

# SOIL ANALYSIS REPORT

<b>CLIENT:</b> 18250	OWN RESOURCES OPERATING LLC 36695 HWY 385 PO BOX 250 WRAY, CO 80758
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<b>LAB NO:</b>	100547
<b>INVOICE NO:</b>	630690
<b>DATE RECEIVED:</b>	08/27/2020
<b>DATE REPORTED:</b>	09/03/2020

## SOIL ANALYSIS RESULTS FOR: OWN RESOURCES FIELD IDENTIFICATION: NEWTON 11-01

METHOD USED:			1:1 Water-Soil		1:1 Water-Soil	XSL(I)					Mehlich 3 ICP			Ammonium Acetate	Mehlich 3 ICP						
Lab Number	Sample ID	Sample Depth	Soil pH	Buffer pH	Sol. Salts mmho/cm	Excess Lime	% Organic Matter			Phosphorus ppm P	Potassium ppm K			Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	Zinc ppm Zn	Iron ppm Fe	Manganese ppm Mn	Copper ppm Cu	Boron ppm B
100547	NEWTON 11-01	0 - 36	7.2		0.30	No					332			1419	93	124					

METHOD USED:			Sat. Paste																		
Lab Number	Sample ID	Sample Depth	Saturation % Sat	Soil pH	Electrical Conductivity mmho/cm	Potassium mg/L K	Sulfur mg/L S	Calcium mg/L Ca	Magnesium mg/L Mg	Sodium mg/L Na	Carbonate mg/L CO <sub>3</sub>	Bicarbonate mg/L HCO <sub>3</sub>	Chloride mg/L Cl	Boron mg/L B	Sodium Adsorption Ratio	Cation:Anion					
100547	NEWTON 11-01	0 - 36	38	7.21	1.27	36	6	56	5	120	<10	300	96	0.31	4.12	9.4 / 8.1					

FERTILIZER RECOMMENDATIONS:																	POUNDS ACTUAL NUTRIENT PER ACRE										Cation Exchange Capacity					
Lab Number	Sample ID	Crop To Be Grown	Yield Goal	Lime, ECC Tons/A to raise pH to:			N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Zn	S	Mn	Cu	MgO	B	Ca	Cl	CEC	%H	%K	%Ca	%Mg	%Na									
				6.0	6.5	7.0																										
100547	NEWTON 11-01																	9	0	9	77	8										

SPECIAL COMMENTS AND SUGGESTIONS:																							
Lab Number(s): 100547 Servi-Tech Laboratory fertilizer recommendations were not requested.																							

Analyses are representative of the samples submitted      Samples are retained 30 days after report of analysis      Explanations of soil analysis terms are available upon request

Reviewed and  
Approved By: Hans Burken  
Agronomist

*Hans Burken*

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09/03/2020 4:42 pm

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<b>Lab No.:</b> 100547		<b>SOIL ANALYSIS RESULTS</b>		<b>Date Reported:</b> 09/03/2020	
<b>Send To:</b> 18250		OWN RESOURCES OPERATING LLC 36695 HWY 385 PO BOX 250 WRAY, CO 80758		 Hans Burken Agronomist	
<b>Results For:</b> OWN RESOURCES <b>Sample Identification:</b> NEWTON 11-01 <b>Sample Depth:</b> 0-36"		<b>Invoice No.:</b> 630690 <b>Date Received:</b> 08/27/2020 <b>Field ID</b> NEWTON 11-01			

<b>Exchangable:</b>					
	<u>ppm</u>	<u>%</u>			
Calcium, Ca	1419	77	Cation Exchange Capacity, CEC meq/100g		9
Magnesium, Mg	93	8	Soil pH - 1:1		7.2
Potassium, K	332	9	Soil pH - Saturated Paste		7.2
Sodium, Na	124	6	Soluble Salts, mmho/cm		0.30
Excess Lime Rating		NO	Exchangable Sodium Percent, ESP		6

<b>Extractable (from saturated paste, based on 38% water saturation):</b>					
	<u>mg/L</u>	<u>meq/L</u>			
Calcium (Ca)	56	2.8			
Magnesium (Mg)	5	0.4			
Sodium (Na)	120	5.2			
Sulfur (S)	6	0.4			
Boron (B)	0.31				
Potassium (K)	36	0.9			
Chloride (Cl)	96	2.7			
Bicarbonate (HCO <sub>3</sub> )	300	4.9			
Carbonate (CO <sub>3</sub> )	<10	<0.3			

Sodium Adsorption Ratio (SAR)	4.12
Electrical Conductivity (ECe), mmho/cm	1.27
Cation:Anion	9.4 / 8.1

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Calculated Gypsum Recommendation (from ESP and CEC)			
Soil Texture		Gypsum Rec. T/A	
COARSE	(sands, loamy sands, sandy loams)	0.0	To 0.0
MEDIUM	(loams, silt loams, clay loams)	0.0	To 0.0
FINE	(silty clay, clay loams, clays)	0.0	To 0.0

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This soil is considered: NON-SALINE/NON-SODIC

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GYPSUM SUGGESTIONS: If soil has good internal drainage, full gypsum rate can be used to reclaim the affected area, but keep applications below 2 to 3 tons in a single year. Reclamation may not be feasible if a high water table is present, but applying 1/2 to 1 ton of gypsum every one to two years may help prevent crusting and surface "sealing".					
SOIL PERMEABILITY HAZARD (based on ESP and SAR):					
Soil texture		Potential hazard			
-----		-----			
COARSE (sands, loamy sands, sandy loams)		LOW			
MEDIUM (loams, silt loams, clay loams)		LOW			
FINE (silty clay loams, clays)		CAUTION			
SOIL SALINITY: Saline soils can be managed by choosing tolerant crops, keeping the seedbed moist until crop establishment, and/or irrigating with relatively good quality irrigation water. Good internal soil drainage is needed to reclaim saline areas, so lowering water tables may be necessary. Test soil (and water) annually to monitor changes in salinity levels.					
SOIL SALINITY HAZARD (based on extractable salts, ECe):					
Crop type		Potential hazard			
-----		-----			
SALT SENSITIVE (onions, carrots, many ornamentals, many fruit crops, etc.) . . . . .		CAUTION			
MODERATELY SENSITIVE (seedling alfalfa, corn, soybeans, many vegetables, etc.) . . . . .		LOW			
MODERATELY TOLERANT (wheat, wheatgrass, sudangrass, sorghum, fescue, oats, bromegrass, etc.) . . . . .		LOW			
SALT TOLERANT (barley, bermudagrass, sugarbeets, cotton, etc.) . . . . .		LOW			
EXTRACTABLE BORON HAZARD (based on soil extractable boron, B):					
Crop type		Potential hazard			
-----		-----			
BORON SENSITIVE (such as sunflower, barley, onions, citrus, fruit trees, grapes, etc.) . . . . .		CAUTION			
MODERATELY SENSITIVE (such as potatoes, peppers, peas, radishes, etc.) . . . . .		LOW			
MODERATELY TOLERANT (such as wheat, corn, oats, clover, lettuce, turnips, celery, etc.) . . . . .		LOW			
BORON TOLERANT (such as alfalfa, beets, cotton, grain sorghum, tomatoes, vetch, etc.) . . . . .		LOW			

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