



OGMCOAL DNR &lt;ogmcoal@utah.gov&gt;

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## 0070045 Wellington Dry Coal Soil Analysis Results

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**Priscilla Burton** <priscillaburton@utah.gov>

Wed, Jun 14, 2017 at 4:09 PM

To: Kyle Edwards <kedwards@bowierefinedcoal.com>

Cc: Daron Haddock <daronhaddock@utah.gov>, Steve Christensen <stevechristensen@utah.gov>, Joe Helfrich <joe Helfrich@utah.gov>, OGMCOAL DNR <ogmcoal@utah.gov>

Hello Kyle,

The analysis of the soils sampled on May 3, 2017 are attached. The sample identification requires some explanation. I labeled the samples WDC 0-6 in and WDC 6 - 30 in. My handwriting was not clear and the lab recorded the samples as WOC-1 0 - 6 in and WOC-1 6-30 in.

The sampling is described in Inspection Report 5840 and photographs taken on the sampling date were filed under 5032017. A few of those photographs are attached. Below 6 inches, the analysis indicates that there is an increase in salinity, pH and accumulation of calcium, which was noted as streaks of gypsum. I conclude that the surface six inches, which also had numerous roots, is topsoil and should be protected 'in situ' as we discussed during the inspection.

Priscilla Burton, MS, CPSSc  
Environmental Scientist III  
Utah Division of Oil, Gas & Mining  
Price Field Office  
phone: [435-613-3733](tel:435-613-3733)

—— Forwarded message ——

From: **Rachel Buck** <[eal@byu.edu](mailto:eal@byu.edu)>

Date: Wed, Jun 14, 2017 at 2:41 PM

Subject: Soil Analysis Results

To: "[priscillaburton@utah.gov](mailto:priscillaburton@utah.gov)" <[priscillaburton@utah.gov](mailto:priscillaburton@utah.gov)>

Hi Priscilla,

Attached are the results for the samples we received on 5/24/17. Please let me know if you have any questions!

Thank you,

Rachel Buck – Lab Manager



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**4 attachments**



**DSCN8280 sampled down to 30 inches.JPG**  
6433K



**DSCN8299 people standing at approx location of sampling.JPG**  
6822K



**DSCN8283 below 6 - 30 in gypsum.JPG**  
6949K

 **957.pdf**  
33K

# BRIGHAM YOUNG UNIVERSITY

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## Plant and Wildlife Sciences Department

Name DNR Div of Oil, Gas, & Mining  
Street 1594 W. North Temple Ste 1210  
Salt Lake City Utah  
City State Zip

### SOIL TEST REPORT AND RECOMMENDATIONS

Date: 14-Jun-17  
Telephone: 435-613-3733  
Work Order: 957

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
WOC-1 0-6"	Turf	7.7	23.4	43.4	33.1	Clay Loam		2.0

Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	2	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	9		X				apply 1 lbs of P2O5/1000 sq ft
Potassium ppm K	396					X	no fertilizer needed
Salinity-ECe dS/m	1.4			X			no salinity problem
Iron ppm Fe	4.2		X				fertilizer possibly needed
SAR-Sodium Adsorption Ratio	1.9	X					no sodium hazard
Calcium-SAR ppm Ca	243						
Magnesium SAR ppm Mg	58						
Sodium SAR ppm Na	125						
Gravel >1/4" % gravel	10.2						
>2mm <1/4" % gravel	1.4						

Notes:

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Date: 14-Jun-17  
Telephone: 435-613-3733  
Work Order: 957

Sample Identification	Crop to be grown	pH	% Sand	% Silt	% Clay	Soil Texture	Cation Exchange meq/100g	% Organic Matter
WOC-1 6-30	Turf	8.2	23.4	35.4	41.1	Clay		0.7

Test	Results	Very Low	Low	Medium	High	Very High	Recommendations
Nitrate-Nitrogen ppm N	5	X					apply 2.8 lbs of N/1000 sq ft
Phosphorus ppm P	4	X					apply 2.1 lbs of P2O5/1000 sq ft
Potassium ppm K	180				X		apply 1 lbs of K2O/1000 sq ft
Salinity-ECe dS/m	7.6					X	salinity a problem for most crops
Iron ppm Fe	7.7			X			no fertilizer needed
SAR-Sodium Adsorption Ratio	0.3	X					no sodium hazard
Calcium-SAR ppm Ca	410						
Magnesium SAR ppm Mg	18						
Sodium SAR ppm Na	24						
Gravel >1/4" % gravel	19.5						
>2mm <1/4" % gravel	20.3						

Notes:





