



**TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC.**

**HEADQUARTERS: P.O. BOX 33695 DENVER, COLORADO 80233-0695 303-452-6111**

February 6, 2020

Mrs. Janet Binns  
Environmental Protection Specialist  
Colorado Division of Reclamation, Mining & Safety  
Department of Natural Resources  
1313 Sherman Street, Room 215  
Denver, CO 80203

**RE: New Horizon Mine  
Permit No. C-1981-008  
2019 Annual Reclamation Report**

Dear Mrs. Binns,

Tri-State Generation and Transmission Association, Inc. (Tri-State), is the parent company to Elk Ridge Mining and Reclamation, LLC New Horizon Mine. The New Horizon Mine operates under the Colorado Division of Reclamation, Mining, and Safety Permit No. C-1981-008.

Per Rule 2.04.13(1), by February 15, or other such date as agreed on, each permittee shall file an annual reclamation report covering the previous calendar years for all areas under bond. New Horizon by permit is required to submit the report annually by March 15. Therefore, enclosed please find the Annual Reclamation Report for the calendar year 2019 as required.

If you should have any additional questions or concerns please feel free to contact Tony Tennyson at (970) 824-1232 at your convenience.

Sincerely,

Daniel J. Casiraro  
Senior Manager  
Environmental Services

DJC:TT:der

Enclosure

cc:

Chris Gilbreath (via email)  
Frank Ferris (via email)  
File: G474-11.3(21)b-9

**Elk Ridge Mining and Reclamation, LLC.**

**PERMIT C-1981-008**

**NEW HORIZON 2 MINE**

**2019 ANNUAL RECLAMATION REPORT**

**JANUARY 1, 2019 to DECEMBER 31, 2019**

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## **I. RULE REQUIREMENTS**

Rule 2.04.13(1)(a-f) states, by February 15, or such date agreed on (which is March 15 in Permit No. C-1981-008), each permitted shall file an annual reclamation report covering the previous calendar year for all areas under bond. The report shall include, but is not limited to, text, discussion and maps which address:

- the name and address of the permittee and permit number
- location and number of acres disturbed during that year
- location and number of acres backfilled and graded during that year
- location and number of acres topsoiled during that year
- the species, location and number of acres of vegetation planted during that year, including any augmented seeding or cultural practices
- location, number of acres and date of planting for all previously revegetated areas

### **A. PERMITTEE**

Elk Ridge Mining & Reclamation, LLC  
Permit No. C-1981-008  
PO Box 628  
Nucla, CO 81424

### **B. DISTURBED AREAS**

During 2019, 0.0 acres of additional disturbance occurred onsite. There are currently 31.2 acres in non-permanent long-term facilities at the end of the year 2019 and 7.1 acres of long-term permanent facilities. Please see Figure 1.

### **C. BACKFILLING AND GRADING**

During 2019, 0.0 acres were backfilled and/or graded.

### **D. RECLAMATION ACTIVITIES**

#### **1. Spoil Quality**

The spoil sampling and analysis program for the New Horizon 2 Mine is described in Section 2.05.4(2)(d) of the approved permit. The New Horizon 2 Mine did not conduct any spoil quality sampling in 2019.

#### **2. Topsoil**

The New Horizon 2 Mine placed topsoil on 0.0 acres in 2019. Please refer to Table 1 for the current volume of topsoil in stockpiles.

### **3. Seeding**

The approved seed mixtures utilized at the New Horizon Mine can be located in Section 2.05.4(2)(e) of the approved permit. During 2019, permanent seeding occurred on 0.0 acres of dryland pasture and 0.0 acres of irrigated pasture. Please refer Table 2 and Map 1 for the reclamation units seeded prior to 2019.

### **4. Soil Fertility Testing and Fertilizer Application**

Soil fertility testing was not performed on any irrigated pasture or dryland pasture areas in 2019. Testing did occur on the reclamation unit IC-1 (See Map 1 for the location). The results of this testing is presented in Attachment 1.

Fertilizer was applied to reclamation units IP-1 through IP-8, IC-1, and the reference area. Fertilizer rates that were applied in 2019 are as follows:

IC-1

<u><b>Fertilizer</b></u>	<u><b>Pounds/Acre Applied</b></u>
Phosphate	200
Elemental Sulfur	1.5

IP-1 through IP-8 & Reference Area

<u><b>Fertilizer</b></u>	<u><b>Pounds/Acre Applied</b></u>
Phosphate	38
Urea	122

### **5. Grazing, Irrigation, and Irrigated Pasture Yields**

Data presented below includes properties within the permit boundary that were grazed in 2019.

Benson East Property (33 acres):

- 67 cows for 33 days in November and December 2019

Benson West & Lloyd Property (25 acres):

- 67 cows for 20 days in October and November 2019

ERM Property, of those 45 acres grazed upon, 8.9 acres are within the permit boundary:

- No grazing occurred in 2019.

GW46 Irrevocable Trust (only 2.9 are within the permit boundary):

- 40 cows for 31 days in January 2019

Reference Area (6.3 acres):

- 12 cows for 21 days in December 2018

## **6. Irrigation**

The CC Ditch Company commenced water deliveries on April 4, 2019, and New Horizon Mine began irrigation operations shortly thereafter. The CC Ditch Company discontinued water delivery October 3, 2019.

## **7. Irrigated Pasture Yields**

Irrigated pasture yields results are shown in Attachment 2.

## **E. WILDLIFE MONITORING**

No wildlife monitoring occurred in 2019.

## **F. INTERIM REVEGETATION REPORT**

New Horizon did not conduct interim vegetation monitoring in 2019.

## **G. WEED MANAGEMENT**

During April and May of 2019, various areas within the permit boundary were treated for noxious weeds by spot spraying and/or hand removal. Map 1 depicts the general areas that were treated; however, some sites were small and random and thus too small to accurately depict on a map.

Target species for noxious weeds included Knapweed(s), Thistle(s), White Top, Russian-olive, saltceder/tamarisk, burdock, mullein, halogeton, purple loosestrife, and Western whorled milkweed. Other target species are included in the Montrose County (2010) and San Miguel County (2002) Noxious Weed lists.

## **H. PEST MANAGMENT**

In April, May, and August of 2019, the New Horizon Mine 2 conducted Prairie Dog mitigation in reclaimed areas where the species was present. The licensed exterminators employed carbon monoxide treatments to active holes.

**Table 1 - Topsoil Stockpiled (End of Year 2019)**

<u>Soil Type</u>	<u>Topsoil Pile ID</u>	<u>Stockpile Volume (Cubic Yards)</u>
Pre 1995 Lift A	C	7,320
Pre 1995 Mixed	D	3,242
Pre 1995 Mixed	E	7,320
Pre 1995 Lift B	H	20,997
Mixed Zone 7	12 (Multiple Piles)	153,900
Mixed Zone 8	4	13,266
	<b>Total</b>	<b>206,045</b>
Morgan Lift A	11A	5,550
Morgan Lift B	11B	4,070
	<b>Total</b>	<b>9,620</b>

**Table 2 – New Horizon Reclamation Table**

<b>Area</b>	<b>Reclaimed Acres</b>	<b>Year Seeded</b>	<b>Revegetated Years</b>
DP-1	21.6	2004	15
DP-2	6.6	2005	14
DP-3	5.3	2005	14
DP-4	7.9	2006	13
DP-5	12.8	2006	13
DP-6	28.7	2007	12
DP-7	9.5	2009	10
DP-8	2.3	2009	10
DP-9	24.1	2009	10
DP-10	10.8	2011	8
DP-11	1.7	2011	8
DP-12	0.7	2012	7
DP-13	0.4	2013	6
DP-14	2.0	2013	6
DP-15	2.3	2014	5
DP-16	1.4	2016	3
DP-17	3.5	2018	1
IP-1	11.5	2004	15
IP-2	9.3	2005	14
IP-3	7.6	2007	12
IP-4	8.9	2007	12
IP-5	0.4	2008	11
IP-6	3.5	2010	9
IP-7	0.5	2013	6
IP-8	12.2	2014	5
IP-9	12.9	2014	5
IP-10	2.9	2016	3
IP-11	0.4	2018	1
IC-1	107.8	2015	4
<b>Grand Totals</b>	<b>319.5</b>		

Please see Map 1 for locations of the reclamation units noted above.



**Figure 1 - Annual Reclamation Report Form**  
**Colorado Division of Reclamation, Mining and Safety**  
 Annual Reclamation Report for Calendar Year – 2019

New Horizon Mine	C-1981-008	Elk Ridge Mining & Reclamation, LLC.
Mine Name	Permit Number	Permittee
P.O Box 628 – 27646 W. 5 <sup>th</sup> Street Nucla, CO 81424		
Address		

This report, required by Rule 2.04.13, is due by February 15 of each year, or other date, as agreed upon by the Division. It should include text, discussion, and maps, at a minimum, in addition to any other reclamation monitoring data as required by the approved permit. The location of the acreage reported under each land status category and year of seeding (if applicable) should be clearly identified on a map included with the report.

Land Category	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Acreage in Active Mining Areas <sup>1</sup>	0	0	0	=	0

Land Category	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Acres Disturbed <sup>2</sup>	463.5	0	-2.9*	=	460.6
Acres Backfilled and Graded	463.2	0	-2.9*	=	460.3
Acres Topsoiled	326.8	0	-2.9*	=	323.9

Acreage in Long-term Facilities <sup>3</sup>	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Non-Permanent Facilities	31.2	0	0	=	31.2
Permanent Facilities (permitted)	7.1	0	0	=	7.1
Totals	38.3			=	38.3

Acres Seeded (permanent)	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
9 Years and Less	202.4	0	39.4	=	163.0
10 Years and Greater	124.4	32.1	0	=	156.5
Totals	326.8			=	319.5

Bond Release	Last Year's Cumulative Total (from last year's ARR)	This Calendar Year			Cumulative Total
		Acres Added (+)	Acres Subtracted (-)		
Phase I Released	325.2	0	-1.6	=	323.6
Phase II Released	171.8	0	-1.6	=	170.2
Phase III Released	8.6	0	-1.6	=	7.0

<sup>1</sup>Includes pits, topsoil stripped areas in advance of pits, and spoil not backfilled and graded

## New Horizon Mine

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<sup>2</sup>Surface Mine Acres Disturbed = B&G + Long-Term Facilities + Active Mining Areas; Underground Mine Acres Disturbed = B&G + Long-Term Facilities; Separately-permitted Loadouts = B&G + Long-Term Facilities

<sup>3</sup>Includes haul, access and light-use roads, temporary dams and impoundments; permanent dams and impoundments; diversion and collector ditches, water and air monitoring sites; topsoil stockpiles; overburden stockpiles; repair, storage and construction areas; office area, repair shops, and parking; coal stockpiles, loading, and processing areas; railroads; coal conveyors; refuse piles and coal mine waste impoundments; head-of-hollow fills; valley fills; ventilation shafts and entryways; and non-coal waste disposal area (garbage dumps and coal combustion by-products disposal areas).

\*1.6 acres were removed from the permit boundary during 2019. 1.3 acres were removed due to incorrect reporting for an area that was not disturbed by New Horizon Mine for reclamation unit IC-1. This was to correct past reporting for that unit from 109.1 acres to 107.8 acres.

**ATTACHMENT 1**

**Topsoil Fertility Testing Results**

# New Horizon Mine

## SOIL ANALYSIS REPORT

<b>CLIENT:</b> 18393	FRUITA CONSUMERS COOP 995 MAIN STREET PO BOX 399 NUCLA, CO 81424	<b>Servi-Tech Laboratories</b> www.servitechlabs.com	1816 E. Wyatt Earp PO Box 1397 Dodge City, KS 67801 800.557.7509 620.227.7123 Fax 620.227.2047	<b>LAB NO:</b> 64334	
				<b>INVOICE NO:</b> 867511	
				<b>DATE RECEIVED:</b> 03/28/2019	
				<b>DATE REPORTED:</b> 04/01/2019	

<b>SOIL ANALYSIS RESULTS FOR: MORGAN RANCH</b>															<b>FIELD IDENTIFICATION: NORTH OF BB RD</b>									
<b>METHOD USED:</b>			1:1 Water:Soil	1:1 Water:Soil	XBL (%)	LOI (%)	Cd Reduction	e-Mehlich 3	Mehlich 3 ICP	Ammonium Acetate	Mehlich 3 ICP	Zinc	Iron	Manganese	Copper	Boron								
Lab Number	Sample ID	Sample Depth	Soil pH	Buffer pH	Sol. Salts mEq/100ml	Excess Lime	% Organic Matter	Nitrate-Nitrogen ppm	Phosphorus ppm P	Potassium ppm K	Sulfur lb. S/A	Calcium ppm Ca	Magnesium ppm Mg	Sodium ppm Na	ppm Zn	ppm Fe	ppm Mn	ppm Cu	ppm B					
64334	140 ACRES	0 - 12	8.1		0.22	Hi	0.8	2.2	8	37	252	54	194	5476	299	21								
<b>FERTILIZER RECOMMENDATIONS:</b>										<b>POUNDS ACTUAL NUTRIENT PER ACRE</b>														
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	<b>Cation Exchange Capacity</b>						
				8.0	8.5	7.0												CEC	%H	%K	%Ca	%Mg	%Na	
64334	140 ACRES	ALFALFA	6 tons					98	0		1.5			0		0		28	0	2	89	9	0	
<b>SPECIAL COMMENTS AND SUGGESTIONS:</b>																								
Lab Number(s): 64334 The CEC value calculated by cation summation has been adjusted to compensate for the presence of excess lime (reactive carbonates).																								

Recommend 200 pounds per acre of 11-52-0 and 1.5 pounds per acre of elemental sulfur to maintain current production levels and continue to control salinity.

SKU 657-Soil Analysis 10<sup>th</sup> 50.00

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:

Ed McGuire  
Data Review Coordinator

*Edwin J. McGuire*

Page 1 of 1  
04/01/2019 12:53 pm

**ATTACHMENT 2**

**Irrigated Pasture Yields**

## New Horizon Mine



### Elk Ridge Mining & Reclamation, LLC NEW HORIZON MINE Irrigated Pasture Yields 2019

Field ID's	1st CUTTING					2nd CUTTING					2nd cutting percentage of 1st cutting
	average bale wt.	lbs/ac	tons per field	field bale count	field acres	average bale wt.	lbs/ac	tons per field	field bale count	field acres	
ERM/R/Benson West	63	4,913	30.5	967	12.4	63	3231	20.0	636	12.4	66%
ERM/R/Lloyd	63	3,409	22	698	12.9	63	3160	20	647	12.9	93%
ERM/R/Benson East	60	1,327	22	719	32.5	60	1484	24	804	32.5	112%
4/7 Haul Road	1575	2,423	7.9	10	6.5	1575	2,423	8	10	6.5	100%
ERM/R/Garvey	1405	2,450	14.6	21	11.9	1405	2,125	13	18	3.0	87%
<b>Total Tons</b>			<b>96</b>	<b>Total ac</b>		<b>76</b>	<b>Average</b>				<b>91%</b>

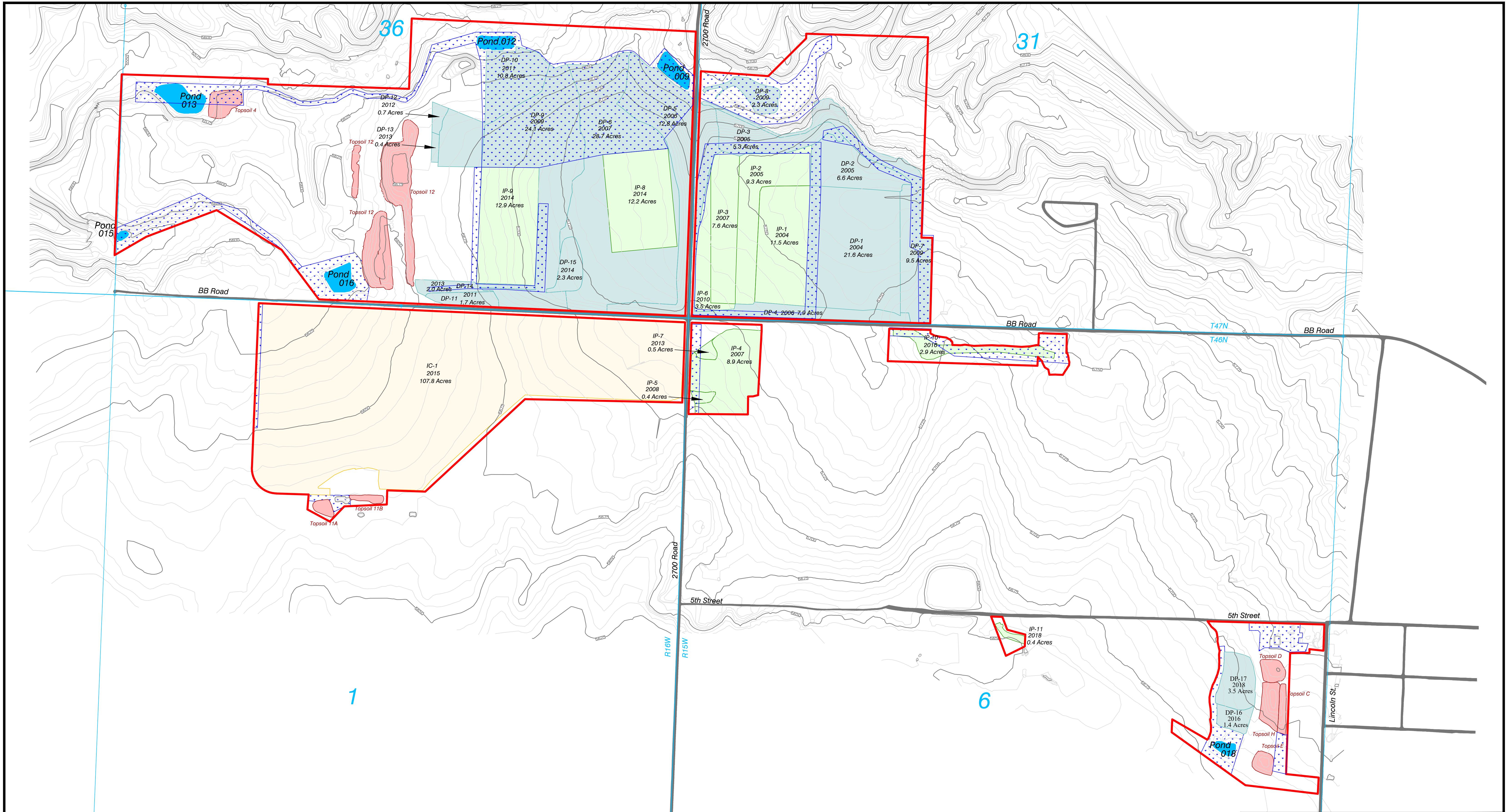
Production Figures 1cut	bale wt.	lbs/ac	tons/ac	Production Figures 2cut	bale wt.	lbs/ac	tons/ac
High	63	4913	2.46	High	63	3,231	1.62
Low	60	1,327	0.66	Low	60	1484	0.74
Avg (small bale Wt. only)	63	2,904	1.45	Avg (small bale Wt. only)	63	2485	1.24

Field ID	1st CUTTING					2nd CUTTING					2nd cutting percentage of 1st cutting
	bale wt.	lbs/ac	tons/field	bale count	field acres	bale wt.	lbs/ac	tons/field	bale count	field acres	
Reference Area	80	4,348	13.8	344.0	6.3	59	1734	5.5	186	6.3	40%

Notes:

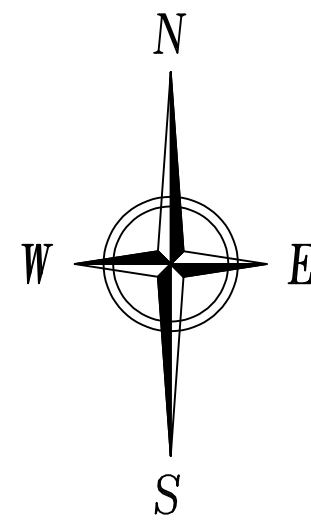
1st Cutting Average 2,532 lbs/ac





LEGEND

- PERMIT BOUNDARY
- COUNTY ROADS
- SEDIMENT PONDS
- DRYLAND PASTURE RECLAMATION
- IRRIGATED PASTURE RECLAMATION
- IRRIGATED CROPLAND RECLAMATION
- TOPSOIL PILES
- NOXIOUS WEED MITIGATION AREAS



200 0 400 800

Contour Interval = 5'  
February 2019 Topography

Annual Reclamation Report Map



WESTERN FUELS - COLORADO  
A LIMITED LIABILITY COMPANY  
NEW HORIZON MINE  
Permit C1981008  
P.O. Box 628, Nucla, CO. 81424

SCALE: 1" = 400'  
ORIGINAL DATE: 2/20/18  
DWG. BY: TONY  
APPROVED BY: FF  
DWG NO.

Map 1

No.	REVISION	DATE	BY	CHK
1	Revised for 2018 ARR	2/20/19	TF	Tony
2	Revised for 2019 ARR	1/15/20	Tony	Tony