



Energy Fuels Resources (USA) Inc.  
225 Union Blvd. Suite 600  
Lakewood, CO, US, 80228  
303-974-2140  
[www.energyfuels.com](http://www.energyfuels.com)

---

January 27, 2015

Travis Marshall  
Colorado Division of Reclamation, Mining and Safety  
101 South 3<sup>rd</sup>, Suite 301  
Grand Junction, CO 81501

**Transmittal: Fourth Quarter 2014 Hydrological Report, File No. M-2007-044, Whirlwind Mine, Mesa County, Colorado**

Dear Mr. Marshall:

Attached is the Fourth Quarter 2014 Hydrological Report for Energy Fuels Resources (USA) Inc.'s ("EFRI's") Whirlwind Mine (the "Mine"). It is important to note that on October 2, 2014, the Division of Reclamation, Mining and Safety (DRMS) approved the succession of operators from Energy Fuels Resources Corporation to EFRI for the Mine. EFRI is now the permitted operator of the Mine and is responsible for all provisions in the M-2007-044 permit.

This report was prepared to comply with the Environmental Protection Plan approved by DRMS and the conditions set forth in Attachment B of the Bureau of Land Management's *Decision Record, Finding of No Significant Impact, and Final Environmental Assessment for the Whirlwind Mine Uranium Mining Project*, September 2008.

If you have any questions or comments, please do not hesitate to contact me at 303-389-4167.

Yours very truly,



Jaime Massey  
Regulatory Compliance Specialist

cc: Scott Gerwe, BLM  
Scott Bakken  
Kathy Weinel  
Race Fisher  
Andrea Reither

# **Whirlwind Mine**



## **Fourth Quarter 2014 Hydrological Monitoring Report**

**January 2015**

## **Table of Contents**

### **Summary of Quarterly Hydrological Monitoring**

#### **Appendix 1 – Fourth Quarter 2014 Hydrological Reports**

- Attachment 1 - Mine Water Treatment & Discharge
- Attachment 2 - Whirlwind Decline
- Attachment 3 - Packrat Mine
- Attachment 4 - DP Spring
- Attachment 5 - PR Spring
- Attachment 6 - Monitoring Well W-1
- Attachment 7 - Lumsden Canyon Seep
- Attachment 8 - Rajah 49 Mine Thornton Portal (Rajah Spring)
- Attachment 9 - Ore Production and Stockpiling
- Attachment 10 - Waste Production and On-Site Disposal

#### **Appendix 2 - Data Tables**

- Table 1 - Water Quality Data, Whirlwind Mine Water
- Table 2 - Water Quality Data, PR Spring
- Table 3 - Water Quality Data, Monitoring Well W-1
- Table 4 - Water Quality Data, Lumsden Canyon Seep
- Table 5 - Water Quality Data, Rajah 49 Mine, Thornton Portal (Rajah Spring)
- Table 6 - Total and SPLP Data, Whirlwind Mine Waste Rock
- Table 7 - Hydrological Monitoring Summary

#### **Appendix 3 – Field Sampling Sheets**

#### **Appendix 4 - Annual Seeps and Springs Survey**

(submitted in the third quarter 2014 report)

#### **Appendix 5 - Laboratory Analysis**

(submitted in the second quarter 2014 report)

## **Summary of Quarterly Hydrological Monitoring**

### **Monitoring Activities**

This report summarizes the quarterly monitoring activities at Energy Fuels Resources (USA) Inc.'s ("EFRI's") Whirlwind Mine (the "Mine"), as required by the approved Environmental Protection Plan and Attachment B of the Bureau of Land Management's (the "BLM's") *Decision Record, Finding of No Significant Impact, and Final Environmental Assessment for the Whirlwind Mine Uranium Mining Project* (the "EA"). The following field monitoring activities were performed during the fourth quarter 2014 (October through December 2014) at the Mine:

- Quarterly water level/flow measurements and field parameters were taken at MW-1, DP Spring and PR Spring on November 13, 2014.
- Annual seeps and springs survey was conducted on July 14, 2014. The field notes and photo log are included in the third quarter 2014 reported submitted on October 16, 2014.

### **Whirlwind Mine Treatment Plant**

During periods when the treatment plant is in operation, mine water from the Mine is pumped to the surface, stored in a water tank, treated and discharged to the middle tributary of Lumsden Creek. Discharge of treated water from the Mine is allowed in accordance with Colorado Discharge Permit System permit number CO-0047562.

EFRI has suspended use of the Mine water treatment plant until such time that mining operations resume. No water has been pumped from the Mine since December 2009, and Mine water has been allowed to accumulate in the Mine workings. Refer to Appendix 1, Attachment 1 of this report for a summary of mine water treatment.

### **Whirlwind Mine and Packrat Mine**

The inflow within the Mine decline cannot be measured directly because it occurs over approximately 100 feet from the entrance of the decline and within the drifts. The water collects in the mine sump, and is subsequently pumped into the untreated water tank on the surface when the mine is operating. During periods of non-operation, the groundwater inflow can be calculated based on the approximate elevation level of accumulated mine water, and the void volume of the workings.

Access to the Mine decline was restricted during the third quarter of 2012. As a result, flow rate and field parameter measurements were also put on hold until such time that the Mine is reopened. Historical flow rates and field parameters from the Mine decline water are included in Appendix 1, Attachment 2. Analytical data from the previous samples collected from the Mine are summarized in Appendix 2, Table 1.

Characterization of mine water in the Packrat Mine could not be conducted because the mine is not yet accessible. Appendix 1, Attachment 3 of this report is reserved for field data collected from the Packrat Mine at such time that it becomes accessible and is monitored.

### **DP Spring**

The field parameters were measured at DP Spring on November 13, 2014. The flow is measured by timing the fill rate of a five-gallon bucket. Field parameters from DP Spring are measured in the stock tank located at the spring. A field sampling form is provided in Appendix 4.

Flow rates and field parameters at DP Spring are summarized in Appendix 1, Attachment 4.

### **PR Spring**

The field parameters were measured at PR Spring on November 13, 2014. The flow is measured by timing the fill rate of a five-gallon bucket. Field parameters from PR Spring are measured in the stock tank located at the spring. A field sampling form is provided in Appendix 4.

Flow rates and field parameters at PR Spring are summarized in Appendix 1, Attachment 5. Results from the 2014 annual sampling event, along with the historical analytical data from PR Spring are summarized in Appendix 2, Table 2.

### **Monitoring Well W-1**

Monitoring Well W-1 was installed on October 12, 2008 for the purpose of characterizing and monitoring groundwater quality downgradient of the waste rock storage area. Monitoring Well W-1 was measured for the static groundwater level and field parameters on November 13, 2014. The water level at Monitoring Well W-1 is consistent with previous measurements. A field sampling form is provided in Appendix 4.

Water levels and field parameters are summarized in Appendix 1, Attachment 6. Results from the 2014 annual sampling event, along with the historical analytical data from Monitoring Well W-1 are summarized in Appendix 2, Table 3.

### **Lumsden Canyon Seep**

The Lumsden Canyon Seep (also referred to in earlier reports as Lumsden Canyon Spring) was monitored for field parameters and sampled in June and December of 2008. This location was monitored by Western Water & Land, Inc. during hydrologic reconnaissance required by BLM stipulations to the Plan of Operations. No further sampling or field parameter measurement events are scheduled at this time.

Historical field parameters are summarized in Appendix 1, Attachment 7 and the historical analytical data from the Lumsden Canyon Seep samples are summarized in Appendix 2, Table 4.

### **Rajah 49 Thornton Portal (Rajah Spring)**

During the 2014 annual seeps and springs survey, water was observed flowing from the Rajah 49 Thornton Portal (Rajah Spring). The Rajah Spring has been sampled in 2009, 2010, 2011, 2012, 2013, and 2014. Field parameters and a sample were collected on June 17, 2014. The analytical laboratory data is provided in Appendix 5. The 2014 seeps and springs survey was conducted on July 14, 2014. The field note and photo log from the annual seeps and springs survey are included as Appendix 3.

The estimated flow rate and measured field parameters are included in Appendix 1, Attachment 8 of this report, and the analytical data is summarized in Appendix 2, Table 5. EFRI will continue to include the Rajah Spring in future annual seeps and springs surveys.

### **Waste Rock**

No ore was mined and no waste rock was produced in the fourth quarter 2014. The Mine is currently in temporary cessation status with only maintenance and monitoring activities being conducted. EFRI has suspended the quarterly waste rock sample collection until such time that mining operations resume and waste rock removal from the mine recommences.

Production rates of ore and waste rock are summarized in Appendix 1, Attachments 9 and 10, respectively. Analytical data from previously collected waste rock samples are summarized in Appendix 2, Table 6.

### **Sediment Pond**

The sediment pond has been monitored since its construction in November 2008 in accordance with the Colorado Division of Reclamation, Mining, and Safety stipulations. Although storm events and significant snow melt events have occurred, none have resulted in stormwater discharge from the pond. As a result, no stormwater samples have been collected from the pond to date. EFRI will continue to monitor the sediment pond for discharge and will collect samples in the event that a discharge is observed.

### **Dolores River**

In accordance with BLM stipulations to the mine permit, the Dolores River is required to be monitored for selenium upstream and downstream from the confluence of Lumsden Creek when all of the following conditions are met:

- 1) The Mine treatment plant is discharging treated water,
- 2) There is continuous flow from the middle tributary of Lumsden Creek to the Dolores River, and
- 3) Selenium levels have been in exceedance of the CDPS permit effluent limits in the past two years.

Because water treatment of mine water has been suspended, it was unnecessary to monitor Lumsden Creek for discharge to the Dolores River in the fourth quarter 2014. EFRI will commence monitoring the Dolores River for discharge from Lumsden Creek and take samples, as necessary, at such time that treatment and discharge of mine water resumes.

### **Hydrological Monitoring Summary**

Refer to Appendix 2, Table 7 for the hydrological compliance monitoring summary and status for the Mine.

## **ATTACHMENTS**

WHIRLWIND MINE, PERMIT NO. M-2007-044  
FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 1. Mine Water Treatment & Discharge*

Month	Volume (gal)	Comments
2007 Total	549,868	
2008 Total	1,240,889	
2009 Total	961,406	Pumping and treatment suspended as of Dec. 2009
2010 Total	0	
2011 Total	0	
2012 Total	0	
2013 Total	0	
Jan-14	0	
Feb-14	0	
Mar-14	0	
Apr-14	0	
May-14	0	
Jun-14	0	
Jul-14	0	
Aug-14	0	
Sep-14	0	
Oct-14	0	
Nov-14	0	
Dec-14	0	
2014 Total	0	
<b>Grand Total</b>	<b>2,752,163</b>	

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 2. Whirlwind Decline*

Monitoring Date	Sample Location	Inflow Rate <sup>(1)</sup> (gpm)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
3/10/2008	WW Sump	2.4	8.30	11.0	NM	NM	NM	See Table 1
6/19/2008	WW Sump	2.8	10.26	11.5	0.78	592	114	See Table 1
9/8/2008	WW Sump	2.2	9.11	11.0	8.48	649	62	See Table 1
12/16/2008	WW Sump	1.7	8.75	10.7	5.22	609	149	See Table 1
3/5/2009	WW Sump	2.1	8.52	11.1	8.24	618	151	No analytical samples collected
4/20/2009	WW Sump	2.2	8.41	11.2	6.68	626	177	No analytical samples collected
8/11/2009	WW Sump	1.6	8.76	11.9	6.44	599	152	No analytical samples collected
12/11/2009	WW Sump	1.4	8.61	11.5	6.54	624	160	No analytical samples collected
2/2/2010	WW Decline	2.0	7.06	11.3	7.02	597	170	No analytical samples collected
4/21/2010	WW Decline	1.9	8.07	12.3	6.76	576	201	See Table 1
9/8/2010	WW Decline	1.7	8.65	11.9	4.53	592	133	No analytical samples collected
11/4/2010	WW Decline	3.4	8.49	11.6	2.22	578	207	No analytical samples collected
2/7/2011	WW Decline	1.7	8.49	11.3	2.26	590	151	See Table 1
6/20/2011	WW Decline	1.2	8.17	11.7	2.42	620	159	No analytical samples collected
8/20/2011	WW Decline	1.3	8.54	11.6	2.54	644	163	No analytical samples collected
10/25/2011	WW Decline	1.0	8.48	11.5	2.63	618	157	No analytical samples collected
11/9/2011	WW Decline	1.0	8.19	11.5	3.09	631	234	See Table 1
3/28/2012	WW Decline	0.7	8.32	11.5	2.41	592	173	See Note (2)

(1) From First Quarter 2008 to Fourth Quarter 2009, the inflow rate was estimated over the quarter by calculating the volume of water pumped out of the mine and treated and estimations of the volume of water evaporated off the untreated water tank and brought out of the mine as moisture in waste rock, ore, and ventilated air. As of the First Quarter 2010, water inflow is estimated based on the approximate water elevation and the void volume of the mine workings.

(2) Access to the mine was temporarily restricted as of the third quarter 2012. Inflow rate measurements will be resumed when the portal is reopened.

**WHIRLWIND MINE, PERMIT NO. M-2007-044**  
**FOURTH QUARTER 2014 HYDROLOGICAL REPORT**

***Attachment 3. Packrat Mine***

Not Accessible

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 4. DP Spring*

Monitoring Date	Sampled (Y/N)	Inflow Rate (gpm)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
3/10/2008	No	6 to 7	NM	NM	NM	NM	NM	Sunny, Ave. of 2 feet snowpack
6/19/2008	No	7.2	7.42	11.0	7.22	524	126	Sunny, Dry
9/8/2008	No	5.2	8.00	11.9	9.49	544	166	Sunny, Dry
12/15/2008	No	8.2	7.96	4.8	9.42	532	97	Snowing, 4" snowpack
2/10/2009	No	8.5	5.22	4.7	9.30	562	126	Sunny, Cold, 3-4" snowpack
4/20/2009	No	8.3	7.64	6.6	9.16	546	190	Sunny, Dry
8/11/2009	No	5.9	7.68	12.0	8.25	532	190	Sunny, Hot, Dry
12/1/2009	No	7.9	8.11	4.8	10.54	548	115	Cold, clear skies
2/2/2010	No	7.9	6.73	4.7	10.71	526	177	Cold, clear skies, 3 ft of snow
6/2/2010	No	8.3	7.53	8.8	11.62	554	200	Sunny, Dry
7/28/2010	No	6.8	7.68	12.6	7.57	535	114	Sunny, Dry
1/14/2010	No	7.0	7.94	7.1	8.66	535	190	Sunny, Dry
4/18/2011	No	8.1	7.59	6.6	9.23	533	NM*	Make-up for missed 1Q11 monitoring, Sunny, warm, clear skies
5/24/2011	No	9.2	7.81	8.0	8.43	551	62	Light showers, warm
8/15/2011	No	7.9	7.59	12.2	7.07	560	203	Partly cloudy, warm
10/25/2011	No	8.1	7.51	11.8	7.64	545	198	Overcast, light rain
3/28/2012	No	7.7	7.62	10.8	7.98	568	186	Dry and calm
8/7/2012	No	7.5	7.66	12.0	8.06	569	249	Clear water in tank
11/14/2012	No	NM	6.05	7.8	54.8%	769	129.2	
3/18/2013	No	8.0	7.56	5.3	44.9%	577	231.7	
6/4/2013	No	6.7	8.57	9.6	87.1%	533	217.1	water was clear
8/14/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	field notes were lost
11/12/2013	No	5.9	6.44	10.6	7.66	501	126.8	
Q1 2014	No	NM	NM	NM	NM	NM	NM	Inaccessible due to county road conditions
6/17/2014	No	6.0	6.0	11.36	6.05	629.0	185.1	
9/9/2014	No	6.0	7.1	12.81	4.93	536.6	184.0	
11/13/2014	No	7.0	7.11	7.54	5.64	537	119	

\* ORP Probe broke during 4/18/11 Monitoring Event.

NM = Not Measured

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 5. PR Spring*

Monitoring Date	Sampled (Y/N)	Inflow Rate (gpm)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
3/10/2008	Yes	4 to 5	8.1	8.6	NM	NM	NM	Sunny, Ave. of 1 foot snowpack, see Table 2
6/19/2008	Yes	4.7	7.90	13.8	9.95	762	140	Sunny, Dry, see Table 2
9/8/2008	Yes	4.1	8.36	13.4	8.39	883	166	Sunny, Dry, see Table 2
12/15/2008	Yes	4.5	8.31	9.1	8.20	790	-35	Overcast, 4" snowpack, see Table 2
2/10/2009	Yes	4.5	6.68	9.2	7.27	923	90	Sunny, Cold, 1-2" snowpack, see Table 2
4/20/2009	Yes	4.5	8.24	12.3	8.45	898	195	Sunny, Dry, see Table 2
8/11/2009	No	4.7	8.48	13.9	8.25	889	133	Sunny, Hot, Dry
12/1/2009	No	1.5	9.15	8.6	11.54	881	116	Flow restricted by vegetation
6/2/2010	Yes	2.3	8.52	13.2	2.27	880	172	Flow restricted by vegetation, see Table 2
7/28/2010	No	5.2	8.44	13.4	8.04	880	99	Sunny, Dry, Vegetation removed
11/4/2010	No	5.1	8.47	10.1	8.51	856	157	Sunny, Dry
4/18/2011	No	4.3	8.46	10.0	9.40	822	NM*	Make-up for missed 1Q11 monitoring, Sunny, warm, clear skies
5/24/2011	Yes	4.8	8.60	10.8	9.09	858	35	Lt showers, warm, see Table 2
8/15/2011	No	4.2	8.43	12.1	6.86	871	225	Partly cloudy, warm
10/25/2011	No	4.2	8.38	11.7	7.14	844	214	Overcast, light rain
3/28/2012	No	4.3	8.42	10.6	6.99	854	199	Dry and calm
5/30/2012	Yes	4.5	8.40	11.5	7.57	901	NM	ORP Probe Broken
8/7/2012	No	4.0	8.32	13.8	6.97	869	223	Clear Water In tank
11/14/2012	No	NM	7.56	11.6	45.7%	1194	96.4	Looks good enough to drink
3/18/2013	No	3.8	8.13	10.5	42.6%	794	219.8	
6/4/2013	Yes	3.9	8.15	11.7	83.5%	844	261.2	water was clear
8/14/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	field notes were lost
11/12/2013	No	2.1	7.36	10.9	7.08	767	85.9	
Q1 2014	No	NM	NM	NM	NM	NM	NM	Inaccessible due to county road conditions
6/17/2014	Yes	2.0	7.7	12.5	4.4	878.0	108.6	
9/9/2014	No	1.4	7.7	13.3	4.9	873.5	273.0	
11/13/2014	No	1.5	6.61	9.95	4.7	1219	272	

\* - ORP Probe broken during 4/18/11 Monitoring Event.

Note: PR Spring not accessible in February or March, 2010 due to deep snow

NM = Not Measured

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

**Attachment 6. Monitoring Well W-1**

Monitoring Date	Sampled (Y/N)	Water Level (ft BTOC)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L or %)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
10/2/2008	Yes	73.22	7.96	10.5	0.95	1543	124	Sunny, Dry, see Table 3
12/16/2008	Yes	74.44	7.73	9.9	1.47	1329	187	Overcast, 4" snow, see Table 3
2/10/2009	Yes	74.73	7.82	10.1	0.93	1251	5	Sunny, Cold, 1-2" snowpack, see Table 3
4/20/2009	Yes	75.00	7.34	10.9	0.13	1209	80	Sunny, Dry, see Table 3
6/24/2009	Yes	74.96	7.63	10.9	-	1157	-	Raining, cool, see Table 3
9/11/2009	Yes	74.84	7.91	11.3	0.23	1219	-75	Sunny, dry, see Table 3
12/10/2009	Yes	74.69	7.66	9.8	1.65	1182	80	Cold, overcast, see Table 3
2/4/2010	Yes	74.40	7.01	10.7	0.61	1240	-74	Cold, clear skies, 3 ft of snow, see Table 3
6/7/2010	Yes	73.98	7.73	12.2	0.25	1239	-111	Hot, clear skies, dry, see Table 3
7/28/2010	No	73.48	NM	NM	NM	NM	NM	Water level measurement only
11/4/2010	No	74.00	NM	NM	NM	NM	NM	Water level measurement only
4/18/2011	No	73.94	NM	NM	NM	NM	NM	Make-up for missed 1Q11 monitoring
5/24/2011	Yes	73.77	7.85	11.0	0.11	1210	10	Ptly cloudy, warm, see Table 3
8/16/2011	No	73.72	NM	NM	NM	NM	NM	Water level measurement only
10/25/2011	No	73.94	NM	NM	NM	NM	NM	Water level measurement only, Overcast, light rain
3/28/2012	No	73.98	NM	NM	NM	NM	NM	Water level measurement only, weather dry and calm
5/30/2012	Yes	73.98	7.72	10.9	1.61	1252	NM	ORP Probe Broken
8/7/2012	No	74.00	NM	NM	NM	NM	NM	
11/14/2012	No	74.05	NM	NM	NM	NM	NM	
3/18/2013	No	73.95	NM	NM	NM	NM	NM	
6/17/2013	Yes	74.02	7.31	11.2	37.6%	1216	54.4	first bail the water was clear, but was muddy for the remainder of the purge
8/14/2013	N/A	N/A	N/A	N/A	N/A	N/A	N/A	field notes were lost
11/8/2013	No	73.89	6.38	10.6	0.206	1186	50.5	
Q1 2014	No	NM	NM	NM	NM	NM	NM	Inaccessible due to county road conditions
6/18/2014	Yes	73.3	6.4	11.3	1.7	1349.0	75.0	
9/9/2014	No	74.2	6.0	14.1	1.4	1386.0	317.0	
11/13/2014	No	74.29	6.61	10.99	4.56	1219	272.0	

NM = Not Measured

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 7 Lumsden Canyon Seep*

Sample Date	Sampled (Y/N)	Inflow Rate (gpm)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
6/19/2008	Yes	NM	7.18	18.4	5.56	825	214	Sunny, Dry, see Table 4
12/4/2008	Yes	NM	7.47	11.6	6.69	985	99.5	Overcast, Cold, Dry, see Table 4

*Attachment 8 Rajah 49 Mine Thornton Portal*

Sample Date	Sampled (Y/N)	Inflow Rate (gpm)	Field pH (s.u.)	Temperature (deg. C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	Oxygen-Reduction Potential (mV)	Comments
9/21/2009	Yes	1-2 gpm	8.58	10.6	7.71	938	130	Sunny, dry, see Table 5
6/30/2010	Yes	1-2 gpm	8.9	7.8	10.12	889	153	Hot, clear skies, dry, see Table 5
5/24/2011	Yes	negligible	9.16	11.1	8.03	906	120	Ptly cloudy, warm, see Table 5
5/30/2012	Yes	<1 gpm	9.67	6.4	9.19	939	NM	OPR Probe Broken
6/17/2013	Yes	<1 gpm	8.48	7.95	14.7%	928	-57.2	water was clear
6/17/2014	Yes	<1 gpm	8.64	10.85	6.30	973	146.2	

WHIRLWIND MINE, PERMIT NO. M-2007-044  
 FOURTH QUARTER 2014 HYDROLOGICAL REPORT

*Attachment 9. Ore Production and Stockpiling*

Month	Mined (ton)	Shipped (ton)	Stockpiled (ton)
2008 Total	0	0	0
2009 Total	0	0	0
2010 Total	0	0	0
2011 Total	0	0	0
2012 Total	0	0	0
2013 Total	0	0	0
Jan-14	0	0	0
Feb-14	0	0	0
Mar-14	0	0	0
Apr-14	0	0	0
May-14	0	0	0
Jun-14	0	0	0
Jul-14	0	0	0
Aug-14	0	0	0
Sep-14	0	0	0
Oct-14	0	0	0
Nov-14	0	0	0
Dec-14	0	0	0
2014 Total	0	0	0
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

*Attachment 10. Waste Production and On-Site Disposal*

Month	Mined (ton, dry)
2008 Total	4,259
2009 Total	0
2010 Total	0
2011 Total	0
2012 Total	0
2013 Total	0
Jan-14	0
Feb-14	0
Mar-14	0
Apr-14	0
May-14	0
Jun-14	0
Jul-14	0
Aug-14	0
Sep-14	0
Oct-14	0
Nov-14	0
Dec-14	0
2014 Total	0
<b>Grand Total</b>	<b>4,259</b>

## **DATA TABLES**

**Table 1 Whirlwind Mine Water**

Sample Information	General Parameters							Major Ions (mg/L)										Metals (mg/L) (i)					
	Flow Rate (gpm)	TSS (mg/L)	TDS (mg/L)	pH (s.u.)	Hard (mg/L)	Alk (mg/L)	Cond (µS/cm)	Na	Ca	Mg	K	Cl	F	NO <sub>3</sub>	P	HCO <sub>3</sub>	SO <sub>4</sub>	Al	Sb	As	Ba	Be	
<b>Whirlwind Mine</b>																							
WW-1, EFRC, 9/11/06	NA		390	7.5	57	302	708	144	13	6	10.5	29	0.39	0.72	0.01	365	19			0.015	0.3		
Whirlwind, EFRC, 10/24/06	NA		382	8.3		280		140	12.4	4.8	9.0	20	0.6	1.2			36		1.5		0.023	0.2	
WW Pool, EFRC, 1/17/07	NA	21.3	340	8.60	43.8	266	595	123	9.2	5.0	9.3	17	0.3	0.5	<0.1	314	28	0.2	<0.05	0.027	0.1	<0.01	
Whirlwind Pool, EFRC, 4/27/07	NA	<1.0	358	8.72	48.5	268		106	10.2	5.6	9.9	14	0.5	0.5	<0.1	311	27	0.1	<0.0006	0.026	0.1	<0.01	
WW Sump, EFRC, 3/10/08	2.4	3,540	661	8.21		296		143	116	22.9	21.9	53	0.4	4.3	2.85	361	38			0.062		<0.01	
WW Sump, EFRC, 6/19/08	2.8	132	536	10.0		252	592	150	4	1	6	17	0.7	1.9	0.25	90	88			0.046	0.1	<0.01	
WW Sump, EFRC, 9/8/08*	2.2	26	460	9.11		260	649	138	10	7	8	16	0.5	1.8	0.08	318	62			0.044	0.1	<0.01	
WW Sump, EFRC, 12/16/08	2.2			8.75			609																
WW Decline, EFRC, 4/21/10	1.9			8.07			576																
WW Decline, EFRC, 2/7/11	1.7			8.49			590																
WW Decline, EFRC, 11/9/11	1.0		356	8.33			631							0.3			42						
<b>Whirlwind Decline (Brushy Basin Formation)</b>																							
Whirlwind Seep, EFRC, 5/3/07	2 to 4		360	8.64		278		119	10.7	5.8	21.8	33	0.5	0.2	<0.3	326	30	0.1		0.024	0.2		
"Upper" Whirlwind Sump, EFRC, 5/3/07	NA		574	8.69		362		188	9.8	4.7	12.0	14	1.6	3.1	<0.3	421	93	1.29		0.032	<0.1		
<b>Colorado Water Standards</b>																							
Ground Water, Domestic				6.5 to 8.5									250	4.0	10.0			250		0.006	0.01	2.0	0.004
Ground Water, Agriculture				6.5 to 8.5									2	100				5		0.1		0.1	
Surface Water, Stream (e,f)				6.5 to 9.0													250			0.100		0.100	
Surface Water, Domestic				5.0 to 9.0									250	2.0	10.0			250		0.1(g)	1.0	0.004	
Surface Water, Agriculture																	100			0.1		0.1	
<b>EPA Water Standards (h)</b>																							
Maximum			30		6.0 to 9.0																		
Average			20		6.0 to 9.0																		

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the mine water unless it is discharged or used for drinking water, irrigation, or other regulated uses.
  2. Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
  3. Metal and radionuclide levels are reported as total recoverable.
- \* Nitrate sample recollected on 9/18/08 due to hold time exceedance on 9/8/08 sample

**Table 1 Water Quality Data  
Whirlwind Mine Water**

**Table 1 Whirlwind Mine Water**

Sample Information	Metals (mg/L) (i) (continued)															Radionuclides (pCi/L) (i)						
	B	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	V	Zn	U	Gross alpha	Gross Beta	Ra-226	Ra-228	Ra-226 Ra-228
<b>Whirlwind Mine</b>																						
WW-1, EFRC, 9/11/06	0.04	<0.0001	<0.001	<0.001	0.07	<0.001	0.025	<0.00001	0.005		0.040	<0.0001		0.098	<0.01	0.06	66.3			4.6		
Whirlwind, EFRC, 10/24/06		<0.01		<0.01	1.07	<0.005	0.03		<0.1	<0.05	0.016			0.189	<0.1	<0.01	128			9.7		
WW Pool, EFRC, 1/17/07	0.1	<0.01	<0.05	<0.01	0.09	<0.05	<0.01	<0.001	<0.1	<0.05	0.030	<0.01	<0.1	0.130	<0.1	<0.01	88.0	92.3	28.6	3.2	2.0	5.2
Whirlwind Pool, EFRC, 4/27/07	0.1	<0.01	<0.05	<0.01	0.05	<0.05	<0.01	<0.001	<0.1	<0.05	0.022	<0.01	<0.001	0.161	<0.1	<0.01	109	101		6.9	<1.0	<7.9
WW Sump, EFRC, 3/10/08	0.2	<0.01	0.08				0.11	0.93		<0.1	<0.05	0.024		0.210	0.6	0.26	142			40.1	1.4	41.5
WW Sump, EFRC, 6/19/08	0.2	<0.01	<0.05				<0.05	0.09		<0.1	<0.05	0.020		0.104	<0.1	0.05	70.4			2.1	<1.2	<3.3
WW Sump, EFRC, 9/8/08*	0.1	<0.01	<0.05				<0.05	0.03		<0.1	<0.05	0.030		0.463	0.3	0.18	313			16	<1.3	<17
WW Sump, EFRC, 12/16/08											0.015											
WW Decline, EFRC, 4/21/10											0.017									5.3	<1.2	<6.5
WW Decline, EFRC, 2/7/11											0.029									5.1	<0.87	<6.0
WW Decline, EFRC, 11/9/11	<0.1	<0.001	<0.01		0.15	<0.01	0.012			<0.01	0.031			0.211	0.014	0.134	143			5.0	0.9	5.9
<b>Whirlwind Decline (Brushy Basin Formation)</b>																						
Whirlwind Seep, EFRC, 5/3/07		<0.01		<0.01	0.08	<0.05	<0.01		<0.1	<0.05	0.023			0.0828	<0.1	<0.01	55.48			6.5	0.9	7.4
"Upper" Whirlwind Sump, EFRC, 5/3/07		<0.01		<0.01	0.55	<0.05	<0.01		<0.1	<0.05	0.040			0.109	<0.1	<0.01	73.0					
<b>Colorado Water Standards</b>																						
Ground Water, Domestic		0.005	0.1	1	0.3	0.05	0.05	0.002	0.035	0.1	0.05	0.05	0.002	0.03		5	20	15(a)		5(c)	5(c)	5
Ground Water, Agriculture	0.75	0.01	0.1	0.2	5	0.1	0.2	0.01		0.2	0.02				0.1	2		(b)				5
Surface Water, Stream (e,f)	0.75 dis	0.010	0.100	0.200	0.3 dis	0.100	0.200			0.200	0.200			(d)		2			5(c)	5(c)		
Surface Water, Domestic		0.005	0.05	1.0	0.3	0.05	0.05	0.002		0.1	0.05	0.1	0.0005	0.03		5	20		5(c)	5(c)	5	
Surface Water, Agriculture	0.75	0.01	0.1	0.2		0.1	0.2			0.2	0.02					2						
<b>EPA Water Standards (h)</b>																						
Maximum															4	1.0			10 dis, 30 tot			
Average															2	0.5			3 dis, 10 tot			

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the mine water unless it is discharged or used for drinking water, irrigation, or other regulated uses.
  2. Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
  3. Metal and radionuclide levels are reported as total recoverable.
- \* Nitrate sample recollected on 9/18/08 due to hold time exceedance on 9/8/08 sample

**Table 1 Water Quality Data**  
**Whirlwind Mine Water**

**Table 2 PR Spring**

Sample Information	General Parameters							Major Ions (mg/L)										Metals (mg/L) (i)						
	Flow (gpm)	TSS (mg/L)	TDS (mg/L)	pH (s.u.)	Hard (mg/L)	Alk (mg/L)	Cond (µS/cm)	Na	Ca	Mg	K	Cl	F	NO <sub>3</sub>	P	HCO <sub>3</sub>	SO <sub>4</sub>	Al	Sb	As	Ba	Be		
<b>PR Spring (aka. Pack Rat Spring, Lower Spring) - Salt Wash</b>																								
Pack Rat Spring, Umetco, 3/21/1980	-		630	7.6				135	23.6	28.2		22				327	109							
Packrat Sp., BLM, 7/7/93	6		830	7.8	258	328	980	138	47	34	6.6	9	0.49	1.39	0.03	397	195			0.210	0.06			
DP-93-6, Peel, 9/9/93	-		552	7.87				158	36.5	22.5	6.2	28				292	162			0.281				
Pack Rat Spring, Umetco, 6/26/96	9	0		7.95			600													0.42				
PRSPRING, WWE, 7/15/97	6.3	<10	528	7.99		308		168	26	15.5	<5	23		0.8		308	125	<0.1		0.379	0.05	<0.05		
PRSPRING, WWE, 10/26/97	7.9	<10	492			311		148	23.6	14	6	23		0.8		311	126	<0.05		0.411	0.03	<0.002		
Pack Rat Spring, Umetco 6/1/99	5.3	14	509	7.47			894	133	26.4	15	5	24				306	120			0.382				
Pack Rat Spring, Umetco 5/24/00	-	<10	460	8.24		310		160	26	15	<5	22				310	110	<0.05		0.46	0.033	<0.002		
Lower Spring, EFRC, 10/24/06	-		538	8.20		312		163	24.8	15.9	5.5	21	0.6	0.4		110	<0.1			0.369	<0.1			
LS Tank, EFRC, 1/17/07	-	<1.0	500	8.36	126	315	847	160	24.6	15.6	5.5	22	0.4	0.4	<0.1	384	120	<0.1	<0.05	0.394	<0.1	<0.1		
PS Spring , EFRC, 4/27/07	4.3	<1.0	540	8.38	108	318		147	21.5	13.2	5.2	22	0.6	0.4	<0.1	379	116	<0.1	0.0007	0.357	<0.1	<0.01		
PR Springs , EFRC, 3/10/08	4.25	<1	537	8.18		324		162	21.1	13.4	5.6	21	0.4	0.4	0.037	395	121			0.388	<0.1	<0.01		
PR Springs , EFRC, 6/19/08	4.7	<1	553	8.25		300	762	172	24	15	6	25	0.4	0.4	0.02	366	122			0.413	<0.1	<0.01		
PR Springs , EFRC, 9/8/08*	4.1	<1	534	8.36		303	883	173	23	15	5	23	0.4	0.5	0.02	370	125			0.510	<0.1	<0.01		
PR Springs , EFRC, 12/15/08	4.5	8	572	8.31		311	790	171	24	15	5	20	0.4	0.4	0.01	359	123			0.394	<0.1	<0.01		
PR Springs , EFRC, 2/10/09	4.5	<1	518	6.68		310	923	152	22	14	4	20	0.4	0.4	0.01	378	120			0.400	<0.1	<0.01		
PR Springs , EFRC, 4/20/09	4.5	<4	542	8.24		325	898	150	22	14	5	18	0.5	<0.1	<0.01	387	122			0.384	<0.1	<0.01		
PR Springs , EFRC, 6/2/10	2.3	<4	544	8.52		331	880	165	23	14	6	21	0.4	0.4	0.025	384	123			0.406	<0.1	<0.01		
PR Springs , EFRC, 5/24/11	4.8	<4	523	8.60		322	858	166	25	14	6	22	0.4	0.4	0.025	393	116			0.425	<0.1	<0.01		
PR Spring, EFRC, 5/30/12	4.5	<4	560	8.31		319	901	151	27	17	5	21	0.4	0.3	0.016	371	136			0.377	<0.1	<0.01		
PR Spring, EFRC, 6/4/13	3.9	<10	535	8.19		326	844	164	25	15	6	20	0.4	0.3	0.011	394	109			0.367	<0.1	<0.01		
PR Spring, EFRC, 6/17/14	2	<10	521	8.12		324	878	147	28	14	5	22	0.4	0.3	0.038	391	108			0.324	<0.1	<0.01		
<b>Colorado Water Standards</b>																								
Ground Water, Domestic			6.5 to 8.5												250	4.0	10.0			250	0.006	0.01	2.0	0.004
Ground Water, Agriculture			6.5 to 8.5												2	100			5		0.1		0.1	
Surface Water, Stream (e,f)			6.5 to 9.0																250		0.100		0.100	
Surface Water, Domestic			5.0 to 9.0												250	2.0	10.0			250	0.1(g)	1.0	0.004	
Surface Water, Agriculture															100						0.1		0.1	
<b>EPA Water Standards (h)</b>																								
Maximum		30	6.0 to 9.0																					
Average		20	6.0 to 9.0																					

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the spring water unless it is used for drinking water, irrigation, or other regulated uses.
  2. Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
  3. Metal and radionuclide levels are reported as total recoverable.
- \* Nitrate sample recollected on 9/18/08 due to hold time exceedance on 9/8/08 sample

**Table 2 Water Quality Data**

**PR Spring**

**Table 2 PR Spring**

Sample Information	Metals (mg/L) (i) (continued)															Radionuclides (pCi/L) (i)							
	B	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Mo	Ni	Se	Ag	Tl	U	V	Zn	U	Gross alpha	Gross Beta	Ra-226	Ra-228	Ra-226 Ra-228	
<b>PR Spring (aka. Pack Rat Spring, Lower Spring) - Salt Wash</b>																							
Pack Rat Spring, Umetco, 3/21/1980																0.23				152			
Packrat Sp., BLM, 7/7/93	0.18	0.0004	0.001	<0.001	0.10	<0.001	0.005	<0.00001	0.120		<0.001	<0.0001		1.80		<0.001	1220	237	210	7.4			
DP-93-6, Peel, 9/9/93		<0.005	<0.01	<0.01	<0.02		<0.01	<0.0002			0.309			1.68		<0.005	1140			5.4			
Pack Rat Spring, Umetco, 6/26/96															1.70		<0.025	1200			3.7	<0.1	<3.8
PRSPRING, WWE, 7/15/97	0.1	0.003	<0.05	<0.01	<0.10	<0.002	<0.05	<0.0002		<0.05	0.193	<0.05		1.60	0.34	<0.025	1100	1,660	353	3	0.8	3.8	
PRSPRING, WWE, 10/26/97	<0.1	<0.005	<0.01	<0.01	<0.055	<0.0045	<0.005	<0.0002		<0.04	0.217	<0.01		1.60	0.34	<0.01	1100	1,290	206	3	0.3	3.3	
Pack Rat Spring, Umetco 6/1/99											0.187			1.40		<0.025	950			3.3	0.3	3.6	
Pack Rat Spring, Umetco 5/24/00	0.12	<0.001	<0.01	<0.01	<0.01	<0.05	0.0078	<0.0002		<0.04	0.21	<0.01		1.50	0.32	0.030	1000	1,300	180	4.0	<0.025	4.0	
Lower Spring, EFRC, 10/24/06		<0.01		<0.01	<0.03	<0.05	<0.01		0.10	<0.05	0.160			1.61	0.30	0.01	1090			3.6			
LS Tank, EFRC, 1/17/07	0.1	<0.01	<0.05	<0.01	<0.03	<0.05	<0.01	<0.001	0.10	<0.05	0.202	<0.01	<0.1	1.15	0.30	<0.01	779	869	219	3.9	1.7	5.6	
PS Spring , EFRC, 4/27/07	0.1	<0.01	<0.05	<0.01	<0.03	<0.05	<0.01	<0.001	0.10	<0.05	0.168	<0.01	<0.001	1.40	0.30	<0.01	948	804		9.2	<1.0	<10.2	
PR Springs , EFRC, 3/10/08	0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.183			1.50	0.30	<0.01	1020			3.5	<1.6	<5.1	
PR Springs , EFRC, 6/19/08	0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.203			1.53	0.30	<0.01	1040			3.4	<1.2	<4.6	
PR Springs , EFRC, 9/8/08*	0.2	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.243			1.26	0.40	<0.01	853			2.8	<1.3	<4.1	
PR Springs , EFRC, 12/15/08	0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.184			1.50	0.30	<0.01	1020			3.8	2.2	6	
PR Springs , EFRC, 2/10/09	<0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.189			1.58	0.40	<0.01	1070			3.6	<0.3	<4.9	
PR Springs , EFRC, 4/20/09	<0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.186			1.45	0.30	<0.01	982			3.9	<1.1	<5	
PR Springs , EFRC, 6/2/10	0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.175			1.50	0.40	<0.01	1020			3.7	<1.2	<4.9	
PR Springs , EFRC, 5/24/11	<0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.179			1.38	0.30	<0.01	934			4.3	<1.4	<5.7	
PR Spring, EFRC, 5/30/12	<0.1	<0.01	<0.05			<0.05	<0.01		0.10	<0.05	0.178			1.42	0.30	<0.01	961			3.8	<.73	<4.5	
PR Spring, EFRC, 6/4/13	0.1	<0.01	<0.05			<0.05	<0.01		<0.1	<0.05	0.156			1.42	0.30	<0.01	961			4.2	<0.77	<4.97	
PR Spring, EFRC, 6/17/14	0.1	<0.01	<0.05			<0.05	<0.01		<0.1	<0.05	0.156			1.26	0.30	<0.01	853			4.3	<0.1	<4.4	
<b>Colorado Water Standards</b>																							
Ground Water, Domestic		0.005	0.1	1	0.3	0.05	0.05	0.002	0.035	0.1	0.05	0.05	0.002	0.03		5	20	15(a)		5(c)	5(c)	5	
Ground Water, Agriculture	0.75	0.01	0.1	0.2	5	0.1	0.2	0.01		0.2	0.02				0.1	2		(b)					
Surface Water, Stream (e,f)	0.75 dis	0.010	0.100	0.200	0.3 dis	0.100	0.200			0.200	0.200			(d)	2				5(c)	5(c)	5		
Surface Water, Domestic		0.005	0.05	1.0	0.3	0.05	0.05	0.002		0.1	0.05	0.1	0.0005	0.03		5	20		5(c)	5(c)	5		
Surface Water, Agriculture	0.75	0.01	0.1	0.2		0.1	0.2			0.2	0.02				2								
<b>EPA Water Standards (h)</b>																							
Maximum															4		1.0			10 dis, 30 tot			
Average															2		0.5			3 dis, 10 tot			

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the spring water unless it is used for drinking water, irrigation, or other regulated uses.
  2. Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
  3. Metal and radionuclide levels are reported as total recoverable.
- \* Nitrate sample recollected on 9/18/08 due to hold time exceedance on 9/8/08 sample

**Table 3 Monitoring Well W-1**

Sample Information	General Parameters							Major Ions (mg/L)								Dissolved Metals (mg/L)					
	Aquifer	TSS (mg/L)	TDS (mg/L)	pH (s.u.)	Hard (mg/L)	Alk (mg/L)	Cond (µS/cm)	Na	Ca	Mg	K	Cl	F	NO <sub>3</sub>	P	HCO <sub>3</sub>	SO <sub>4</sub>	Al	As	Ba	Be
<b>Whirlwind Monitoring Well, W-1</b>																					
W-1, EFRC, 10/21/08	LBB	37	901	7.96	165	269	1543	286	43	14	13	173	0.3	<0.1	0.08	328	237	<0.1	0.009	<0.1	<0.01
W-1, EFRC, 12/16/08	LBB	110	824	7.73		287	1329	265	36	12	12	145	0.4	<0.1	0.03	350	174		0.015	<0.1	<0.01
W-1, EFRC, 2/10/09	LBB	2	696	7.82		300	1251	200	24	8	8	42	0.4	<0.1	<0.01	366	149		0.018	<0.1	<0.01
W-1, EFRC, 4/20/09	LBB	<4	698	7.82		298	1209	206	25	8	9	113	0.5	0.4	0.02	363	139		0.022	<0.1	<0.01
W-1, EFRC, 6/24/09	LBB	<4	730	7.63		287	1157	222	27	9	11	113	0.4	<0.1	<0.01	350	158		0.023	<0.1	<0.01
W-1, EFRC, 9/11/09	LBB	<4	733	7.91		294	1219	229	29	9	11	113	0.4	<0.1	<0.005	358	166		0.025	<0.1	<0.01
W-1, EFRC, 12/10/09	LBB	<4	713	7.96		296	1182	220	28	9	11	122	0.4	<0.1	<0.005	361	168		0.026	<0.1	<0.01
W-1, EFRC, 2/4/10	LBB	4	695	7.01		308	1240	216	29	9	10	122	0.4	<0.1	0.008	367	164		0.025	<0.1	<0.01
MW-1, EFRC, 6/7/10	LBB	<4	751	7.73		301	1239	233	31	10	11	113	0.4	<0.1	<0.005	367	159		0.025	<0.1	<0.01
MW-1, EFRC, 5/24/11	LBB	<4	715	7.85		299	1210	240	29	9	11	119	0.4	<0.1	0.009	365	149		0.028	<0.1	<0.01
W-1, EFRC, 6/4/12	LBB	155	727	7.92		306	1252	208	35	9	11	112	0.4	<0.1	0.076	373	133		0.028	<0.1	<0.01
MW-1, EFRC, 6/17/2013	LBB	235	710	7.31		303	1216	237	30	9	11.00	114	0.4	<0.1	0.178	370	136		0.028	<0.1	<0.01
MW-1, EFRC, 6/18/2014	LBB	158	724	7.76		313	1349	227	33	10	11.00	119	0.4	<0.1	0.24	381	141		0.026	<0.1	<0.01
<b>Colorado Water Standards</b>																					
Ground Water, Domestic				6.5 to 8.5									250	4.0	10.0			250	0.01	2.0	0.004
Ground Water, Agriculture				6.5 to 8.5										2	100			5	0.1		0.1
Surface Water, Stream (e,f)				6.5 to 9.0															0.100		0.100
Surface Water, Domestic				5.0 to 9.0									250	2.0	10			250	0.1(g)	1.0	0.004
Surface Water, Agriculture																			0.1		0.1
<b>EPA Water Standards (h)</b>																					
Maximum				30		6.0 to 9.0															
Average				20		6.0 to 9.0															

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the site groundwater unless it is used for drinking water, irrigation, or other regulated uses.
2. Concentrations or activity levels above a state or federal standards are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
3. Metal levels are reported as dissolved and radionuclide levels are reported as total recoverable.

**Table 3 Water Quality Data**

**Monitoring Well W-1**

**Table 3 Monitoring Well W-1**

Sample Information	Dissolved Metals (mg/L) (continued)												Dissolved Radionuclides (pCi/L)				
	B	Cd	Cr	Cu	Pb	Mn	Mo	Ni	Se	Ag	U	V	Zn	U	Ra-226	Ra-228	Ra-226 Ra-228
<b>Whirlwind Monitoring Well, W-1</b>																	
W-1, EFRC, 10/21/08	0.6	<0.01	<0.05	<0.01	<0.05	0.01	<0.1	<0.05	<0.001	<0.01	0.397	<0.1	<0.01	269	0.84	<1.3	<2.1
W-1, EFRC, 12/16/08	0.7	<0.01	<0.05		<0.05	0.01	<0.1	<0.05	<0.001		0.210	<0.1	<0.01	142	0.46	<1.1	<1.6
W-1, EFRC, 2/10/09	0.5	<0.01	<0.05		<0.05	<0.01	<0.1	<0.05	0.002		0.195	<0.1	<0.01	132	0.50	<1.3	<1.8
W-1, EFRC, 4/20/09	0.6	<0.01	<0.05		<0.05	<0.01	<0.1	<0.05	<0.001		0.161	<0.1	<0.01	109	0.38	<1.1	<1.5
W-1, EFRC, 6/24/09	0.7	<0.01	<0.05		<0.05	<0.01	<0.1	<0.05	<0.001		0.148	<0.1	<0.01	100	0.21	<1.2	<1.4
W-1, EFRC, 9/11/09	0.7	<0.01	<0.05		<0.05	<0.01	<0.1	<0.05	<0.001		0.146	<0.1	<0.01	98.8	0.39	<1.0	<1.4
W-1, EFRC, 12/10/09	0.7	<0.01	<0.05		<0.05	0.01	<0.1	<0.05	<0.001		0.122	<0.1	<0.01	82.6	0.36	<1.1	<1.5
W-1, EFRC, 2/4/10	0.7	<0.01	<0.05		<0.05	0.01	<0.1	<0.05	<0.001		0.139	<0.1	<0.01	94.1	0.34	<0.94	<1.3
MW-1, EFRC, 6/7/10	0.5	<0.01	<0.05		<0.05	0.01	<0.1	<0.05	0.002		0.143	<0.1	0.04	96.8	0.42	<1.3	<1.7
MW-1, EFRC, 5/24/11	0.7	<0.01	<0.05		<0.05	0.01	<0.1	<0.05	0.002		0.118	<0.1	0.04	79.9	0.28	<1.4	<1.7
W-1, EFRC, 6/4/12	0.7	<0.01	<0.05		<0.05	0.02	<0.1	<0.05	<0.001		0.115	<0.1	<0.01	77.9	1.30	1.7	3
MW-1, EFRC, 6/17/2013	0.7	<0.01	<0.05		<0.05	0.02	<0.1	<0.05	0.002		0.126	<0.1	<0.01	85.3	1.60	<1.7	<3.3
MW-1, EFRC, 6/18/2014	0.7	<0.01	<0.05		<0.05	0.02	<0.1	<0.05	<0.001		0.121	<0.1	0.01	81.9	0.94	<0.34	<1.28
<b>Colorado Water Standards</b>																	
Ground Water, Domestic		0.005	0.1	1	0.05	0.05	0.035	0.1	0.05	0.05	0.03		5	20	5(c)	5(c)	5
Ground Water, Agriculture	0.75	0.01	0.1	0.2	0.1	0.2		0.2	0.02			0.1	2				
Surface Water, Stream (e,f)	0.75 dis	0.010	0.100	0.200	0.100	0.200		0.200			(d)	2	(d)	5(c)	5(c)	5	
Surface Water, Domestic		0.005	0.05	1.0	0.05	0.05		0.1	0.05	0.1	0.03		5	20	5(c)	5(c)	5
Surface Water, Agriculture	0.75	0.01	0.1	0.2	0.1	0.2		0.2	0.02			2					
<b>EPA Water Standards (h)</b>																	
Maximum											4		1.0		10 dis, 30 tot		
Average											2		0.5		3 dis, 10 tot		

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the spring water unless it is used for drinking water, irrigation, or other regulated uses.
2. Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
3. Metal levels are reported as dissolved and radionuclide levels are reported as total recoverable.

**Table 4 Lumsden Canyon Seep**

Sample Information	General Parameters						Major Ions (mg/L)									
	Flow	TSS (mg/L)	TDS (mg/L)	pH (s.u.)	Alk (mg/L)	Cond ( $\mu\text{S}/\text{cm}$ )	Na	Ca	Mg	K	Cl	F	$\text{NO}_3$	P	$\text{HCO}_3$	$\text{SO}_4$
<b>Lumsden Canyon Seep (aka Lumsden Canyon Spring)</b>																
Lumsden Spring, EFRC, 4/25/07	7		648	7.68	264		43.7	118	27.5	4.3	23	0.4	0.5	<0.3	322	232
Lumsden Canyon Mouth, EFRC, 6/19/08	<1.0	4	668	7.57	251	825	44	135	31	4	22	0.4	0.4	0.02	306	252
Lumsden Canyon Mouth, WWL, 12/04/08	<1.0	<1	695	7.71	261	985	46	146	34	4	19	0.4	0.3	<0.01	318	265
<b>Colorado Water Standards</b>																
Ground Water, Domestic			6.5 to 8.5								250	4.0	10.0			250
Ground Water, Agriculture			6.5 to 8.5								2	100				
Surface Water, Stream (e,f)			6.5 to 9.0													
Surface Water, Domestic			5.0 to 9.0								250	2.0	10			250
Surface Water, Agriculture													100			
<b>EPA Water Standards (h)</b>																
Maximum		30		6.0 to 9.0												
Average		20		6.0 to 9.0												

**Notes:**

1. Water standards are provided for reference only. These standards do not apply to the site groundwater unless it is used for drinking water, irrigation, or other regulated uses.
2. Concentrations or activity levels above a state or federal standards are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
3. Metal and radionuclide levels are reported as total recoverable.

**Table 4 Water Quality Data  
Lumsden Canyon Seep**  
Page 7 of 16

**Table 4 Lumsden Canyon Seep**

Sample Information	Dissolved Metals (mg/L)													Dissolved Radionuclides (pCi/L)				
	As	Ba	Be	B	Cd	Cr	Pb	Mn	Mo	Ni	Se	U	V	Zn	U	Ra-226	Ra-228	Ra-226 Ra-228
<b>Lumsden Canyon Seep (aka Lumsden Canyon Spring)</b>																		
Lumsden Spring, EFRC, 4/25/07	0.004	<0.1			<0.01		<0.05	<0.01	<0.1	<0.05	0.086	0.216	<0.1	<0.01	146	1.3	0.4	1.7
Lumsden Canyon Mouth, EFRC, 6/19/08	0.003	<0.1	<0.01	<0.1	<0.01	<0.05	<0.05	<0.01	<0.1	<0.05	0.085	0.194	<0.1	0.01	131	1.1	0.2	1.3
Lumsden Canyon Mouth, WWL, 12/04/08	0.008	<0.1	<0.01	0.2	<0.01	<0.05	<0.05	0.02	<0.1	<0.05	0.07	0.201	<0.1	<0.01	136	2.5	1.6	4.1
<b>Colorado Water Standards</b>																		
Ground Water, Domestic	0.01	2.0	0.004		0.005	0.1	0.05	0.05	0.035	0.1	0.05	0.03		5	20	5(c)	5(c)	5
Ground Water, Agriculture	0.1		0.1	0.75	0.01	0.1	0.1	0.2		0.2	0.02		0.1	2				
Surface Water, Stream (e,f)	0.100		0.100	0.75 dis	0.010	0.100	0.100	0.200		0.200		(d)		2		5(c)	5(c)	5
Surface Water, Domestic	0.1(g)	1.0	0.004		0.005	0.05	0.05	0.05		0.1	0.05	0.03		5	20	5(c)	5(c)	5
Surface Water, Agriculture	0.1		0.1	0.75	0.01	0.1	0.1	0.2		0.2	0.02			2				
<b>EPA Water Standards (h)</b>																		
Maximum												4		1.0		10 dis, 30 tot		
Average												2		0.5		3 dis, 10 tot		

**Notes:**

- Water standards are provided for reference only. These standards do not apply to the spring water unless it is used for drinking water, irrigation, or other regulated uses.
- Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
- Metal and radionuclide levels are reported as total recoverable.

**Table 5 Rajah 49 Mine, Thornton Portal (Rajah Spring)**

Sample Information	General Parameters						Major Ions (mg/L)									
	Flow	TSS (mg/L)	TDS (mg/L)	pH (s.u.)	Alk (mg/L)	Cond ( $\mu\text{S}/\text{cm}$ )	Na	Ca	Mg	K	Cl	F	$\text{NO}_3$	P	$\text{HCO}_3$	$\text{SO}_4$
<b>Thornton Portal (Rajah Spring)</b>																
Thornton Portal, EFRC, 9/21/09	1-2	5	581	8.58	373	938	209	7	3	6	20	0.4	0.3	0.062	412	96
Thornton Portal, EFRC, 6/30/10	1-2	<4	537	8.9	379	889	207	7	3	7	23	0.3	0.2	0.102	431	86
Thornton Portal, EFRC, 5/24/11	<1	<4	571	9.16	360	985	216	7	3	6	24	0.4	0.2	0.091	403	93
Thornton Portal, EFRC, 5/30/12	<1	6	550	8.8	361	939	201	9	3	6	23	0.3	0.2	0.058	404	87
Thornton Portal, EFRC, 6/17/2013	<1	412	691	7.95	379	844	92	9	3	7	25	0.3	0.32	0.192	441	92
Thornton Portal, EFRC, 6/17/2014	<1	<10	579	8.69	366	973	209	7	3	6	24	0.3	0.5	0.196	414	94
<b>Colorado Water Standards</b>																
Ground Water, Domestic				6.5 to 8.5							250	4.0	10.0			250
Ground Water, Agriculture				6.5 to 8.5								2	100			
Surface Water, Stream (e,f)				6.5 to 9.0												
Surface Water, Domestic				5.0 to 9.0							250	2.0	10			250
Surface Water, Agriculture													100			
<b>EPA Water Standards (h)</b>																
Maximum			30		6.0 to 9.0											
Average			20		6.0 to 9.0											

**Notes:**

- Water standards are provided for reference only. These standards do not apply to the site groundwater unless it is used for drinking water, irrigation, or other regulated uses.
- Concentrations or activity levels above a state or federal standards are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
- Metal and radionuclide levels are reported as total recoverable.

**Table 5 Rajah 49 Mine, Thornton Portal (Rajah Spring)**

Sample Information	Dissolved Metals (mg/L)													Dissolved Radionuclides (pCi/L)				
	As	Ba	Be	B	Cd	Cr	Pb	Mn	Mo	Ni	Se	U	V	Zn	U	Ra-226	Ra-228	Ra-226 Ra-228
<b>Thornton Portal (Rajah Spring)</b>																		
Thornton Portal, EFRC, 9/21/09	1.49	<0.1	<0.01	0.2	<0.01	<0.05	<0.05	<0.01	0.3	<0.05	0.154	2.02	0.3	0.01	1,370	9.7	<0.51	<10.2
Thornton Portal, EFRC, 6/30/10	1.39	<0.1	<0.01	<0.2	<0.01	<0.05	<0.05	<0.01	0.2	<0.05	0.146	1.81	0.5	<0.01	1,230	15	<1.0	<16
Thornton Portal, EFRC, 5/24/11	1.51	<0.1	<0.01	0.2	<0.01	<0.05	<0.05	<0.01	0.3	<0.05	0.142	1.86	0.4	<0.01	1,260	12	<1.4	<13
Thornton Portal, EFRC, 5/30/12	1.75	<0.1	<0.01	0.1	<0.01	<0.05	<0.05	0.01	0.3	<0.05	0.189	2.06	0.4	<0.01	1,390	11	<.68	<12
Thornton Portal, EFRC, 6/17/2013	1.39	<0.1	<0.01	0.1	<0.01	<0.05	<0.05	0.09	0.3	<0.05	0.154	2.43	0.4	<0.01	1,650	16	<1.9	<17.9
Thornton Portal, EFRC, 6/17/2014	1.63	<0.1	<0.01	0.1	<0.01	<0.05	<0.05	0.01	0.3	<0.05	0.19	2.22	0.4	0.01	1,500	9.7	<1.0	<10.7
<b>Colorado Water Standards</b>																		
Ground Water, Domestic	0.01	2.0	0.004		0.005	0.1	0.05	0.05	0.035	0.1	0.05	0.03		5	20	5(c)	5(c)	5
Ground Water, Agriculture	0.1		0.1	0.75	0.01	0.1	0.1	0.2		0.2	0.02		0.1	2				
Surface Water, Stream (e,f)	0.100		0.100	0.75 dis	0.010	0.100	0.100	0.200		0.200		(d)		2		5(c)	5(c)	5
Surface Water, Domestic	0.1(g)	1.0	0.004		0.005	0.05	0.05	0.05		0.1	0.05	0.03		5	20	5(c)	5(c)	5
Surface Water, Agriculture	0.1		0.1	0.75	0.01	0.1	0.1	0.2		0.2	0.02		2					
<b>EPA Water Standards (h)</b>																		
Maximum												4		1.0	10 dis, 30 tot			
Average												2		0.5	3 dis, 10 tot			

**Notes:**

- Water standards are provided for reference only. These standards do not apply to the spring water unless it is used for drinking water, irrigation, or other regulated uses.
- Concentrations or activity levels above a state or federal standard are shaded for reference purposes. Shading indicates that the measured level is elevated compared to certain standards of water use.
- Metal and radionuclide levels are reported as total recoverable.

**Table 6 Whirlwind Mine Waste Rock**

		Whirlwind Mine Waste Rock Samples					
		Sample ID	WW 04	WW 05	WW 06	WW	WR
Collection Date(s)		11/18/07	11/18/07	11/18/07	11/18/07	3Q08-4Q09	
Constituents	Units	TOTAL ANALYSES					
Total Major Ions							
Calcium	mg/kg	17100	12000	18900	28300		
Magnesium	mg/kg	4020	2760	5720	3300		
Phosphorous	mg/kg	174	101	299	247		
Potassium	mg/kg	1800	852	6510	1380		
Silica	mg/kg	1610	1100	1180	2290		
Sodium	mg/kg	101	105	220	211		
Total Metals							
Aluminum	mg/kg	8600	5590	17300	4190		
Antimony	mg/kg	<0.5	<0.5	<0.5	<0.5		
Arsenic	mg/kg	4.6	1.4	3.8	14.5		
Barium	mg/kg	558	771	35.9	234		
Beryllium	mg/kg	<0.5	<0.5	0.7	<0.5		
Boron	mg/kg	5.6	<5.0	11.4	<5.0		
Cadmium	mg/kg	<0.5	<0.5	<0.5	<0.5		
Chromium	mg/kg	4.1	2.5	14.6	4.9		
Copper	mg/kg	0.7	3.4	7.5	20.4		
Iron	mg/kg	2790	3450	13800	5060		
Lead	mg/kg	7.8	1.2	4.7	16.1		
Manganese	mg/kg	102	90.4	133	190		
Mercury	mg/kg	<0.05	<0.05	<0.05	<0.05		
Molybdenum	mg/kg	<0.5	<0.5	1.2	<0.5		
Nickel	mg/kg	2.7	1.9	11.6	3.2		
Selenium	mg/kg	3.0	<0.5	<0.5	4.0		
Silver	mg/kg	<0.5	<0.5	<0.5	<0.5		
Thallium	mg/kg	<0.5	<0.5	<0.5	<0.5		
Uranium	mg/kg	10.9	6.4	2.7	7.8		
Uranium as U <sub>3</sub> O <sub>8</sub>	mg/kg	12.8	7.6	3.2	9.2		
Vanadium	mg/kg	336	47.2	88.4	51.8		
Vanadium as V <sub>2</sub> O <sub>5</sub>	mg/kg	599	84.3	158	92.4		
Zinc	mg/kg	9.1	9.1	21.0	32.1		
Total Radionuclides							
Gross Alpha	pCi/g	20.4	13.0	9.4	21.5		
Gross Beta	pCi/g	26.0	17.9	15.0	29.4		
Radium-226	pCi/g	4.2	2.8	3.8	3.7		
Radium-228	pCi/g	<0.1	<0.1	0.3	<0.5		
Radium-226 + -228	pCi/g	<4.3	<2.9	4.1	<4.2		
SYNTHETIC PRECIPITATION LEACHING PROCEDURE (SPLP) ANALYSES							
SPLP Extractable Physical Properties							
TDS	mg/L	52	40	52	30		
pH	s.u.	10.1	10.2	10.1	9.87		
Hardness	mg/L	17.5	17	10.7	13		
Alkalinity	mg/L	34	37	36	35		
Conductance	µSi/cm	83.5	87.9	92.6	96		
SPLP Extractable Major Ions							
Sodium	mg/L	10	8.6	11.2	12.3		
Calcium	mg/L	5.2	5.3	3.0	3.4		
Magnesium	mg/L	1.1	0.9	0.8	1.0		
Potassium	mg/L	<0.5	<0.5	2.6	4.0		
Chloride	mg/L	<1	<1	<1	2		
Flouride	mg/L	<0.1	<0.1	0.1	0.1		
Nitrate	mg/L	<0.1	<0.1	<0.1	1.2		
Nitrite	mg/L	<0.1	<0.1	<0.1	<0.1		
Phosphorous	mg/L	<0.1	<0.1	<0.1	<0.1		
Bicarbonate as HCO <sub>3</sub>	mg/L	24	25	24	23		
Silica	mg/L	2.6	2.8	3.3	4.7		
Sulfate	mg/L	4	2	3	6		
SPLP Extractable Metals							
Aluminum	mg/L	0.2	0.2	0.2	0.7		
Antimony	mg/L	<0.001	<0.001	<0.001	<0.001		
Arsenic	mg/L	0.033	0.002	0.026	0.040		
Barium	mg/L	<0.1	0.2	<0.1	<0.1		
Beryllium	mg/L	<0.001	<0.001	<0.001	<0.001		
Boron	mg/L	<0.1	<0.1	<0.1	<0.1		
Cadmium	mg/L	<0.002	<0.002	<0.001	<0.001		
Chromium	mg/L	<0.05	<0.05	<0.05	<0.05		
Copper	mg/L	<0.01	<0.01	<0.01	<0.01		
Iron	mg/L	0.07	0.05	0.11	0.32		
Lead	mg/L	<0.001	<0.001	<0.001	0.002		
Manganese	mg/L	<0.01	<0.01	<0.01	<0.01		
Mercury	mg/L	<0.001	<0.001	<0.001	<0.001		
Molybdenum	mg/L	<0.1	<0.1	<0.1	<0.1		
Nickel	mg/L	<0.05	<0.05	<0.05	<0.05		
Selenium	mg/L	0.014	<0.004	<0.004	0.0066		
Silver	mg/L	<0.01	<0.01	<0.01	<0.01		
Thallium	mg/L	<0.001	<0.001	<0.001	<0.001		
Uranium	mg/L	<0.0004	<0.0004	<0.0004	0.0066		
Uranium as U <sub>3</sub> O <sub>8</sub>	mg/L	<0.0004	<0.0004	<0.0004	0.0077		
Vanadium	mg/L	<0.1	<0.1	<0.1	<0.1		
Vanadium as V <sub>2</sub> O <sub>5</sub>	mg/L	<0.2	<0.2	<0.2	<0.2		
Zinc	mg/L	0.05	0.02	0.02	0.01		
SPLP Extractable Radionuclides							
Uranium	pCi/L	<0.3	<0.3	<0.3	4.5		
Gross Alpha	pCi/L	5.3	2.4	2.6	6.7		
Gross Beta	pCi/L	6.4	<2.0	4.7	<5.5		
Radium-226	pCi/L	<0.2	<0.2	<0.2	0.20		
Radium-228	pCi/L	<1.0	<1.0	<1.0	<1.4		
Radium-226 + -228	pCi/L	<1.2	<1.2	<1.2	<1.6		

**Notes:**

1. 3Q08-4Q09 sample was a composite of waste rock grab samples collected on 11/4/08, 3/5/09, 6/19/09 and 9/8/09.

**Table 6 Total and SPLP Data  
Whirlwind Mine Waste Rock**

**Table 7 Hydrological Monitoring Summary**

Sampling Point	Schedule	Status
Treatment Plant Discharge	Sample weekly during discharge	Ongoing; sampling conducted as required during discharge events. Treatment and discharge has been suspended as of December 9, 2009 until further notice.
Whirlwind Decline (Sump)	Sample for 2 quarters and measure flow for 4 quarters	Completed
Packrat Mine Water	Sample for 2 quarters when accessible	Not Started; the Packrat Mine is not yet accessible.
DP Spring	Measure flow quarterly	Ongoing
PR Spring	Sample and measure flow quarterly for 5 quarters	Completed
	Measure flow quarterly and sample annually thereafter	Ongoing
Monitoring Well W-1	8 samples over 15 months	Completed
	Measure quarterly and sample annually thereafter	Ongoing
Lumsden Canyon	As needed in support of Hydrogeological Report to be prepared by Western Water & Land	Completed; Two samples collected from 3 points in Lumsden Canyon. No further sampling events are scheduled at this time.
Seep Surveys	Annually	Ongoing
Rajah 49 Mine, Thornton Portal (Rajah Spring)	Sample as discharge is observed in annual seep surveys	Ongoing
Waste Rock	Collect grab sample quarterly and composite annually for analysis	Suspended; 1 annual composite sample collected to date. Sampling suspended until mining resumes.
Sediment Pond Sampling	Sample quarterly if discharging	Ongoing Monitoring; no samples collected to date.
Dolores River Sampling	Sample during treatment discharge if flowing into Dolores River	Suspended; not required until water treatment plant resumes operation. No samples collected to date.

## **Abbreviations**

Alk = Alkalinity, total as CaCO<sub>3</sub>  
BLM = U.S. Bureau of Land Management  
Cond = Specific Conductance  
dis = dissolved  
EFRC = Energy Fuels Resources Corporation  
EPA = U.S. Environmental Protection Agency  
Hard = Hardness  
gpm = gallons per minute  
LBB = Lower Brushy Basin  
mg/L = milligrams per liter  
Peel = Peel Environmental Services  
s.u. = standard units  
TDS = total dissolved solids  
TSS = total suspended solids  
tot = total  
Umetco = Umetco Minerals Corporation  
WWE = Wright Water Engineers, Inc.  
WWL = Western Water & Land, Inc.  
pCi/L = picoCuries per liter  
µS/cm = microSiemen per centimeter

## **Notes:**

- (a) The gross alpha activity standard excludes alpha activity due to radon and uranium. The majority of the gross alpha count in these samples is attributable to uranium.
  - (b) The gross beta standard is 4 millirems per year and is based on the sum of beta emitters present and a risk-based analysis with 2-liters per day drinking water intake.
  - (c) The standard of 5 pCi/L is for combined Radium-226 and Radium-228.
  - (d) Uranium levels in the Lower Dolores River Basin cannot be increased above 30 ug/L or background, whichever is greater.
  - (e) Numeric table values for Segment 3a of the Lower Dolores River water quality standards.
  - (f) Stream standards are in total concentrations unless indicated otherwise.
  - (g) The Colorado Water Quality Control Commission has calculated a health-based standard of 0.02 ug/L for arsenic.
  - (h) The EPA Standards are from Subpart C - uranium, radium, and vanadium ores subcategory of Title 40, Part 440 of the Code of Federal Regulations.
  - (i) The analytical data includes results for both total and dissolved concentrations. The data has not been differentiated because the water contains very low levels of suspended solids and the dissolved and total concentrations are typically within 10% of each other.
- Shading of a constituent concentration or activity level indicates that the value exceeds one or more water quality standards. These standards may not be applicable to the water source and use; however, they do provide a means for assessing whether a value is higher than the norm.

"<" indicates not detected at the analyte reporting limit shown

Uranium values are presented in both mg/L and pCi/L. The units mg/L are converted to pCi/L by multiplying by 677 pCi/mg.

## **FIELD SAMPLING FORMS**

## Groundwater Monitoring Field Form

Station/Well:	<u>Whirlwind MW</u>	Date:	<u>11-13-14</u>	Observer:	
Location:		Start Time:	<u>11:57 am</u>	Sampling	
Site:	<u>Whirlwind</u>	End Time:	<u>12:04 pm</u>	Team:	
Description:				Lead Signature:	<u>[Signature]</u>
Project:				Date:	<u>  /  /  </u>
Sampling Instruments: <u>Hydro lab</u>					

Well Purging Information											
Well Depth ( $d_w$ ):		ft		Static depth to water ( $d_w$ ):		ft		Sample/Set Depth:		ft	
Bore radius ( $r_w$ ):		in/ft		Bore volume ( $\pi r^2(d_w - d_b)$ ):		ft <sup>3</sup> /gal		Casing radius ( $r_c$ ):		in/ft	
Casing volume ( $\pi r^2(d_w - d_b)(7.48)$ ):				ft <sup>3</sup> /gal		Total volume:		ft <sup>3</sup> /gal		Total x 3:	
Purge #	Time	Temp (°C)	pH (s.u.)	SpC/Cond (mS/cm, $\mu$ S/cm)	DO (mg/L, %)	ORP (mV)	Turb. (NTU)	Water Clarity (poor/mod/good)	Volume Purged (Gallons)	Cumulative Volume Purged (Gallons)	
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26											
27											
28											
29											
30											
31											
32											
33											
34											
35											
36											
37											
38											
39											
40											
41											
42											
43											
44											
45											
46											
47											
48											
49											
50											
51											
52											
53											
54											
55											
56											
57											
58											
59											
60											
61											
62											
63											
64											
65											
66											
67											
68											
69											
70											
71											
72											
73											
74											
75											
76											
77											
78											
79											
80											
81											
82											
83											
84											
85											
86											
87											
88											
89											
90											
91											
92											
93											
94											
95											
96											
97											
98											
99											
100											

Field Measurements at Time of Sampling					
Parameter	Reading	Time	Measurement (In situ/Container)	Instrument	Comments
Air Temp °C				Thermometer	
Water Temp °C	<u>10.99</u>			pHCon10, YSI	
pH (s.u.)	<u>6.61</u>			pHCon10/YSI	
SpC/Conductivity (mS/cm, $\mu$ S/cm)	<u>1219</u>			pHCon10/YSI	
ORP (mV)	<u>272</u>			pH310/YSI	
DO (mg/L, %)	<u>41.32</u>			DO310/YSI	
Turbidity (NTU)				MicroTPI	
Discharge (ft <sup>3</sup> /s, L/s, gpm)				Flow meter/bucket/estimate	
Number and type of filters used:					
GPS Coordinates:					

## **Groundwater Monitoring Field Form**

Station/Well: DP Springs Date: 11-13-14 Observer: \_\_\_\_\_  
Location: \_\_\_\_\_ Start Time: 12:09 pm Sampling  
Site: Whitewell End Time: 12:16 pm Team: \_\_\_\_\_  
Description: \_\_\_\_\_ Lead Signature: AC  
Project: \_\_\_\_\_ Date:   /  /    
Sampling Instruments: Hydrograph

Field Measurements at Time of Sampling					
Parameter	Reading	Time	Measurement (In situ/Container)	Instrument	Comments
Air Temp °C		12:10 pm		Thermometer	
Water Temp °C	7.54			pHCon10, YSI	
pH (s.u.)	7.11			pHCon10/YSI	
SpC/Conductivity (mS/cm, µS/cm)	537			pHCon10/YSI	
ORP (mV)	119			pH310/YSI	
DO (mg/L, %)	47.0%			DO310/YSI	
Turbidity (NTU)				MicroTPI	
Discharge (ft³/s, L/s, gpm)	7 gpm			Flow meter/ bucket/estimate	



## Groundwater Monitoring Field Form

Station/Well: P R springs Date: 1-13-14 Observer: \_\_\_\_\_  
Location: \_\_\_\_\_ Start Time: 12:28 pm Sampling  
Site: W hirshland End Time: 12:50 pm Team: \_\_\_\_\_  
Description: \_\_\_\_\_ Lead Signature: Ale  
Project: \_\_\_\_\_ Date: 1 / 1 / 1  
Sampling Instruments: Hydrolab

## Well Purging Information

Well Depth ( $d_t$ ): \_\_\_\_\_ ft Static depth to water ( $d_w$ ): \_\_\_\_\_ ft Sample/Set Depth: \_\_\_\_\_ ft  
 Bore radius ( $r_w$ ): \_\_\_\_\_ in/ft Bore volume ( $\pi r^2(d_t-d_w)$ ): \_\_\_\_\_ ft<sup>3</sup>/gal Casing radius ( $r_c$ ): \_\_\_\_\_ in/ft  
 Casing volume ( $\pi r^2(d_t-d_w)(7.48)$ ): \_\_\_\_\_ ft<sup>3</sup>/gal Total volume: \_\_\_\_\_ ft<sup>3</sup>/gal Total x 3: \_\_\_\_\_ ft<sup>3</sup>/gal

### **Field Measurements at Time of Sampling**

Parameter	Reading	Time	Measurement (In situ/Container)	Instrument	Comments
Air Temp °C		12:36pm		Thermometer	
Water Temp °C	9.95			pHCon10, YSI	
pH (s.u.)	6.61			pHCon10/YSI	
SpC/Conductivity (mS/cm, $\mu$ S/cm)	1219			pHCon10/YSI	
ORP (mV)	272			pH310/YSI	
DO (mg/L, %)	41.32			DO310/YSI	
Turbidity (NTU)				MicroTPI	
Discharge (ft³/s, L/s, gpm)	1.5 gpm			Flow meter/ bucket/estimate	
Number and type of filters used:					
GPS Coordinates:					



## **ANNUAL SEEPS AND SPRINGS FIELD SURVEY**

Annual Seeps and Springs survey was conducted during the third quarter. This appendix has been deliberately left blank.

## **LABORATORY ANALYSIS**

Annual sampling is conducted during the second quarter. This appendix has been deliberately left blank.

DMR Copy of Record

Permit																			
Permit #:	CO0047562			Permittee:	Energy Fuels Resources Corp					Facility:	WHIRLWIND PROJECT								
Major:	No			Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228					Facility Location:	31525 HWY 90 NUCLA, CO 81424								
Permitted Feature:	001 External Outfall			Discharge:	001-A POST TRMNT DISCH TO LUMSDEN CR														
Report Dates & Status																			
Monitoring Period:	From 09/01/14 to 09/30/14			DMR Due Date:	10/28/14					Status:	NetDMR Validated								
Considerations for Form Completion																			
QUARTERLY SAMPLING & REPORTING INSTRUCTIONS - SEE I.C.9, PAGE 9. OILAND GREASE - SEE I.C.15.																			
Principal Executive Officer																			
First Name:	Stephen			Title:	President and CEO					Telephone:	303-974-2140								
Last Name:	Antony																		
No Data Indicator (NODI)																			
Form NODI:	--																		
Parameter		Monitoring Location	Season #	Param. NODI	Code	Quantity or Loading					Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type	
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units		
00400 pH		1 - Effluent Gross	0	--	Sample					>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU	01/07 - Weekly	GR - GRAB	
					Permit Req.							C - No Discharge							
					Value NODI														
					Sample														
00530 Solids, total suspended		1 - Effluent Gross	0	--	Permit Req.					<=	20 30DA AVG	<=	30 MX 7D AV	19 - mg/L	01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
00981 Selenium, total recoverable		1 - Effluent Gross	0	--	Permit Req.					<=	20 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
01002 Arsenic, total [as As]		1 - Effluent Gross	0	--	Permit Req.					<=	100 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
01094 Zinc, total recoverable		1 - Effluent Gross	0	--	Permit Req.					<=	500 30DA AVG	<=	1000 DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
01113 Cadmium, total recoverable		1 - Effluent Gross	0	--	Permit Req.					<=	10 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
03582 Oil and grease		1 - Effluent Gross	0	--	Permit Req.								<=	10 INST MAX	19 - mg/L	77/77 - Contingent	GR - GRAB		
					Value NODI							C - No Discharge							
					Sample														
09503 Radium 226, dissolved		1 - Effluent Gross	0	--	Permit Req.					<=	3 30DA AVG			17 - pCi/L	01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge								
					Sample														
11123 Manganese, total recoverable		1 - Effluent Gross	0	--	Permit Req.					<=	200 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
11503 Radium 226 + radium 228, total		1 - Effluent Gross	0	--	Permit Req.								<=	5 DAILY MX 17 - pCi/L		01/07 - Weekly	CP - COMPOS		
					Value NODI							C - No Discharge							
					Sample														
22706 Uranium, total as U308		1 - Effluent Gross	0	--	Permit Req.					<=	700 30DA AVG	<=	1100 DAILY MX 28 - ug/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
50050 Flow, in conduit or thru treatment plant		1 - Effluent Gross	0	--	Permit Req.	<=	.03 30DA AVG		Req Mon DAILY MX 03 - MGD								99/99 - Continuous	RC - Recorder (auto)	
					Value NODI		C - No Discharge		C - No Discharge										
					Sample														
70295 Solids, total dissolved		1 - Effluent Gross	0	--	Permit Req.								<=	Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/90 - Quarterly	GR - GRAB
					Value NODI							C - No Discharge		C - No Discharge					
					Sample														
81017 Chemical Oxygen Demand [COD]		1 - Effluent Gross	0	--	Permit Req.					<=	100 30DA AVG	<=	200 DAILY MX 19 - mg/L		01/07 - Weekly	CP - COMPOS			
					Value NODI						C - No Discharge		C - No Discharge						
					Sample														
84066 Oil and grease visual		1 - Effluent Gross	0	--	Permit Req.				Req Mon INST MAX 9P - Y=1;N=0								01/07 - Weekly	VI - VISUAL	
					Value NODI				C - No Discharge										
Submission Note																			
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																			

[Edit Check Errors](#)

No errors.

[Comments](#)

[Attachments](#)

No attachments.

[Report Last Saved By](#)

**Energy Fuels Resources Corp**

User: r.ellis@energyfuels.com

Name: Ryan Ellis

E-Mail: r.ellis@energyfuels.com

Date/Time:

2014-10-27 10:09 (Time Zone: -06:00)

DMR Copy of Record

## Permit

<b>Permit #:</b>	<b>CO0047562</b>	<b>Permittee:</b>	Energy Fuels Resources Corp	<b>Facility:</b>	WHIRLWIND PROJECT
<b>Major:</b>	No	<b>Permittee Address:</b>	225 Union Blvd Ste 600 Lakewood, CO 80228	<b>Facility Location:</b>	31525 HWY 90 NUCLA, CO 81424
<b>Permitted Feature:</b>	001 External Outfall	<b>Discharge:</b>	<b>001-X</b> CHRONIC WET TESTING FOR 001A		

## **Report Dates & Status**

**Monitoring Period:** From 07/01/14 to 09/30/14      **DMR Due Date:** 10/28/14      **Status:** NetDMR Validated

### **Considerations for Form Completion**

SEE PART I.A.3 OF PERMIT FOR DETAILS OF TEST PROCEDURE. RTP LOWEST % AT WHICH STATISTICALLY SIGNIF DIFF BETWEEN TEST & CONT U SING CODE "S", RPT IC25 USING CODE "P". ATTACH CHRON TOX TEST RPT TO DMR.

*Principal Executive Officer*

**First Name:** Stephen      **Title:** President and CEO      **Telephone:** 303-974-2140  
**Last Name:** Antony

### No Data Indicator (NODI)

Form NODI: --																								
Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading				Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type							
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units							
61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--		Sample					Req Mon MN VALUE						2G - tox chronic	01/90 - Quarterly	03 - COMP-3					
						Permit Req.					C - No Discharge													
						Value NODI																		
						Sample																		
61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--		Permit Req.					Req Mon MN VALUE						2G - tox chronic	01/90 - Quarterly	03 - COMP-3					
						Value NODI					C - No Discharge													
						Sample																		
						Permit Req.						Req Mon MN VALUE						2G - tox chronic						
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--		Value NODI					C - No Discharge							01/90 - Quarterly	03 - COMP-3					
						Sample																		
						Permit Req.						Req Mon MN VALUE						2G - tox chronic						
						Value NODI						C - No Discharge												
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--		Sample					Req Mon MN VALUE						2G - tox chronic	01/90 - Quarterly	03 - COMP-3					
						Permit Req.					C - No Discharge													
						Value NODI																		
						Sample																		
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia		P - See Comments	0	--		Permit Req.					Req Mon MN VALUE						23 - %	01/90 - Quarterly	03 - COMP-3					
						Value NODI					C - No Discharge													
						Sample																		
						Permit Req.						Req Mon MN VALUE					23 - %							
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia		S - See Comments	0	--		Value NODI					C - No Discharge							01/90 - Quarterly	03 - COMP-3					
						Sample																		
						Permit Req.						Req Mon MN VALUE					23 - %							
						Value NODI						C - No Discharge												
TCP6C %Effect Statre 7Day Chronic Pimephales		P - See Comments	0	--		Sample					Req Mon MN VALUE						23 - %	01/90 - Quarterly	03 - COMP-3					
						Permit Req.					C - No Discharge													
						Value NODI																		
						Sample																		
TCP6C %Effect Statre 7Day Chronic Pimephales		S - See Comments	0	--		Permit Req.					Req Mon MN VALUE						23 - %	01/90 - Quarterly	03 - COMP-3					
						Value NODI					C - No Discharge													
						Sample																		
						Permit Req.						Req Mon MN VALUE					23 - %							

### **Submission Note**

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

## Edit Check Errors

No errors.

## Comments

## **Attachments**

No attachments

Report Last Saved By

*Energy Fuels Resources Corp*

User: r.ellis@energyfuels.

Name: Ryan Ellis

Name: Ryan Ellis  
E-Mail: r.ellis@energyfuels.com

Date/Time

2014-10-27 10:10 (Time Zone: -06:00)

## DMR Copy of Record

Permit																																																																																																																																																																																																																																																																																																																																																																						
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp				Facility:	WHIRLWIND PROJECT																																																																																																																																																																																																																																																																																																																																																														
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228				Facility Location:	31525 HWY 90 NUCLA, CO 81424																																																																																																																																																																																																																																																																																																																																																														
Permitted Feature:	01Y External Outfall	Discharge:	01Y-X CHRONIC WET TESTING FOR 001A																																																																																																																																																																																																																																																																																																																																																																			
Report Dates & Status																																																																																																																																																																																																																																																																																																																																																																						
Monitoring Period:	From 07/01/14 to 09/30/14	DMR Due Date:	10/28/14				Status:	NetDMR Validated																																																																																																																																																																																																																																																																																																																																																														
Considerations for Form Completion																																																																																																																																																																																																																																																																																																																																																																						
SEE PART I.A.3 FOR DETAILS OF TESTPROCEDURE. IF THERE IS A STAT DIFF RPT RESULTS ON THIS OUTFALL. IF NOT, RPT "NO DISCHARGE" & COMPLETE OUTFALL 001X. RPT LOWEST % AT WHICH STATISTICALLY SIGNIF DIFF BTWNTEST & CONT USING CODE "S". RPT IC25 USING CODE "P". ICW=100%. ATTACH CHRON TOX TEST RPT TO DMR.																																																																																																																																																																																																																																																																																																																																																																						
Principal Executive Officer																																																																																																																																																																																																																																																																																																																																																																						
First Name:	Stephen	Title:	President and CEO				Telephone:	303-974-2140																																																																																																																																																																																																																																																																																																																																																														
Last Name:	Antony																																																																																																																																																																																																																																																																																																																																																																					
No Data Indicator (NODI)																																																																																																																																																																																																																																																																																																																																																																						
Form NODI:	--																																																																																																																																																																																																																																																																																																																																																																					
<table border="1"> <thead> <tr> <th colspan="2">Parameter</th> <th>Monitoring Location</th> <th>Season #</th> <th>Param. NODI</th> <th></th> <th colspan="3">Quantity or Loading</th> <th colspan="3">Quality or Concentration</th> <th># of Ex.</th> <th>Frequency of Analysis</th> <th>Sample Type</th> </tr> <tr> <th>Code</th> <th>Name</th> <th></th> <th></th> <th></th> <th></th> <th>Qualifier 1</th> <th>Value 1</th> <th>Qualifier 2</th> <th>Value 2</th> <th>Units</th> <th>Qualifier 1</th> <th>Value 1</th> <th>Qualifier 2</th> <th>Value 2</th> <th>Qualifier 3</th> <th>Value 3</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>61426</td> <td>Toxicity [chronic], Ceriodaphnia dubia</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61426</td> <td>Toxicity [chronic], Ceriodaphnia dubia</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61428</td> <td>Toxicity [chronic], Pimephales promelas [Fathead Minnow]</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61428</td> <td>Toxicity [chronic], Pimephales promelas [Fathead Minnow]</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td>&gt;=</td> <td></td> <td></td> <td>100 MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP6C %Effect Statre 7Day Chronic Pimephales</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP6C %Effect Statre 7Day Chronic Pimephales</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td>&gt;=</td> <td></td> <td></td> <td>100 MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type	Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units	61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge									61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge							TCP6C %Effect Statre 7Day Chronic Pimephales	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge							TCP6C %Effect Statre 7Day Chronic Pimephales	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge						
Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type																																																																																																																																																																																																																																																																																																																																																								
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units																																																																																																																																																																																																																																																																																																																																																					
61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																		
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																		
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																		
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																		
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
TCP6C %Effect Statre 7Day Chronic Pimephales	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
TCP6C %Effect Statre 7Day Chronic Pimephales	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																											
Submission Note																																																																																																																																																																																																																																																																																																																																																																						
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																																																																																																																																																																																																																																																																																																																																																																						
Edit Check Errors																																																																																																																																																																																																																																																																																																																																																																						
No errors.																																																																																																																																																																																																																																																																																																																																																																						
Comments																																																																																																																																																																																																																																																																																																																																																																						
Attachments																																																																																																																																																																																																																																																																																																																																																																						
No attachments.																																																																																																																																																																																																																																																																																																																																																																						
Report Last Saved By																																																																																																																																																																																																																																																																																																																																																																						
Energy Fuels Resources Corp																																																																																																																																																																																																																																																																																																																																																																						
User:	r.ellis@energyfuels.com	Date/Time:	2014-10-27 10:12 (Time Zone: -06:00)																																																																																																																																																																																																																																																																																																																																																																			
Name:	Ryan Ellis																																																																																																																																																																																																																																																																																																																																																																					
E-Mail:	r.ellis@energyfuels.com																																																																																																																																																																																																																																																																																																																																																																					

## DMR Copy of Record

Permit															
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp					Facility:	WHIRLWIND PROJECT						
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228					Facility Location:	31525 HWY 90 NUCLA, CO 81424						
Permitted Feature:	MON External Outfall	Discharge:	MON-1 POST TRMNT DSCHG TO LUMSDEN CR												
Report Dates & Status															
Monitoring Period:	From 09/01/14 to 09/30/14			DMR Due Date:	10/28/14			Status:	NetDMR Validated						
Considerations for Form Completion															
Principal Executive Officer															
First Name:	Stephen	Title:	President and CEO					Telephone:	303-974-2140						
Last Name:	Antony														
No Data Indicator (NODI)															
Form NODI:	--														
Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration				# of Ex.	Frequency of Analysis	Sample Type	
					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1				Qualifier 2
Code	Name				Sample										
00718 Cyanide, weak acid, dissociable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01012 Beryllium, total [as Be]	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01022 Boron, total [as B]	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
01074 Nickel, total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01114 Lead, total recoverable	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01128 Vanadium, total recoverable	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
04262 Chromium, trivalent total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
Submission Note															
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.															
Edit Check Errors															
No errors.															
Comments															
Attachments															
No attachments.															
Report Last Saved By															
Energy Fuels Resources Corp															
User:	r.ellis@energyfuels.com				Date/Time:	2014-10-27 10:13 (Time Zone: -06:00)									
Name:	Ryan Ellis														
E-Mail:	r.ellis@energyfuels.com														

## DMR Copy of Record

Permit																			
Permit #:	CO0047562			Permittee:	Energy Fuels Resources Corp 225 Union Blvd Ste 600 Lakewood, CO 80228					Facility:	WHIRLWIND PROJECT								
Major:	No			Permittee Address:						Facility Location:	31525 HWY 90 NUCLA, CO 81424								
Permitted Feature:	001 External Outfall			Discharge:	001-A POST TRMNT DISCH TO LUMSDEN CR														
Report Dates & Status																			
Monitoring Period:	From 10/01/14 to 10/31/14			DMR Due Date:	11/28/14					Status:	NetDMR Validated								
Considerations for Form Completion																			
QUARTERLY SAMPLING & REPORTING INSTRUCTIONS - SEE I.C.9, PAGE 9. OILAND GREASE - SEE I.C.15.																			
Principal Executive Officer																			
First Name:	Stephen			Title:	President and CEO					Telephone:	303-974-2140								
Last Name:	Antony																		
No Data Indicator (NODI)																			
Form NODI:	--																		
Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type		
					Code	Name	Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2				Value 2	Qualifier 3
00400 pH	1 - Effluent Gross	0	--	Sample						>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU		01/07 - Weekly	GR - GRAB
				Permit Req.							C - No Discharge				C - No Discharge				
00530 Solids, total suspended	1 - Effluent Gross	0	--	Sample						<=	20 30DA AVG	<=	30 MX 7D AV	19 - mg/L		01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge			C - No Discharge					
00981 Selenium, total recoverable	1 - Effluent Gross	0	--	Sample						<=	20 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01002 Arsenic, total [as As]	1 - Effluent Gross	0	--	Sample						<=	100 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01094 Zinc, total recoverable	1 - Effluent Gross	0	--	Sample						<=	500 30DA AVG	<=	1000 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01113 Cadmium, total recoverable	1 - Effluent Gross	0	--	Sample						<=	10 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
03582 Oil and grease	1 - Effluent Gross	0	--	Sample								<=	10 INST MAX	19 - mg/L		77/77 - Contingent	GR - GRAB		
				Permit Req.								C - No Discharge							
09503 Radium 226, dissolved	1 - Effluent Gross	0	--	Sample						<=	3 30DA AVG			17 - pCi/L		01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge								
11123 Manganese, total recoverable	1 - Effluent Gross	0	--	Sample						<=	200 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
11503 Radium 226 + radium 228, total	1 - Effluent Gross	0	--	Sample								<=	5 DAILY MX 17 - pCi/L				01/07 - Weekly	CP - COMPOS	
				Permit Req.								C - No Discharge							
22706 Uranium, total as U308	1 - Effluent Gross	0	--	Sample						<=	700 30DA AVG	<=	1100 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
50050 Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample						<=	.03 30DA AVG		Req Mon DAILY MX 03 - MGD				99/99 - Continuous	RC - Recorder (auto)	
				Permit Req.							C - No Discharge		C - No Discharge						
81017 Chemical Oxygen Demand [COD]	1 - Effluent Gross	0	--	Sample						<=	100 30DA AVG	<=	200 DAILY MX 19 - mg/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
84066 Oil and grease visual	1 - Effluent Gross	0	--	Sample												01/07 - Weekly	VI - VISUAL		
				Permit Req.															
Submission Note																			
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																			
Edit Check Errors																			
No errors.																			

**Comments**

**Attachments**

No attachments.

**Report Last Saved By**

**Energy Fuels Resources Corp**

User: r.ellis@energyfuels.com

Name: Ryan Ellis

E-Mail: r.ellis@energyfuels.com

Date/Time:

2014-11-24 11:41 (Time Zone: -07:00)

## DMR Copy of Record

Permit															
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp					Facility:	WHIRLWIND PROJECT						
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228					Facility Location:	31525 HWY 90 NUCLA, CO 81424						
Permitted Feature:	MON External Outfall	Discharge:	MON-1 POST TRMNT DSCHG TO LUMSDEN CR												
Report Dates & Status															
Monitoring Period:	From 10/01/14 to 10/31/14			DMR Due Date:	11/28/14			Status:	NetDMR Validated						
Considerations for Form Completion															
Principal Executive Officer															
First Name:	Stephen	Title:	President and CEO					Telephone:	303-974-2140						
Last Name:	Antony														
No Data Indicator (NODI)															
Form NODI:	--														
Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration				# of Ex.	Frequency of Analysis	Sample Type	
					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1				Qualifier 2
Code	Name				Sample										
00718 Cyanide, weak acid, dissociable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01012 Beryllium, total [as Be]	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01022 Boron, total [as B]	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
01074 Nickel, total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01114 Lead, total recoverable	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01128 Vanadium, total recoverable	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
04262 Chromium, trivalent total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
Submission Note															
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.															
Edit Check Errors															
No errors.															
Comments															
Attachments															
No attachments.															
Report Last Saved By															
Energy Fuels Resources Corp															
User:	r.ellis@energyfuels.com				Date/Time:	2014-11-24 11:45 (Time Zone: -07:00)									
Name:	Ryan Ellis														
E-Mail:	r.ellis@energyfuels.com														

## DMR Copy of Record

Permit																			
Permit #:	CO0047562			Permittee:	Energy Fuels Resources Corp 225 Union Blvd Ste 600 Lakewood, CO 80228					Facility:	WHIRLWIND PROJECT								
Major:	No			Permittee Address:						Facility Location:	31525 HWY 90 NUCLA, CO 81424								
Permitted Feature:	001 External Outfall			Discharge:	001-A POST TRMNT DISCH TO LUMSDEN CR														
Report Dates & Status																			
Monitoring Period:	From 11/01/14 to 11/30/14			DMR Due Date:	12/28/14					Status:	NetDMR Validated								
Considerations for Form Completion																			
QUARTERLY SAMPLING & REPORTING INSTRUCTIONS - SEE I.C.9, PAGE 9. OILAND GREASE - SEE I.C.15.																			
Principal Executive Officer																			
First Name:	Stephen			Title:	President, CEO					Telephone:	303-974-2140								
Last Name:	Antony																		
No Data Indicator (NODI)																			
Form NODI:	--																		
Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading					Quality or Concentration					# of Ex.	Frequency of Analysis	Sample Type		
					Code	Name	Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2				Value 2	Qualifier 3
00400 pH	1 - Effluent Gross	0	--	Sample						>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU		01/07 - Weekly	GR - GRAB
				Permit Req.							C - No Discharge				C - No Discharge				
00530 Solids, total suspended	1 - Effluent Gross	0	--	Sample						<=	20 30DA AVG	<=	30 MX 7D AV	19 - mg/L		01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge			C - No Discharge					
00981 Selenium, total recoverable	1 - Effluent Gross	0	--	Sample						<=	20 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01002 Arsenic, total [as As]	1 - Effluent Gross	0	--	Sample						<=	100 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01094 Zinc, total recoverable	1 - Effluent Gross	0	--	Sample						<=	500 30DA AVG	<=	1000 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
01113 Cadmium, total recoverable	1 - Effluent Gross	0	--	Sample						<=	10 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
03582 Oil and grease	1 - Effluent Gross	0	--	Sample								<=	10 INST MAX	19 - mg/L		77/77 - Contingent	GR - GRAB		
				Permit Req.								C - No Discharge							
09503 Radium 226, dissolved	1 - Effluent Gross	0	--	Sample						<=	3 30DA AVG			17 - pCi/L		01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge								
11123 Manganese, total recoverable	1 - Effluent Gross	0	--	Sample						<=	200 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
11503 Radium 226 + radium 228, total	1 - Effluent Gross	0	--	Sample								<=	5 DAILY MX 17 - pCi/L				01/07 - Weekly	CP - COMPOS	
				Permit Req.								C - No Discharge							
22706 Uranium, total as U308	1 - Effluent Gross	0	--	Sample						<=	700 30DA AVG	<=	1100 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
50050 Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Sample						<=	.03 30DA AVG		Req Mon DAILY MX 03 - MGD				99/99 - Continuous	RC - Recorder (auto)	
				Permit Req.							C - No Discharge		C - No Discharge						
81017 Chemical Oxygen Demand [COD]	1 - Effluent Gross	0	--	Sample						<=	100 30DA AVG	<=	200 DAILY MX 19 - mg/L			01/07 - Weekly	CP - COMPOS		
				Permit Req.							C - No Discharge		C - No Discharge						
84066 Oil and grease visual	1 - Effluent Gross	0	--	Sample												01/07 - Weekly	VI - VISUAL		
				Permit Req.															
				Value NODI															
Submission Note																			
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																			
Edit Check Errors																			
No errors.																			

**Comments**

**Attachments**

No attachments.

**Report Last Saved By**

**Energy Fuels Resources Corp**

User: r.ellis@energyfuels.com

Name: Ryan Ellis

E-Mail: r.ellis@energyfuels.com

Date/Time:

2014-12-23 10:34 (Time Zone: -07:00)

## DMR Copy of Record

Permit														
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp				Facility:	WHIRLWIND PROJECT						
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228				Facility Location:	31525 HWY 90 NUCLA, CO 81424						
Permitted Feature:	MON External Outfall	Discharge:	MON-1 POST TRMNT DSCHG TO LUMSDEN CR											
Report Dates & Status														
Monitoring Period:	From 11/01/14 to 11/30/14		DMR Due Date:	12/28/14		Status:	NetDMR Validated							
Considerations for Form Completion														
Principal Executive Officer														
First Name:	Stephen	Title:	President, CEO				Telephone:	303-974-2140						
Last Name:	Antony													
No Data Indicator (NODI)														
Form NODI:	--													
Parameter	Monitoring Location	Season #	Param. NODI	Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type		
				Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1				Value 1	Qualifier 2
Code	Name			Sample										
00718 Cyanide, weak acid, dissociable	1 - Effluent Gross	0	--	Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
				Value NODI					C - No Discharge		C - No Discharge			
01012 Beryllium, total [as Be]	1 - Effluent Gross	0	--	Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
				Permit Req.					C - No Discharge		C - No Discharge			
01022 Boron, total [as B]	1 - Effluent Gross	0	--	Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
				Sample					C - No Discharge		C - No Discharge			
01074 Nickel, total recoverable	1 - Effluent Gross	0	--	Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
				Value NODI					C - No Discharge		C - No Discharge			
01114 Lead, total recoverable	1 - Effluent Gross	0	--	Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
				Permit Req.					C - No Discharge		C - No Discharge			
01128 Vanadium, total recoverable	1 - Effluent Gross	0	--	Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
				Sample					C - No Discharge		C - No Discharge			
04262 Chromium, trivalent total recoverable	1 - Effluent Gross	0	--	Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
				Value NODI					C - No Discharge		C - No Discharge			
Submission Note														
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.														
Edit Check Errors														
No errors.														
Comments														
Attachments														
No attachments.														
Report Last Saved By														
Energy Fuels Resources Corp														
User:	r.ellis@energyfuels.com			Date/Time:	2014-12-23 10:37 (Time Zone: -07:00)									
Name:	Ryan Ellis													
E-Mail:	r.ellis@energyfuels.com													

## DMR Copy of Record

Permit																		
Permit #:	CO0047562			Permittee:	Energy Fuels Resources Corp				Facility:	WHIRLWIND PROJECT								
Major:	No			Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228				Facility Location:	31525 HWY 90 NUCLA, CO 81424								
Permitted Feature:	001 External Outfall			Discharge:	001-A POST TRMNT DISCH TO LUMSDEN CR													
Report Dates & Status																		
Monitoring Period:	From 12/01/14 to 12/31/14			DMR Due Date:	01/28/15				Status:	NetDMR Validated								
Considerations for Form Completion																		
QUARTERLY SAMPLING & REPORTING INSTRUCTIONS - SEE I.C.9, PAGE 9. OILAND GREASE - SEE I.C.15.																		
Principal Executive Officer																		
First Name:	Stephen			Title:	President and CEO				Telephone:	303-974-2140								
Last Name:	Antony																	
No Data Indicator (NODI)																		
Form NODI:	--																	
Parameter	Monitoring Location	Season #	Param. NODI	Quantity or Loading				Quality or Concentration				# of Ex.	Frequency of Analysis	Sample Type				
				Code	Name	Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1				Value 1	Qualifier 2	Value 2	Qualifier 3
00400 pH	1 - Effluent Gross	0	--	Sample					>=	6.5 MINIMUM			<=	9 MAXIMUM	12 - SU		01/07 - Weekly	GR - GRAB
				Permit Req.														
				Value NODI						C - No Discharge								
				Sample														
00530 Solids, total suspended	1 - Effluent Gross	0	--	Permit Req.					<=	20 30DA AVG	<=	30 MX 7D AV	19 - mg/L		01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
00981 Selenium, total recoverable	1 - Effluent Gross	0	--	Permit Req.					<=	20 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
01002 Arsenic, total [as As]	1 - Effluent Gross	0	--	Permit Req.					<=	100 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
01094 Zinc, total recoverable	1 - Effluent Gross	0	--	Permit Req.					<=	500 30DA AVG	<=	1000 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
01113 Cadmium, total recoverable	1 - Effluent Gross	0	--	Permit Req.					<=	10 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
03582 Oil and grease	1 - Effluent Gross	0	--	Permit Req.									<=	10 INST MAX	19 - mg/L	77/77 - Contingent	GR - GRAB	
				Value NODI														
				Sample														
09503 Radium 226, dissolved	1 - Effluent Gross	0	--	Permit Req.					<=	3 30DA AVG			17 - pCi/L		01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
11123 Manganese, total recoverable	1 - Effluent Gross	0	--	Permit Req.					<=	200 30DA AVG		Req Mon DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
11503 Radium 226 + radium 228, total	1 - Effluent Gross	0	--	Permit Req.									<=	5 DAILY MX 17 - pCi/L		01/07 - Weekly	CP - COMPOS	
				Value NODI										C - No Discharge				
				Sample														
22706 Uranium, total as U308	1 - Effluent Gross	0	--	Permit Req.					<=	700 30DA AVG	<=	1100 DAILY MX 28 - ug/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
50050 Flow, in conduit or thru treatment plant	1 - Effluent Gross	0	--	Permit Req.	<=	.03 30DA AVG		Req Mon DAILY MX 03 - MGD							99/99 - Continuous	RC - Recorder (auto)		
				Value NODI		C - No Discharge		C - No Discharge										
				Sample														
70295 Solids, total dissolved	1 - Effluent Gross	0	--	Permit Req.									<=	Req Mon 30DA AVG	Req Mon DAILY MX 19 - mg/L	01/90 - Quarterly	GR - GRAB	
				Value NODI										C - No Discharge				
				Sample														
81017 Chemical Oxygen Demand [COD]	1 - Effluent Gross	0	--	Permit Req.					<=	100 30DA AVG	<=	200 DAILY MX 19 - mg/L			01/07 - Weekly	CP - COMPOS		
				Value NODI						C - No Discharge								
				Sample														
84066 Oil and grease visual	1 - Effluent Gross	0	--	Permit Req.				Req Mon INST MAX 9P - Y=1;N=0							01/07 - Weekly	VI - VISUAL		
				Value NODI				C - No Discharge										
Submission Note																		
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																		

[Edit Check Errors](#)

No errors.

[Comments](#)

[Attachments](#)

No attachments.

[Report Last Saved By](#)

**Energy Fuels Resources Corp**

User: r.ellis@energyfuels.com

Name: Ryan Ellis

E-Mail: r.ellis@energyfuels.com

Date/Time:

2015-01-27 10:06 (Time Zone: -07:00)

## DMR Copy of Record

Permit														
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp				Facility:	WHIRLWIND PROJECT						
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228				Facility Location:	31525 HWY 90 NUCLA, CO 81424						
Permitted Feature:	001 External Outfall	Discharge:	001-X CHRONIC WET TESTING FOR 001A											
Report Dates & Status														
Monitoring Period:	From 10/01/14 to 12/31/14	DMR Due Date:	01/28/15				Status:	NetDMR Validated						
Considerations for Form Completion														
SEE PART I.A.3 OF PERMIT FOR DETAILS OF TEST PROCEDURE. RTP LOWEST %AT WHICH STATISTICALLY SIGNIF DIFFBETWEEN TEST & CONT U SING CODE "S". RPT IC25 USING CODE "P". ATTACH CHRON TOX TEST RPT TO DMR.														
Principal Executive Officer														
First Name:	Stephen	Title:	President and CEO				Telephone:	303-974-2140						
Last Name:	Antony													
No Data Indicator (NODI)														
Form NODI:	--													
Code	Parameter Name	Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type
						Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1			
61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--		Sample								
						Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
						Sample								
61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--		Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
						Sample								
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--		Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
						Sample								
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--		Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
TCP3B	%Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	P - See Comments	0	--		Sample								
						Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
						Sample								
TCP3B	%Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	S - See Comments	0	--		Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
TCP6C	%Effect Statre 7Day Chronic Pimephales	P - See Comments	0	--		Sample								
						Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
TCP6C	%Effect Statre 7Day Chronic Pimephales	S - See Comments	0	--		Sample								
						Permit Req.								
						Value NODI								
						Sample								
						Permit Req.								
						Value NODI								
Submission Note														
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.														
Edit Check Errors														
No errors.														
Comments														
Attachments														
No attachments.														
Report Last Saved By														
Energy Fuels Resources Corp														
User:	r.ellis@energyfuels.com	Date/Time:	2015-01-27 10:07 (Time Zone: -07:00)											
Name:	Ryan Ellis													
E-Mail:	r.ellis@energyfuels.com													

## DMR Copy of Record

Permit																																																																																																																																																																																																																																																																																																																																																																							
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp				Facility:	WHIRLWIND PROJECT																																																																																																																																																																																																																																																																																																																																																															
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228				Facility Location:	31525 HWY 90 NUCLA, CO 81424																																																																																																																																																																																																																																																																																																																																																															
Permitted Feature:	01Y External Outfall	Discharge:	01Y-X CHRONIC WET TESTING FOR 001A																																																																																																																																																																																																																																																																																																																																																																				
Report Dates & Status																																																																																																																																																																																																																																																																																																																																																																							
Monitoring Period:	From 10/01/14 to 12/31/14	DMR Due Date:	01/28/15				Status:	NetDMR Validated																																																																																																																																																																																																																																																																																																																																																															
Considerations for Form Completion																																																																																																																																																																																																																																																																																																																																																																							
SEE PART I.A.3 FOR DETAILS OF TESTPROCEDURE. IF THERE IS A STAT DIFF RPT RESULTS ON THIS OUTFALL. IF NOT, RPT "NO DISCHARGE" & COMPLETE OUTFALL 001X. RPT LOWEST % AT WHICH STATISTICALLY SIGNIF DIFF BTWNTEST & CONT USING CODE "S". RPT IC25 USING CODE "P". ICW=100%. ATTACH CHRON TOX TEST RPT TO DMR.																																																																																																																																																																																																																																																																																																																																																																							
Principal Executive Officer																																																																																																																																																																																																																																																																																																																																																																							
First Name:	Stephen	Title:	President and CEO				Telephone:	303-974-2140																																																																																																																																																																																																																																																																																																																																																															
Last Name:	Antony																																																																																																																																																																																																																																																																																																																																																																						
No Data Indicator (NODI)																																																																																																																																																																																																																																																																																																																																																																							
Form NODI:	--																																																																																																																																																																																																																																																																																																																																																																						
<table border="1"> <thead> <tr> <th colspan="2">Parameter</th> <th>Monitoring Location</th> <th>Season #</th> <th>Param. NODI</th> <th></th> <th colspan="3">Quantity or Loading</th> <th colspan="3">Quality or Concentration</th> <th># of Ex.</th> <th>Frequency of Analysis</th> <th>Sample Type</th> </tr> <tr> <th>Code</th> <th>Name</th> <th></th> <th></th> <th></th> <th></th> <th>Qualifier 1</th> <th>Value 1</th> <th>Qualifier 2</th> <th>Value 2</th> <th>Units</th> <th>Qualifier 1</th> <th>Value 1</th> <th>Qualifier 2</th> <th>Value 2</th> <th>Qualifier 3</th> <th>Value 3</th> <th>Units</th> </tr> </thead> <tbody> <tr> <td>61426</td> <td>Toxicity [chronic], Ceriodaphnia dubia</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61426</td> <td>Toxicity [chronic], Ceriodaphnia dubia</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61428</td> <td>Toxicity [chronic], Pimephales promelas [Fathead Minnow]</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>61428</td> <td>Toxicity [chronic], Pimephales promelas [Fathead Minnow]</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2G - tox chronic</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td>&gt;=</td> <td></td> <td></td> <td>100 MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP6C %Effect Statre 7Day Chronic Pimephales</td> <td>P - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Req Mon MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TCP6C %Effect Statre 7Day Chronic Pimephales</td> <td>S - See Comments</td> <td>0</td> <td>--</td> <td>Sample</td> <td></td> <td></td> <td>&gt;=</td> <td></td> <td></td> <td>100 MN VALUE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>23 - %</td> <td></td> <td>01/90 - Quarterly</td> <td>03 - COMP-3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Permit Req.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>C - No Discharge</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>												Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type	Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units	61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge									61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge								TCP6C %Effect Statre 7Day Chronic Pimephales	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge							TCP6C %Effect Statre 7Day Chronic Pimephales	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3						Permit Req.						C - No Discharge						
Parameter		Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration			# of Ex.	Frequency of Analysis	Sample Type																																																																																																																																																																																																																																																																																																																																																									
Code	Name					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1	Qualifier 2	Value 2	Qualifier 3	Value 3	Units																																																																																																																																																																																																																																																																																																																																																						
61426	Toxicity [chronic], Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
61426	Toxicity [chronic], Ceriodaphnia dubia	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	P - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
61428	Toxicity [chronic], Pimephales promelas [Fathead Minnow]	S - See Comments	0	--	Sample						Req Mon MN VALUE						2G - tox chronic		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																			
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																				
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
TCP3B %Effect Static Renewal 7 Day Chronic Ceriodaphnia dubia	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																				
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
TCP6C %Effect Statre 7Day Chronic Pimephales	P - See Comments	0	--	Sample						Req Mon MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																				
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
TCP6C %Effect Statre 7Day Chronic Pimephales	S - See Comments	0	--	Sample			>=			100 MN VALUE						23 - %		01/90 - Quarterly	03 - COMP-3																																																																																																																																																																																																																																																																																																																																																				
					Permit Req.						C - No Discharge																																																																																																																																																																																																																																																																																																																																																												
Submission Note																																																																																																																																																																																																																																																																																																																																																																							
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.																																																																																																																																																																																																																																																																																																																																																																							
Edit Check Errors																																																																																																																																																																																																																																																																																																																																																																							
No errors.																																																																																																																																																																																																																																																																																																																																																																							
Comments																																																																																																																																																																																																																																																																																																																																																																							
Attachments																																																																																																																																																																																																																																																																																																																																																																							
No attachments.																																																																																																																																																																																																																																																																																																																																																																							
Report Last Saved By																																																																																																																																																																																																																																																																																																																																																																							
Energy Fuels Resources Corp																																																																																																																																																																																																																																																																																																																																																																							
User:	r.ellis@energyfuels.com	Date/Time:	2015-01-27 10:09 (Time Zone: -07:00)																																																																																																																																																																																																																																																																																																																																																																				
Name:	Ryan Ellis																																																																																																																																																																																																																																																																																																																																																																						
E-Mail:	r.ellis@energyfuels.com																																																																																																																																																																																																																																																																																																																																																																						

## DMR Copy of Record

Permit															
Permit #:	CO0047562	Permittee:	Energy Fuels Resources Corp					Facility:	WHIRLWIND PROJECT						
Major:	No	Permittee Address:	225 Union Blvd Ste 600 Lakewood, CO 80228					Facility Location:	31525 HWY 90 NUCLA, CO 81424						
Permitted Feature:	MON External Outfall	Discharge:	MON-1 POST TRMNT DSCHG TO LUMSDEN CR												
Report Dates & Status															
Monitoring Period:	From 12/01/14 to 12/31/14			DMR Due Date:	01/28/15			Status:	NetDMR Validated						
Considerations for Form Completion															
Principal Executive Officer															
First Name:	Stephen	Title:	President and CEO					Telephone:	303-974-2140						
Last Name:	Antony														
No Data Indicator (NODI)															
Form NODI:	--														
Parameter	Monitoring Location	Season #	Param. NODI		Quantity or Loading			Quality or Concentration				# of Ex.	Frequency of Analysis	Sample Type	
					Qualifier 1	Value 1	Qualifier 2	Value 2	Units	Qualifier 1	Value 1				Qualifier 2
Code	Name				Sample										
00718 Cyanide, weak acid, dissociable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01012 Beryllium, total [as Be]	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01022 Boron, total [as B]	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 19 - mg/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
01074 Nickel, total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
01114 Lead, total recoverable	1 - Effluent Gross	0	--		Sample					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Permit Req.					C - No Discharge		C - No Discharge			
01128 Vanadium, total recoverable	1 - Effluent Gross	0	--		Value NODI					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Sample					C - No Discharge		C - No Discharge			
04262 Chromium, trivalent total recoverable	1 - Effluent Gross	0	--		Permit Req.					Req Mon 30DA AVG		Req Mon DAILY MX 28 - ug/L		01/30 - Monthly	CP - COMPOS
					Value NODI					C - No Discharge		C - No Discharge			
Submission Note															
If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.															
Edit Check Errors															
No errors.															
Comments															
Attachments															
No attachments.															
Report Last Saved By															
Energy Fuels Resources Corp															
User:	r.ellis@energyfuels.com				Date/Time:	2015-01-27 10:10 (Time Zone: -07:00)									
Name:	Ryan Ellis														
E-Mail:	r.ellis@energyfuels.com														