

GEL LABORATORIES LLC

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

Certificate of Analysis

Company : MJW Technical Services
 Address : 15 Hazelwood Drive
 Suite 112
 Buffalo, New York 14228

Report Date: March 8, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.1.2
 Sample ID: 392062023
 Matrix: Soil
 Collect Date: 17-DEC-15
 Receive Date: 25-FEB-16
 Collector: Client
 Moisture: 15.7%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Le	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

Gamma with Ingrowth "Dry Weight Corrected"

Actinium-227	U	0.056	+/-0.223	0.428	0.204	+/-0.225		pCi/g		MXR1	03/07/16	1041	1547792	1
Antimony-125	U	-0.0349	+/-0.0744	0.137	0.0639	+/-0.0761		pCi/g						
Bismuth-212		1.11	+/-0.698	0.759	0.352	+/-0.706		pCi/g						
Bismuth-214		0.731	+/-0.141	0.101	0.047	+/-0.155		pCi/g						
Cesium-137	U	0.0166	+/-0.0293	0.0584	0.0272	+/-0.0303	0.100	pCi/g						
Cobalt-60	U	-0.000814	+/-0.0293	0.0533	0.0236	+/-0.0293		pCi/g						
Europium-154	U	0.00593	+/-0.105	0.195	0.0892	+/-0.105		pCi/g						
Lead-212		0.851	+/-0.109	0.0893	0.0425	+/-0.128		pCi/g						
Lead-214		0.944	+/-0.168	0.109	0.0514	+/-0.183		pCi/g						
Potassium-40		10.6	+/-1.11	0.460	0.201	+/-1.43		pCi/g						
Protactinium-231	UI	0.00	+/-0.451	0.760	0.360	+/-0.476		pCi/g						
Radium-226		0.731	+/-0.141	0.101	0.047	+/-0.155		pCi/g						
Radium-228		0.857	+/-0.212	0.187	0.085	+/-0.230		pCi/g						
Thallium-208		0.193	+/-0.0478	0.0461	0.0213	+/-0.0505		pCi/g						
Tin-126	UI	0.00	+/-0.113	0.147	0.0708	+/-0.114		pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Gross A-B, solid "Dry Weight Corrected"

Alpha		7.69	+/-2.92	3.46	1.45	+/-3.28	4.00	pCi/g		JXB7	03/03/16	1458	1548366	2
Beta		15.9	+/-2.78	3.09	1.42	+/-3.57	10.0	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	02/25/16	1513	1547785

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5 2.3/Ga-01-R
2	EPA 900.0/SW846 9310/SM 7110B Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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Contact: Ms. Laurie Losey

Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.1.2
Sample ID: 392062023

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	Test							Batch ID	Recovery%	Acceptable Limits				

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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Company : MJW Corporation
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Report Date: January 18, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.2.1
 Sample ID: 387853017
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 18-DEC-15
 Collector: Client
 Moisture: 26.4%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Gravimetric Solids														
<i>ASTM D 2216 % Moisture "As Received"</i>														
Moisture		26.4						percent		CXC1	12/21/15	1527	1532956	1
Rad Gamma Spec Analysis														
<i>Gammaspac, Gamma, Solid "Dry Weight Corrected"</i>														
Actinium-227	U	-0.00666	+/-0.250	0.484	0.223	+/-0.250		pCi/g		RXF2	01/13/16	0841	1532995	2
Antimony-125	U	-0.0298	+/-0.103	0.188	0.0849	+/-0.104		pCi/g						
Bismuth-212	U	0.0763	+/-0.515	1.03	0.457	+/-0.516		pCi/g						
Bismuth-214		0.791	+/-0.197	0.140	0.0622	+/-0.207		pCi/g						
Cesium-137		0.408	+/-0.0769	0.0624	0.0269	+/-0.0837	0.100	pCi/g						
Cobalt-60	U	-0.0106	+/-0.0373	0.0729	0.0297	+/-0.0376		pCi/g						
Europium-154	U	-0.0753	+/-0.130	0.234	0.0985	+/-0.134		pCi/g						
Lead-212		0.590	+/-0.115	0.109	0.0505	+/-0.126		pCi/g						
Lead-214		1.06	+/-0.184	0.359	0.173	+/-0.204		pCi/g						
Potassium-40		7.64	+/-1.26	0.663	0.263	+/-1.42		pCi/g						
Protactinium-231	UI	0.00	+/-0.624	1.08	0.502	+/-0.641		pCi/g						
Radium-226		0.791	+/-0.197	0.140	0.0622	+/-0.207		pCi/g						
Radium-228		0.668	+/-0.253	0.251	0.107	+/-0.267		pCi/g						
Thallium-208		0.211	+/-0.0713	0.0802	0.0362	+/-0.0734		pCi/g						
Tin-126	UI	0.00	+/-0.149	0.171	0.0808	+/-0.150		pCi/g						
Rad Gas Flow Proportional Counting														
<i>GFPC, Gross A/B, solid "Dry Weight Corrected"</i>														
Alpha		12.8	+/-3.68	3.57	1.47	+/-4.43	4.00	pCi/g		JXB7	01/11/16	1331	1534754	3
Beta		17.8	+/-3.23	3.65	1.69	+/-4.10	10.0	pCi/g						

Solid Preparation

Laboratory Composite "As Received"

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	12/21/15	1527	1532956

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE HASL 300, 4 5 2 3/Ga-01-R
3	EPA 900.0/SW846 9310/SM 7110B Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

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Report Date: January 18, 2016

Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.2.1
Sample ID: 387853017

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	Test							Batch ID	Recovery%	Acceptable Limits				

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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Report Date: March 8, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.2.2
 Sample ID: 392043013
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 25-FEB-16
 Collector: Client
 Moisture: 16.8%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
<i>Gamma with Ingrowth "Dry Weight Corrected"</i>														
Actinium-227	U	-0.0306	+/-0.223	0.426	0.199	+/-0.224		pCi/g		MXR1	03/07/16	0912	1547791	1
Antimony-125	U	-0.0167	+/-0.0776	0.143	0.0649	+/-0.078		pCi/g						
Bismuth-212	UI	0.00	+/-0.628	1.15	0.532	+/-0.901		pCi/g						
Bismuth-214		0.813	+/-0.149	0.104	0.0467	+/-0.164		pCi/g						
Cesium-137	U	0.00698	+/-0.0372	0.0752	0.0345	+/-0.0374	0.100	pCi/g						
Cobalt-60	U	-0.00339	+/-0.0322	0.0628	0.0268	+/-0.0322		pCi/g						
Europium-154	U	0.0279	+/-0.0916	0.186	0.0805	+/-0.0925		pCi/g						
Lead-212		0.702	+/-0.110	0.094	0.0441	+/-0.123		pCi/g						
Lead-214		0.989	+/-0.174	0.117	0.0537	+/-0.190		pCi/g						
Potassium-40		9.09	+/-1.11	0.545	0.227	+/-1.39		pCi/g						
Protactinium-231	U	0.341	+/-0.453	0.888	0.416	+/-0.485		pCi/g						
Radium-226		0.813	+/-0.149	0.104	0.0467	+/-0.164		pCi/g						
Radium-228		0.529	+/-0.210	0.216	0.0953	+/-0.222		pCi/g						
Thallium-208		0.210	+/-0.0614	0.0573	0.0259	+/-0.0638		pCi/g						
Tin-126	UI	0.00	+/-0.213	0.136	0.0645	+/-0.214		pCi/g						

Rad Gas Flow Proportional Counting
GFPC, Gross A-B, solid "Dry Weight Corrected"

Alpha		5.23	+/-2.74	3.94	1.72	+/-2.92	4.00	pCi/g		BXF1	03/04/16	0746	1547857	2
Beta		11.0	+/-2.55	3.44	1.62	+/-2.97	10.0	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	02/25/16	1523	1547783

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4 5 2 3/Ga-01-R
2	EPA 900.0/SW846 9310/SM 7110B Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.2.2
Sample ID: 392043013

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.	
Surrogate/Tracer Recovery	Test												Batch ID	Recovery%	Acceptable Limits

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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Report Date: January 18, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.3.1
 Sample ID: 387853018
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 18-DEC-15
 Collector: Client
 Moisture: 24.1%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Le	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

ASTM D 2216 % Moisture "As Received"

Moisture		24.1						percent		CXC1	12/21/15	1527	1532956	1
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Rad Gamma Spec Analysis

Gammascpec, Gamma, Solid "Dry Weight Corrected"

Actinium-227	U	-0.018	+/-0.229	0.438	0.203	+/-0.230		pCi/g		RXF2	01/13/16	0841	1532995	2
Antimony-125	U	0.00376	+/-0.109	0.178	0.0817	+/-0.109		pCi/g						
Bismuth-212	UI	0.00	+/-0.832	0.865	0.384	+/-0.837		pCi/g						
Bismuth-214		0.952	+/-0.152	0.108	0.048	+/-0.171		pCi/g						
Cesium-137		0.568	+/-0.0833	0.0737	0.0333	+/-0.0954	0.100	pCi/g						
Cobalt-60	U	0.00561	+/-0.038	0.0778	0.0333	+/-0.0381		pCi/g						
Europium-154	U	-0.0472	+/-0.115	0.213	0.0912	+/-0.117		pCi/g						
Lead-212		0.833	+/-0.107	0.0962	0.0448	+/-0.130		pCi/g						
Lead-214		1.11	+/-0.153	0.321	0.156	+/-0.180		pCi/g						
Potassium-40		10.0	+/-1.41	0.751	0.320	+/-1.66		pCi/g						
Protactinium-231	UI	0.00	+/-0.474	0.962	0.450	+/-0.556		pCi/g						
Radium-226		0.952	+/-0.152	0.108	0.048	+/-0.171		pCi/g						
Radium-228		0.674	+/-0.256	0.208	0.0885	+/-0.275		pCi/g						
Thallium-208		0.180	+/-0.0554	0.0625	0.028	+/-0.0575		pCi/g						
Tin-126	U	0.0413	+/-0.129	0.130	0.0615	+/-0.130		pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Gross A/B, solid "Dry Weight Corrected"

Alpha		8.90	+/-3.38	3.88	1.60	+/-3.80	4.00	pCi/g		JXB7	01/11/16	1334	1534754	3
Beta		15.7	+/-3.35	4.18	1.95	+/-4.05	10.0	pCi/g						

Solid Preparation

Laboratory Composite "As Received"

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	12/21/15	1527	1532956

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE HASL 300, 4.5.2.3/Ga-01-R
3	EPA 900.0/SW846 9310/SM 7110B Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.3.1
Sample ID: 387853018

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.	
Surrogate/Tracer	Recovery	Test											Batch ID	Recovery%	Acceptable Limits

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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Report Date: March 8, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.3.2
 Sample ID: 392043014
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 25-FEB-16
 Collector: Client
 Moisture: 18.4%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
<i>Gamma with Ingrowth "Dry Weight Corrected"</i>														
Actinium-227	U	-0.134	+/-0.234	0.436	0.203	+/-0.243		pCi/g		MXR1	03/07/16	0912	1547791	1
Antimony-125	U	-0.0664	+/-0.106	0.156	0.0702	+/-0.110		pCi/g						
Bismuth-212	UI	0.00	+/-0.847	1.25	0.577	+/-0.987		pCi/g						
Bismuth-214		0.789	+/-0.180	0.115	0.0515	+/-0.193		pCi/g						
Cesium-137	U	-0.000237	+/-0.0367	0.0704	0.0317	+/-0.0367	0.100	pCi/g						
Cobalt-60	U	0.0122	+/-0.0362	0.0783	0.0334	+/-0.0366		pCi/g						
Europium-154	U	0.0384	+/-0.119	0.248	0.109	+/-0.120		pCi/g						
Lead-212		0.813	+/-0.122	0.109	0.0513	+/-0.142		pCi/g						
Lead-214		1.08	+/-0.184	0.313	0.151	+/-0.208		pCi/g						
Potassium-40		9.87	+/-1.29	0.555	0.221	+/-1.54		pCi/g						
Protactinium-231	UI	0.00	+/-0.829	0.907	0.422	+/-0.859		pCi/g						
Radium-226		0.789	+/-0.180	0.115	0.0515	+/-0.193		pCi/g						
Radium-228		0.880	+/-0.257	0.235	0.102	+/-0.293		pCi/g						
Thallium-208		0.295	+/-0.0685	0.0504	0.022	+/-0.0734		pCi/g						
Tm-126	U	0.0708	+/-0.0871	0.163	0.0775	+/-0.093		pCi/g						

Rad Gas Flow Proportional Counting
GFPC, Gross A/B, solid "Dry Weight Corrected"

Alpha		9.50	+/-2.97	3.01	1.23	+/-3.51	4.00	pCi/g		BXF1	03/04/16	0746	1547857	2
Beta		13.0	+/-2.78	3.70	1.75	+/-3.33	10.0	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	02/25/16	1523	1547783

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4 5 2 3/Ga-01-R
2	EPA 900.0/SW846 9310/SM 7110B Modified

Surrogate/Tracer Recovery Test

Batch ID Recovery% Acceptable Limits

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Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.3.2
Sample ID: 392043014

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer	Recovery	Test						Batch ID	Recovery%	Acceptable Limits				

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

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Report Date: January 18, 2016

Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.4.1
 Sample ID: 387853019
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 18-DEC-15
 Collector: Client
 Moisture: 23.9%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Le	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Gravimetric Solids

ASTM D 2216 % Moisture "As Received"

Moisture		23.9						percent		CXCI	12/21/15	1527	1532956	1
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Rad Gamma Spec Analysis

Gammascpec, Gamma, Solid "Dry Weight Corrected"

Actinium-227	U	-0.20	+/-0.307	0.561	0.262	+/-0.322		pCi/g		RXF2	01/13/16	0842	1532995	2
Antimony-125	U	0.0283	+/-0.100	0.196	0.0892	+/-0.101		pCi/g						
Bismuth-212	UI	0.00	+/-0.860	1.16	0.522	+/-0.920		pCi/g						
Bismuth-214		0.738	+/-0.184	0.154	0.0701	+/-0.196		pCi/g						
Cesium-137		0.633	+/-0.110	0.0754	0.0337	+/-0.124	0.100	pCi/g						
Cobalt-60	U	0.00467	+/-0.0386	0.0806	0.0339	+/-0.0387		pCi/g						
Europium-154	UI	0.00	+/-0.0916	0.263	0.114	+/-0.107		pCi/g						
Lead-212		0.572	+/-0.123	0.127	0.0598	+/-0.134		pCi/g						
Lead-214		1.00	+/-0.205	0.361	0.174	+/-0.223		pCi/g						
Potassium-40		8.96	+/-1.26	0.766	0.319	+/-1.47		pCi/g						
Protactinium-231	U	-0.0949	+/-0.594	1.08	0.501	+/-0.596		pCi/g						
Radium-226		0.738	+/-0.184	0.154	0.0701	+/-0.196		pCi/g						
Radium-228		0.501	+/-0.236	0.241	0.103	+/-0.246		pCi/g						
Thallium-208		0.257	+/-0.0708	0.0733	0.033	+/-0.0744		pCi/g						
Tin-126	U	0.017	+/-0.127	0.187	0.089	+/-0.128		pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Gross A/B, solid "Dry Weight Corrected"

Alpha		9.55	+/-3.03	3.43	1.46	+/-3.54	4.00	pCi/g		JXB7	01/11/16	1331	1534754	3
Beta		15.5	+/-2.99	3.79	1.79	+/-3.69	10.0	pCi/g						

Solid Preparation

Laboratory Composite "As Received"

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXCI	12/21/15	1527	1532956

The following Analytical Methods were performed

Method	Description
1	ASTM D 2216 (Modified)
2	DOE HASL 300, 4.5.2.3/Ga-01-R
3	EPA 900 0/SW846 9310/SM 7110B Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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GEL LABORATORIES LLC

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

Certificate of Analysis

Company : MJW Corporation
Address : 15 Hazelwood Drive
Suite 112
Buffalo, New York 14228

Report Date: January 18, 2016

Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5A.R.4.1
Sample ID: 387853019

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	Test							Batch ID	Recovery%	Acceptable Limits				

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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

Certificate of Analysis

Company : MJW Technical Services
 Address : 15 Hazelwood Drive
 Suite 112
 Buffalo, New York 14228
 Contact: Ms. Laurie Losey
 Project: Soil Radioisotopes

Report Date: March 8, 2016

Client Sample ID: 5.5.A.R.4.2
 Sample ID: 392043015
 Matrix: Soil
 Collect Date: 14-DEC-15
 Receive Date: 25-FEB-16
 Collector: Client
 Moisture: 21.6%

Project: MJWC00115
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

Gamma with Ingrowth "Dry Weight Corrected"

Actinium-227	U	-0.297	+/-0.249	0.435	0.201	+/-0.286		pCi/g		MXR1	03/07/16	0913	1547791	1
Antimony-125	U	-0.0327	+/-0.0884	0.161	0.0723	+/-0.0896		pCi/g						
Bismuth-212	UI	0.00	+/-0.663	1.06	0.479	+/-0.724		pCi/g						
Bismuth-214		0.816	+/-0.165	0.142	0.0645	+/-0.181		pCi/g						
Cesium-137	U	0.0302	+/-0.0415	0.0858	0.0392	+/-0.0437	0.100	pCi/g						
Cobalt-60	U	0.00526	+/-0.0353	0.0735	0.0309	+/-0.0353		pCi/g						
Europium-154	U	-0.0217	+/-0.0971	0.188	0.0782	+/-0.0976		pCi/g						
Lead-212		0.761	+/-0.113	0.113	0.0529	+/-0.135		pCi/g						
Lead-214		1.11	+/-0.194	0.331	0.160	+/-0.217		pCi/g						
Potassium-40		9.73	+/-1.26	0.492	0.188	+/-1.51		pCi/g						
Protactinium-231	U	0.205	+/-0.504	0.968	0.451	+/-0.514		pCi/g						
Radium-226		0.816	+/-0.165	0.142	0.0645	+/-0.181		pCi/g						
Radium-228		0.558	+/-0.231	0.271	0.120	+/-0.246		pCi/g						
Thallium-208		0.111	+/-0.0908	0.082	0.0376	+/-0.0913		pCi/g						
Tin-126	UI	0.00	+/-0.136	0.174	0.083	+/-0.137		pCi/g						

Rad Gas Flow Proportional Counting

GFPC, Gross A-B, solid "Dry Weight Corrected"

Alpha		9.86	+/-3.33	3.94	1.69	+/-3.83	4.00	pCi/g		BXF1	03/04/16	0746	1547857	2
Beta		15.7	+/-2.86	3.42	1.60	+/-3.61	10.0	pCi/g						

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	02/25/16	1523	1547783

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300.4 5 2.3/Ga-01-R
2	EPA 900.0/SW846 9310/SM 7110B Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Buffalo, New York 14228

Report Date: March 8, 2016

Contact: Ms. Laurie Losey
Project: Soil Radioisotopes

Client Sample ID: 5.5.A.R.4.2
Sample ID: 392043015

Project: MJWC00115
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.	
Surrogate/Tracer	Recovery	Test											Batch ID	Recovery%	Acceptable Limits

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).