



Uranerz Energy Corporation  
(an Energy Fuels Company)  
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January 16, 2017

Department of Environmental Quality – Land Quality Division  
District III Supervisor  
2100 West 5<sup>th</sup> Street  
Sheridan, WY 82801

40-9067

Attn: Document Control Desk  
Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Attn: Deputy Director  
Division of Decommissioning, Uranium Recovery and Waste Programs  
U.S. Nuclear Regulatory Commission  
11545 Rockville Pike, Mail Stop T-8F5  
Rockville, MD 20852-2738

Re: Uranerz Energy Corporation Nichols Ranch ISR Project, WDEQ-LQD Permit to Mine No. 778 and NRC SUA-1597 Quarterly Report

Dear Mr. Rogaczewski and Mr. Persinko,

Pursuant to the Permit to Mine No. 778 and SUA-1597 License Condition 11.1, quarterly reporting is required. A comparison of quarterly reporting requirements between Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD) permit and the NRC License SUA-1597 shows similar reporting requirements. Uranerz has therefore, in an effort to reduce redundant reporting and our environmental footprint with duplicate paper copies, combined the WDEQ-LQD quarterly report with the NRC License SUA-1597 quarterly report. It is worth noting that the report format more closely follows the WDEQ-LQD Chapter 11 Section 15 requirement list.

If you have any questions regarding the provided information, please contact me at 307-232-6680 or by email at [bbonifas@energyfuels.com](mailto:bbonifas@energyfuels.com).

Sincerely,

Bernard Bonifas  
Mine Manager  
Uranerz Energy Corporation (an Energy Fuels company)

NM5520



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BB/th

Attachments

4<sup>th</sup> Quarter 2016 Report

cc: BJ Kristiansen, Project Manager, WDEQ-LQD (via email)  
Ron Linton, Project Manager, NRC (via email)  
Bernadette Baca, Health Physicist, NRC (via email)



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**4<sup>th</sup> Quarter 2016 Report**

**Nichols Ranch ISR Project**

**WDEQ-LQD Permit to Mine No. 778**

**And**

**NRC License SUA-1597**



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## 1.0 Introduction

Uranerz Energy Corporation (Uranerz) received its Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD) Permit to Mine No. 778 on December 29, 2010. On July 19, 2011 Source Material License SUA-1597 was issued to Uranerz by the Nuclear Regulatory Commission (NRC). Quarterly reports are required by WDEQ-LQD Non-Coal Rules and Regulations Chapter 11, Section 15 and NRC License SUA-1597 Condition 11.1.

The following highlights Uranerz activities during the quarter:

### Nichols Ranch Unit

- Production continues in Production Area #1 (PA#1) in Header Houses 1 through 8.
- Well installation and completion in Production Area #2 (PA#2) Header House 9 continued during the quarter.
- Wellfield development of PA#2, Header House 9 was ongoing throughout the quarter.
- A Permit to Construct was issued by the Johnson County, Wyoming Planning Department on November 17, 2016 for installation of a septic tank and leach field for the workforce housing north of the plant building. Construction was completed December 22, 2016.
- Met with LQD staff November 30, 2016 to present an overview of the Nichols Ranch site with the transition of project managers. During the visit a proposal to restrict operational monitoring in PA#2 to just Header House 9 was discussed and a Non-Significant Revision will be submitted to LQD.

### Hank Unit

- No activities took place at the Hank Unit during the quarter.

## 2.0 Monitoring

### 2.1 Injection Fluid Characteristics

A typical lixiviant solution is provided in Table 3c of the WDEQ-LQD Mine Plan with representative concentration ranges that could be found in the lixiviant. If changes occur to the ranges, Uranerz committed to updating the table in the annual report. Additionally, WDEQ-LQD Chapter 11, Section 14(a)(ii)(A) Non Coal Rules and Regulations requires that the nature of the injection fluids be monitored at least monthly to yield representative data on the characteristics of the fluid and Section 15(b)(i) requires that it is reported in the Quarterly Reports.



Table 1 depicts the injection fluid composition for October, November, and December 2016 based on a grab sample collected each month and submitted to a third party laboratory for analysis. A comparison of monthly composition results to those in Table 3c show that all analytical results were within or below the values presented in Table 3c of the Mine Plan.

Table 1: Injection Fluid Composition				
Parameter	Value Range	October 2016	November 2016	December 2016
Calcium (mg/L)	20-500	142	151	166
Chloride (mg/L)	200-5000	155	85	88
Carbonate as CO <sub>3</sub> (mg/L)	1-2500	14	17	19
Bicarbonate as HCO <sub>3</sub> (mg/L)	400-5000	1260	1460	1400
Potassium (mg/L)	15-300	11	12	15
Magnesium (mg/L)	3-100	19	18	19
Manganese (mg/L)	0.01-50	0.11	0.12	0.20
Sodium (mg/L)	400-6000	673	591	733
Sulfate (mg/L)	400-5000	525	649	688
TDS @ 180 (mg/L)	1500-12000	1940	2060	2090
U <sub>3</sub> O <sub>8</sub> (mg/L)	0.01-500	0.46	0.26	0.28
V <sub>2</sub> O <sub>5</sub> (mg/L)	0.01-100	0.67	0.92	0.73

## 2.2 Injection Pressure and Flow Volumes (Class III Wells)

According to WDEQ-LQD Chapter 11 Section 14(a)(ii)(B) the injection pressure and either flow rate or volume is to be monitored at least weekly. Chapter 11, Section 14(a)(ii)(C) allows monitoring to be performed at the header house manifold. Uranerz monitors injection pressure and flow rates by header house. At this time, operations are occurring in PA#1, Header Houses 1 through 8.

Table 2 is a tabulation of the maximum weekly injection pressures for PA#1. The Uranerz system continuously records injection pressure via electronic instrumentation at the header houses. Readings are recorded by the millisecond. Per the NRC Source Material License SUA-1597, License Condition 11.1(C), the readings are kept on site and are available for inspection upon request. The maximum pressure for Nichols Ranch is 150 psi. There were no exceedances of the maximum pressure.



**Table 2: Weekly Maximum Injection Pressure - Production Area #1**

Week Ending	Header House 1	Header House 2	Header House 3	Header House 4	Header House 5	Header House 6	Header House 7	Header House 8
October 09, 2016	143	146	148	138	137	134	132	115
October 16, 2016	146	146	147	136	141	142	134	119
October 23, 2016	143	146	147	142	135	132	132	113
October 30, 2016	143	146	146	133	146	141	137	114
November 06, 2016	145	145	146	128	148	131	137	114
November 13, 2016	139	141	144	118	133	132	139	110
November 20, 2016	143	145	147	131	130	136	137	125
November 27, 2016	145	147	148	133	137	137	134	117
December 04, 2016	145	145	140	129	133	140	137	110
December 11, 2016	142	144	146	135	132	137	137	127
December 18, 2016	145	145	147	137	145	142	140	117
December 25, 2016	142	138	147	138	138	134	133	113
January 01, 2017	137	145	147	134	143	135	134	113

Flow rates are also continuously recorded via electronic instrumentation at the header houses. Table 3 is a tabulation of the recovery (aka production), injection, and wellfield bleed flow volumes for the quarter in PA#1. Per section 3.10.1 of the WDEQ-LQD Mine Plan and Section 3.2.3.3 of the NRC Technical Report, the approximate average of 0.5 to 1.5% is the bleed rate for Nichols Ranch needed to maintain the inward gradient. The average bleed rate for the period was 0.8%.

**Table 3: Wellfield Weekly Flow Volumes - Production Area #1**

Week Ending	Recovery (gallons)	Injection (gallons)	Bleed (gallons)	% Bleed
October 09, 2016	24,460,550	24,287,231	173,319	0.7%
October 16, 2016	23,163,700	22,982,966	180,734	0.8%
October 23, 2016	23,074,000	22,894,953	179,047	0.8%
October 30, 2016	24,052,400	23,871,360	181,040	0.8%
November 06, 2016	24,427,000	24,235,475	191,525	0.8%
November 13, 2016	25,344,750	25,151,401	193,349	0.8%
November 20, 2016	23,328,900	23,146,473	182,427	0.8%
November 27, 2016	23,598,300	23,420,866	177,434	0.8%
December 04, 2016	23,183,050	23,013,453	169,597	0.7%
December 11, 2016	22,581,300	22,405,309	175,991	0.8%
December 18, 2016	21,782,750	21,623,172	159,578	0.7%
December 25, 2016	21,944,000	21,779,105	164,895	0.8%
January 01, 2017	21,228,750	21,069,846	158,904	0.7%
<b>Totals</b>	<b>302,169,450</b>	<b>299,881,610</b>	<b>2,287,840</b>	<b>0.8%</b>



## 2.3 Monitor Well Sampling Results

Monitor well sampling is performed during operations to detect and correct conditions leading to a potential excursion. Monitor well sampling and analysis is performed according to the WDEQ-LQD Mine Plan, Volume VIII, Section 3.14.7.8.10 and the NRC License Condition 11.5. The monitor wells in producing wellfields are sampled twice a month, at least 10 days between each sampling event, for water levels and the Upper Control Limit (UCL) parameters; chloride, conductivity, and alkalinity. Monitor well sampling in PA#1 continued during the period. All ring, overlying and underlying monitor wells were sampled. Results for each well have been tabulated and are enclosed in Appendix A.

The overlying monitor well MON-11 continues to show high conductivity values during the 4th quarter of 2016. Uranerz believes this is a naturally occurring anomaly and will continue to closely observe the conductivity levels through routine monitoring of the well.

Monitor ring wells (MRN) located around the perimeter of PA#1 show fluctuations in water levels as would be expected in an active production area. These fluctuations are attributed to the balancing of water flow throughout the production area in order to maintain the required inward hydraulic gradient according to NRC License 1597 Condition 10.9 and the WDEQ-LQD Mine Plan.

### 2.3.1 Excursion Status

Based on the monitor well water quality reports and analysis, there were no potential excursions which required reporting during the quarter.

## **3.0 Mechanical Integrity Testing**

The WDEQ-LQD Permit to Mine No. 778 requires mechanical integrity test (MIT) results for wells to be reported quarterly. NRC License Condition 11.1B requires a summary of MIT results semi-annually; however, the MIT information remains the same regardless of the reporting timeframe. Uranerz will therefore report the results quarterly to both agencies. The MIT procedure is followed pursuant to Section 3.6 of WDEQ-LQD Mine Plan, Volume VIII and NRC License Application Volume I, Section 3.4. Results of the MITs are maintained on site and include the signature of the individual responsible for conducting the test.

Eighty-two (82) Class III wells were tested for mechanical integrity during the report period and the MIT results are attached in Table 4. Wells tested with a pressure at or below 10% in a 10-minute timeframe have passed the MIT. Five Class III wells failed MIT in the 4<sup>th</sup> quarter. Uranerz is also reporting two wells which had failed MIT in the 3<sup>rd</sup> quarter but were not included in the 3<sup>rd</sup> quarter report: AU033 and AZ037. MITs were not able to be fully completed, therefore the wells were considered to be defective and were abandoned.





The format of column designations in Table 4 was established based on WDEQ-LQD criteria. The first column is a simple line designation for ease in review.

#### 4.0 Defective Wells, Well Repair and Plugging

Per Chapter 11, Section 8(c), a well lacking mechanical integrity must be plugged if it cannot be repaired. Chapter 11, Section 15(b)(iii) requires the status of corrective action on defective wells be reported quarterly. During the 4th quarter, Uranerz plugged and abandoned five wells. One well, AU033, was plugged and abandoned in the 3<sup>rd</sup> quarter but was not included in the 3<sup>rd</sup> quarter report. Two wells which failed MIT in the 4<sup>th</sup> quarter, AW021B and AV032, are scheduled to be plugged and abandoned in the 1<sup>st</sup> quarter 2017. Table 5 lists the status of defective wells having been abandoned or repaired.

Plugging and abandonment of wells is performed in accordance with Permit to Mine No. 778, Volume VIII, Mine Plan Section 3.8, and in accordance with Wyoming Statute 35-11-404 (described in NRC License Application Volume I Section 6.1). Well abandonment reports will be submitted in the WDEQ-LQD Annual Report as required by Permit to Mine No. 778.

#### 5.0 Certification

Certification is required by WDEQ-LQD Non-Coal Rules and Regulations Chapter 11, Section 2(g). I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

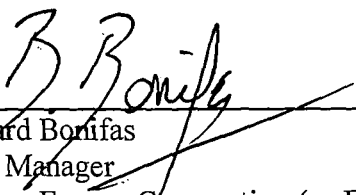
  
\_\_\_\_\_  
Bernard Bonifas  
Mine Manager  
Uranerz Energy Corporation (an Energy Fuels Company)

Table 4: Mechanical Integrity Tests  
WDEQ - Quarterly Report/4th QTR 2016  
MITs for Nichols Ranch Production



#	Well Name	Date Tested	Casing Type	Bottom Casing (top of completion ft)	Lower Packer Depth (feet)	Initial Pressure (psf)	Final Pressure (psf)	Pressure Loss (net)	Next Test Date	Pass-Fail
1	AU033	08/16/2016	PVC	621	N/A	N/A	N/A	N/A	N/A	FAIL
2	AZ037	09/20/2016	PVC	707	N/A	N/A	N/A	N/A	N/A	FAIL
3	AY030B	10/04/2016	PVC	599	580	225	217	8	10/04/2021	PASS
4	BA030	10/04/2016	PVC	628	610	225	218	7	10/04/2021	PASS
5	AY030	10/05/2016	PVC	635	610	225	209	16	10/05/2021	PASS
6	AZ029	10/05/2016	PVC	590	570	225	215	10	10/05/2021	PASS
7	AU029	10/06/2016	PVC	604	580	225	205	20	10/06/2021	PASS
8	AV027	10/10/2016	PVC	569	550	225	221	4	10/10/2021	PASS
9	AZ028	10/10/2016	PVC	657	260	0	0	0	N/A	FAIL
10	AR024	10/11/2016	PVC	553	530	225	206	19	10/11/2021	PASS
11	AW029B	10/11/2016	PVC	580	560	225	212	13	10/11/2021	PASS
12	AU030	10/12/2016	PVC	630	560	225	210	15	10/12/2021	PASS
13	AW026	10/12/2016	PVC	597	580	225	205	20	10/12/2021	PASS
14	DX093	10/12/2016	PVC	476	460	190	185	5	10/12/2021	PASS
15	AT031	10/13/2016	PVC	617	600	225	205	20	10/13/2021	PASS
16	AU035	10/13/2016	PVC	614	590	225	211	14	10/13/2021	PASS
17	AX030	10/16/2016	PVC	599	580	225	211	14	10/16/2021	PASS
18	AV030	10/17/2016	PVC	596	580	225	215	10	10/17/2021	PASS
19	AV030B	10/17/2016	PVC	581	560	225	210	15	10/17/2021	PASS
20	AX030B	10/17/2016	PVC	575	560	225	205	20	10/17/2021	PASS
21	AU030B	10/18/2016	PVC	588	570	225	219	6	10/18/2021	PASS
22	N1A-039	10/18/2016	PVC	558	540	190	180	10	10/18/2021	PASS
23	AT027	10/19/2016	PVC	555	540	225	218	7	10/19/2021	PASS
24	AV028	10/19/2016	PVC	594	580	225	204	21	10/19/2021	PASS
25	AV034	10/19/2016	PVC	575	560	225	209	16	10/19/2021	PASS
26	AO024	10/20/2016	PVC	569	550	225	217	8	10/20/2021	PASS
27	AZ032	10/20/2016	PVC	585	560	225	212	13	10/20/2021	PASS
28	AP024	10/21/2016	PVC	569	550	225	218	7	10/21/2021	PASS
29	AR028	10/21/2016	PVC	567	550	225	217	8	10/21/2021	PASS
30	AS025	10/24/2016	PVC	553	530	225	207	18	10/24/2021	PASS
31	AT025	10/24/2016	PVC	543	520	225	216	9	10/24/2021	PASS
32	AW021B	10/24/2016	PVC	587	260	0	0	0	N/A	FAIL
33	AY030C	10/26/2016	PVC	577	560	225	213	12	10/26/2021	PASS
34	AP025	10/27/2016	PVC	575	550	225	205	20	10/27/2021	PASS
35	AW033	10/27/2016	PVC	596	580	225	215	10	10/27/2021	PASS
36	DR087	10/31/2016	PVC	536	520	190	172	18	10/31/2021	PASS
37	AY027	11/03/2016	PVC	625	600	225	213	12	11/03/2021	PASS
38	AY028B	11/03/2016	PVC	596	460	190	170	20	N/A	FAIL
39	AX026	11/04/2016	PVC	619	600	225	211	14	11/04/2021	PASS
40	AW026B	11/07/2016	PVC	615	600	225	204	21	11/07/2021	PASS
41	AX026C	11/07/2016	PVC	591	530	190	170	20	N/A	FAIL
42	AZ028B	11/07/2016	PVC	622	600	225	208	17	11/07/2021	PASS
43	AQ024	11/08/2016	PVC	562	540	225	205	20	11/08/2021	PASS
44	AQ025	11/08/2016	PVC	564	540	225	208	17	11/08/2021	PASS
45	AV020	11/08/2016	PVC	546	530	225	205	20	11/08/2021	PASS
46	AW022B	11/09/2016	PVC	558	510	190	172	18	11/09/2021	PASS
47	BB031	11/09/2016	PVC	643	620	225	203	22	11/09/2021	PASS
48	AZ029B	11/10/2016	PVC	625	560	225	207	18	11/10/2021	PASS
49	BD028	11/10/2016	PVC	623	600	225	205	20	11/10/2021	PASS
50	BD031B	11/10/2016	PVC	642	620	225	211	14	11/10/2021	PASS
51	AW022	11/14/2016	PVC	599	580	225	205	20	11/14/2021	PASS
52	AX021	11/14/2016	PVC	598	580	225	206	19	11/14/2021	PASS

Table 4: Mechanical Integrity Tests  
WDEQ - Quarterly Report/4th QTR 2016  
MITs for Nichols Ranch Production



#	Well Name	Date Tested	Casing Type	Bottom Casing (top of completion ft)	Lower Packer Depth (feet)	Initial Pressure (psi)	Final Pressure (psi)	Pressure Loss (net)	Next Test Date	Pass-Fail
53	AX023	11/14/2016	PVC	602	580	225	204	21	11/14/2021	PASS
54	AX025	11/14/2016	PVC	616	600	225	204	21	11/14/2021	PASS
55	BB027	11/14/2016	PVC	620	600	225	204	21	11/14/2021	PASS
56	AV024	11/15/2016	PVC	606	590	225	204	21	11/15/2021	PASS
57	AW021C	11/15/2016	PVC	555	530	225	203	22	11/15/2021	PASS
58	AX026B	11/15/2016	PVC	569	550	225	208	17	11/15/2021	PASS
59	AX026D	11/15/2016	PVC	591	570	225	206	19	11/15/2021	PASS
60	BA028	11/15/2016	PVC	587	570	225	205	20	11/15/2021	PASS
61	AT038	11/16/2016	PVC	638	620	225	212	13	11/16/2021	PASS
62	AV037	11/16/2016	PVC	645	620	225	205	20	11/16/2021	PASS
63	AY028C	11/16/2016	PVC	596	580	225	206	19	11/16/2021	PASS
64	AY029	11/16/2016	PVC	631	610	225	210	15	11/16/2021	PASS
65	AX033C	11/21/2016	PVC	585	560	225	203	22	11/21/2021	PASS
66	AX035B	11/21/2016	PVC	626	610	225	204	21	11/21/2021	PASS
67	AY034B	11/21/2016	PVC	607	590	225	204	21	11/21/2021	PASS
68	AW035	11/22/2016	PVC	598	580	225	209	16	11/22/2021	PASS
69	AY031B	11/22/2016	PVC	584	560	225	203	22	11/22/2021	PASS
70	AX041	11/28/2016	PVC	657	640	225	204	21	11/28/2021	PASS
71	BA032B	11/29/2016	PVC	643	620	225	205	20	11/29/2021	PASS
72	AV032	11/30/2016	PVC	584	540	190	170	20	N/A	FAIL
73	AV032B	11/30/2016	PVC	562	540	225	210	15	11/30/2021	PASS
74	AX029	11/30/2016	PVC	596	570	225	217	8	11/30/2021	PASS
75	AT036	12/02/2016	PVC	611	590	225	212	13	12/02/2021	PASS
76	AW032	12/02/2016	PVC	596	580	225	205	20	12/02/2021	PASS
77	AW032C	12/02/2016	PVC	574	550	225	208	17	12/02/2021	PASS
78	AW034	12/05/2016	PVC	634	610	225	214	11	12/05/2021	PASS
79	AX033	12/05/2016	PVC	639	620	225	222	3	12/05/2021	PASS
80	AU033D	12/12/2016	PVC	558	540	225	212	13	12/12/2021	PASS
81	AV033B	12/12/2016	PVC	566	550	225	207	18	12/12/2021	PASS
82	AV034B	12/12/2016	PVC	576	560	225	208	17	12/12/2021	PASS
83	AV035	12/12/2016	PVC	615	600	225	219	6	12/12/2021	PASS
84	N1B-089-1	12/13/2016	PVC	633	610	225	211	14	12/13/2021	PASS

**Table 5: Defective Well Status**  
**WDEQ Quarterly Report - 4th Quarter 2016**  
**Nichols Ranch ISR Project**



#	Well Name	Date Tested	Well Status	Cemented/Repair Date	Well Depth (Feet)	Well Diameter (Inches)	Casing Volume (Gallons)	Cement Volume (Gallons)
1	AU033	8/16/2016	Abandoned	9/1/2016	647	5	634	695
2	AX026C	11/07/2016	Abandoned	11/28/2016	627	5	614	670
3	AY028B	11/03/2016	Abandoned	11/23/2016	637	5	624	645
4	AZ028	10/10/2016	Abandoned	11/22/2016	657	5	644	683
5	AZ037	09/20/2016	Abandoned	10/18/2016	707	5	693	758
6	BA032	09/27/2016	Abandoned	11/28/2016	677	5	663	733



# Appendix A

Production Area 1 Well ID MON-01		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

## Date

10/06/2016	7	486	118	8.0	4,641.8
10/25/2016	7	527	115	8.1	4,641.3
11/10/2016	7	536	114	7.3	4,641.0
11/28/2016	7	540	115	7.1	4,641.7
12/14/2016	7	512	113	7.9	4,640.5
12/28/2016	7	537	116	7.6	4,640.6

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MON-02		Nichols Ranch		4th QTR 2016	
PERIMETER, OVER AND UNDER MONITOR WELLS					
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/06/2016	7	485	119	8.2	4,644.7
10/25/2016	7	527	114	8.2	4,644.6
11/10/2016	7	539	114	7.5	4,644.3
11/28/2016	7	536	115	7.6	4,644.2
12/14/2016	6	530	113	7.9	4,643.8
12/29/2016	8	486	119	7.9	4,644.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-03		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/06/2016	6	463	121	8.1	4,647.1
10/25/2016	7	530	114	8.1	4,647.1
11/09/2016	6	504	113	7.9	4,647.0
11/28/2016	7	536	114	8.1	4,646.8
12/14/2016	6	538	113	7.8	4,646.7
12/29/2016	7	504	114	7.8	4,646.6

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-04		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/10/2016	6	510	114	8.3	4,652.0
10/25/2016	7	515	113	8.0	4,651.8
11/09/2016	6	507	113	8.1	4,651.3
11/28/2016	7	517	113	8.2	4,651.9
12/14/2016	6	513	112	8.7	4,651.5
12/29/2016	7	492	114	7.9	4,650.9

\*Value Exceeds Upper Control Limit



Production Area 1 Well ID MON-05		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/11/2016	7	550	117	8.5	4,652.9
10/25/2016	7	562	113	8.5	4,652.8
11/09/2016	7	552	112	8.4	4,652.7
11/23/2016	7	545	113	8.6	4,652.4
12/08/2016	7	527	109	8.7	4,652.3
12/22/2016	6	572	123	8.8	4,652.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-06		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/11/2016	6	557	119	8.2	4,653.3
10/24/2016	7	554	114	8.0	4,653.6
11/07/2016	6	523	113	8.0	4,653.4
11/22/2016	7	535	114	8.0	4,653.2
12/07/2016	7	539	115	8.1	4,653.7
12/22/2016	6	582	121	8.2	4,653.1

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-07		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/10/2016	6	556	115	8.2	4,652.2
10/24/2016	7	562	113	8.1	4,651.9
11/08/2016	6	541	113	8.1	4,651.6
11/21/2016	7	531	113	8.4	4,651.5
12/07/2016	7	544	114	8.0	4,651.3
12/22/2016	6	578	122	8.0	4,651.4

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-08		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/06/2016	6	493	117	8.2	4,657.7
10/24/2016	7	562	113	8.1	4,657.6
11/07/2016	6	557	112	8.2	4,657.5
11/21/2016	7	535	112	8.3	4,657.4
12/08/2016	7	503	113	8.0	4,657.0
12/22/2016	6	578	121	7.9	4,657.2

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-09		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/06/2016	7	496	122	8.0	4,659.4
10/24/2016	6	564	114	7.9	4,659.3
11/08/2016	7	552	114	7.8	4,659.3
11/22/2016	7	542	115	8.0	4,659.3
12/08/2016	7	521	116	7.8	4,659.1
12/22/2016	6	574	123	7.8	4,659.1

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MON-10		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/05/2016	7	578	114	7.9	4,661.5
10/20/2016	7	563	109	7.9	4,661.3
11/02/2016	7	565	111	7.5	4,661.0
11/16/2016	7	570	110	7.8	4,661.4
12/06/2016	6	564	111	7.8	4,661.0
12/21/2016	7	521	110	7.7	4,661.0

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MON-11		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/11/2016	6	804	108	7.7	4,663.2
10/25/2016	6	819	101	7.7	4,663.5
11/10/2016	6	806	103	7.8	4,662.9
11/28/2016	7	837	102	7.8	4,663.5
12/13/2016	6	735	102	7.6	4,663.4
12/29/2016	7	807	102	7.6	4,662.9

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MON-12		Nichols Ranch		4th QTR 2016	
PERIMETER, OVER AND UNDER MONITOR WELLS					
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/11/2016	7	681	112	7.9	4,662.4
10/25/2016	7	668	106	7.7	4,663.4
11/10/2016	7	714	106	7.7	4,663.1
11/28/2016	7	686	107	7.8	4,663.4
12/13/2016	6	652	105	7.6	4,663.4
12/29/2016	7	660	107	7.7	4,663.2

\*Value Exceeds Upper Control Limit



Production Area 1 Well ID MON-13		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	733	145		

Date

10/05/2016	6	623	116	7.8	4,663.9
10/20/2016	7	602	110	7.8	4,663.8
11/02/2016	7	600	112	7.6	4,663.8
11/16/2016	7	615	110	7.7	4,663.9
12/06/2016	7	600	112	7.6	4,663.8
12/21/2016	7	570	111	7.6	4,661.0

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-01		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	531	124	8.3	4,593.4
10/26/2016	8	537	116	8.3	4,591.9
11/07/2016	7	549	115	7.6	4,596.8
11/22/2016	7	537	116	7.9	4,580.3
12/05/2016	7	541	116	7.9	4,598.5
12/20/2016	7	534	115	8.4	4,596.6

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-02-2		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	541	123	8.1	4,626.2
10/26/2016	8	559	115	8.3	4,610.2
11/07/2016	7	565	114	7.6	4,611.1
11/22/2016	7	552	114	7.7	4,607.3
12/05/2016	7	559	115	8.1	4,624.8
12/19/2016	7	561	115	8.2	4,626.2

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-03-2		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	9	551	122	8.4	4,596.8
10/26/2016	9	558	110	8.4	4,603.6
11/07/2016	8	569	112	7.5	4,599.1
11/22/2016	8	557	114	7.6	4,602.3
12/05/2016	8	564	114	8.1	4,617.5
12/19/2016	7	568	113	8.4	4,622.6

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-04		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	9	545	122	8.4	4,602.5
10/26/2016	9	564	122	8.4	4,601.3
11/08/2016	7	565	112	7.8	4,597.5
11/22/2016	7	564	114	7.7	4,606.2
12/05/2016	7	567	116	8.0	4,624.3
12/20/2016	7	553	113	8.4	4,624.5

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-05		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	9	549	121	8.3	4,623.6
10/20/2016	7	568	107	8.2	4,597.0
11/03/2016	8	531	112	8.1	4,601.5
11/14/2016	8	537	110	7.8	4,608.6
12/05/2016	8	561	110	8.4	4,611.4
12/20/2016	7	552	111	8.5	4,614.7

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-06		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	551	118	8.5	4,617.8
10/20/2016	8	581	108	8.2	4,597.2
11/01/2016	8	571	110	8.3	4,600.0
11/14/2016	7	560	109	7.9	4,555.8
12/06/2016	8	568	110	8.1	4,608.5
12/20/2016	7	564	109	8.4	4,609.8

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-07		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	7	576	105	8.3	4,616.7
10/20/2016	8	573	106	8.2	4,609.8
11/01/2016	9	572	105	8.0	4,610.1
11/14/2016	8	563	104	7.7	4,602.6
12/06/2016	8	573	107	7.8	4,608.5
12/20/2016	8	564	104	8.4	4,611.5

\*Value Exceeds Upper Control Limit



Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-08		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	9	551	119	7.9	4,606.6
10/17/2016	7	549	110	8.3	4,614.2
11/01/2016	8	572	111	8.4	4,606.2
11/15/2016	7	555	111	8.0	4,602.1
12/07/2016	8	560	113	8.1	4,610.6
12/19/2016	7	577	111	7.9	4,611.7

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-09		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	561	122	7.9	4,614.2
10/17/2016	7	565	115	8.0	4,618.7
11/01/2016	8	576	113	8.4	4,615.9
11/15/2016	7	572	114	8.0	4,613.5
12/05/2016	7	575	114	8.2	4,613.7
12/19/2016	7	579	112	7.8	4,622.1

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-10		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	9	553	115	8.0	4,618.5
10/17/2016	8	559	107	8.1	4,623.6
11/01/2016	9	573	106	8.3	4,621.6
11/15/2016	8	564	105	8.0	4,618.1
12/05/2016	8	570	106	7.9	4,617.6
12/19/2016	8	573	106	7.8	4,625.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-11		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	562	122	8.0	4,613.9
10/17/2016	8	566	114	8.0	4,625.0
11/01/2016	8	572	112	8.3	4,623.7
11/15/2016	7	571	112	8.0	4,614.4
12/05/2016	7	578	114	7.9	4,614.6
12/19/2016	7	581	114	7.8	4,618.4

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-12		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	556	124	7.9	4,607.6
10/17/2016	7	569	117	8.0	4,623.4
11/01/2016	8	575	116	8.3	4,623.9
11/15/2016	7	571	116	8.0	4,612.4
12/05/2016	7	576	118	8.0	4,610.0
12/19/2016	7	583	116	7.8	4,612.8

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-13		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	558	127	8.0	4,602.7
10/18/2016	6	547	119	8.1	4,623.7
11/01/2016	7	579	120	8.3	4,623.0
11/15/2016	7	570	119	8.0	4,612.9
12/05/2016	7	576	119	7.9	4,605.7
12/20/2016	7	567	118	7.8	4,605.8

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-14		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/03/2016	8	563	127	8.1	4,605.4
10/18/2016	7	518	121	8.0	4,625.9
11/02/2016	7	575	119	8.3	4,625.8
11/15/2016	7	571	118	8.0	4,616.3
12/05/2016	7	580	120	7.8	4,607.9
12/20/2016	7	573	118	7.8	4,608.4

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-15		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	571	122	7.9	4,606.6
10/18/2016	6	563	124	8.0	4,630.8
11/02/2016	7	566	123	8.2	4,630.4
11/16/2016	7	573	121	8.0	4,619.3
12/06/2016	7	567	122	8.0	4,611.5
12/20/2016	7	558	121	7.8	4,611.0

\*Value Exceeds Upper Control Limit



Production Area 1 Well ID MRN-16		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	7	556	121	8.1	4,618.9
10/18/2016	6	552	124	7.9	4,641.9
11/02/2016	7	557	122	8.2	4,641.3
11/16/2016	6	577	121	8.0	4,630.7
12/06/2016	7	556	121	7.8	4,625.6
12/20/2016	7	555	121	7.8	4,627.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-17		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	538	122	7.9	4,623.6
10/18/2016	6	537	125	7.9	4,642.5
11/02/2016	7	538	123	8.2	4,643.5
11/15/2016	7	533	121	7.7	4,634.8
12/06/2016	7	538	122	7.7	4,632.0
12/20/2016	6	539	121	7.8	4,632.1

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-18-1		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	7	539	120	8.1	4,617.9
10/18/2016	6	538	124	7.9	4,637.3
11/03/2016	7	509	121	7.8	4,633.3
11/15/2016	7	529	121	7.3	4,627.6
12/06/2016	7	538	121	7.7	4,624.1
12/20/2016	7	535	121	7.7	4,622.4

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-20-1		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	6	548	123	8.4	4,612.2
10/18/2016	6	533	124	8.2	4,633.6
11/03/2016	7	503	123	8.0	4,631.1
11/15/2016	7	521	122	7.5	4,628.3
12/06/2016	7	532	122	8.0	4,618.4
12/20/2016	7	534	121	7.9	4,619.6

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-21		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/11/2016	7	542	125	7.9	4,636.8
10/25/2016	7	534	119	7.9	4,634.1
11/10/2016	6	546	119	8.0	4,632.8
11/28/2016	7	539	120	7.9	4,626.3
12/13/2016	6	508	119	7.7	4,614.2
12/29/2016	7	519	121	7.8	4,628.7

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-22		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	6	540	119	8.1	4,616.3
10/18/2016	6	530	117	7.9	4,630.2
11/03/2016	7	510	116	7.9	4,626.4
11/15/2016	7	518	115	7.4	4,628.3
12/06/2016	7	529	116	7.8	4,622.5
12/21/2016	7	520	115	7.8	4,621.0

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-23		Nichols Ranch		4th QTR 2016	
PERIMETER, OVER AND UNDER MONITOR WELLS					
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	7	542	125	8.3	4,618.5
10/18/2016	6	535	121	7.9	4,627.0
11/02/2016	8	531	120	7.6	4,623.7
11/14/2016	7	525	119	7.4	4,620.2
12/06/2016	7	540	120	7.8	4,622.9
12/21/2016	7	525	121	7.8	4,620.2

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-24		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	532	121	8.3	4,619.2
10/20/2016	7	536	118	8.1	4,620.9
11/01/2016	7	539	120	7.6	4,619.5
11/14/2016	7	529	120	7.5	4,617.2
12/06/2016	7	533	121	7.6	4,617.1
12/21/2016	7	523	120	7.8	4,615.4

\*Value Exceeds Upper Control Limit



Production Area 1 Well ID MRN-25		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	535	119	8.3	4,607.0
10/20/2016	7	547	117	8.0	4,608.1
11/02/2016	7	536	119	7.8	4,604.4
11/15/2016	7	520	118	7.4	4,608.1
12/06/2016	7	542	118	7.8	4,602.2
12/21/2016	7	523	119	7.8	4,602.8

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-26		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	7	527	120	8.3	4,604.5
10/20/2016	7	526	122	8.0	4,604.5
11/02/2016	7	523	121	7.8	4,599.1
11/15/2016	7	515	121	7.5	4,602.3
12/06/2016	8	525	120	8.1	4,599.9
12/21/2016	7	513	120	7.9	4,597.6

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-27		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	531	119	8.3	4,609.9
10/24/2016	7	530	118	8.2	4,600.2
11/08/2016	6	533	118	7.5	4,595.5
11/21/2016	8	515	119	7.8	4,601.1
12/07/2016	7	520	120	7.8	4,601.8
12/21/2016	7	512	119	8.4	4,600.1

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-28		Nichols Ranch		4th QTR 2016	
PERIMETER, OVER AND UNDER MONITOR WELLS					
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/04/2016	6	532	119	8.5	4,623.8
10/24/2016	7	533	118	8.3	4,604.3
11/08/2016	7	535	118	7.6	4,602.1
11/21/2016	7	511	118	7.6	4,607.1
12/07/2016	8	527	120	8.1	4,616.4
12/21/2016	7	513	119	8.2	4,613.8

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-29		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	7	535	120	8.5	4,632.9
10/24/2016	7	528	116	8.3	4,606.9
11/09/2016	7	520	118	7.7	4,599.5
11/21/2016	7	506	117	7.5	4,616.3
12/07/2016	8	515	119	8.4	4,620.5
12/21/2016	7	507	118	8.3	4,618.6

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-30		Nichols Ranch		4th QTR 2016	
PERIMETER, OVER AND UNDER MONITOR WELLS					
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	7	524	119	8.5	4,636.2
10/25/2016	7	513	115	8.0	4,611.3
11/08/2016	6	518	114	7.5	4,606.1
11/21/2016	6	490	114	7.5	4,609.8
12/07/2016	8	505	117	8.4	4,620.4
12/21/2016	7	492	116	8.3	4,621.2

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MRN-31		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	6	528	125	8.6	4,639.4
10/24/2016	7	518	119	8.5	4,626.2
11/09/2016	7	508	118	7.9	4,626.6
11/23/2016	7	499	117	7.8	4,626.3
12/07/2016	7	502	120	8.3	4,634.1
12/21/2016	7	495	118	8.4	4,632.4

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-32		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	6	526	124	8.5	4,633.0
10/24/2016	7	517	119	8.3	4,634.8
11/10/2016	7	532	119	7.7	4,641.4
11/23/2016	7	506	119	7.8	4,634.1
12/08/2016	7	515	120	8.2	4,644.1
12/21/2016	7	497	120	8.3	4,641.0

\*Value Exceeds Upper Control Limit



Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-33		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/05/2016	7	530	122	8.5	4,633.8
10/24/2016	7	521	117	8.4	4,643.0
11/10/2016	7	540	125	8.0	4,647.5
11/28/2016	7	524	117	7.9	4,644.1
12/13/2016	6	495	116	8.2	4,643.3
12/28/2016	7	524	118	8.0	4,638.6

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MRN-34-2		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER			
		MONITOR WELLS			
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	21	731	152		

Date

10/06/2016	7	482	122	8.2	4,629.9
10/25/2016	7	529	117	8.2	4,635.1
11/09/2016	7	521	116	7.6	4,639.6
11/29/2016	7	531	118	7.9	4,635.3
12/13/2016	7	511	117	8.1	4,636.8
12/28/2016	7	535	118	8.0	4,634.4

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-01-1		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/06/2016	5	353	202	8.5	4,625.2
10/25/2016	6	392	197	8.5	4,625.6
11/10/2016	5	407	198	7.9	4,624.9
11/28/2016	6	394	198	8.0	4,625.3
12/14/2016	5	389	195	8.1	4,624.7
12/28/2016	6	395	198	8.0	4,624.1

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-02		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/06/2016	5	359	206	8.5	4,623.4
10/25/2016	5	397	201	8.5	4,625.2
11/10/2016	5	413	201	7.9	4,624.2
11/28/2016	6	401	205	8.1	4,628.8
12/14/2016	5	397	200	8.0	4,623.3
12/29/2016	5	391	203	8.0	4,623.5

\*Value Exceeds Upper Control Limit

Production Area 1		Uranerz Energy Corporation		Quarterly Report	
Well ID MUN-03		Nichols Ranch		4th QTR 2016	
		PERIMETER, OVER AND UNDER		:	
		MONITOR WELLS		:	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/06/2016	5	344	201	8.2	4,622.4
10/26/2016	7	396	196	8.4	4,621.8
11/09/2016	5	379	196	8.1	4,622.4
11/28/2016	6	391	197	8.2	4,622.0
12/14/2016	5	386	195	7.9	4,621.8
12/29/2016	5	386	196	7.9	4,621.0

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-04		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/10/2016	4	417	217	8.4	4,623.0
10/25/2016	5	420	217	8.0	4,623.1
11/09/2016	4	414	217	8.1	4,623.1
11/28/2016	5	429	219	8.4	4,623.2
12/14/2016	4	421	217	8.4	4,622.5
12/29/2016	5	418	218	7.9	4,621.5

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-05-1		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/10/2016	5	375	196	8.4	4,623.1
10/25/2016	5	383	195	8.1	4,623.1
11/09/2016	5	377	195	8.1	4,622.8
11/23/2016	5	381	194	8.5	4,622.8
12/08/2016	6	387	195	8.5	4,622.1
12/22/2016	4	391	207	8.6	4,622.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID: MUN-06		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/11/2016	5	386	199	8.6	4,623.2
10/24/2016	5	389	193	8.2	4,623.9
11/07/2016	5	385	193	8.1	4,623.8
11/22/2016	5	378	196	8.1	4,623.4
12/07/2016	6	379	195	8.1	4,623.1
12/22/2016	4	394	208	8.4	4,630.2

\*Value Exceeds Upper Control Limit



Production Area 1 Well ID MUN-07		Uranerz Energy Corporation Nichols Ranch PERIMETER, OVER AND UNDER MONITOR WELLS		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/10/2016	5	371	176	8.4	4,620.8
10/24/2016	5	379	174	8.2	4,621.0
11/08/2016	5	375	175	8.1	4,619.9
11/22/2016	5	370	175	8.4	4,620.1
12/07/2016	6	372	177	8.0	4,619.7
12/22/2016	5	382	188	8.0	4,619.3

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-08		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>		Quarterly Report 4th QTR 2016	
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/06/2016	5	327	182	8.5	4,623.1
10/24/2016	6	371	177	8.3	4,623.8
11/07/2016	5	367	177	8.2	4,623.3
11/21/2016	6	352	178	8.6	4,623.2
12/08/2016	6	354	179	8.3	4,621.8
12/22/2016	5	374	190	8.0	4,622.0

\*Value Exceeds Upper Control Limit

Production Area 1 Well ID MUN-09		<b>Uranerz Energy Corporation</b> <b>Nichols Ranch</b> <b>PERIMETER, OVER AND UNDER</b> <b>MONITOR WELLS</b>			Quarterly Report 4th QTR 2016
Water Quality Parameters	Chloride	Specific Conductance	Total Alkalinity	pH	Piezometric Elevation
Units	mg/l	u mho/cm	mg/l as CaCo3		msl @ surface
Upper Control Limits	20	490	274		

Date

10/06/2016	6	352	188	8.5	4,624.8
10/24/2016	6	399	183	8.3	4,625.3
11/08/2016	6	392	184	8.1	4,624.1
11/22/2016	6	388	184	8.4	4,623.6
12/08/2016	6	379	185	8.2	4,623.6
12/22/2016	5	399	221	8.1	4,623.0

\*Value Exceeds Upper Control Limit