

received 01/04/2015
Project 1913

January 4, 2015

Mr. Peter Gintautas
Environmental Protection Specialist
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

RE: 2014 Annual Report for Red River Ranch Holdings, LLC Centralized E&P Waste Management Facility

Dear Mr. Gintautas:

Enclosed with this letter is the 2014 annual report for the Red River Ranch Holdings, LLC centralized E&P waste management facility (#292832).

Please let me know if you have any questions, comments, or require additional information concerning this report.

Sincerely,

A handwritten signature in blue ink that reads "Jack Sosebee". The signature is fluid and cursive, with the first name "Jack" and last name "Sosebee" clearly distinguishable.

Jack Sosebee
for Red River Ranch

/Enclosure

RED RIVER RANCH HOLDINGS, LLC

**CENTRALIZED E&P WASTE MANAGEMENT
FACILITY**

ANNUAL REPORT FOR 2014

January 2015

Prepared for:

*Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203*

Submitted by:

*Red River Ranch Holdings, LLC
15850 County Road 13
Weston, Colorado 81091*

1.0 INTRODUCTION

Red River Ranch Holdings, LLC (RRRH) operates a coal bed methane (CBM) production and gas gathering project in the Raton Basin, approximately 35 miles west of Trinidad, Colorado in Las Animas County. The minerals are owned by the surface estate owner. The project is located in the following sections:

T35S, R67W, Section 18;

T35S, R68W, Sections 2, 10, 11, 12, 13, 14, 15, 17, and 18

T35S, R69W, Sections 12 and 13.

RRRH prepared and submitted a Form 28 (Centralized E&P Waste Management Facility Permit application) and accompanying documentation to the Colorado Oil and Gas Conservation Commission (COGCC) on August 28, 2007 with the intent of converting its four permitted multi-well production ponds into a single centralized E&P waste management facility. **Table 1** provides the name and location information of RRRH multi-well production ponds. The ponds are identified on the site map in **Appendix B**.

Table 1. Facility Locations

Multi-Well Production Pond Name	Legal Location	Latitude	Longitude
Pond A	SWNW, Sec.16, T35S, R68W	36.998011	-105.008615
Pond B	SWSE, Sec.11, T35S, R68W	37.008905	-104.964599
Pond D	SENE, Sec.13, T35S, R68W	36.999354	-104.939725
Pond E	SWNW, Sec.18, T35S, R67W	36.99791	-104.934684

After reviewing the application and supporting data package, conducting a site visit on October 19, 2007 and obtaining financial assurance from RRRH, COGCC granted a Centralized E&P Waste Management Facility Permit (#292832) to RRRH on November 5, 2007.

On March 31, 2012 the RRRH CBM production and gas gathering project was shut in, and there has been no production of CBM or discharge of produced water since then.

2.0 PERMIT LIMITATIONS AND CONDITIONS

Accompanying the permit were several permit limitations and conditions which are addressed in this annual report. Another permit condition not included in the initial permit limitations and conditions but discussed prior to issuance of the permit was quarterly sampling and analysis, for one calendar year, of all multi-well production pond inflows. The status of RRRH's compliance with those permit limitations and conditions is discussed in the following sections.

2.1 Soil Gas Surveys for Global Resources Lorencito #1 Well

RRRH was required to conduct soil gas surveys in calendar year 2008 around Pond E to ensure that the plugged and abandoned Global Resources Lorencito #1 Well is not leaking. The required survey was conducted in June 2008, and the soil gas survey report was included in the 2008 annual report. Methane was not detected in any of the 17 soil gas samples.

As part of the facility's closure process, an additional soil gas survey was conducted in December 2014. Methane was not detected in any of the soil samples. The soil gas survey report is in preparation and will be provided to COGCC upon completion.

2.2 CBM Produced Water Limitation

RRRH's centralized waste management facility manages only CBM produced water as described in the centralized E&P waste management facility permit application.

2.3 Irrigation water

Irrigation return water is not managed by RRRH's centralized E&P waste management facility.

2.4 Discharge permits

In 2006 the Colorado Department of Public Health and Environment (CDPHE) issued two minimal industrial discharge permits to allow RRRH to discharge produced water from its wells and from the four multi-well production ponds to Lorencito Canyon and its tributaries. Permit

COG-600702 allowed RRRH to discharge produced water from individual CBM wells, while Permit COG-600724 allowed RRRH to discharge produced water from the four multi-well production ponds.

On February 1, 2010 Permits COG-600702 and COG-600724 were superseded by Permit CO-0048089. On August 27, 2012 the permit was modified to allow water produced from any or all of its CBM wells to be discharged from any of the four ponds. Flow and effluent limitations effective as of July 31, 2014 under this permit are presented in **Table 2**. More stringent effluent limitations for chronic whole effluent toxicity took effect January 1, 2013, and more stringent effluent limitations for total recoverable iron, total boron, chloride, adjusted sodium absorption ratio, and electrical conductance took effect August 1, 2014.

Table 2. Permit CO-0048089 Effluent Limitations (effective 08/01/14)

Parameter	Effluent Limitation				Sample Frequency
	30-day avg.	7-day avg.	daily max.	2-year avg.	
Flow, mgd	0.95		Report		Quarterly
pH, su (minimum-maximum)			6.5-9.0		
Total Suspended Solids, mg/L	30	45			
Oil & Grease, mg/L			10		
Total Dissolved Solids, mg/L	Report		3,500		
Iron, Total Recoverable, µg/L	1,364			150	
Boron, Total, mg/L	0.75			0.16	
Chloride, mg/L	370			55	
Calcium, mg/L	Report		Report		
Magnesium, mg/L	Report		Report		
Sodium, mg/L	Report		Report		
Bicarbonate, mg/L	Report		Report		
Sodium Absorption Ratio, Calculated Limit	Report				
Sodium Absorption Ratio, Adjusted	Report				
Sodium Absorption Ratio, Pass/Fail	Pass /Fail				
Electrical Conductance, dS/m	1.8		Report		
Whole Effluent Toxicity, <i>Pimephales</i> Lethality		Stat. Diff. & IC25 ≥ IWC			
Whole Effluent Toxicity, <i>Ceriodaphnia</i> Lethality					
Whole Effluent Toxicity, <i>Pimephales</i> Toxicity		Report Stat. Diff. & IC25			
Whole Effluent Toxicity, <i>Ceriodaphnia</i> Lethality					

Analytical results for water quality parameters with effluent discharge limits are reported to CDPHE quarterly on Discharge Monitoring Reports (DMRs), and any excursions from the effluent discharge limits are also reported to CDPHE as required by the discharge permits.

Because all CBM wells were shut in for the entirety of 2014, there were no discharges from individual wells to the ponds, and there was no discharge of CBM produced water from the ponds to surface waters. As a result, no pond discharge samples were collected and analyzed in 2014.

2.5 Spring and Seep Sampling

RRRH has collected and analyzed water samples from springs and seeps each quarter unless snow cover or inadequate flows precluded sampling. Because a number of springs and seeps have been dry for some time, RRRH re-surveyed its CBM project area in August 2011 to evaluate recent changes in spring flow, search for any new springs or seeps that may have developed since the original spring and seep survey, and identify those springs and seeps that would be sampled in subsequent quarters. The survey identified three accessible, potentially-flowing springs that are now sampled unless snow cover or inadequate flows preclude sampling: South Canadian Spring (formerly referred to as Canadian Seep); North Canadian Spring (formerly referred to as Canadian Spring); and Middle Lorencito Spring (unchanged terminology). Other locations that are identified on the base map (USGS 7.5' quadrangle map) in **Appendix B** as springs or that had previously been sampled are no longer flowing or accessible.

South Canadian Spring – This locality has been developed as a spring in the channel of the Canadian River (a small ephemeral stream in this headwater reach). Two pipes have been driven into the ground, presumably to provide a conduit for spring water. Coordinates for the locality are: N 36.99295°, W 105.03149°.

North Canadian Spring – This spring surfaces beneath two large rocks approximately 750 feet north northwest of South Canadian Spring. The water flows southwest toward the Canadian River, and the flow path is marked by wetland vegetation. Coordinates for the locality are: N 36.99509°, W 105.03301°.

Middle Lorencito Spring – This spring surfaces through a horizontal pipe that has been driven into the hillside. The water flows north into a small pond above Lorencito Canyon, and overflow from the pond flows into Lorencito Canyon. Coordinates for the locality are: N 36.99627°, W 104.97533°.

Water quality data for the springs and seeps are presented in **Appendix A**. This data is limited to Middle Lorencito Spring because of the lack of adequate flows for sampling at other locations. The locations of the springs are shown on the facility map in **Appendix B**.

Because South Canadian Spring and North Canadian Spring have both been dry in all quarters in recent years, attempts to sample the springs will be limited to the second quarter of each year unless spring flows resume.

2.6 Annual Report

This annual report is presented in partial fulfillment of the permit limitations and conditions.

2.7 COGCC Audit

Audits of RRRH's centralized E&P waste management facility are periodically conducted by COGCC. No matters requiring corrective action at the E&P waste management facility were identified by COGCC in 2014.

2.8 Inflow Sampling

COGCC, subsequent to its issuance of RRRH's centralized E&P waste management facility permit, added a condition requiring quarterly sampling of all multi-well production pond inflows for one calendar year. RRRH conducted this additional sampling and analysis in 2008, and the results were reported to the COGCC in the annual report for that year.

3.0 STATUS AND PLANS

As of December 31, 2014, all RRRH CBM wells have been plugged. Form 6 Subsequent Reports have been submitted to COGCC and, as of January 4, 2015, approximately half of those forms have been approved.

A Form 27 has been submitted to COGCC for each of the four ponds. In addition, a Form 4 has been submitted to COGCC for each of the four ponds requesting approval to leave the ponds as functioning ponds (after removal of the liners in Ponds D and E) and not restore the original contours. Once RRRH has obtained approvals for closure of the individual ponds, an umbrella Form 27 will be submitted to close the centralized E&P waste management facility.

A request to terminate the CDPHE water discharge permit was submitted to CDPHE in 2014.

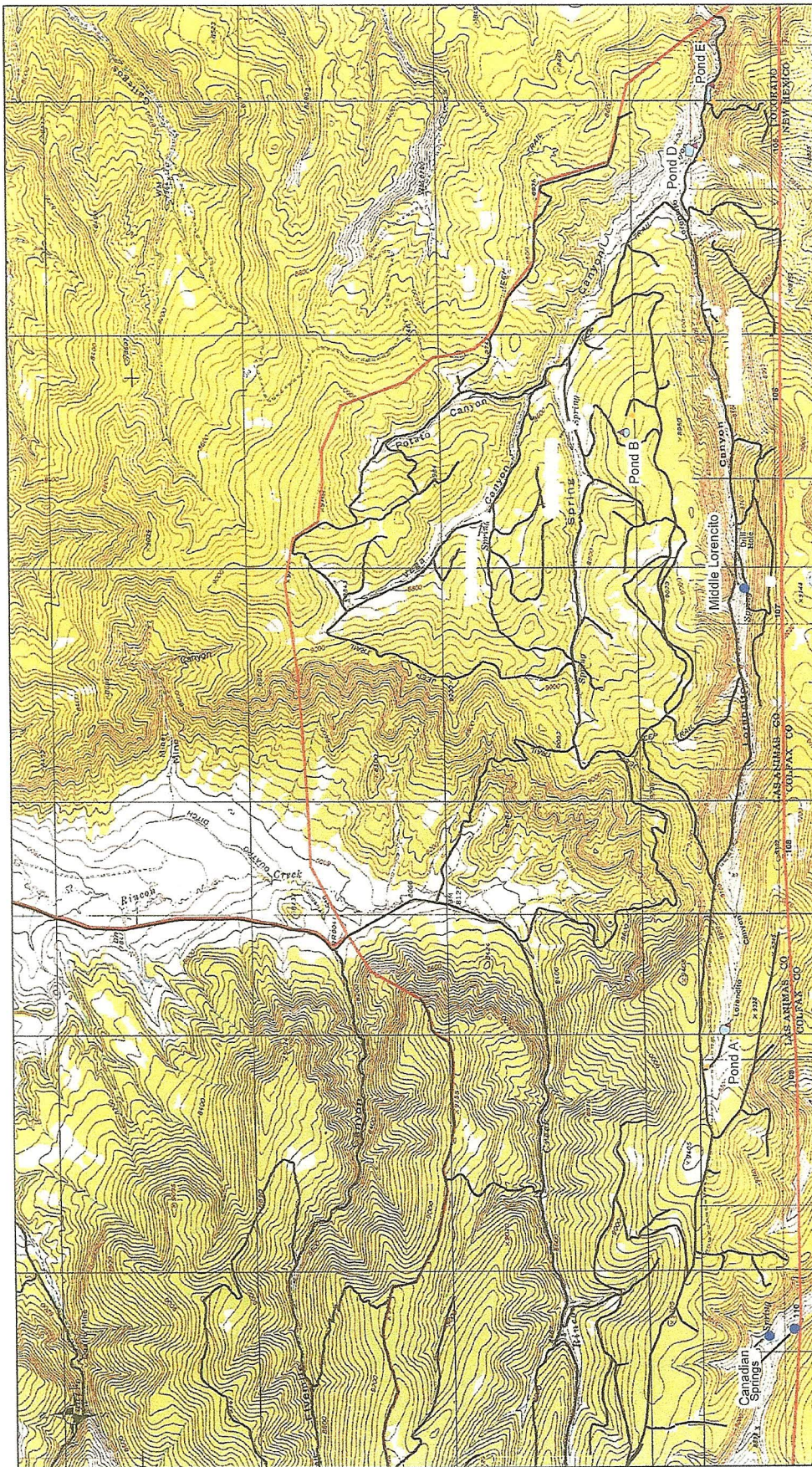
Appendix A
Spring and Seep Water Quality Data

Middle Lorencito Spring Water Quality Data








<u>Analyte</u>	<u>Units</u>	<u>Sample Date</u>			
		03/18/14	06/05/14	07/25/14	11/04/14
pH	s.u.	7.48	7.32	7.44	7.49
Electrical conductance	dS/m	0.484	0.431	0.454	0.403
Oil and grease	mg/L	0	0	0	0
Total suspended solids	mg/L	5.68	<4	6.3	<1.0
Total dissolved solids	mg/L	288	235	259	237
Total solids	mg/L	294	237	265	237
Sodium	mg/L	36.9	29.3	23.5	36.6
Potassium	mg/L	1.24	1.26	1.47	1.59
Calcium	mg/L	36.5	36.6	34.9	38.2
Magnesium	mg/L	11.1	9.19	8.89	10.9
Iron, total recoverable	µg/L	<10	<10	75	49.0
Boron, total	mg/L	0.097	0.058	0.038	0.111
Bicarbonate	mg/L	243	187	194	261
Alkalinity, total	mg/L	243	187	194	261
Chloride	mg/L	2.5	17.0	5.30	<2
Sulfate	mg/L	17.3	18.0	19.0	19.5
Calculated data					
Hardness	mg/L	137	129	124	140.3
Sodium absorption ratio	ratio	1.37	1.12	0.92	1.34

Appendix B

Site Map



Legend

-  Outflow Sampling Location
-  Inflow Sampling Location
-  Springs
-  Ponds
-  Roads
-  Lease Boundary
-  Section Boundary

Red River Ranch Holdings, LLC
Centralized E&P Waste Management Facility

Las Animas County, CO



1:30,000

04/11/2015