me Batch 11 | ercury 18468 | | | | | | | | | | |
| QC1202433067 | 281060001 | DUP | | | | | | | | | |
| Mercury | | | | 0.256 | | 0.264 | ug/L | 3.08 ^ | | (+/-0.200) JXL1 | 07/06/11 10:35 |
| QC1202433066 | LCS | | | | | | | | | | |
| Mercury | | | 2.00 | | | 2.12 | ug/L | | 106 | (85%-115%) | 07/06/11 10:31 |
| QC1202433065 | MB | | | | U | ND | na/I | | | | 07/06/11 10:20 |
| Mercury QC1202433068 | 281060001 | MS | | | U | ND | ug/L | | | | 07/06/11 10:30 |
| Mercury | 281000001 | IVIS | 2.00 | 0.256 | | 1.84 | ug/L | | 79.4 | (75%-125%) | 07/06/11 10:36 |
| QC1202433069 | 281060001 | SDILT | 2.00 | 0.200 | | 1.0. | 48/2 | | | (7070 12070) | 077007111000 |
| Mercury | | | | 0.256 | J | 0.072 | ug/L | 40.6 | | (0%-10%) | 07/06/11 10:38 |
| Rad Gamma Spec Batch 11 | 18318 | | | | | | | | | | |
| QC1202432684 | | DHP | | | | | | | | | |
| Actinium-228 | 201000001 | 201 | Ţ | J 6.93E-09 | U | 2.74E-09 | uCi/mL | 0.00 | | N/A MJH1 | 07/03/11 11:06 |
| Americium-241 | | | Ţ | J 1.63E-10 | U | 5.70E-09 | uCi/mL | 0.00 | | N/A | |
| Antimony-124 | | | Ţ | | U | -1.62E-09 | uCi/mL | 0.00 | | N/A | |
| Antimony-125 | | | | J -6.89E-09 | U | 9.35E-10 | uCi/mL | 0.00 | | N/A | |
| Barium-133 | | | | J -4.08E-09 | U | -2.37E-09 | uCi/mL | 0.00 | | N/A | |
| Barium-140 | | | | J 1.29E-09 | U | 2.71E-10 | uCi/mL | 0.00 | | N/A | |
| Beryllium-7 | | | | J 6.81E-09 | U | -2.24E-09 | uCi/mL | 0.00 | | N/A | |
| Bismuth-212 | | | | J -1.19E-08 | U | 2.15E-08 | uCi/mL | 0.00 | | N/A | |
| Bismuth-214 | | | | J 1.36E-08 | U | -1.60E-09 | uCi/mL | 0.00 | | N/A | |
| Cerium-139 | | | | J -3.23E-10 | U | 3.67E-10 | uCi/mL | 0.00 | | N/A | |
| Cerium-141 | | | | J -1.38E-10 | U | -5.07E-09 | uCi/mL | 0.00 | | N/A | |
| Cerium-144 | | | | J -3.26E-09 | U | -1.76E-08 | uCi/mL | 0.00 | | N/A | |
| Cesium-134 | | | | J -8.60E-10 | U | 2.83E-09 | uCi/mL | 0.00 | | N/A | |
| Cesium-136 | | | | J -3.81E-09 | U | -7.98E-10 | uCi/mL | 0.00 | | N/A | |
| Cesium-137 | | | | J -7.06E-09 | U | 3.15E-10 | uCi/mL | 0.00 | | N/A | |
| Chromium-51 | | | | J 1.07E-08 | U | -1.45E-08 | uCi/mL | 0.00 | | N/A | |
| Cobalt-56 | | | | J 6.00E-10 | U | 6.44E-10 | uCi/mL | 0.00 | | N/A | |
| Cobalt-57 | | | | J 1.46E-09 | U | -2.91E-10 | uCi/mL | 0.00 | | N/A | |
| Cobalt-57 | | | _ | | U | 1.92E-09 | uCi/mL | 0.00 | | N/A N/A | |
| | | | J | | U | 1.92E-09 1.36E-09 | | 0.00 | | N/A N/A | |
| Cobalt-60 | | | | | | -1.44E-10 | uCi/mL | 0.00 | | N/A N/A | |
| Europium-152 | | | Ţ | | U | | uCi/mL | 0.00 | | | |
| Europium-154 | | | | J -3.34E-09 | U | -7.98E-10 | uCi/mL | | | N/A | |
| Europium-155 | | | | J -2.16E-10 | U | -1.12E-09 | uCi/mL | 0.00 | | N/A | |
| Iridium-192 | | | | J 3.81E-11 | U | -5.61E-10 | uCi/mL | 0.00 | | N/A | |
| Iron-59 | | | | J 2.47E-09 | U | 1.73E-09 | uCi/mL | 0.00 | | N/A | |
| Lead-210 | | | | J -4.11E-08 | U | 4.93E-08 | uCi/mL | 0.00 | | N/A | |
| Lead-212 | | | J - | | U | -1.83E-09 | uCi/mL | 0.00 | | N/A | |
| Lead-214 | | | J - | | U | 6.63E-12 | uCi/mL | 0.00 | | N/A | |
| Manganese-54 | | | | J -2.02E-11 | U | 1.48E-09 | uCi/mL | 0.00 | | N/A | |
| Mercury-203 | | | J | J -1.20E-09 | U | 1.24E-10 | uCi/mL | 0.00 | | N/A | |

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QC Summary

| | | | | | <u> </u> | ummai į | _ | | | | | |
|------------------------------|------|----------|---|-----------|----------|-----------|--------|------|------|-------------|-----|----------------|
| Workorder: 28 | 1060 | | | | | | | | | Page 4 of 8 | | |
| Parmname | | NOM | | Sample | Qual | QC | Units | RPD% | REC% | Range Anl | st | Date Time |
| Rad Gamma Spec Batch 1118 | 318 | | | | | | | | | | | |
| Neodymium-147 | | | U | -1.56E-08 | U | -9.69E-09 | uCi/mL | 0.00 | | N/A | | |
| Neptunium-239 | | | U | -2.44E-09 | U | 1.11E-08 | uCi/mL | 0.00 | | N/A M. | JH1 | 07/03/11 11:06 |
| Niobium-94 | | | U | -9.39E-10 | U | 8.59E-10 | uCi/mL | 0.00 | | N/A | | |
| Niobium-95 | | | U | -1.57E-09 | U | -2.33E-10 | uCi/mL | 0.00 | | N/A | | |
| Potassium-40 | | | | 1.17E-07 | | 1.04E-07 | uCi/mL | 11.9 | | (0% - 100%) | | |
| Promethium-144 | | | U | 1.60E-09 | U | 1.24E-09 | uCi/mL | 0.00 | | N/A | | |
| Promethium-146 | | | U | 3.06E-09 | U | 5.19E-11 | uCi/mL | 0.00 | | N/A | | |
| Radium-228 | | | U | 6.93E-09 | U | 2.74E-09 | uCi/mL | 0.00 | | N/A | | |
| Ruthenium-106 | | | U | -5.42E-11 | U | -1.18E-08 | uCi/mL | 0.00 | | N/A | | |
| Silver-110m | | | U | -3.38E-09 | U | -9.96E-10 | uCi/mL | 0.00 | | N/A | | |
| Sodium-22 | | | U | -1.30E-09 | U | -3.36E-10 | uCi/mL | 0.00 | | N/A | | |
| Thallium-208 | | | U | -6.72E-10 | U | 2.03E-10 | uCi/mL | 0.00 | | N/A | | |
| Thorium-234 | | | U | -4.54E-08 | U | -1.29E-08 | uCi/mL | 0.00 | | N/A | | |
| Tin-113 | | | U | -2.15E-10 | U | 5.95E-10 | uCi/mL | 0.00 | | N/A | | |
| Uranium-235 | | | U | 8.44E-10 | U | 1.06E-08 | uCi/mL | 0.00 | | N/A | | |
| Uranium-238 | | | U | -4.54E-08 | U | -1.29E-08 | uCi/mL | 0.00 | | N/A | | |
| Yttrium-88 | | | U | 6.18E-10 | U | 1.04E-09 | uCi/mL | 0.00 | | N/A | | |
| Zinc-65 | | | U | -1.30E-09 | U | -8.25E-10 | uCi/mL | 0.00 | | N/A | | |
| Zirconium-95 | | | U | -1.14E-09 | U | 1.98E-09 | uCi/mL | 0.00 | | N/A | | |
| QC1202432686 Actinium-228 | LCS | | | | U | -6.40E-09 | uCi/mL | | | | | 07/03/11 09:00 |
| Americium-241 | | 2.79E-06 | | | | 2.62E-06 | uCi/mL | | 94.1 | (75%-125%) | | |
| Antimony-124 | | | | | U | -1.43E-08 | uCi/mL | | | | | |
| Antimony-125 | | | | | U | -1.66E-08 | uCi/mL | | | | | |
| Barium-133 | | | | | U | 8.36E-09 | uCi/mL | | | | | |
| Barium-140 | | | | | U | 2.04E-08 | uCi/mL | | | | | |
| Beryllium-7 | | | | | U | 1.11E-07 | uCi/mL | | | | | |
| Bismuth-212 | | | | | U | -2.44E-07 | uCi/mL | | | | | |
| Bismuth-214 | | | | | U | 2.62E-08 | uCi/mL | | | | | |
| Cerium-139 | | | | | | 3.82E-07 | uCi/mL | | | | | |
| Cerium-141 | | | | | U | -6.61E-09 | uCi/mL | | | | | |
| Cerium-144 | | | | | U | 2.59E-08 | uCi/mL | | | | | |
| Cesium-134 | | | | | U | 1.89E-08 | uCi/mL | | | | | |
| Cesium-136 | | | | | U | -1.44E-08 | uCi/mL | | | | | |
| Cesium-137 | | 6.28E-06 | | | | 6.61E-06 | uCi/mL | | 105 | (75%-125%) | | |
| Chromium-51 | | | | | U | -9.16E-08 | uCi/mL | | | | | |
| Cobalt-56 | | | | | U | 1.53E-08 | uCi/mL | | | | | |
| Cobalt-57 | | | | | | 7.96E-07 | uCi/mL | | | | | |
| Cobalt-58 | | | | | U | 2.77E-09 | uCi/mL | | | | | |
| Cobalt-60 | | 6.76E-06 | | | | 7.02E-06 | uCi/mL | | 104 | (75%-125%) | | |
| Europium-152 | | | | | U | -2.87E-08 | uCi/mL | | | | | |
| Europium-154 | | | | | U | 3.87E-08 | uCi/mL | | | | | |

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QC Summary

Page 5 of 8 **Parmname** NOM QC Units RPD% REC% Range Anlst Date Time Sample Qual Rad Gamma Spec 1118318 Batch U Europium-155 -8.50E-09 uCi/mL Iridium-192 U 1.68E-08 uCi/mL MJH1 07/03/11 09:00 Iron-59 U -1.89E-08 uCi/mL uCi/mL Lead-210 2.36E-05 Lead-212 U uCi/mL 6.31E-09 Lead-214 U -1.29E-08 uCi/mL Manganese-54 U -1.89E-09 uCi/mL U Mercury-203 3.43E-08 uCi/mL U uCi/mL Neodymium-147 4.24E-08 U uCi/mL Neptunium-239 1.08E-07 U Niobium-94 -1.62E-08 uCi/mL U Niobium-95 4.22E-09 uCi/mL U Potassium-40 uCi/mL 2.40E-08 U Promethium-144 -8.35E-09 uCi/mL U Promethium-146 2.22E-08 uCi/mL U Radium-228 -6.40E-09 uCi/mL U Ruthenium-106 -1.04E-07 uCi/mL Silver-110m 4.89E-08 uCi/mL U Sodium-22 1.11E-08 uCi/mL U Thallium-208 4.45E-09 uCi/mL U Thorium-234 -1.40E-06 uCi/mL Tin-113 U 2.80E-08 uCi/mL U Uranium-235 1.48E-07 uCi/mL Uranium-238 U -1.40E-06 uCi/mL Yttrium-88 1.66E-06 uCi/mL Zinc-65 U -7.03E-08 uCi/mL U Zirconium-95 2.99E-08 uCi/mL QC1202432683 MB U uCi/mL Actinium-228 -3.84E-09 07/03/11 08:59 U -7.04E-09 uCi/mL Americium-241 U Antimony-124 9.58E-11 uCi/mL U Antimony-125 -1.54E-09 uCi/mL U Barium-133 7.10E-10 uCi/mL Barium-140 U -7.12E-10 uCi/mL U Beryllium-7 2.10E-08 uCi/mL U Bismuth-212 1.25E-08 uCi/mL U Bismuth-214 6.99E-10 uCi/mL U Cerium-139 5.59E-10 uCi/mL U Cerium-141 -3.83E-09 uCi/mL U Cerium-144 1.71E-08 uCi/mL U Cesium-134 5.02E-10 uCi/mL U Cesium-136 3.05E-10 uCi/mL

Workorder:

281060

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QC Summary

| Rational | | | | <u>QC b</u> | ummar | <u>′</u> _ | | | | | |
|--|---------------|----------------|----------|-------------|-----------|------------|------|------|-----------|--------|----------------|
| Red | Workorder: | 281060 | | | | | | | Page 6 | of 8 | |
| Sacion 118318 | Parmname | | NOM | Sample Qual | QC | Units | RPD% | REC% | Range | Anlst | Date Time |
| Chomium-51 | | | | | | | | | | | |
| Cobalt-56 | Cesium-137 | | | U | 2.76E-09 | uCi/mL | | | | | |
| Cobalt-57 | Chromium-51 | | | U | -1.20E-08 | uCi/mL | | | | MJH1 | 07/03/11 08:59 |
| Cobalt-58 | Cobalt-56 | | | U | 1.10E-09 | uCi/mL | | | | | |
| Cobale-60 | Cobalt-57 | | | U | 2.53E-10 | uCi/mL | | | | | |
| Europium-152 | Cobalt-58 | | | U | 5.11E-10 | uCi/mL | | | | | |
| Europium-154 | Cobalt-60 | | | U | 4.24E-11 | uCi/mL | | | | | |
| Europium-155 | Europium-152 | | | U | -1.29E-09 | uCi/mL | | | | | |
| Iridium-192 | Europium-154 | | | U | 3.77E-09 | uCi/mL | | | | | |
| Iron-59 | Europium-155 | | | U | 9.30E-10 | uCi/mL | | | | | |
| Lead-210 | Iridium-192 | | | U | 7.55E-10 | uCi/mL | | | | | |
| Lead-212 | Iron-59 | | | U | -4.05E-09 | uCi/mL | | | | | |
| Lead-214 | Lead-210 | | | U | 7.79E-08 | uCi/mL | | | | | |
| Manganese-54 | Lead-212 | | | U | 1.67E-10 | uCi/mL | | | | | |
| Mercury-203 | Lead-214 | | | U | -2.02E-09 | uCi/mL | | | | | |
| Neodymium-147 | Manganese-54 | | | U | -3.48E-10 | uCi/mL | | | | | |
| Neptunium-239 | Mercury-203 | | | U | 1.22E-09 | uCi/mL | | | | | |
| Niobium-94 | Neodymium-14 | 7 | | U | 9.92E-09 | uCi/mL | | | | | |
| Niobium-95 | Neptunium-239 | | | U | 6.95E-09 | uCi/mL | | | | | |
| Potassium-40 | Niobium-94 | | | U | 9.48E-10 | uCi/mL | | | | | |
| Promethium-144 | Niobium-95 | | | U | 2.20E-09 | uCi/mL | | | | | |
| Promethium-146 | Potassium-40 | | | U | -2.53E-08 | uCi/mL | | | | | |
| Radium-228 | Promethium-14 | 4 | | U | -1.64E-09 | uCi/mL | | | | | |
| Ruthenium-106 | Promethium-14 | 6 | | U | 5.65E-10 | uCi/mL | | | | | |
| Silver-110m | Radium-228 | | | U | -3.84E-09 | uCi/mL | | | | | |
| Sodium-22 | Ruthenium-106 | | | U | 3.70E-09 | uCi/mL | | | | | |
| Thallium-208 | Silver-110m | | | U | -9.70E-10 | uCi/mL | | | | | |
| Thorium-234 U -1.90E-08 uCi/mL Tin-113 U -6.06E-10 uCi/mL Uranium-235 U 1.48E-08 uCi/mL Uranium-238 U -1.90E-08 uCi/mL Yttrium-88 U -1.87E-09 uCi/mL Zinc-65 U -1.69E-09 uCi/mL Zirconium-95 U -2.00E-09 uCi/mL Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Sodium-22 | | | U | 1.42E-09 | uCi/mL | | | | | |
| Tin-113 | Thallium-208 | | | U | -1.15E-09 | uCi/mL | | | | | |
| Uranium-235 U 1.48E-08 uCi/mL Uranium-238 U -1.90E-08 uCi/mL Yttrium-88 U -1.87E-09 uCi/mL Zinc-65 U -1.69E-09 uCi/mL Zirconium-95 U -2.00E-09 uCi/mL Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Thorium-234 | | | U | -1.90E-08 | uCi/mL | | | | | |
| Uranium-238 U -1.90E-08 uCi/mL Yttrium-88 U -1.87E-09 uCi/mL Zinc-65 U -1.69E-09 uCi/mL Zirconium-95 U -2.00E-09 uCi/mL Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Tin-113 | | | U | -6.06E-10 | uCi/mL | | | | | |
| Yttrium-88 U -1.87E-09 uCi/mL Zinc-65 U -1.69E-09 uCi/mL Zirconium-95 U -2.00E-09 uCi/mL Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Uranium-235 | | | U | 1.48E-08 | uCi/mL | | | | | |
| Zinc-65 Zirconium-95 Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Uranium-238 | | | U | -1.90E-08 | uCi/mL | | | | | |
| Zirconium-95 | Yttrium-88 | | | U | -1.87E-09 | uCi/mL | | | | | |
| Rad Liquid Scintillation Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Zinc-65 | | | U | -1.69E-09 | uCi/mL | | | | | |
| Batch 1118472 QC1202433080 281060001 DUP Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | Zirconium-95 | | | U | -2.00E-09 | uCi/mL | | | | | |
| Tritium 0.000178 0.000185 uCi/mL 3.76 (0% - 20%) GXR1 07/05/11 13 QC1202433082 LCS | _ | | | | | | | | | | |
| | - | 80 281060001 Д | DUP | 0.000178 | 0.000185 | uCi/mL | 3.76 | | (0% - 20% |) GXR1 | 07/05/11 13:34 |
| QC1202433079 MB | Tritium | | 2.12E-06 | | 1.97E-06 | uCi/mL | | 93.2 | (75%-125% |) | 07/05/11 14:03 |

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QC Summary

Page 7 of 8 NOM QC Units RPD% REC% Date Time **Parmname** Sample Qual Range **Anlst** Rad Liquid Scintillation Batch 1118472 U 07/05/11 13:17 -4.99E-08 uCi/mL Tritium QC1202433081 281060001 MS Tritium 2.12E-06 0.000178 0.000186 uCi/mL N/A (75%-125%) GXR1 07/05/11 13:48

Notes:

Workorder:

The Qualifiers in this report are defined as follows:

Analyte is a surrogate compound

281060

- Result is less than value reported <
- Result is greater than value reported >
- Α The TIC is a suspected aldol-condensation product
- В For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- Е General Chemistry--Concentration of the target analyte exceeds the instrument calibration range
- Е Metals--%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- Е Organics--Concentration of the target analyte exceeds the instrument calibration range
- F Estimated Value
- FB Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
- Η Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- Matrix Related Failure M
- N Metals--The Matrix spike sample recovery is not within specified control limits
- N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, difference is also <70%
- Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification

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QC Summary

Workorder: 281060

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Parmname NOM Sample Qual QC Units RPD% REC% Range Anlst Date Time

- UJ Gamma Spectroscopy--Uncertain identification
- UL Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test--Particulates passed through the filter, however no free liquids were observed.
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
- d 5-day BOD--The 2:1 depletion requirement was not met for this sample
- h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GEL Laboratories LLC Form GEL-DER

DER Report No.: 972576

Revision No.: 1

| DATA EXCEPTION REPORT | | | | | | | | | | | | |
|---|------------------------------------|-------------------------------------|--|--|--|--|--|--|--|--|--|--|
| Mo.Day Yr. 05–JUL–11 | Division: Industrial | Quality Criteria: Specifications | Type: Process | | | | | | | | | |
| Instrument Type: ELECTRODE | Test / Method: SM 4500-H B | Matrix Type: Liquid | Client Code: CARE, ENRG, PAES, PNLE | | | | | | | | | |
| Batch ID: 1118548 | Sample Numbers: See Below | | | | | | | | | | | |
| Potentially affected work order(s)(| SDG): 280959(137913-073),280967(EU | JI-8389),281023,281060 | | | | | | | | | | |
| Application Issues: | | | | | | | | | | | | |
| Sample received out of holding | | | | | | | | | | | | |
| Specification and Requirements Exception Description: | | DER Disposition: | | | | | | | | | | |
| Sample received out of holding: | | Samples received out of holding. | | | | | | | | | | |
| 280959 001 | | | | | | | | | | | | |
| 280967 001 | | | | | | | | | | | | |
| 281023 001 | | | | | | | | | | | | |
| 281060 001,002 | | | | | | | | | | | | |
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Originator's Name:

Data Validator/Group Leader:

Lindsey Allen 05–JUL–11

Elzbieta Szulc 06–JUL–11