

# 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: 5.6.A.R.1.2  
 Sample ID: 392043001  
 Matrix: Soil  
 Collect Date: 17-DEC-15  
 Receive Date: 25-FEB-16  
 Collector: Client  
 Moisture: 16.7%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>														
<i>Gamma with Ingrowth "Dry Weight Corrected"</i>														
Actinium-227	U	-0.136	+/-0.262	0.454	0.211	+/-0.270		pCi/g		MXR1	03/07/16	0805	1547791	1
Antimony-125	U	-0.000706	+/-0.0825	0.157	0.0711	+/-0.0825		pCi/g						
Bismuth-212	U	0.00	+/-0.611	0.975	0.441	+/-0.716		pCi/g						
Bismuth-214		0.512	+/-0.144	0.112	0.0501	+/-0.151		pCi/g						
Cesium-137	U	0.00	+/-0.0659	0.0772	0.0352	+/-0.0663	0.100	pCi/g						
Cobalt-60	U	0.00	+/-0.0439	0.102	0.0455	+/-0.051		pCi/g						
Europium-154	U	0.00	+/-0.128	0.265	0.117	+/-0.155		pCi/g						
Lead-212		0.585	+/-0.104	0.0912	0.0424	+/-0.117		pCi/g						
Lead-214		0.834	+/-0.167	0.107	0.0485	+/-0.183		pCi/g						
Potassium-40		8.87	+/-1.22	0.640	0.265	+/-1.43		pCi/g						
Protactinium-231	U	0.00	+/-0.823	0.755	0.347	+/-0.854		pCi/g						
Radium-226		0.512	+/-0.144	0.112	0.0501	+/-0.151		pCi/g						
Radium-228		0.470	+/-0.215	0.257	0.114	+/-0.227		pCi/g						
Thallium-208		0.168	+/-0.0672	0.0627	0.0283	+/-0.0689		pCi/g						
Tin-126	U	0.0398	+/-0.142	0.152	0.0721	+/-0.143		pCi/g						
<b>Rad Gas Flow Proportional Counting</b>														
<i>GFPC, Gross A B, solid "Dry Weight Corrected"</i>														
Alpha		3.95	+/-2.39	3.67	1.65	+/-2.52	4.00	pCi/g		BXFI	03/04/16	0743	1547857	2
Beta		14.4	+/-2.43	3.12	1.49	+/-3.18	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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Report Date: March 8, 2016

Contact: Ms. Laurie Losey  
Project: Soil Radioisotopes

Client Sample ID: 5.6.A.R.1.2  
Sample ID: 392043001

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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## Certificate of Analysis

Company : MJW Corporation  
 Address : 15 Hazelwood Drive  
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Report Date: January 18, 2016

Contact: Ms. Laurie Losey  
 Project: Soil Radioisotopes

Client Sample ID: 5.6A.R.2.1  
 Sample ID: 387853020  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 18-DEC-15  
 Collector: Client  
 Moisture: 28.8%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>														
<i>ASTM D 2216 % Moisture "As Received"</i>														
Moisture		28.8						percent		CXC1	12/21/15	1527	1532956	1
<b>Rad Gamma Spec Analysis</b>														
<i>Gammaspéc. Gamma, Solid "Dry Weight Corrected"</i>														
Actinium-227	U	0.0673	+/-0.246	0.460	0.218	+/-0.248		pCi/g		RXF2	01/13/16	0842	1532995	2
Antimony-125	U	0.0531	+/-0.0864	0.168	0.0787	+/-0.0897		pCi/g						
Bismuth-212	UI	0.00	+/-0.470	0.976	0.455	+/-0.562		pCi/g						
Bismuth-214		0.793	+/-0.146	0.138	0.065	+/-0.161		pCi/g						
Cesium-137		0.907	+/-0.104	0.0546	0.0249	+/-0.130	0.100	pCi/g						
Cobalt-60	U	0.0168	+/-0.037	0.0742	0.0335	+/-0.0378		pCi/g						
Europium-154	U	-0.102	+/-0.106	0.172	0.0757	+/-0.116		pCi/g						
Lead-212		0.728	+/-0.112	0.0994	0.0472	+/-0.126		pCi/g						
Lead-214		0.881	+/-0.170	0.130	0.0611	+/-0.183		pCi/g						
Potassium-40		9.66	+/-1.24	0.566	0.247	+/-1.49		pCi/g						
Protactinium-231	UI	0.00	+/-0.532	0.793	0.373	+/-0.564		pCi/g						
Radium-226		0.793	+/-0.146	0.138	0.065	+/-0.161		pCi/g						
Radium-228		0.656	+/-0.234	0.225	0.102	+/-0.244		pCi/g						
Thallium-208		0.245	+/-0.0568	0.0555	0.0256	+/-0.0605		pCi/g						
Tin-126	U	0.0468	+/-0.110	0.160	0.0772	+/-0.111		pCi/g						
<b>Rad Gas Flow Proportional Counting</b>														
<i>GFPC, Gross A/B, solid "Dry Weight Corrected"</i>														
Alpha		5.81	+/-2.85	4.00	1.75	+/-3.08	4.00	pCi/g		JXB7	01/11/16	1327	1534754	3
Beta		41.9	+/-3.95	3.63	1.71	+/-7.04	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: 5.6A.R.2.1  
Sample ID: 387853020

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: 5.6.A.R.2.2  
 Sample ID: 392043016  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 25-FEB-16  
 Collector: Client  
 Moisture: 19.1%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPI	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>														
<i>Gamma with Ingrowth "Dry Weight Corrected"</i>														
Actinium-227	U	0.117	+/-0.226	0.441	0.208	+/-0.233		pCi/g		MXR1	03/07/16	0917	1547791	1
Antimony-125	U	0.035	+/-0.0816	0.165	0.0764	+/-0.0831		pCi/g						
Bismuth-212	U	0.279	+/-0.539	0.945	0.435	+/-0.554		pCi/g						
Bismuth-214		0.843	+/-0.145	0.115	0.0528	+/-0.161		pCi/g						
Cesium-137		0.139	+/-0.0501	0.0601	0.0273	+/-0.0513	0.100	pCi/g						
Cobalt-60	U	0.024	+/-0.0424	0.0802	0.036	+/-0.0438		pCi/g						
Europium-154	U	-0.0329	+/-0.102	0.188	0.0827	+/-0.103		pCi/g						
Lead-212		0.797	+/-0.105	0.0923	0.0436	+/-0.126		pCi/g						
Lead-214		1.08	+/-0.158	0.284	0.138	+/-0.181		pCi/g						
Potassium-40		9.66	+/-1.08	0.533	0.226	+/-1.37		pCi/g						
Protactinium-231	U	0.106	+/-0.502	0.876	0.413	+/-0.505		pCi/g						
Radium-226		0.843	+/-0.145	0.115	0.0528	+/-0.161		pCi/g						
Radium-228		0.624	+/-0.191	0.213	0.0948	+/-0.210		pCi/g						
Thallium-208		0.209	+/-0.0672	0.056	0.0255	+/-0.0693		pCi/g						
Tin-126	UI	0.00	+/-0.117	0.114	0.0548	+/-0.118		pCi/g						

### Rad Gas Flow Proportional Counting

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

Alpha		11.9	+/-3.18	3.18	1.35	+/-3.93	4.00	pCi/g		BXF1	03/04/16	0747	1547857	2
Beta		18.6	+/-2.87	3.12	1.45	+/-3.87	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: 5.6.A.R.2.2  
Sample ID: 392043016

Report Date: March 8, 2016

Project: MJWC00115  
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mid.	
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: 5.6A.R.3.1  
 Sample ID: 387853021  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 18-DEC-15  
 Collector: Client  
 Moisture: 21.4%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>														
<i>ASTM D 2216 % Moisture "As Received"</i>														
Moisture		21.4						percent		CXC1	12/21/15	1527	1532956	1
<b>Rad Gamma Spec Analysis</b>														
<i>Gammascpec, Gamma, Solid "Dry Weight Corrected"</i>														
Actinium-227	U	0.0891	+/-0.258	0.454	0.212	+/-0.261		pCi/g		RXF2	01/13/16	0626	1532996	2
Antimony-125	U	-0.00675	+/-0.0827	0.155	0.0706	+/-0.0827		pCi/g						
Bismuth-212	UI	0.00	+/-0.585	0.979	0.445	+/-0.664		pCi/g						
Bismuth-214		0.791	+/-0.164	0.113	0.051	+/-0.176		pCi/g						
Cesium-137		0.606	+/-0.0856	0.060	0.0268	+/-0.0982	0.100	pCi/g						
Cobalt-60	U	0.0187	+/-0.0325	0.0717	0.0309	+/-0.0336		pCi/g						
Europium-154	U	-0.0481	+/-0.102	0.187	0.0799	+/-0.105		pCi/g						
Lead-212		0.715	+/-0.102	0.0966	0.0453	+/-0.119		pCi/g						
Lead-214		0.999	+/-0.167	0.124	0.0568	+/-0.186		pCi/g						
Potassium-40		9.52	+/-1.32	0.644	0.272	+/-1.55		pCi/g						
Protactinium-231	U	0.156	+/-0.495	0.862	0.402	+/-0.501		pCi/g						
Radium-226		0.791	+/-0.164	0.113	0.051	+/-0.176		pCi/g						
Radium-228		0.552	+/-0.191	0.182	0.077	+/-0.207		pCi/g						
Thallium-208		0.128	+/-0.0717	0.0546	0.0244	+/-0.0725		pCi/g						
Tin-126	UI	0.00	+/-0.193	0.124	0.0591	+/-0.195		pCi/g						
<b>Rad Gas Flow Proportional Counting</b>														
<i>GFPC, Gross A/B, solid "Dry Weight Corrected"</i>														
Alpha		10.1	+/-3.31	4.00	1.77	+/-3.93	4.00	pCi/g		KXB2	01/11/16	1352	1534755	3
Beta		16.5	+/-3.14	4.14	1.97	+/-3.89	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: 5.6A.R.3.1  
Sample ID: 387853021

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: 5.6.A.R.3.2  
 Sample ID: 392043017  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 25-FEB-16  
 Collector: Client  
 Moisture: 16.5%

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	-0.284	+/-0.294	0.530	0.244	+/-0.323		pCi/g		MXR1	03/07/16	0917	1547791	1
Antimony-125	U	-0.0158	+/-0.142	0.233	0.106	+/-0.142		pCi/g						
Bismuth-212	UI	0.00	+/-0.778	1.48	0.672	+/-0.843		pCi/g						
Bismuth-214		0.758	+/-0.219	0.177	0.0796	+/-0.228		pCi/g						
Cesium-137		0.0713	+/-0.0691	0.084	0.0369	+/-0.0694	0.100	pCi/g						
Cobalt-60	U	0.0123	+/-0.0444	0.0934	0.0389	+/-0.0448		pCi/g						
Europium-154	U	-0.0955	+/-0.156	0.275	0.116	+/-0.162		pCi/g						
Lead-212		0.808	+/-0.141	0.124	0.0578	+/-0.162		pCi/g						
Lead-214		0.678	+/-0.214	0.152	0.0686	+/-0.221		pCi/g						
Potassium-40		10.6	+/-1.52	0.510	0.178	+/-1.77		pCi/g						
Protactinium-231	U	0.332	+/-0.616	1.18	0.548	+/-0.638		pCi/g						
Radium-226		0.758	+/-0.219	0.177	0.0796	+/-0.228		pCi/g						
Radium-228		0.641	+/-0.292	0.309	0.133	+/-0.300		pCi/g						
Thallium-208		0.227	+/-0.0885	0.0705	0.0307	+/-0.0905		pCi/g						
Tin-126	UI	0.00	+/-0.105	0.110	0.0519	+/-0.106		pCi/g						

### Rad Gas Flow Proportional Counting

*GFPC, Gross A B. solid "Dry Weight Corrected"*

Alpha		9.96	+/-2.93	3.10	1.31	+/-3.50	4.00	pCi/g		BXF1	03/04/16	0747	1547857	2
Beta		18.2	+/-2.70	2.82	1.31	+/-3.69	10.0	pCi/g						

### The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GI.-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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Report Date: March 8, 2016

Contact: Ms. Laurie Losey  
Project: Soil Radioisotopes

Client Sample ID: 5.6.A.R.3.2  
Sample ID: 392043017

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:

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Report Date: January 18, 2016

Contact: Ms. Laurie Losey  
 Project: Soil Radioisotopes

Client Sample ID: 5.6A.R.4.1  
 Sample ID: 387853022  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 18-DEC-15  
 Collector: Client  
 Moisture: 23.5%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
<b>Gravimetric Solids</b>														
<i>ASTM D 2216 % Moisture "As Received"</i>														
Moisture		23.5						percent		CXC1	12/21/15	1527	1532956	1
<b>Rad Gamma Spec Analysis</b>														
<i>Gammascpec, Gamma, Solid "Dry Weight Corrected"</i>														
Actinium-227	U	0.0231	+/-0.261	0.423	0.199	+/-0.261		pCi/g		RXF2	01/13/16	0627	1532996	2
Antimony-125	U	-0.00177	+/-0.0848	0.157	0.0729	+/-0.0848		pCi/g						
Bismuth-212	UI	0.00	+/-0.698	0.885	0.409	+/-0.701		pCi/g						
Bismuth-214		0.657	+/-0.170	0.125	0.0579	+/-0.179		pCi/g						
Cesium-137		0.428	+/-0.0713	0.0596	0.0273	+/-0.0792	0.100	pCi/g						
Cobalt-60	U	0.00122	+/-0.0261	0.0453	0.019	+/-0.0261		pCi/g						
Europium-154	U	-0.0456	+/-0.104	0.179	0.0797	+/-0.106		pCi/g						
Lead-212		0.658	+/-0.0986	0.0946	0.0447	+/-0.112		pCi/g						
Lead-214		1.14	+/-0.149	0.292	0.142	+/-0.176		pCi/g						
Potassium-40		10.0	+/-1.07	0.549	0.238	+/-1.38		pCi/g						
Protactinium-231	U	-0.0536	+/-0.511	0.844	0.397	+/-0.512		pCi/g						
Radium-226		0.657	+/-0.170	0.125	0.0579	+/-0.179		pCi/g						
Radium-228		0.612	+/-0.253	0.265	0.122	+/-0.271		pCi/g						
Thallium-208		0.173	+/-0.058	0.0526	0.024	+/-0.0598		pCi/g						
Tin-126	UI	0.00	+/-0.127	0.115	0.054	+/-0.128		pCi/g						
<b>Rad Gas Flow Proportional Counting</b>														
<i>GFPC, Gross A-B, solid "Dry Weight Corrected"</i>														
Alpha		6.55	+/-2.79	3.93	1.77	+/-3.05	4.00	pCi/g		KXB2	01/11/16	1352	1534755	3
Beta		11.0	+/-2.20	2.96	1.42	+/-2.71	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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# 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: 5.6A.R.4.1  
Sample ID: 387853022

Project: MJWC00115  
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Le	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 : MIW 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: 5.6.A.R.4.2  
 Sample ID: 392043018  
 Matrix: Soil  
 Collect Date: 14-DEC-15  
 Receive Date: 25-FEB-16  
 Collector: Client  
 Moisture: 18.9%

Project: MJWC00115  
 Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	Lc	TPU	RL	Units	DF	Analyst	Date Time	Batch	Mtd.
<b>Rad Gamma Spec Analysis</b>													
<i>Gamma with Ingrowth "Dry Weight Corrected"</i>													
Actinium-227	U	-0.0651	+/-0.190	0.351	0.165	+/-0.192		pCi/g		MXR1	03/07/16 0917	1547791	1
Antimony-125	U	-0.0112	+/-0.0752	0.141	0.0658	+/-0.0754		pCi/g					
Bismuth-212		1.16	+/-0.640	0.625	0.285	+/-0.651		pCi/g					
Bismuth-214		0.839	+/-0.115	0.0904	0.0416	+/-0.134		pCi/g					
Cesium-137	UI	0.00	+/-0.0924	0.059	0.0275	+/-0.0925	0.100	pCi/g					
Cobalt-60	U	-0.000202	+/-0.0312	0.0513	0.0226	+/-0.0312		pCi/g					
Europium-154	U	0.0395	+/-0.0959	0.168	0.0759	+/-0.0976		pCi/g					
Lead-212		0.814	+/-0.0962	0.0726	0.0341	+/-0.116		pCi/g					
Lead-214		0.873	+/-0.128	0.0926	0.043	+/-0.147		pCi/g					
Potassium-40		9.95	+/-0.953	0.418	0.180	+/-1.28		pCi/g					
Protactinium-231	U	0.312	+/-0.588	0.673	0.316	+/-0.592		pCi/g					
Radium-226		0.839	+/-0.115	0.0904	0.0416	+/-0.134		pCi/g					
Radium-228		0.825	+/-0.216	0.177	0.0803	+/-0.253		pCi/g					
Thallium-208		0.154	+/-0.0609	0.0508	0.0236	+/-0.0622		pCi/g					
Tin-126	UI	0.00	+/-0.112	0.0751	0.0348	+/-0.113		pCi/g					

### Rad Gas Flow Proportional Counting

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

Alpha		11.2	+/-4.09	3.99	1.53	+/-4.62	4.00	pCi/g		BXF1	03/04/16 0754	1547857	2
Beta		12.1	+/-3.53	4.50	2.05	+/-3.95	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

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  
Contact: Ms. Laurie Losey  
Project: Soil Radioisotopes  
Client Sample ID: 5.6.A.R.4.2  
Sample ID: 392043018

Report Date: March 8, 2016

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).