

June 30, 2008

Mr. Lowell Spackman, District Supervisor Land Quality Division Wyoming Department of Environmental Quality Herschler Building 122 W. 25th Street Cheyenne, WY 82002

RE: Highland Uranium Project Permit to Mine 603 2008 Annual Report

Dear Mr. Spackman:

Enclosed please find two (2) copies of Power Resources, Inc. d/b/a/ Cameco Resources (CR) 2008 Annual Report for the Highland Uranium Project. The report addresses applicable reporting requirements of the approved permit application, WDEQ Annual Report Form, and W.S. 35-11-411. The current surety bond amount of \$21,786,700.00 is being increased by \$26,213,300.00 to equal \$48,000,000. 00. This increase represents Highland Uranium Project's portion of the WDEQ's requested \$80,000,000 for both the 633 and 603 permits, as per Notice of Violation dated March 10, 2008, and the forthcoming settlement agreement.

If you have any questions, please call me at (307) 358-6541, ext. 46.

Sincerely,

McConth

John P. McCarthy Manager-Environmental Health and Safety

Attachment

cc: Chuck Foldenauer w/o atta Scott Bakken T. Foertsch, Casper Field Office, BLM File HUP 4.3.3.2 w/atta S. Magnuson w/o atta D. Mandeville, USNRC CAMECO RESOURCES Smith Ranch-Highland Operation Mail: P.O. Box 1210 Glenrock, WY 82637 USA

Tel: (307) 358-6541 Fax: (307) 358-4533 www.cameco.com

WDEQ ANNUAL REPORT

FOR

PERMIT NO. 603

HIGHLAND URANIUM PROJECT

ANNUAL REPORT JUNE 2008

TABLE OF CONTENTS

		Pag	<u>e</u>
1.0	INTF	RODUCTION	1
	1.1 1.2 1.3 1.4 1.5 1.6	Name and Address of Permittee Mining Permit Number Date of Permit Issuance Minerals Mined State Leases and Federal Claims Inside the Permit Area Reporting Period	1 1 4 4
2.0	MIN	ING ACTIVITIES	4
	2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 2.10 2.11 2.12 2.13 2.14	Central Processing Facility Satellite No. 1	4555566666666
3.0	GRO	UND WATER RESTORATION	7
	3.13.23.3	Mine Unit A Restoration Activities.3.1.1Ground Water Restoration Report.3.1.2Restoration Plans for 2008-2009.Mine Unit-B Restoration Activities.3.2.1Ground Water Restoration Report.3.2.2Stability Monitoring Report.3.2.3Restoration Plans for 2008-2009.Mine Unit-C Restoration Activities.3.3.1General.3.3.2Ground Water Quality in the 50-Sand	8 8 8 8 9 9 9
		3.3.4 Ground Water Restoration Plans for 2008-2009	
4.0	RECI	LAMATION ACTIVITIES	1
·	4.1 4.2	Seeding of Disturbed Areas	

	4.3	Noxious Weed Control	
5.0	2008	-2009 MINING PLANS	12
	5.1	General	12
6.0	2008	-2009 RECLAMATION PLANS	12
7.0	MON	VITORING ACTIVITIES	12
	7.1	Ground Water	12
	,	7.1.1 Operational Monitoring	
		7.1.2 Environmental Monitoring Program	
	7.2	Surface Water	
	7.3	Air Monitoring	
		7.3.1 Ambient Air Monitoring	14
		7.3.2 Particulate Discharge Monitoring	14
	7.4	Liquid Effluent Monitoring	14
		7.4.1 Waste Disposal Wells	14
		7.4.2 Land Application	
		7.4.3 Purge Storage Reservoir No. 2 Shallow Monitoring Wells	18
		7.4.4 Radium Monitoring	19
	7.5	Radium Settling Basins Underdrain Monitoring	
	7.6	Annual Monitoring Report for Boner Bros. Partnership	
	7.7	Wildlife	19
		7.7.1 Annual Raptor Nest Survey	19
8.0	2007	-2008 DELINEATION DRILLING	20
9.0	2007	-2008 RECLAMATION SURETY ESTIMATE REVISION2	20
10.0	NOT	ICE OF VIOLATION	20
11.0	WDE	EQ REPORTABLE SPILLS	20
12.0	ADM	INISTRATIVE ORDER ON CONSENT	21

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TABLES

- 2-1 Topsoil Stockpile Summary
- 2-2 Affected Areas Summary
- 3-2 C-Wellfield Selected Mean Water Quality Characteristics at Wells CMP-1 through CMP-32
- 7-1 Satellite No. 2 Land Application Facility (Irrigator No. 2) Monthly Irrigation Fluid Data
- 7-2 Satellite No. 1 Land Application Facility (Irrigator No. 1) Fluid Volumes Applied
- 7-3 Satellite No. 2 Land Application Facility (Irrigator No. 2) Fluid Volumes Applied
- 7-4 Satellite No. 1 Land Application Facility (Irrigator No. 1) Annual Soil Data
- 7-5 Satellite No. 2 Land Application Facility (Irrigator No. 2) Annual Soil Data
- 7-6A Satellite No. 1 Land Application Facility (Irrigator No. 1) Annual Vegetation Data
- 7-6B Satellite No. 2 Land Application Facility (Irrigator No. 2) Annual Vegetation Data
- 7-7 Satellite No. 2 Purge Storage Reservoir, Shallow Monitoring Wells, Quarterly Water Level Data, Semi-Annual Water Quality Data
- 7-8A Monthly Radium Grab Samples at the Discharge from the Radium Treatment System Satellite No. 2
- 7-8B Monthly Radium Grab Samples at the Discharge from the Radium Treatment System Satellite No. 3

FIGURES

- 7-1 Mean Conductivity, Selenium, Uranium, and Radium-226 Concentrations in Soil Samples from Irrigator No. 1 during 1986 and 1990-2007
- 7-2 Mean Conductivity, Selenium, Uranium, and Radium-226 Concentrations in Soil Samples from Irrigator No. 2 during 1993 and 1995-2007
- 7-4 Mean Selenium Concentrations (mg/kg) in Vegetation Samples from Irrigator No. 1 during 1990-2007
- 7-5 Mean Selenium Concentrations (mg/kg) in Vegetation Samples from Irrigator No. 2 during 1990-2007

APPENDICES

- 1 C-Wellfield CMP-Well Ground Water Quality Data
- 2 2007 Annual Monitoring Reports for Boner Bros. Partnership
- 3 Surety Estimate (Not Included)
- 4 Notices of Violation

PLATES

- OP-1 Smith Ranch Highland Layout
- OP-1-1 Smith Ranch Highland Map-Far East 1/6
- OP-1-2 Smith Ranch Highland Map-Near East 1/6
- OP-1-4 Smith Ranch Highland Map Lower-North 1/6
- 5 2008 Annual Raptor Nest Survey

1.0 INTRODUCTION

This submittal is in response to the Annual Report information requirement of W.S. 35-11-411 and addresses applicable requests for information contained in the Annual Report Form received from the Wyoming Department of Environmental Quality (WDEQ) Land Quality Division (LQD).

1.1 Name and Address of Permittee

Power Resources Inc. d/b/a Cameco Resources P.O. Box 1210 Glenrock, Wyoming 82637

1.2 Mining Permit Number

Wyoming Permit to Mine No. 603

1.3 Date of Permit Issuance

The Permit was issued June 30, 1987. The permit has been revised as follows:

Change No. 1 (Incidental Boundary Revision): April 29, 1988 Change No. 2 (Section 21 Monitor Well Relocation): July 25, 1988 Change No. 3 (Section 14 Amendment): June 27, 1989 Change No. 4 (WDEQ Approvals Prior to Injection) September 8, 1989 Change No. 5 (Permit Transfer from EMC to CR): January 9, 1990 Change No. 6 (Incidental Boundary Revision - Pre-mining Construction Activities for the E-Wellfield): May 24, 1991 Change No. 7 (West Highland Amendment, Permit No. 603-A2): October 15, 1991 Change No. 8 (E-Wellfield Hydrologic Test, Authorization for Production Activities in E-Wellfield): November 8, 1991 Change No. 9 (Monitoring Frequency Language Clarification): May 27, 1992 Change No. 10 (Section 14 Haulageway Addition to C-Wellfield Production Zone): November 3, 1992 Change No. 11 (Proposed F-Wellfield Monitoring Plan): November 3, 1992

Change No. 12 (Revised Monitoring Well Density): February 8, 1993 Change No. 13 (Alternate Well Completion Technique): March 17, 1993 Change No. 14 (Contract Drying of Yellowcake Slurry): March 30, 1993 Change No. 15 (Wellfield Instrumentation, Injection Pressure Monitoring): April 5, 1993 Change No. 16 (Reduced Baseline Water Quality Sampling Requirements): February 9, 1994 Change No. 17 (Revised Monitor Well Sampling, One Casing Volume): February 18, 1994 Change No. 18 (F-Wellfield Hydrology Test Data): March 1, 1994 Change No. 19 (F-Wellfield Baseline Water Quality Data, UCL's): March 1, 1994 Change No. 20 (Initial F-Wellfield Monitoring): March 1, 1994 Change No. 21 (Conditional Approval of Satellite No. 2 Wastewater Land Application Facility): March 11, 1994 Change No. 22 (Approval of Responses for F-Wellfield and Satellite No.2 Wastewater Land Application Facility): April 18, 1994 Change No. 23 (F-Wellfield Revised Monitoring Plan): September 29, 1994 Change No. 24 (Satellite No. 2 Wastewater Land Application Facility): December 13, 1994 Change No. 25 (Satellite No. 1 Purge Storage Reservoir Rework Revision Package): April 17, 1995 Change No. 26 (Satellite No. 1 Irrigation Area 1B): May 26, 1995 Change No. 27 (F-Wellfield Revised Monitoring Plan): August 2, 1995 Change No. 28 (Satellite No. 2 Purge Storage Reservoir Berm Designs): August 23, 1995 Change No. 29 (80 Acre Amendment, Satellite No. 1 PSR Corrective Action Plan): October 6, 1995 Change No. 30 (F-Wellfield Revised Monitoring Plan): December 13, 1995 Change No. 31 (Drilling Fluid Storage Cells) December 30, 1996 Change No. 32 (Revised Mining and Reclamation Schedule) April 28, 1997 Change No. 33 (Permit Transfer) July 15, 1997

Change No. 34 (Restoration Wells, Topsoil Management, Interceptor Trench Design) January 14, 1998 Change No. 35 (Modification to Resistivity Surveying) March 16, 1998 Change No. 36 (Directional Drilling) March 17, 1998 Change No. 37 (Irrigation Fluid Monitoring) May 28, 1998 Change No. 38 (FMU-5 and FMU-6 Monitoring) July 31, 1998 Change No. 39 (F-11 Restoration Methodology Investigation) September 11, 1998 Change No. 40 (Permit Reorganization) October 19, 1998 Change No. 41 (Operations at the H-Wellfield) December 21, 1998 Change No. 42 (Ground Water Treatment, CO₂ Removal) February 4, 1999 Change No. 43 (Modification to Resistivity Surveying) May 5, 1999 Change No. 44 (Revised UCLs for B-Wellfield) August 31, 1999 Change No. 45 (Irrigation for Well EPI-149 Casing Break) September 13, 1999 Change No. 46 (Well Maintenance Procedures) October 25, 1999 Change No. 47 (Option to Use SDR-17 PVC Well Casing) November 12, 1999 Change No. 48 (Change of Mechanical Integrity Testing Method) December 14, 1999 Change No. 49 (Operations at the D-Extension Wellfield) February 14, 2001 Change No. 50 (Ground Water Monitoring During Restoration) August 13, 2001 Change No. 51 (Bioremediation Test) August 22, 2001 Change No. 52 (Upper Control Limits for Well DMU-6) November 8, 2001 Change No. 53 (Upper Control Limits, Target Restoration Values, and Pump Test for I-Wellfield) May 3, 2005 Change No. 54 (Bioremediation as a Method to Restore Groundwater) May 4, 2005 Change No. 55 (Mine Unit J Boundary Amendment) January 17, 2006

3

1.4 Minerals Mined

Uranium (U_3O_8) .

1.5 State Leases and Federal Claims Inside the Permit Area

State Lease Numbers

0-40077	0-27211	0-40211
0-27233B	0-27233C	

Federal Claims

Federal Claims within the permit area are shown on the location map (Map 2) within Volume 1, Appendix A of the approved permit application.

1.6 Reporting Period

June 1, 2007 through May 31, 2008.

2.0 MINING ACTIVITIES

Plates OP-1, OP-1-1, OP-1-2 AND OP-1-4 show the locations of existing facilities at the Highland Uranium Project including the locations of environmental monitoring sites at each wellfield.

2.1 Central Processing Facility

Following CR's acquisition of the Smith Ranch Project on July 22, 2002, the Central Processing Facility at Highland was placed on standby status during the 4th Quarter 2002 as uranium (yellowcake) processing activities for the Highland Uranium Project were relocated to the Smith Ranch Central Processing Plant.

2.2 Satellite No. 1

Satellite No. 1 was historically used for the processing of production and restoration fluids from Mine Units-A and B. With the completion of restoration activities at Mine Units-A and B, Satellite No. 1 has been shut down since June 29, 2004. Final decommissioning and reclamation activities associated with Satellite No. 1 are awaiting NRC approval of ground water restoration in Mine Unit B.

During August 2002, the use of the Radium Settling Basins at Satellite No. 1 was discontinued due to escalating maintenance problems with pumps and piping and monitoring data which

showed that the settling of residual solids after the filter presses was not needed to meet the NRC's Effluent Concentration Limits. Decommissioning of the Radium Settling Basins commenced in 2004, which included disposal of geotextile and clay liners at a NRC licensed facility. Soil samples were taken from the settling basins in June 2004 and it was determined that some residual bi-product remains for disposal. It is anticipated that the Settling Basins will be backfilled, contoured, and reclaimed in the next report period.

2.3 Satellite No. 2

Satellite No. 2 processes production fluids from Mine Units I and H, and restoration fluids from the C-Wellfield. During the period June 1, 2007 through May 31, 2008, 3242 Acre Feet (AF) (1.06E9 gal) of production fluids were pumped through Satellite No. 2 and 3222 AF (1.08E9 gal) of injection fluids were pumped from Satellite No. 2 to the wellfields. Injection fluid was withdrawn as "bleed" from the production zone aquifers. A production bleed is maintained by treating a portion of the injection fluid and disposing of it at the Satellite No. 2 Land Application Facility (Irrigator No. 2). The total bleed during this period was 38 AF (1.24E7 gals), which represents 1.14% of the total production fluid volume. In addition to the production bleed, restoration fluids associated with ground water sweep and/or reverse osmosis activities in the Mine Unit-C were treated at Satellite No. 2 and disposed of at Irrigator No. 2. Ground water restoration activities associated with the Mine Unit-C are discussed in Section 3.0

2.4 Satellite No. 3

Satellite No. 3 processes production fluid from Mine Units-D, D-Extension, E, F, and J. During the period June 1, 2007 through May 31, 2008, 5386 AF (1.76E9 gal) of production fluids were pumped through Satellite No. 3 and 5297 AF (1.72E9 gal) of injection fluids were pumped from Satellite No. 3 to the wellfields. A production bleed is maintained by treating a portion of the injection fluid and disposing of it at Irrigator No. 2. The total bleed during this period was 90 AF (2.92E7 gal), which represents 1.69% of the total production fluid volume.

2.5 Mine Unit-D and Mine Unit-D Extension

Production activities continued throughout the report period in Mine Units-D and D Extension. A total of 73 production patterns exist in Mine Units-D and D Extension. As of May 31, 2008, approximately 82.5% of the estimated uranium reserve in this area had been recovered.

2.6 Mine Unit-E

Production activities continued throughout the report period in Mine Unit-E. A total of 153 production patterns exist in Mine Unit-E. As of May 31, 2008, approximately 98.2% of the estimated uranium reserve in this area had been recovered.

2.7 Mine Unit-F

Production activities continued throughout the report period in Mine Unit-F. A total of 465 production patterns exist in Mine Unit-F. As of May 31, 2008, approximately 86.3% of the estimated uranium reserve in this area had been recovered.

2.8 Mine Unit-H

Production activities continued throughout the report period in Mine Unit-H. A total of 155 production patterns exist in Mine Unit-H. As of May 31, 2008 approximately 74.6% of the estimated uranium reserve in this area had been recovered.

2.9 Mine Unit-I

Production activities continued throughout the report period, and as of May 31, 2008 approximately 109.4% of the estimated uranium reserve in this area had been recovered.

2.10 Mine Unit-J

Production activities continued throughout the report period, and as of May 31, 2008 approximately 101.4% of the estimated uranium reserve in this area had been recovered.

2.11 Mine Unit-K

Operation of Mine Unit-K commenced on February 26, 2007. There are currently 5 header houses in production. As of May 31, 2008, approximately 93.2% of the estimated uranium reserve has been recovered from Header Houses K-1 through K-5. Mine Unit-K will continue operation through the next report period, and additional header houses will be brought on-line during that time, subject to approval by WDEQ-LQD.

2.12 Topsoil Stockpiling

Tabulated topsoil stockpile volumes and dates of stockpiling are summarized in Table 2-1. The locations of topsoil stockpiles are shown on Plates OP-1, OP-1-1, OP-1-2 AND OP-1-4. Two new topsoil stockpiles have been added in Mine Unit K.

2.13 Affected Areas

Tabulated acreage disturbed as of May 31, 2008, is summarized in Table 2-2.

2.14 Uranium Production

Uranium production (net eluted pounds) as of May 31, 2008 is shown in the following tabulation:

<u>Year</u>	Pounds Uranium Eluted
1/7/88 - 6/30/88	412,177
7/1/88 - 5/10/89	621,000
5/11/89 - 4/30/90	886,097
5/1/90 - 6/30/91	1,396,298
7/1/91 - 5/31/92	1,026,676
6/1/92 - 5/31/93	847,082
6/1/93 - 5/31/94	833,542
6/1/94 - 5/31/95	693,804
6/1/95 - 5/31/96	969,023
6/1/96 - 5/31/97	1,373,658
6/1/97 - 5/31/98	1,415,320
6/1/98 - 5/31/99	1,145,228
6/1/99 - 5/31/00	832,477
6/1/00 - 5/31/01	800,753
6/1/01 - 5/31/02	596,541
6/1/02 - 5/31/03	402,264
6/1/03 - 5/31/04	270,306
6/1/04 - 5/31/05	737,093
6/1/05 - 5/31/06	610,435
6/1/06 - 5/31/07	1,347,869*
6/1/07 - 5/31/08	1,770,941*

URANIUM PRODUCTION BY YEAR

Total pounds uranium produced (drummed) as of May 31, 2008:

20,179,255

This number reflects total uranium produced under both permits 603 and 633.

3.0 GROUND WATER RESTORATION

General

The time period covered by this Annual Report is from June 1, 2007 to May 31, 2008.

3.1 Mine Unit A Restoration Activities

3.1.1 Ground Water Restoration Report

As a condition of approval of the ground water restoration in Mine Unit A (MU-A), the Land Quality Division (LQD) required that a long-term monitor (LTM) plan be developed downgradient of the mining zone. CR has implemented the approved LTM plan and is submitting ground water quality data collected from each of the LTM Wells in the following table.

WELL_ID	DATE	CI	TDS	ALK	рН	Fe	Mn	Se	U nat	Ra 226	Water Level
MP-4 N	5/15/2008	16	509	290	6.71	0.66	0.59	0.190	11.8	3830	5029.5
I-21 o	5/15/2008	16	607	439	7.33	ND	0.48	0.004	1.69	629	5052.0
LTM-4 ^t	5/15/2008	21	494	314	7.60	0.03	0.08	ND	0.0159	28.2	5053.6
M-3 ^e	5/15/2008	2	322	175	8.00	0.07	0.03	ND	0.0233	9.2	5052.3
M-4	5/15/2008	4	334	178	7.53	0.05	0.03	ND	0.0127	7.2	5051.7

All parameter values are in mg/L except for pH (std. units) and radium (pCi/L). Water levels were taken 05/15/2008 and are mean sea level elevations in feet.

The Nuclear Regulatory Commission (NRC) approved the MU-A ground water restoration in correspondence dated June 19, 2005. Therefore, in accordance with the approved reclamation plan, CR began plugging the MU-A wells in March 2005 and completed plugging activities in MU-A in May of 2005.

3.1.2 Restoration Plans for 2008-2009

CR will continue to sample the LTM Wells on a semi-annual schedule in accordance with the approved LTM plan.

3.2 Mine Unit-B Restoration Activities

3.2.1 Ground Water Restoration Report

Ground water restoration in Mine Unit B (MU-B) ended on June 28, 2005 with the cessation of ground water sweep activities and the ground water treatment / re-injection stage of restoration.

The report entitled "Mine Unit B Ground Water Restoration Report" was submitted to the LQD under cover dated August 5, 2004. The report detailed the ground water restoration techniques utilized by CR, the volumes of ground water processed for each stage of restoration, and the final ground water quality in MU-B at the end of active restoration.

3.2.2 Stability Monitoring Report

The Stability Period following the ground water restoration of MU-B began on June 28, 2004 and ended on December 28, 2004. During this time period, ground water samples were collected and analyzed in accordance with the approved Reclamation Plan. The report entitled "Mine Unit B

Ground Water Stability Report" was submitted to the LQD under cover dated May 5, 2005. The report provided the ground water quality data collected during the Stability Period and it also contained responses to LQD comments and concerns derived from the ground water restoration report. LQD approved Mine Unit-B ground water restoration on March 31, 2008. Submittals are being prepared for presentation to USNRC for their review and approval.

3.2.3 Restoration Plans for 2008-2009

Upon approval of the Mine Unit-B groundwater restoration from the USNRC, surface reclamation will begin in the Satellite #1 area. This will include Mine Units-A and B and the Satellite.

3.3 Mine Unit-C Restoration Activities

3.3.1 General

Production from the 50-sand aquifer in Mine Unit C (MU-C) began by injection of lixiviant in the C8 and C10 pattern groups in July 1989. Injection of lixiviant into the last group of patterns remaining in production was stopped on May 11, 1999. Preparation for restoration of the ground water in the northern portion of MU-C began in the Spring of 1997.

Ground Water Sweep

By the end of the current report period, three ground water sweep wells were in operation withdrawing an average bleed of 28 gpm from MU-C. The combined total volume of ground water sweep fluids pumped from MU-C during the current report period was 45 AF. This brings the total amount of ground water sweep to 596 AF since it began in August 1997.

Ground Water Recirculation and Degassing

Construction of a ground water recirculation loop between the northern portion of MU-C and Satellite #2 was completed in July 1999. Recirculation of MU-C ground water began in August 1999. The purpose of this recirculation loop is to reduce the elevated concentration of uranium that is produced by the reactions caused by the carbon dioxide, which remains in solution after mining has ended. The average for this report period was approximately 617 gpm being recirculated. The second phase of this operation was to remove the residual carbon dioxide gas from the re-circulated ground water. Therefore, a de-carbonator unit was installed for this purpose at Satellite #2 and began operating on March 7, 2003.

By the end of this report period, an estimated 1,001 AF has been re-circulated. The total amount of ground water re-circulated since the circuit began operating is 6,756 AF.

Reverse Osmosis

Two of three reverse osmosis (RO) units were installed in Satellite #2 in January 2006. The third installation was completed in February 2006. For the report period, flow averaged 240 gpm. By

the end of this report period, an estimated 923AF have been through the RO and re-circulated to the field.

Bioremediation

Bioremediation is a tool that was proposed by CR to assist in the groundwater restoration activities. Research was conducted to develop a program that would work with the naturally occurring bacteria present in the aquifer on site. The addition of a food source was noted to show improvements in the water quality as the natural occurring bacteria continue to break down the higher concentrations of selenium and uranium among other contaminants. This food source was addition began in Satellite #2 on March 1, 2006. During this reporting period no food source was added, due to operational issues. CR plans to resume addition of food source later this year. Total addition to date, is approximately 860 lbs. This is intended to "activate' the bacteria and assist in improving groundwater quality more efficiently than the Groundwater Sweep and RO alone.

50-Sand Water Levels

Measurement of bi-monthly water levels in all perimeter monitor wells (CM-Wells) and CMP-Wells in Mine Unit-C began in August 1997. Water levels are also measured in a selected number of injection and/or production wells throughout the wellfield.

3.3.2 Ground Water Quality in the 50-Sand

Bi-Monthly MP-Well Sampling

Routine sampling of Wells CMP-1 through CMP-20, located in the northern half of MU-C, began in August 1997. These water quality data, which is collected every two months, is included in the Quarterly Reports. Routine sampling of Wells CMP-21 through CMP-32 in the southern half of MU-C began in July 1999. Appendix 1 contains the bimonthly water quality data collected through May 31, 2008 for Wells CMP-1 through CMP-32.

Averaged selected parameters from CMP-Well sample data are summarized in Table 3-2. A review of Table 3-2 shows that the ground water quality in the MU-C pattern areas indicates decreased concentrations of HCO₃, Cl, Conductivity, and U since "end of mining".

Underground Mine Workings

During 1991, it was determined that production fluids from the 50-sand within MU-C had entered the abandoned underground workings situated beneath the permitted zone. This was not unexpected, as raises and fan drilling at several locations connect these workings and MU-C production zone. The workings also extend to the 40-sand production zone in the D-Wellfield. In November 1992, the WDEQ approved a permit revision to include the workings in MU-C production zone. Additional wells were installed to monitor the potential movement of production fluids within and surrounding the workings. As required in Section 4.2.1 of the

approved Restoration Plan, this group of 11 monitor wells (CMU-1, CMU-2, CMU-3, CMU-12, CMU-13, CRMW-1 through CRMW-6) will be sampled during the restoration and stability periods to assess the progress of ground water restoration in the underground workings. Sampling of these wells began in August 1997 and the results are included in the Quarterly Reports.

Until recently, a slow, but progressive decrease in conductivity level and chloride and bicarbonate concentrations continued at CMU Wells CMU-1, 2, 3, 12 and 13. These parameters have increased for these wells during the current report period. The most recent sampling data indicates that the uranium concentrations for these wells range from 0.1 - 1.3 mg/L.

The CRMW-wells showed a decrease in the monitored ground water parameters, with the exception of CRMW-2, which remained mostly unchanged this reporting period.

3.3.4 Ground Water Restoration Plans for 2008-2009

Ground Water Restoration Plans for the next report period are pending results of the forthcoming settlement agreement.

4.0 RECLAMATION ACTIVITIES

4.1 Seeding of Disturbed Areas

Revegetation activities during the report period consisted of seeding in of Mine Unit-K, pipeline corridor from Mine Unit K to Satellite #3, and the reclaimed drill ponds in Mine Units F and H. Table 2-2 has been revised accordingly. Revegetated areas were seeded during the report period using the approved permanent seed mix, as follows:

Species	lbs PLS/Acre
Thickspike Wheatgrass	4
Western Wheatgrass	2
Slender Wheatgrass	4
Canby Bluegrass	2
Green Needlegrass	2

4.2 Erosion Control

Erosion Control methods utilized during the report period included the revegetation activities discussed in Section 4.1 above.

Temporary straw bales were placed along the connecting road from the CPP to the Satellite 3 area until vegetation can be re-established.

4.3 Noxious Weed Control

During summer 2007, weeds were sprayed with Roundup and Curtail-M herbicide for general weed control around office areas and specific broadleaf weed control (e.g., Canadian Thistle) in wellfield areas. Previous applications have shown that this treatment is very effective, especially in the control of Canadian Thistle.

5.0 2008-2009 MINING PLANS

5.1 General

Mining plans are anticipated to include production activities in Mine Units-D, E, H, F, I, J and K, pending the outcome of the forthcoming settlement agreement.

6.0 2008-2009 RECLAMATION PLANS

Well plugging activities are completed in Mine Unit-A. Decommissioning and surface reclamation activities for the Mine Unit-A will be completed in conjunction with Mine Unit-B decommissioning and surface reclamation activities. Other significant surface reclamation activities planned for the next report period include the final decommissioning of the Radium Settling Basins at Satellite No. 1.

Groundwater restoration data for Mine Unit-B will be submitted to NRC in the next report period, and following NRC approval, well plugging and surface activities will commence.

7.0 MONITORING ACTIVITIES

Monitoring activities were conducted in accordance with approved permit requirements. Soil, water, air, and vegetation samples were analyzed by Energy Laboratories Inc., of Casper, Wyoming in accordance with approved permits and guidance provided from WDEQ-LQD Guidelines. EPA approved methods of analysis were used for water analyses.

7.1 Ground Water

7.1.1 Operational Monitoring

As part of the operational hydrologic monitoring program, monitoring wells in the production zone monitor well ring and those installed in overlying and underlying aquifers are monitored for the excursion parameters (chloride, bicarbonate, and conductivity) and water twice a month at approximate two-week intervals during production operations and every 60 days during restoration. In addition, wells designated as production zone monitoring wells (MP-Wells) are monitored every 60 days during restoration operations to evaluate the progress of ground water restoration. The results of all operational monitoring are submitted to the WDEQ-LQD in the routine Quarterly Reports as required by Permit No. 603.

During the report period, restoration progress sampling was conducted in the C-Wellfield. These data, along with monitoring well excursions in wellfields under restoration, are discussed in Section 3.0. The results of monitoring well excursions in production wellfields, which include Mine Units-D, D-Extension, E, F, and H, are discussed herein.

As of May 31, 2008, one monitor well – DM-3 - was on excursion status. This well is used for monitoring the 40-Sand production zone in the D-Wellfield. Due to the lack of injection in the Mine Units-D and the existence of abandoned underground workings in the area, the excursion conditions observed at this well is not considered conventional type of excursions, which typically result from over-injection of lixiviant. CR has ascertained that the excursion conditions are being caused by fluids migrating from the abandoned underground workings and has implemented corrective actions to control the excursion events. A description of these excursion events, including the status of corrective actions, will continue to be provided in the routine Quarterly Reports.

As reported to WDEQ, Monitor Well CM32 was on excursion status beginning July 3, 2007 and remained on excursion status for the report period. Efforts to control the excursion continue Monitor Well CM33 was placed on excursion status February 25, 2008, and was responding to efforts to control the excursion. It is anticipated that this well will return to normal operating parameters the first part of the next reporting period.

7.1.2 Environmental Monitoring Program

As part of the environmental monitoring program, the NRC Source Material License requires sampling of the Main Office drinking water well, when operational, and the Vollman Ranch water well for natural uranium and radium. These data are submitted to the NRC in the Semi-Annual Effluent and Environmental Monitoring Reports. The monitoring data collected during the report period show compliance with all NRC requirements. It should be noted that monitoring of the Main Office water well was suspended during the 4th Quarter of 2002 due to deactivation of the water system as the Central Plant was placed on standby status.

7.2 Surface Water

As part of the environmental monitoring program, the NRC Source Material License requires the sampling of several surface water stock ponds once each quarter for natural uranium and radium. These data are submitted to the NRC in the Semi-Annual Reports. The monitoring data collected during the report period show compliance with all NRC requirements.

7.3 Air Monitoring

7.3.1 Ambient Air Monitoring

In accordance with the NRC Source Material License, CR currently maintains three air monitoring stations in the Highland licensed area. The stations are used to monitor uranium, radium, thorium, radon, and gamma radiation and is located at the following places: Downwind at the restricted area boundary (Overlook); the nearest downwind residence (Fowler Ranch); and an upwind background site (Vollman Ranch). The Overlook and Fowler Ranch sites are only monitored when the Central Plant is in operation. Therefore, there was no data collected for these stations during the report period. The Vollman Ranch station is currently being monitored as the downwind site for the Smith Ranch Central Processing Plant. Data are collected from these stations on a quarterly basis and submitted to the NRC in the Semi-Annual Reports. The monitoring data collected during the report period show compliance with all NRC requirements.

7.3.2 Particulate Discharge Monitoring

When the Central Processing Facility (CPF) at the Highland Uranium Project is operational, CR monitors the Yellowcake Dryer and Packaging scrubber exhaust stacks to determine the emission rate of particulates, uranium, radium, and thorium. During the 4th Quarter of 2002, the Highland CPF was placed on standby status as all yellowcake processing activities (elution, precipitation, drying, and packaging) were transferred to the Smith Ranch Central Processing Plant. Therefore, no stack tests were conducted during the report period.

7.4 Liquid Effluent Monitoring

7.4.1 Waste Disposal Wells

When the Highland CPF is operational, wastewater brine generated in the Central Plant is disposed in a waste disposal well permitted with the WDEQ-WQD under the Wyoming UIC program (Permit No. 98-001). Since the Highland CPF is in standby status, the waste disposal well did not operate during the report period.

CR has hired a contractor to renew the permit on this well, under WDEQ UIC concurrence.

7.4.2 Land Application

Wellfield purge and ground water restoration fluids are treated for the removal of uranium and radium prior to disposal at the Satellite No.1 or Satellite No.2 Land Application Facilities (Irrigators No.1 and No.2, respectively). Both facilities were permitted by the WDEQ-WQD. Irrigator No.1, located near Satellite No.1, was initially permitted under Permit No. 86-217. It was renewed on April 16, 1992 under Permit No. 92-077. It was renewed a second time on May 5, 1995 under Permit No. 95-156R. The initial permit for the proposed Irrigator 1B, also located near Satellite No.1, was permitted on May 5, 1995 under Permit No. 95-156R. Irrigator No.2,

located at Satellite No.2, was permitted on April 4, 1994 under Permit No. 93-410. Irrigators No.1 did not run during the report period. Only No.2 was used during the report period, as Irrigator 1B has not been constructed.

Irrigation Fluid

Permits for each facility require sampling of the irrigation fluid once each month during operation and reporting of the irrigation fluid quality and quantity. The quality of irrigation fluid applied at Irrigator No. 2 during the report period is provided in Table 7-1. Tables 7-2 and 7-3 show the volume of irrigation fluid applied at each irrigator from the inception of irrigation activities through May 31, 2008.

<u>Soil</u>

Permits for each irrigation facility require annual sampling and analysis of soils within the irrigation areas. Soil samples were collected from each irrigator at intervals of zero to six and six to twelve inches in August 2007. The soil samples were obtained using a hand auger. The samples were stored in plastic bags and forwarded to Energy Laboratories Inc. for analysis. The radiometric analyses were conducted in accordance with NRC Regulatory Guide 4.14 – "Radiological Effluent and Environmental Monitoring at Uranium Mills" using the EPA-SW3050 nitric acid total digestion method. Non-radiometric parameters were analyzed in accordance with WDEQ-LQD Guideline No. 1 - Topsoil and Overburden. Arsenic, barium, boron, and selenium concentrations were determined on DTPA extracts. Plate OP1-1 shows the approximate locations of the sampling sites at Irrigators No. 1 and No. 2, respectively.

Fourteen sites were sampled at Irrigator No.1. A background site located outside of the irrigated area was also sampled. The analytical data for Irrigator No.1 are included in Table 7-4. To assist in assessing any long-term trends in parameters of concern, the mean conductivity and concentration of selenium, uranium, and radium-226 in soil samples from Irrigator No.1 during 1986 and 1990 through 2007 is shown in Figure 7-1.

A review of the data in Figure 7-1 shows that mean radium, conductivity, selenium and uranium concentrations have increased above background level. With the exception of soil samples collected from the zero to six-inch depth in 1994, mean soil conductivity levels have remained below the recommended level of 3.5 mhos/cm (3500 Φmhos/cm).

A review of the selenium data in Figure 7-1 shows that, during 1994, mean selenium concentrations in soil reached a maximum of approximately 1.5 and 1.1 mg/kg in the zero to six and six to twelve inch depths, respectively. Since 1995, however, mean selenium concentrations have remained relatively constant, ranging from approximately 0.2 to 09 mg/kg in the zero to six-inch depth and from approximately 0.1 to 0.7 mg/kg in the six to twelve inch depth. Although these selenium concentrations exceed site background levels, they are within the range of naturally occurring selenium concentrations for Wyoming soils. In a study of four areas in Wyoming, Jump and Sabey (1989) reported a range in natural DTPA-extractable selenium concentrations from 0.004 to 3.4 mg/kg, with a mean concentration of 0.32 mg/kg.

A review of the uranium data in Figure 7-1 shows that mean uranium concentrations in soil during the year 2007 were approximately 19.0 mg/kg in the zero to six-inch depth and 7.0 mg/kg in the six to twelve inch depth. These levels of uranium in soil are well below the NRC release limit of 30 pCi/g (44 mg/kg) and, as such, pose no undue risk to plant, animal, or human concerns.

At Irrigator No.2, soil samples were collected from 16 sites within the irrigated area. A background site located outside the irrigated area was also sampled. The analytical data are included in Table 7-5. To assist in assessing any long-term trends at Irrigator No.2, the mean conductivity and concentration of selenium, uranium, and radium-226 in soil samples during 1993 and 1995 through 2007 are shown in Figure 7-2.

Similar to the graphs for Irrigator No.1, Figure 7-2 shows that mean radium, conductivity, selenium, and uranium concentrations in soil have increased above background levels. During 2007, conductivity levels remained relatively unchanged from the previous year with mean conductivity levels slightly above the recommended level of 3,500 µmhos/cm. Average selenium levels showed a slight increase in the zero to six-inch depth (from 0.65 mg/kg to approximately 0.77 mg/kg) and average concentrations decreased in the six to twelve-inch depth (from 0.524 mg/kg to 0.50 mg/kg). Similar to Irrigator No. 1, selenium concentrations at Irrigator No. 2 remain within the range of naturally occurring selenium concentrations for Wyoming soils (Jump and Sobay, 1989). During 2007, mean uranium concentrations in the zero to six-inch depth increased to approximately 19 mg/kg, while concentrations at the six to twelve inch depth increased to approximately 5 mg/kg. These relatively low levels of uranium in soil are well below the NRC release limit of 30 pCi/g (44 mg/kg) and, as such, pose no undue risk to plant, animal, or human concerns.

Soil Water

Permits for each irrigation facility require annual sampling and analysis of soil water within the irrigation areas. These samples are obtained in June of each year and composited according to depth. Due to limited soil water available for sampling in the lysimeters at Irrigator No.1, a composite sample could not be obtained from either lysimeter. Due to similar conditions at Irrigator No. 2 during June 2007, a composite soil water sample could not be obtained from either of the lysimeters.

Vegetation

Permits for each facility require annual sampling of vegetation within the irrigation areas. Vegetation samples were obtained from soil sample locations and composited according to each quarter of the irrigation circle they represented. The samples were obtained by clipping approximately two to three kilograms of vegetation at each site. The samples were stored in plastic bags and forwarded to Energy Laboratories, Inc. for analysis.

The radiometric analyses of the vegetation were conducted in accordance with NRC Regulatory

Guide 4.14 – "Radiological Effluent and Environmental Monitoring at Uranium Mills" by ashing the majority of the sample with a methanol burn. The EPA-SW3050 total digestion method with nitric acid and hydrogen peroxide was then utilized to leach the resultant ash. The radiometric analyses were completed on the leached ash solution. To determine the required metal concentrations within the vegetation samples, approximately 100 grams of the vegetation was weighed and dried to determine the percent moisture. A one-gram subsample of the dried vegetation was then totally digested using the EPA-SW3050 method. The total metal concentrations were determined from this digest. Laboratory results for the vegetation samples collected at Irrigator No.1 are included in Table 7-6A. Laboratory results for the vegetation samples collected at Irrigator No.2 are included in Table 7-6B.

To assist in assessing any long-term trends, the mean selenium concentration in vegetation at Irrigator No. 1 for the period 1990 through 2007 is shown in Figure 7-4. Also shown in Figure 7-4 are selenium concentrations in vegetation at Irrigator No.1 background areas for the period 1996 through 2007. A review of the selenium data in Figure 7-4 shows that the mean selenium concentration at Irrigator No.1 during 2007 increased from the previous year with a concentration of approximately 16.0 mg/kg. In comparison, the selenium concentration in the background sample collected during 2007 was approximately 5.2 mg/kg. It should be noted that laboratory analysis procedures were changed in 1998. The change involved determining all metal concentrations, including selenium, on the one-gram dried subsample. This change may have resulted in a more complete digest of the vegetation, which could lead to slightly higher total metal concentrations compared to the previous method that used approximately 100 grams of undried vegetation prior to digestion.

To assist in assessing any long-term trends in vegetation at Irrigator No.2, Figure 7-5 shows baseline selenium concentrations during 1993 and 1995 and mean selenium concentrations for the period 1996 through 2007. Also shown in Figure 7-5 are selenium concentrations in vegetation at Irrigator No.2 background areas for the period 1996 through 2007. A review of the data in Figure 7-5 shows that the mean selenium concentration at Irrigator No. 2 increased to a concentration of approximately 24.0 mg/kg. In comparison, the selenium concentration in the background sample collected during 2007 was approximately 6.0mg/kg. It should be noted that the 1998 through 2005 data from Irrigator No.2 reflects the changes in laboratory analysis procedures discussed above. The increases observed in selenium concentrations during 1998 through 2007 may be attributed to these changes in laboratory procedures.

Although the selenium concentrations in vegetation at Irrigators No.1 and No.2 exceed site background levels, the concentrations fall within the natural range of 0 to 84 mg/kg determined by Rosenfeld and Beath (1964) for Western Wheatgrass from non-irrigated rangeland in western South Dakota.

Livestock and Wildlife

It is apparent that selenium concentrations in vegetation at Irrigators No.1 and No.2 have increased above background levels. However, no phytotoxicity has been observed, and consumption by livestock is not a concern as they are fenced out of the irrigated areas. LQD

personnel have expressed concerns that livestock and wildlife could be adversely affected from selenium by grazing on the vegetation after wastewater disposal activities are completed and the fences are removed. CR continues to believe that livestock and wildlife will not be adversely affected for the following reasons:

- 1. Livestock and wildlife will only obtain a small portion of their total diet from the areas which were irrigated once the land is returned to dryland pasture as the areas will comprise a relatively small portion of any dryland pastures.
- 2. Selenium levels in the vegetation will lessen once irrigation with water containing low levels of selenium ceases. Selenium could be further reduced by irrigating with selenium-free water and/or harvesting hay, thereby reducing the selenium present.
- 3. Acute selenium toxicity to most animals does not occur until the selenium content of feed reaches 400 to 800 mg/kg (Girling, 1984), which is well in excess of concentrations currently observed, and concentrations expected after irrigation is completed.
- 4. Experiments conducted on livestock indicate that chronic selenium toxicity can occur with dietary selenium concentrations from 5 to 40 mg/kg. These experiments were conducted by feeding livestock only selenium-laden feed. As discussed above, livestock and wildlife will only obtain a small portion of their total diet from the areas which were used for irrigation, thereby assuring that their total intake of selenium would be at, or below, the lowest levels at which chronic toxicity is known to occur. Additionally, it is likely that selenium concentrations in the vegetation at the completion of irrigation will be below 5 mg/kg, or at least in the very low end of the range that chronic selenium toxicity to livestock is known to potentially occur.
- 5. A recent study of selenium toxicity in pronghorn (Raisbeck et al., 1996) suggests that grazing animals may be more tolerant of selenium than livestock as five pronghorn fed on alfalfa grass hay containing 15 mg/kg of selenium showed no clinical signs of selenium toxicity.

Mitigation

Even though CR does not believe that the selenium concentrations in soil and vegetation at the irrigators present an unmanageable risk to the current and expected post-mining land uses, CR has incorporated mitigation costs in the current surety bond.

7.4.3 Purge Storage Reservoir No. 2 Shallow Monitoring Wells

The permit for the Satellite No. 2 Purge Storage Reservoir (PSR-2) requires quarterly monitoring of water levels and semi-annual sampling of ground water from the two shallow wells adjacent to PSR-2. Table 7-7 contains the applicable data for the East and South Shallow Wells during the report period. Selenium concentrations at the East Well continue to be less than 0.1 mg/L. The

South Well showed elevated selenium results of 1.78 mg/L for the November, 2007 sampling event and 2.0 mg/L for the March 19, 2008 sampling event.

7.4.4 Radium Monitoring

To ensure that the Satellite No. 2 radium treatment system is operating properly, a monthly grab sample is obtained downstream of the Satellite No. 2 radium treatment system and analyzed for total radium-226. The target radium-226 concentration is 30 pCi/L ($3.0E-8 \mu$ Ci/ml). Table 7-8A contains the results of the radium-226 monitoring at Satellite No. 2. The average radium-226 concentration during the report period was approximately 2.0 pCi/L. This is well below the target concentration of 30 pCi/L and the NRC Effluent Concentration Limit of 60 pCi/L.

To ensure that the Satellite No. 3 radium treatment system is operating properly, a monthly grab sample is obtained downstream of the radium treatment system and analyzed for total radium-226. The target radium-226 concentration is 30 pCi/L ($3.0E-8 \mu Ci/mL$). The results of monitoring at Satellite No. 3 are provided in Table 7-8B. The average radium-226 concentration during this period was approximately 3.7 pCi/L. This is well below the target concentration of 30 pCi/L and the NRC Effluent Concentration Limit of 60 pCi/L.

7.5 Radium Settling Basins Underdrain Monitoring

As approved by the WDEQ-WQD and NRC in 1988, sampling of the underdrain system from the Radium Settling Basins is performed quarterly for the WDEQ-LQD "Guideline No. 8" parameter list. As previously discussed in this report, use of the Radium Settling Basins was discontinued during August 2002. Therefore, no data was collected during the report and there will not be future data due to decommissioning of the Radium Settling Basins.

7.6 Annual Monitoring Report for Boner Bros. Partnership

At the request of the WDEQ-LQD, the 2007 Annual Monitoring Report for Boner Bros. Partnership is included as Appendix 2. This report assesses potential impacts to vegetation at areas adjacent to PSR-1 that were subject to seepage of treated irrigation fluid from PSR-1. In summary, the monitoring data collected during the report period showed no significant impacts to surface water or vegetation.

PRI discontinued use of PSR-1 September 2, 2004.

7.7 Wildlife

7.7.1 Annual Raptor Nest Survey

The annual raptor nest survey was conducted during the Spring of 2008. The survey covered areas of active or planned activities, including a one mile buffer area. The areas surveyed were consistent with the baseline surveys of 1989 conducted by Beartooth Environmental and Applied ECOsystems and previous surveys conducted by CR. Existing nests were checked for activity.

Potential nesting sites were checked to see if any new nests had been constructed since the last survey. The locations of the nest sites are shown on Plate 5.

A total of 10 previous nest sites were observed. One new nest site was identified. During the surveys, raptor activity was observed at Nests, No. 5, No. 6, No. 8, No. 9, No. 11 and No. 12. The remaining nests were inactive. Nests No. 6, No. 8 and new nest No. 12 were inhabited by Red-Tailed Hawks. Great Horned Owls were present at Nests No. 5 and No. 11. Swainson's Hawks were present at Nest No. 9. Nests No. 1 and 10 have blown down or otherwise been destroyed and no longer exist. These nests have been removed from the map, and will be readded as new nests if activity is observed at these sites in the future. No other raptors were observed during the surveys at Highland. All active nest sites are located at a sufficient distance that will prevent them from being disturbed by mining activity.

8.0 2007-2008 DELINEATION DRILLING

Delineation drilling was performed in Mine Unit-K, and these activities were reported in the Smith Ranch Annual Report for Permit #633.

9.0 2007-2008 RECLAMATION SURETY ESTIMATE REVISION

The current surety bond amount of \$21,786,700.00 is being increased by \$26,213,300.00 to equal \$48,000,000.00. This increase represents Highland Uranium Project's portion of the WDEQ's requested \$80,000,000.00 for both the 603 and 633 permits, as per Notice of Violation dated March 10, 2008 and the forthcoming settlement agreement.

10.0 NOTICE OF VIOLATION

Two Notices of Violation (NOV) were issued against the permit during the report period, and are included in Appendix 4. One of these Violations was a joint violation between Permits #633 and 603, and one was specific to Permit #603.

11.0 WDEQ REPORTABLE SPILLS

During the period June 1, 2007 to May 31, 2008, one spill meeting WDEQ reporting requirements occurred in Mine Unit K at Injection well KI-156, on June 19, 2007. This spill resulted in the release of 840 gallons of Injection fluids. This spill was reported to the WDEQ under separate cover dated June 26, 2007.

12.0 ADMINISTRATIVE ORDER ON CONSENT

In December 1999, CR submitted the Environmental Audit Report, dated November 21, 1999, which summarized CR's internal investigation of casing leaks at injection wells. The report describes the apparent causes for the casing leaks, potential impacts to ground water, mitigative actions, and changes to well construction practices and wellfield operations.

In correspondence dated August 11, 2000, CR received an Administrative Order on Consent (Docket No. 3211-00) from the LQD. The items in this Order were negotiated between CR and the LQD to address the findings of the audit report and eliminate any impending violations. In correspondence dated October 19, 2000, CR submitted a Compliance Schedule and Minor Permit Revision to the LQD to address Items No. 1 and No. 3 of the Order. Pursuant to Item No. 2 of the Order, CR has been submitting quarterly Progress Reports to keep the LQD informed of the on-going investigative and mitigative activities, including confirmation of repair or abandonment of wells with compromised mechanical integrity.

Under cover dated October 7, 2002 CR submitted a proposed prioritization system to the LQD for repair and abandonment of wells that have failed the Mechanical Integrity Test (MIT). This prioritization system was submitted at the request the LQD and is CR's latest response in its ongoing efforts to revise Appendix B of the Administrative Order (Schedule for Evaluating Repair or Abandonment of Suspect Wells). To date, CR has not received a response from the LQD on the proposed prioritization system. Once approved, CR will incorporate the prioritization system into the lists of suspect and/or failed wells.

Reports detailing activities associated with this Administrative Order are submitted to the WDEQ on a quarterly basis.

Wells failing Mechanical Integrity Testing which have been repaired or abandoned has reached 100% and this requirement of the Administrative Order is now complete.

At the end of the reporting period, 16 wells remained on the list for water sampling and water level measurement. Sampling will continue through the report period for UCL parameters and water levels in wells containing enough water to sample. Methods for continued recovery and/or remediation of fluids will be conducted as necessary.

CERTIFICATION AND SIGNATURE (required):

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 gathered and evaluated 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 knowing violations.

John McCarthy

Manager-Health, Safety & Environmental Affairs Print Name and Title of Principal Executive Officer or Authorized Agent

Signature of Principal Executive Officer or Authorized Agent

Date

TABLE 2-1

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TOPSOIL STOCKPILE SUMMARY

Stockpile	Estimated	Date	
<u>No.</u>	Volume (yd ³)	Stockpiled	Source
8	100	Oct 1993	F-Wellfield Oxygen Pad
1	3,000	Jul 1987	Road to Satellite No. 1
2 3	6,000	Jul 1987	Satellite No. 1 Pad and Road to Radium Ponds
3	45,000	Aug 1987	PSR-1
4(subsoil)	50,000	Sep 1987	PSR-1
5	700	Nov 1988	Satellite No. 2 Pad & Road
6	450	Nov 1988	Satellite No. 2 Road
7	100	Apr 1991	D-Wellfield Oxygen Pad
9	0	Nov 1995	Satellite No. 3 Road/Drill Water Ponds (moved to
_			Stockpile No. 52 March 1998
10	1,100	Nov 1995	Satellite No. 3 Road
11	910	Nov 1995	Satellite No. 3 Road
12	1,970	Nov 1995	Satellite No. 3 Pond and Road
13	270	Oct/Nov96	Road to Irrigator No. 1
14	350	Oct/Nov96	C-Wellfield Access Road
15	600	Oct/Nov96	C-Wellfield Access Road
16	50	Oct/Nov96	C-Wellfield Access Road
17	720	Oct/Nov96	C-Wellfield Access Road
18	220	Oct/Nov96	C-Wellfield Access Road
19	230 200	Oct/Nov96 Oct/Nov96	C-Wellfield Access Road
20 21	200 260	Oct/Nov96	C-Wellfield Access Road C-Wellfield Access Road
22	30	Oct/Nov96	C-Wellfield Access Road
23	20	Oct/Nov96	C-Wellfield Access Road
24	130	Oct/Nov96	D-Wellfield Access Roads
25	520	Oct/Nov96	D-Wellfield Access Roads
26	450	Oct/Nov96	E-Wellfield Access Roads
27	560	Oct/Nov96A	E-Wellfield Access Roads
28	670	Oct/Nov96	E-Wellfield Access Roads
29	320	Oct/Nov96	E-Wellfield Access Roads
30	480	Oct/Nov96	E-Wellfield Access Roads
31	520	Oct/Nov96	E-Wellfield Access Roads
32	900	Oct/Nov96	E-Wellfield Access Roads
33	370	Oct/Nov96	E-Wellfield Access Roads

Stockpile	Estimated	Date	Course
<u>No.</u> 34	<u>Volume (yd³)</u> 410	<u>Stockpiled</u> Oct/Nov96	<u>Source</u> E-Wellfield Access Roads
35	550	Oct/Nov96	F-Wellfield Access Roads
35	0	Oct/Nov96	(moved to Stockpile No. 35 in February 1998)
37	210	Oct/Nov96	(moved to Stockpile No. 35 in February 1998) (moved to Stockpile No. 35 in February 1998)
37	560	Oct/Nov96	(inloved to Stockphe 140, 55 in February 1996) (enlarged November 1998)
38	220	Oct/Nov96	(enlarged November 1998)
40	220 290	Oct/Nov96	(enlarged November 1998)
40 41	110	Oct/Nov96	(enlarged November 1998)
41	200	Oct/Nov96	(enlarged November 1998)
42	200 340	Oct/Nov96	(enlarged November 1998)
44	240	Oct/Nov96	(enlarged November 1998)
45	240	Oct/Nov96	(enlarged November 1998)
45 46	200	Oct/Nov96	(enlarged November 1998)
47	420	Oct/Nov96	(enlarged November 1998)
48	320	Jun 1997	(enlarged November 1998)
48A	400	Jun 1998	(enlarged November 1998)
48A 49	1,160	Oct/Nov 96	Drilling Fluid Storage Cell No. 1
50	920	Oct/Nov 96	Drilling Fluid Storage Cell No. 1
51	350	Oct/Nov 96	Road to Irrigator No. 2
52	700	Mar 1998	Drilling Fluid Storage Cell No. 2
52	240	Apr 1998	Drilling Fluid Storage Cell No. 3
54	300	Apr 1998	Drilling Fluid Storage Cell No. 4
55	100	Nov 1998	F-Wellfield Access Roads
56	400	Nov 1998	F-Wellfield Access Roads
57	100	Nov 1998	F-Wellfield Access Roads
58	150	Nov 1998	F-Wellfield Access Roads
50 59	170	Nov 1998	F-Wellfield Access Roads
60	280	Nov 1998	F-Wellfield Access Roads
61	200	Nov 1998	F-Wellfield Access Roads
62	580	Nov 1998	H-Wellfield Access Roads
63	520	Nov 1998	H-Wellfield Access Roads
64	350	Nov 1998	H-Wellfield Access Roads
65	350	Nov 1998	H-Wellfield Access Roads
66	710	Nov 1998	H-Wellfield Access Roads
67	780	Nov 1998	H-Wellfield Access Roads
		-	

Stockpile	Estimated	Date	
<u>No.</u>	Volume (yd ³)	Stockpiled	Source
68	780	Nov 1998	H-Wellfield Access Roads
69	1,000	Nov 1998	H-Wellfield Access Roads
70	60	Nov 1999	H-Wellfield Access Roads
71	50	Jan 2000	H-Wellfield Access Roads
72	50	Apr 2000	H-Wellfield Access Roads
73	50	May 2000	H-Wellfield Access Roads
74	200	Nov 2000	H-Wellfield Access Road
75	75	Nov 2000	H-Wellfield Access Road
76	80	Nov 2000	H-Wellfield Access Road
77	60	Apr 2001	H-Wellfield Access Road
78	50	Apr 2001	F-Wellfield Access Road
79	40	Apr 2001	F-Wellfield Access Road
80	50	Jun 2001	D-Extension WF Access Rd
81	130	Jun 2001	D-Extension WF Access Rd
82	350	Jun 2001	D-Extension WF Access Rd
83	50	Apr 2001	B-Wellfield Access Road
84	30	Apr 2001	B-Wellfield Access Road
85	250	Apr 2001	RO Unit No. 3 Pad
86	325	Sep 2002	SR-HUP Connecting Road
87	50	May 2005	Mine Unit-I Access Rd
88	80	April 2006	Mine Unit-I Access Road
89	80	April 2006	Mine Unit –I Access Road
90	50	February 2006	Mine Unit-J Access Road
91	50	February 2006	Mine Unit-J Access Road
SR51	50	2008	Mine Unit-K Access Road
SR52	50	2008	Mine Unit-K Access Road

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TABLE 2-2

AFFECTED AREAS SUMMARY

		Temporary	Permanent
Description (Manual A Control	Affected	Revegetated	Reclamation
Description/Years Affected Central Plant/Office Area; prior to 1987	<u>Acreage</u> 25	<u>Acres</u> 5	Acres 3
Radium Settling Basins; 1987-1988	3	1	0
Irrigator No. 1; 1988	55	55	•
Purge Storage Reservoir, Sat 1; 1987-1988	9		0
		4	0
Topsoil Pile No. 3 and Subsoil No. 4	5	5	0
Satellite No. 1; 1987-1988	1	0	0
Satellite No. 1 Access Road; 1987-1988	18	0	0
A/B-Wellfield; 1987-1989	50	50	0
A/B-Wellfield Roads; 1996, 2001	7	0	0
Exxon R & D Site	1	0	0
Satellite No. 2; 1988-1989	2	0	0
Satellite No. 2 Access Road; 1988-1989	1	0	0
C-Wellfield; 1988-1990	50	50	0
C-Wellfield Roads; 1996	7	0	0
Waste Water Pipeline; 1988-1989	11	11	0
D-Wellfield; 1990-1991	14	14	0
D-Wellfield Roads; 1996	2	0	0
E-Wellfield; 1990-1995	44	44	0
E-Wellfield Roads; 1996	8	0	0
F-Wellfield; 1992-1999	134	134	0
F-Wellfield Roads; 1996-1998, 2001	12	0	0
PSR Pumpback System, 1994-1995	1	1	0
Purge Storage Reservoir; Sat 2; 1994-1995	40	8	. 0
Irrigator No. 2; 1995	116	116	0
Satellite No. 3 and Topsoil Pile; 1995-1996	3	1	0
Satellite No. 3 Access Road and Topsoil Piles/Borrow Areas; 1995-1996	8	2	0
H-Wellfield; 1998-2001 (in production)	61	61	0
H-Wellfield Roads; 1998-2001	8	0	0

		Temporary	Permanent
	Affected	Revegetated	Reclamation
Description/Years Affected	<u>Acreage</u>	Acres	Acres
Waste Disposal Well No. 2 and Access Road	3	1	0
D-Extension Wellfield; 2001 (in production)	10	10	0
D-Extension Wellfield Roads; 2001	2	0	0
SR-HUP Connecting Road and Topsoil Piles/Borrow Areas; 2002	7	2	0
Mine Unit-I Monitor Well Installation; 2005	<1	0	0
Mine Unit-I; 2006	20	20	0
Mine Unit-I Roads; 2006	2	0	0
Mine Unit-I Pipeline Corridor 2006	2	2	0
Mine Unit-J Delineation Drilling, Monitor Wells	10	10	0
2007	0.8	0	0
Mine Unit-J Access Road and Staging Area 2007			
Mine Unit-J Wellfield Area 2007	37.2	37.2	0
Mine Unit F-Drill Ponds 2008	8	0	8
Mine Unit H-Drill Ponds 2008	7	7	7
Mine Unit-K Access Road and Staging Area 2008	2	2	0
Mine Unit-K Pipeline Corridor 2008	2	2	0
TOTALS	777	652	20

TOTALS

772

652

.

20

TABLE 3-2

C-WELLFIELD SELECTED MEAN WATER QUALITY CHARACTERISTICS AT WELLS CMP-1 THROUGH CMP-32 (Mg/L unless noted)

					Cond			Radium-226
Year	HCO ₃	SO ₄	Cl	TDS	(µmhos/cm)	Se	U	(pCi/l)
July 1997 (CMP1-CMP20)	625	624	198	1979	2355	2.27	23.4	2175
May 1998 (CMP1-CMP20)	657	677	228	1968	2360	1.68	30.6	1634
May 1999 (CMP1-CMP32)	637	603	210	1843	2289	1.64	30.4	1777
March 2000 (CMP1-CMP32)	581	493	154	1578	2098	1.35	22.7	1831
June 2001	524		147		2051		25.9	
May 2002	468		144	~~	1846		20.0	
April 2004	647		167		2179		17.8	
April 2005	528 (Alkalinity)	`	139		1781		14.4	
May 2006	394 (Alkalinity)		106		1885		11.8	
May 2006	319 (Alkalinity)		75		1202		8.5	
May 2007								
May 2008	230		43		1296		3.9	
	(Alkalinity)				,	ĺ		
Baseline (CMP1-CMP32)	203	210	5	492	721	0.02	2.16	703
Class of Use (Domestic)	NA	250	250	500	NA	0.01	5	5
Class of Use (Livestock)	NA	3000	2000	5000	NA	0.05	5	5

TABLE 7-1

.

SATELLITE NO. 2 LAND APPLICATION FACILITY (IRRIGATOR NO. 2) MONTHLY IRRIGATION FLUID DATA

IRRIGATION CYCLE	·	<u>Jul-07</u>	<u>Aug-07</u>	<u>Sep-07</u>	<u>Oct-07</u>	<u>Nov-07</u>	Dec-07	<u>Jan-08</u>	<u>Feb-08</u>	<u>Mar-08</u>	<u>Apr-08</u>	<u>May-08</u>
VOLUME (AF) DATE SAMPLED		28.40 16-Jul	27.40 10-Aug	45.30 18-Sep	31.00 12-Oct				•			5.30 21-May
MAJOR IONS (mg/L) Ca	REP. LIMIT 1.0	378	359	396	412	IRRIGATOR	IRRIGATOR		IRRIGATOR	IRRIGATOR	IRRIGATOR	436
Mg	1.0	102	105	127	128							110
Na	1.0	103	102	108	105							96
к	1.0	30.0	31.0	34.0	32.0	DID	DID	DID	DID	DID	DID	30.0
HCO3	1.0	171	149	146	154							187
SO₄	1.0	707	782	809	806							738
CI	1.0	532	528	561	556	NOT	NOT	NOT	NOT	NOT	NOT	521
NON-METALS												
TDS @ 180° C (mg/L)	10.0	2270	2420	2570	2440	OPERATE	OPERATE	OPERATE	OPERATE	OPERATE	OPERATE	2420
pH (standard units)	0.010	8.09	7.91	8.01	7.97							7.92
SAR	0.01	1.22	1,21	1.21	1.16							1.1
TRACE METALS (mg/L)												
As	0.001	0.008	0.004	ND	0.004							0.002
Ва	0.1	0.1	ND	ND	ND				•			0.1
В	0.10	0.20	0.20	0.20	0.2							ND
Se	0.001	0.767	0.492	0.508	0.512							1.22
RADIOMETRIC												
U-nat (uCi/mL)	2.03E-10	3.87E-07	3.02E-07	3.57E-07	4.58E-07							3.94E-07
Ra-226 (uCi/mL)	2.00E-10	3.00E-09	4.50E-09	1.30E-09	2E-09				÷.			4.4E-07
Ra Err. Est. +/-		5.00E-01	8.00E-10	4.00E-10	4.00E-10				t k			2E-08

TABLE 7-2

SATELLITE NO. 1 LAND APPLICATION FACILITY (Irrigator No. 1) FLUID VOLUMES APPLIED

	Fluid Volumes		Fluid Volumes
Irrigation Cycle	Applied (AF)	Irrigation Cycle	Applied (AF)
Aug 16-Nov 14, 1989	20.9	Nov 16-Nov 30, 1995	2.9
Jul 25-Aug 4, 1990	9.4	Dec 1-Dec 13, 1995	4.3
Apr 28-Jun 5, 1991	20.9	Apr 1-Apr 30, 1996	12.4
Jun 7-10, 1991	2.9	May 1-Jul 10, 1996	27.3
Jul 3-4, 1991	.9	Jul 11-Sep 11, 1996	30.6
Jul 8-Aug 9, 1991	31.2	Sep 12-Dec 12, 1996	14.2
Sep 30-Oct 23, 1991	19.9	Mar 12-Mar 21, 1997	2.8
Dec 24-Dec 30, 1991	5.7	Apr 3-May 6, 1997	1.7
Jan 28-Mar 5, 1992	21.0	May 7-Jun 2, 1997	10.2
Mar 24-Apr 6, 1992	13.1	Jun 3-Jul 2, 1997	15.1
Apr 29-May 31, 1992	25.8	Jul 3-Jul 25, 1997	12.2
Jun 1-Jul 2, 1992	23.1	Aug 15-Aug 30, 1997	7.5
Jul 6-Jul 29, 1992	21.1	Sep 2-Sep 28, 1997	11.2
Aug 7-Sep 26, 1992	18.9	Oct 1-Oct 30, 1997	11.4
Oct 6-Oct 13, 1992	7.2	Nov 3-Nov 25, 1997	2.4
Oct 19-Oct 30, 1992	11.8	April-December 1998	87.5
Jan 20-Feb 8, 1993	11.0	March-December 1999	67.3
Mar 2-Mar 16, 1993	8.5	January-June 2000	40.7
Apr 16-May 28, 1993	22.1	July-October 2000	47.0
Jun 2-Jul 23, 1993	22.7	January 2001	3.0
Jul 26-Aug 20, 1993	10.0	March-April 2001	8.1
Sep 1-Oct 5, 1993	22.9	June-November 2001	57.8
Oct 6-Oct 29, 1993	19.7	Apr 2002-Jan 2005	122.2
Dec 29, 1993-Jan 28, 1994	5.2	April-October 2005	85.6
Feb 2-Feb 28, 1994	2.2	April – October 2006	0
Mar 1-Mar 31, 1994	9.3	April – October 2007	0
Apr 1-Apr 30, 1994	10.7	TOTAL	1,191.8
May 1-May 31, 1994	16.7		
Jun 1-Jul 1, 1994	2.3		
Jul 1-Aug 2, 1994	20.6		
Aug 2-Aug 31, 1994	21.5		
Sep 1-Sep 30, 1994	20.3		
Oct 1-Oct 27, 1994	2.6		
Nov 1-Nov 30, 1994	2.9		
Sep 6-Sep 27, 1995	8.7		
Oct 2-Oct 20, 1995	11.7		

TABLE 7-3

SATELLITE NO. 2 LAND APPLICATION FACILITY (Irrigator No. 2) FLUID VOLUMES APPLIED

Fluid Volumes Applied (AF) Irrigation Cycle Sep 1-Sep 23, 1995 32.2 Oct 6-Oct 30, 1995 22.7 Mar 20-Jun 30, 1996 35.7 May 14-Jul 2, 1996 36.1 Aug 1-Aug 28, 1996 28.1 Sep 10-Oct 15, 1996 16.2 Aug 21-Sep 19, 1997 60.2 June-December 1998 102.5 June-November 1999 130.4 April-June 2000 45.8 July-September 2000 67.6 May-September 2001 156.6 June-September 2002 80.7 June-October 2004 134 June - October 2005 82.1 June – October 2006 117.9 June – October 2007 132.1 TOTAL 1280.9

TABLE 7-4 SATELLITE No. 1 LAND APPLICATION FACILITY (IRRIGATOR 1) ANNUAL SOIL DATA

SAMPLE ID	SAMPLE DATE	CONDUCTIVITY SAT. PASTE mmhos/cm	Sat %	pH SAT. PASTE std. Units	POTASSIUM SOLUBLE mg/kg-dry	SAR	CALCIUM SOLUBLE meq/L	MAGNESIUM SOLUBLE meq/L	SODIUM SOLUBLE meq/L	ARSENIC ABDTPA mg/kg-dry	BARIUM ABDTPA mg/kg-dry	Selenium uf Abdtpa mg/kg-dry	RANIUM - NATURAL TOTAL pCi/g-dry	BORON ABDTPA mg/kg-dry	RADIUM 226 pCi/g-dry	TOTAL ERROR ESTIMATE <u>+</u> pCi/g-dry
Irrigator #1 S.E. Location 1 0-6"	8/30/07	0.33	89.5	6.7	4.11	1.05	1.40	1.10	1.2	0.040	1.0	0.076	1.180	0.54	4.1	1.4
Irrigator #1 S.E. Location 1 6-12"	8/30/07	0.20	90.1	7.2	2.70	1.48	0.67	0.58	1.2	0.028	1.5	0.060	1.100	0.67	3.6	1.5
Irrigator #1 S.E. Location 2 0-6"	8/30/07	0.48	93.0	7.0	8.39	1.38	2.30	1.20	1.8	0.044	1.3	0.923	8.080	1.10	3.5	1.4
Irrigator #1 S.E. Location 2 6-12"	8/30/07	0.85	91.6	7.0	8.63	1.79	4.30	2.10	3.2	0.035	1.0	0.698	7.110	1,10	3.8	1.4
Irrigator #1 S.E. Location 3 0-6"	8/30/07	1.85	61.3	5.8	34.50	1.88	7.30	3.90	4.4	0.045	0.4	0.776	9.230	1.00	3.9	1.5
Irrigator #1 S.E. Location 3 6-12"	8/30/07	3.54	79.5	5.9	33.90	2.82	16.00	8.80	9.8	0.045	0.2	0.990	3.990	1.00	3.2	1.5
Irrigator #1 S.W. Location 4 0-6"	8/30/07	0.38	81.5	7.0	8.94	1.77	. 1,40	0.70	1.8	0.054	0.5	0.650	15.900	1.10	4.2	1.6
Irrigator #1 S.W. Location 4 6-12"	8/30/07	0.36	80.8	7.2	6.52	2.61	0.97	0.52	2.3	0.046	1.6	0.547	5.080	0.89	2.7	1.4
Inigator #1 S.W. Location 5 0-6"	8/30/07	0.90	69.8	6.8	16.50	2.17	3.80	1.80	3.7	0.108	0.4	1.360	25.800	1.10	3.4	1.5
Irrigator #1 S.W. Location 5 6-12"	8/30/07	1.67	84.3	6.4	20.50	2.59	6.60	3.50	5.8	0.044	0.2	1.340	8.660	0.91	3.2	1.5
Irrigator #1 S.W. Location 6 0-6"	8/30/07	3.62	73.3	6.0	90.10	1.55	18.00	9.90	5.8	0.051	0.4	0.984	20.200	1.30	3.4	1.6
Irrigator #1 S.W. Location 6 6-12"	8/30/07	3.51	71.6	6.0	51.50	1.92	17.00	9.30	7.0	0.039	0.5	0.823	12.400	1.00	3.7	1.5
inigator #1 S.W. Location 7 0-6"	8/30/07	1.92	79.3	6.9	16.80	2.40	11.00	5.80	7.0	0.030	0.4	0.948	14.000	1.00	3.2	1.6
Inigator #1 S.W. Location 7 6-12"	8/30/07	1.89	84.2	7.7	11.90	2.59	9.20	4.50	6.8	0.036	1.2	0.653	4.450	0.92	3.7	1.5
Irrigator #1 N.W. Location 8 0-6"	8/30/07	0.35	79.3	7.1	5.24	1.76	1,40	0.72	1.8	0.058	0.4	0.537	8.410	0.94	4.1	1.5
Irrigator #1 N.W. Location 8 6-12"	8/30/07	0.30	87.1	7.2	4.03	2.34	0.96	0.56	2.0	0.030	0.5	0.309	3.590	0.96	2.8	1.4
Irrigator #1 N.W. Location 9 0-6"	8/30/07	0.38	89.4	7.3	9.23	1.76	1.40	0.76	1.8	0.055	0.5	0.413	16.800	0.94	3.1	1.5
Irrigator #1 N.W. Location 9 6-12"	8/30/07	0.60	88.8	7.9	9.31	2.43	2.30	1.20	3.2	0.039	1.0	0.270	5.130	0.70	3.0	1.5
Irrigator #1 N.W. Location 10 0-6"	8/30/07	0.42	54.1	6.6	7.84	2.51	1.40	0.70	2.6	0.047	0.3	0.286	4.010	0.73	1.7	1.4
Irrigator #1 N.W. Location 10 6-12"	8/30/07	0.70	57.2	6.8	7.23	3.28	1.90	1.10	4.0	0.019	<0.2	0.225	1.900	0.98	3.6	1.5
Irrigator #1 N.E. Location 11 0-6"	8/30/07	0.61	59.5	6.5	6.09	3.53	1.80	0.93	4.1	0.024	<0.2	0.484	15.400	0.64	3.2	1.4
Irrigator #1 N.E. Location 11 6-12"	8/30/07	1.06	48.5	6.4	7.30	3.58	3.20	1.70	5.6	0.019	<0.2	0.376	1.490	0.37	2.3	1.3
Inigator #1 N.E Location 12 0-6"	8/30/07	0.39	50.3	6.8	5.77	1.21	1.70	0.89	1.4	0.059	0.6	2.450	23.200	0.94	5.0	1.6
inigator #1 N.E. Location 12 6-12"	8/30/07	0.46	63.0	7.3	6.91	1.60	2.20	1.00	2.0	0.040	0.7	1.100	10.200	0.80	3.7	1.4
Imigator #1 N.E. Location 13 0-6"	8/30/07	0.38	57.4	6.8	4.84	2.20	1,40	0.71	2.2	0.025	0.4	0.454	7.770	0.66	2.3	1.4
Irrigator #1 N.E. Location 13 6-12"	8/30/07	0.79	68.2	7.6	3.37	2.50	3.30	1.80	4.0	0.022	0.6	0.271	1.410	0.71	3.4	1.4
Irrigator #1 N.E. Location 14 0-6"	8/30/07	5.23	53.5	6.8	25.70	2.72	34.00	16.00	14.0	0.07 9	<0.2	2.010	11.500	0.79	2.7	1.4
inigator #1 N.E. Location 14 6-12"	8/30/07	4.26	44.2	6.7	12.80	2.98	21.00	12.00	12.0	0.025	<0.2	0.894	1.710	0.47	2.4	1.3
Inigator #1 Background 0-6"	8/30/07	0.66	66.4	7.4	3.86	1.40	3.40		2.3	0.025	2.2	0.053	0.980	0.49	3.3	1.5
Imigator #1 Background 6-12"	8/30/07	0.45	66.2	8.1	2.61	2.08	1.70	1.10	2.5	0.031	1.9	0.028	1.120	0.55	2.3	1.5
Average		1.34	72.51	6.84	15.38	2.23	6.35	3.35	4.38	0.04	0.68	0.75	8.92	0.87	3.32	1.46

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TABLE 7-5 SATELLITE No. 2 LAND APPLICATION FACILITY (IRRIGATOR 2) ANNUAL SOIL DATA

		SAMPLE	CONDUCTIVITY SAT. PASTE	Sat %	pH SAT. PASTE	POTASSIUM SOLUBLE		MAGNESIUM SOLUBLE	SODIUM	SAR	ARSENIC ABDTPA	BARIUM ABDTPA	SELENIUM ABDTPA	BORON ABDTPA	URANIUM - NATURAL TOTAL	RADIUM 226	TOTAL ERROR ESTIMATE+
	SAMPLE ID	DATE	mmhos/cm		std, Units	mg/kg-dry	meg/L	meg/L	meg/L		mg/kg-dry	ma/kg-dry	mg/kg-dry	mg/kg-dry	· pCi/g-dry	pCi/g-dry	pCi/g-dry
	SAMPLE ID	DATE	mmnos/cm		Std. Offics	тууку-ату	meyr	neψι	meq/L		mg/kg-ary	nig/kg-ory	mg/kg-ury	myrrg-ary	perg-ary	bend-ark	bend-my
Irrigator #2	Location 1 0-6"	8/23/07	3.45	78.2	6.5	16.30	21.0	12.0	5.2	1.27	0.049	0.6	0.812	0.80	6.70	2.8	1.2
Irrigator #2	Location 1 6-12"	8/23/07	2.14	84.4	6.7	7.37	11.0	6.4	4.8	1.63	0.039	<0.2	0.296	0.79	2.20	2.9	1.3
Irrigator #2	Location 2 0-6"	8/23/07	2.96	76.7	6.5	13.60	18.0	11.0	4.9	1.31	0.030	<0.2	0.669	0.83	13.90	3.1	1.4
Imigator #2	Location 2 6-12"	8/23/07	2.42	91.7	6.6	7.62	13.0	8.5	5.3	1.61	0.018	<0.2	0.438	0.70	3.10	3.1	1.3
Irrigator #2	Location 3 0-6"	8/23/07	2.75	68.0	6.6	17.00	16.0	10.0	4.8	1.32	0.051	<0.2	0.627	0.83	14.10	3.7	1.3
Irrigator #2	Location 3 6-12"	8/23/07	3.20	85.5	6.7	8.57	19.0	12.0	6.1	1.55	0.015	<0.2	0.641	0.57	2.40	2.4	1.2
Irrigator #2	Location 4 0-6"	8/23/07	3.84	75.6	6.8	18.40	29.0	16.0	5.6	1.19	0.026	<0.2	1.090	0.85	13.50	2.9	1.2
irrigator #2	Location 4 6-12"	8/23/07	3.83	66.6	7.0	5.68	29.0	16.0	5.9	1.26	0.022	0.8	0.429	0.54	9.40	3.0	1.3
inigator #2	Location 5 0-6"	8/23/07	4.25	84.3	6.8	15.60	32.0	19.0	7.2	1.43	0.043	<0.2	0.745	0.74	10.90	4.1	1.2
Irrigator #2	Location 5 6-12"	8/23/07	4.23	75.5	7.1	5.07	30.0	17.0	11.0	2.33	0.029	<0.2	0.557	0.33	1.90	2.9	1.3
Irrigator #2	Location 6 0-6"	8/23/07	3.26	80.8	6.7	21.90	22.0	13.0	5.1	1.22	0.030	<0.2	0.586	0.84	13.90	2.9	1.3
Irrigator #2	Location 6 6-12"	8/23/07	4.36	93.9	7.0	9.30	30.0	19.0	9.9	2.01	0.030	<0.2	0.554	0.45	2.00	4.0	1.4
Irrigator #2	Location 7 0-6"	8/23/07	4.10	81.5	7.0	21.50	34.0	16.0	5.7	1.15	0.050	1.0	0.595	0.76	. 10.00	3.5	1.3
Irrigator #2	Location 7 6-12"	8/23/07	4.16	89.6	7.3	8.78	33.0	14.0	8.4	1.73	0.031	0.8	0.592	0.45	2.50	2.6	1.2
Irrigator #2	Location 8 0-6"	8/23/07	3.88	61.7	6.9	32.60	26.0	15.0	5.6	1.22	0.067	0.4	0.664	1,10	15.90	2.6	1.3
Irrigator #2	Location 8 6-12"	8/23/07	5.03	78.0	6.5	14.30	33.0	25.0	11.0	1.99	0.025	<0.2	0.580	0.63	3.00	2.8	1.2
Irrigator #2	Location 9 0-6"	8/23/07	4.13	68.4	6.4	30.80	32.0	16.0	4.8	0.99	0.049	<0.2	0.719	0.86	13.00	2.7	1.2
Irrigator #2	Location 9 6-12"	8/23/07	5.49	63.2	6.2	8.35	31.0	28.0	14.0	2.60	0.018	<0.2	0.641	0.66	2.40	3.3	1.3
Irrigator #2	Location 10 0-6"	8/23/07	3.89	68.2	6.5	16.70	30.0	17.0	5.2	1.07	0.034	<0.2	0.704	0.77	18.40	3.4	1.3
Irrigator #2	Location 10 6-12"	8/23/07	3.71	74.8	6.9	195.00	41.0	35.0	15.0	2.48	0.026	<0.2	0.371	0.57	6.50	3.2	1.3
	Location 11 0-6"	8/23/07	3.42	64.2	6.6	23.00	22.0	14.0	5.6	1.33	0.049	0.4	0.693	0.89	14.50	2.8	1.2
•	Location 11 6-12"	8/23/07	4.51	72.7	6.6	7.50	28.0	21.0	9.6	1.93	0.013	<0.2	0.668	0.61	1.80	3.6	1.3
Ũ	Location 12 0-6"	8/23/07	3.79	65.6	6.9	11.60	25.0	13.0	6.0	1.37	0.043	0.9	0.838	0.79	0.90	2.9	1.3
	Location 12 6-12"	8/23/07	1.93	82.2	7.7	5.03	12.0	5.5	4.5	1.51	0.028	1.5	0.302	0.70	1.80	2.6	1.3
	Location 13 0-6"	8/23/07	2.29	71.0	7.1	12.90	14.0	7,1	3.9	1.20	0.063	1.0	0.568	1.00	14.90	3.1	1.3
	Location 13 6-12"	8/23/07	2.43	68.1	7.6	3.96	18.0	5.9	5.0	1.44	0.040	1.1	0.309	0.44	3.00	3.5	1.4
	Location 14 0-6"	8/23/07	3.19	74.3	6.8	22.10	21.0	12.0	4.8	1.19	0.044	0.2	1.710	0.76	21.40	3.9	1.5
	Location 14 6-12"	8/23/07	2.15	77.1	7.5	9.38	14.0	7.9	4.2	1.28	0.022	1.4	0.699	0.52	7.30	3.3	1.2
•	Location 15 0-6"	8/23/07	2.62	75.3	7.4	8.54	17.0	7.6	4.7	1.34	0.049	2.0	0.638	0.74	10.10	2.4	1.3
•	Location 15 6-12"	8/23/07	3.33	77.7	7.6	5.49	26.0	9,6	7.0	1.65	0.033	0.9	0.381	0.83	2.80	3.6	1.3
-	Location 16 0-6"	8/23/07	4.05	90.3	6.7	22.70	32.0	15.0	5.7	1.19	0.057	<0.2	0.699	1.10	14.30	3.2	1.4
Irrigator #2	Location 16 6-12"	8/23/07	3.78	91.0	7.3	11.40	29.0	11.0	8.7	1.96	0.058	0.8	0.512	0.66	2.30	2.9	1.4
Irrigator #2	Background 0-6"	8/23/07	0.35	74.3	7.4	3.65	3.0	0,7	0.1	0.11	0.053	0.7	0.710	0.36	2.10	2.2	1.1
Irrigator #2	Background 6-12"	8/23/07	0.21	55.2	7.4	1.67	1.8	0.5	0.2	0.19	0.032	0.5	0.022	0.25	2.50	2.4	1.1
Average			3.52		6.89	19.31	24.63	14.23	6.73	1.52	0.04	0.92	0.64	0.70	8.15	3.12	

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TABLE 7-6A

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SATELLITE NO. 1 LAND APPLICATION FACILITY ANNUAL VEGETATION DATA 2007

SAMPLE SITE		Quarter 1 (NW)	Quarter 2 (NE)	Quarter 3 (SE)	Quarter 4 (SW)	Background
SAMPLE DATE		30-Aug-07	30-Aug-07	30-Aug-07	30-Aug-07	16-Aug-06
TRACE METALS (mg/kg): SW3050 Dry Ash Extracted	L.L.D					
As	0.05	ND	ND	ND	ND	ND
Ba	0.05	18.9	21.1	18.5	14.2	28.9
B	5	ND	ND	ND	ND	8.9
Se	0.05	13.6	13.0	25.4	12.5	5.2
RADIOMETRIC (µCi/kg): SW3050 Dry Ash Extracted						
U-Nat		1.50E-04	5.70E-05	3.70E-05	3.90E-05	6.75E-05
U-Nat LLD		1.50E-06	1.50E-06	1.10E-06	1.60E-06	2.10E-06
Ra226		4.10E-05	1.70E-05	3.70E-05	1.30E-05	1.1E-04
Ra226 ERR. EST. +/-		1.30E-05	8.90E-06	1.00E-05	7.80E-05	2.8E-05
Ra226 LLD		1.5E-06	1.5E-06	1.10E-06	1.60E-06	2.10E-06

TABLE 7-6B

SATELLITE NO. 2 LAND APPLICATION FACILITY ANNUAL VEGETATION DATA 2007

SAMPLE SITE SAMPLE DATE		Quarter 1 (NW) 16-Aug-06	Quarter 2 (NE) 16-Aug-06	Quarter 3 (SE) 16-Aug-06	Quarter 4 (SW) 16-Aug-06	Background 16-Aug-06
TRACE METALS (mg/kg): L SW3050 Dry Ash Extracted	L.D.					
As C	0.05	ND	ND	ND	ND	ND
Ba O	3.05	11.1	17.1	15.3	12.2	33.3
В	5	11.5	9.6	15.7	ND	ND
Se O	0.05	18	22.6	24.8	28.2	6.0
RADIOMETRIC (µCi/kg): SW3050 Dry Ash Extracted						
U-Nat		3.90E-03	3.30E-03	3.80E-03	3.40E-03	ND
U-Nat LLD		7.30E-07	7.00E-07	5.60E-07	6.40E-07	1.10E-06
Ra226		5.70E-05	7.70E-05	5.20E-05	5.60E-05	7.25E-05
Ra226 ERR. EST. +/-		1.20E-05	1.30E-05	9.60E-06	1.10E-05	1.70E-05
Ra226 LLD		7.30E-07	7.00E-07	5.60E-07	6.40E-07	1.10E-06

TABLE 7-7

SATELLITE NO. 2 PURGE STORAGE RESERVOIR SHALLOW MONITORING WELLS QUARTERLY WATER LEVEL DATA SEMI-ANNUAL WATER QUALITY DATA

SAMPLE SITE		Shallow Well No. 1 (South)			Shallo No. 2		
SAMPLE DATE		31-Aug-07	29-Nov-07	19-Mar-08	31-Aug-07	29-Nov-07	19-Mar-08
WATER LEVEL (DTW)		13.2	15.4	13.7	9.8	.11.0	10.2
MAJOR IONS (mg/L)	Rep. Limit						
HCO3	1.0	216		227	234	204	236
SO₄	1.0	2730		2110	2650	2500	2450
CI	1.0	166	DRY	291	328		316
NON-METALS							
Cond (µmho/cm)	1.0	4560		4270	5060	5040	4930
pH (standard units)	0.01	7.66		7.53	7.36	6.86	7.81
TRACE METALS (mg/L)							
Ва	0.001	ND		ND	ND	ND	ND
Se	0.0025	1.780		2.060	0.062	0.042	0.045
RADIOMETRIC							
U-nat (uCi/mL)	6.77E-10	9.68E-08		1.07E-07	2.61E-10	1.91E-10	2.53E-08
Ra-226 (uCi/mL)	2.00E-10	2.80E-09		2.00E-10	2.10E-09	2.30E-09	2.00E-10
Ra-226 Err. Est. +/- (uCi/mL)		6.00E-10		2.00E-10	5.00E-10	5.00E-10 ⁻	2E-10

TABLE 7-8A

MONTHLY RADIUM GRAB SAMPLES AT THE DISCHARGE FROM THE RADIUM TREATMENT SYSTEM SATELLITE NO. 2

SAMPLE DATE		23-Jul-07	10-Aug-07	18-Sep-07	12-Oct-07	15-Nov-07	18-Dec-07
RADIOMETRIC Ra-226 (uCi/mL) Ra Err. Est.+/-	Rep. Limit 2.00E-10	1.60E-09 4.00E-10	3.10E-09 6.00E-10	5.60E-09 7.00E-10	1.30E-09 4.00E-10	2.50E-09 5.00E-10	5.70E-09 9.00E-10

TABLE 7-8B

MONTHLY RADIUM GRAB SAMPLES AT THE DISCHARGE FROM THE RADIUM TREATMENT SYSTEM SATELLITE NO. 3

SAMPLE DATE		23-Jul-07	10-Aug-07	18-Sep-07	12-Oct-07	15-Nov-07	18-Dec-07
RADIOMETRIC Ra-226 (uCi/mL)	Rep. Limit 2.00E-10	1.70E-09	2.30E-09	8.00E-10	9.00E-09	3.40E-09	1.71E-08
Ra Err. Est.+/-		4.00E-10	6.00E-10	3.00E-10	1.00E-09	6.00E-10	1.40E-09

Figure 7-1 Mean Conductivity, Selenium, Uranium, and Radium-226 Concentrations in Soil Samples from Irrigator No. 1 During 1986 and 1990-2007

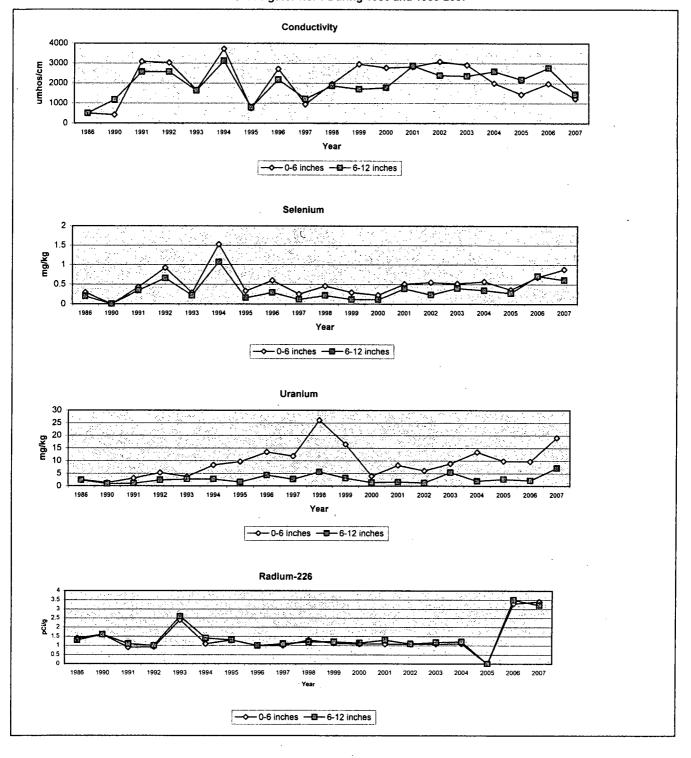


Figure 7-2 Mean Conductivity, Selenium, Uranium, and Radium-226 Concentrations in Soil Samples from Irrigator No. 2 During 1993 and 1995-2007

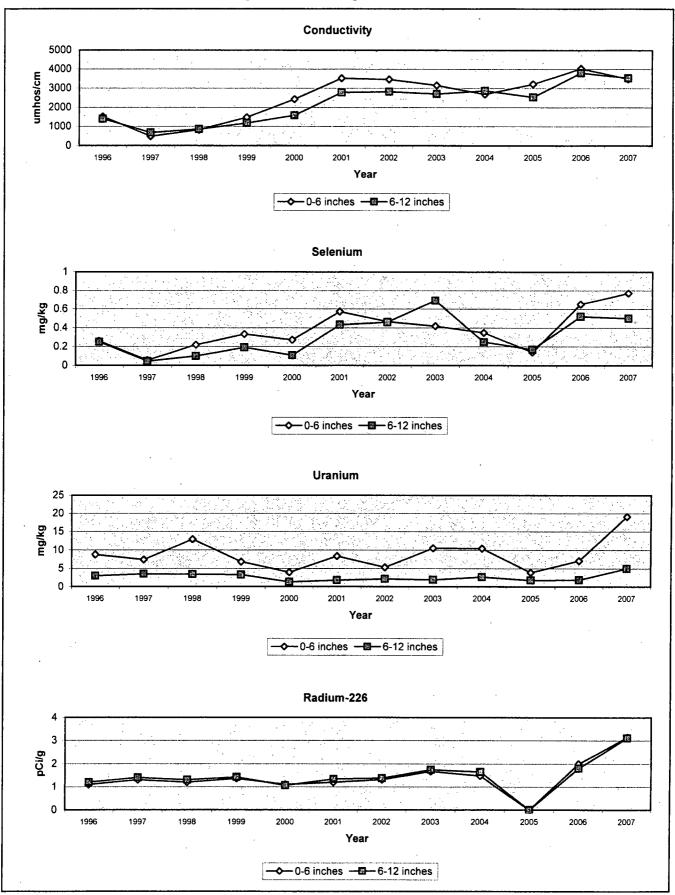


Figure 7-4 Mean Selenium Concentrations (mg/kg) in Vegetation Samples from Irrigator No. 1 During 1990-2007

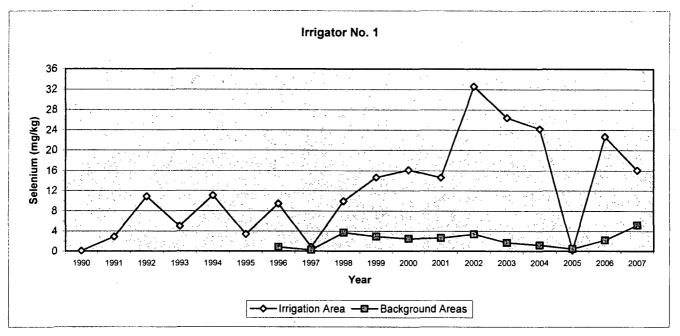
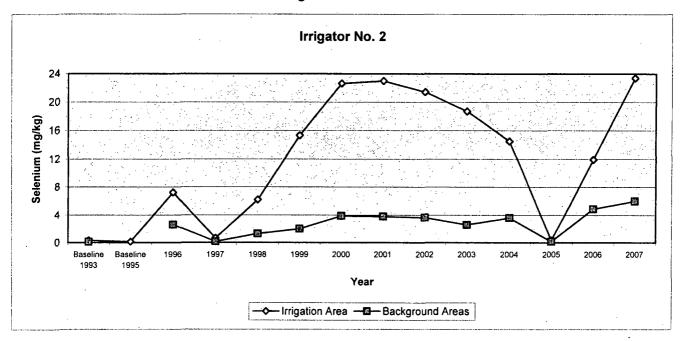


Figure 7-5 Mean Selenium Concentrations (mg/kg) in Vegetation Samples from Irrigator No. 2 During 1993 and 1995-2007



APPENDIX 1

Monitor Well Report

Well ID:	CMP1						
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				-
4/3/2008	98	412	1475	1.4	5027.64		
2/6/2008	100	411	2032	0.8	5030.84		
12/6/2007	105	428	2048	0.7	5046.24		
10/12/2007	117	466	2020	1.4	5084.24		
8/16/2007	106	421	2004	0.6	5041.04		
6/20/2007	173	408	1792	0.6	5022.44		

Thursday, June 26, 2008

W.U.D. CMD4

Well ID:	CMP2					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
5/16/2008					5041.67	
5/2/2008	,				5034.67	
4/18/2008					5029.97	
4/3/2008	72	308	3974	1.7	5030.97	•
4/2/2008				·	5031.47	
3/18/2008					5030.47	
3/4/2008					5033.17	
2/21/2008					5031.77	
2/6/2008	76	321	1030	1.9	5034.47	
2/5/2008					5036.47	
1/22/2008					5037.67	
1/8/2008					5037.47	•
12/18/2007					5045.87	
12/6/2007	78	333	1038	3.5	5050.17	
12/5/2007					5051.87	
11/20/2007					5069.17	
11/7/2007					5058.07	
10/25/2007					5089.57	
10/12/2007	118	462	2057	7.3	5084.57	
10/11/2007					5084.27	
9/26/2007					5039.07	
9/12/2007				н	5038.77	
8/28/2007					5045.47	
8/16/2007	96	363	1808	4.2	5049.07	
8/13/2007					5052.47	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
8/1/2007					5051.87	
7/17/2007					5031.87	
7/2/2007					5018.27	
6/20/2007	86	346	1168	3.2	5021.47	
6/4/2007					5024.67	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	32	189	735	1.2	5034.72	
2/6/2008	60	261	1416	1.4	5033.52	
12/6/2007	54	238	1280	1.6	5050.82	
10/12/2007	107	377	1861	3.5	5085.82	
8/16/2007	53	234	1112	1.4	5046.62	
6/20/2007	59	266	828	1.7	5022.02	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	40	246	1352	0.2	5043.06	
2/6/2008	43	253	1352	0.6	5044.36	
12/6/2007	62	296	1536	0.1	5051.86	
10/12/2007	69	350	1506	0.3	5090.86	
8/16/2007	74	365	1720	0	5056.96	
6/20/2007	74	345	1192	0.1	5046.26	

Monitor Well Report

Well ID:	CMP5					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	25	138	786	0.1	5017.46	
2/6/2008	32	. 147	868	0.6	5020.26	
12/6/2007	26	138	784	0.1	5032.66	
10/12/2007	40	191	866	0.3	5086.86	
8/16/2007	51	243	1192	0.2	5039.26	
6/20/2007	30	157	1584	0.1	5012.96	

Thursday, June 26, 2008

Well ID: C	Μ	P6
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NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	81	377	2014	5.4	Pumping	
2/6/2008	90	398	2004	4.3	Pumping	
12/6/2007	99	421	2052	7.8	Pumping	
10/12/2007	120	497	2146	8.3	Pumping	
8/16/2007	106	426	2072	7.5	Pumping	,
6/20/2007	115	454	1536	7.7	Pumping	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	30	201	1284	1.3	Pumping	
2/6/2008	32 .	206	1184	1.5	Pumping	
12/6/2007	34	205	1132	1.7	Pumping	
10/12/2007	45	217	1047	1.4	Pumping	
8/16/2007	41	222	1064	1.5	Pumping	
6/19/2007	40	219	907		Pumping	Lab did not get U run

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	34	175	1143	0.4	Pumping	
2/6/2008	35	188	1064	0.7	Pumping	
12/6/2007	38	172	1016	0.5	Pumping	
11/26/2007					5059.27	
10/12/2007	47	237	977	0.6	Pumping	
8/16/2007	40	182	900	0.3	Pumping	
6/19/2007	39	186	680		Pumping	Lab did not get U run

Monitor Well Report

Well ID:	CMP9		_			
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	23	186	1245	1.2	Pumping	
2/6/2008	23	185	1116	1.3	Pumping	
12/6/2007	23	190	1140	1.8	Pumping	
10/12/2007	22	235	1103	1.8	Pumping	
8/16/2007	20	189	1000	1.7	Pumping	
6/19/2007	18	206	842		Pumping	Lab did not get U run

Well ID:	CMP10		-				
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0			·····	_
4/3/2008	55	265	3736	5.3	Pumping		-
2/6/2008	57	274	957	4.1	Pumping		
12/6/2007	71	299	989	7.7	Pumping		
11/26/2007					5063.45		
10/12/2007	90	335	1777	8.7	Pumping		
8/16/2007	64	257	1316	6.6	Pumping		
6/19/2007	46	226	1062		Pumping	Lab did not get U Run	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	23	202	1292	0.9	Pumping	
2/6/2008	23	197	1116	1.4	Pumping	
12/6/2007	28	210	1108	1.6	Pumping	
10/12/2007	48	277	1394	2.5	Pumping	
8/16/2007	31	206	988	1.4	Pumping	
6/19/2007	27	207	832		Pumping	Lab did not get U run

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/3/2008	28	152	965	1.4	Pumping	
2/6/2008	30	156	904	1.3	Pumping	
12/6/2007	31	159	912	1.7	Pumping	
11/26/2007					5032.46	
10/12/2007	46	201	1105	2	Pumping	
8/16/2007	43	199	980	1.6	Pumping	
6/20/2007	29	150	500	1.3	Pumping	

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0		· · · · · · · · · · · · · · · · · · ·		
4/3/2008	36	228	1284	3.2	Pumping		
2/6/2008	47	254	332	2.8	Pumping		
12/6/2007	32	206	1004	4.1	Pumping		
10/12/2007	45	276	1169	5.5	Pumping		
8/16/2007	35	212	912	3.7	Pumping		
6/20/2007	39	219	688	3.9	Pumping		

Monitor Well Report

NRC/WDEQ UCL	Chloride (mg/L) 0	Alkalinity (mg/L CaCO ₃) 0	Conductivity (µMhos/cm) 0	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
4/3/2008	33	171	1152	2.9	Pumping	
2/6/2008	34	173	1024	2.8	Pumping	
12/6/2007	35	171	980	4.2	Pumping	
11/26/2007					5048.38	
10/12/2007	44	181	1050	3.9	Pumping	
8/16/2007	49	214	1040	4.5	Pumping	· · · · · ·
6/19/2007	35	173	635		Pumping	Lab did not get U run

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			A
4/3/2008	58	279	1590	0.8	5025.71	
2/6/2008	53	238	1328	1.1	5031.21	
12/6/2007	45	215	1160	0.5	5050.31	
10/12/2007	63	285	1424	1.1	5082.91	
8/16/2007	50	218	1072	0.7	5043.11	
6/20/2007	40	208	656	0.5	5024.11	

Well ID:	CMP16						
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/3/2008	31	157	1024	0.3	Pumping		
2/6/2008	34	170	1004	1	Pumping		
12/6/2007	34	157	932	0.6	Pumping		
11/26/2007					5041.5		
10/12/2007	50	243	1203	1	Pumping		
8/16/2007	45	201	1008	0.7	Pumping		
6/19/2007	40	165	702		Pumping	Lab did not get U run	

Monitor Well Report

Well ID:	CMP17					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/4/2008	50	225	1083	5.3	Pumping	
2/7/2008	53	233	833	5.8	Pumping	
12/12/2007	48		213		Pumping	
10/15/2007	62	239	1044	5.4	Pumping	
8/16/2007	58	245	1216	5.7	Pumping	
6/21/2007	59	242	900	6.1	Pumping	

2

Thursday, June 26, 2008

	Well ID:	CMP18						
	NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
_	UCL	0	0	0				
	4/4/2008	40	206	1023	9.4	Pumping	,	
	2/7/2008	43	207	1216	9.2	Pumping		
	12/6/2007	44	212	1172	10.7	Pumping		
	11/26/2007					5037.98		
	10/15/2007	48	235	924	11	Pumping		
	8/16/2007	56	242	1224	9.8	Pumping		
	6/21/2007	46	211	796	8.6	Pumping		

Well ID:	CMP19						
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/4/2008	30	150	1086	2.4	Pumping		
2/7/2008	31	156	632	1.5	Pumping		
12/6/2007	34	162	632	3.9	Pumping		
10/15/2007	37	170	704	1.7	Pumping		
8/16/2007	44	189	968	2.8	Pumping		
6/21/2007	32	160	594	3.1	Pumping		

Well ID:	CMP20						
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/4/2008	29	143	968	0.9	Pumping		
2/7/2008	32	149	948	0.5	Pumping		
12/6/2007	34	156	960	1.2	Pumping		
11/26/2007					5067.95		
10/15/2007	46	189	864	1.3	Pumping		
8/16/2007	33	156	784	0.9	Pumping	·	
6/21/2007	29	145	523	1	Pumping		

Monitor Well Report

Well ID:	CMP21		-				
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/4/2008	63	281	1092	8.2	Pumping		
2/7/2008	65	283	945	9	Pumping		
12/6/2007	61	262	1368	8.7	Pumping		
10/15/2007	62	83	1048	5.6	Pumping		
8/17/2007	102	262	1680	7.6	Pumping		
6/20/2007	39	170	612	4.8	Pumping		

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Well ID:	CMP22
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NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U308 (mg/L)	Water Level (ft. MSL)	Comments
	0	0	0		5070.40	
5/16/2008					5078.12	
5/2/2008					5079.92	
4/18/2008					5075.92	
4/4/2008	28	156	619	2.7	Pumping	
4/2/2008					5070.82	
3/18/2008					5075.32	
3/4/2008					5076.12	
2/21/2008					5075.12	
2/7/2008	30	167	639	1.6	Pumping	
2/5/2008					5076.22	
1/22/2008					5079.22	
1/8/2008					5080.12	
12/18/2007					5077.72	
12/6/2007	33	166	632	3.6	Pumping	
12/5/2007					5078.72	
11/20/2007					5082.22	
11/7/2007					5097.12	
10/25/2007	•				5108.32	
10/15/2007	41	194	716	3	Pumping	
10/11/2007					5102.92	
9/26/2007		`			5083.12	
9/12/2007					5080.12	
8/28/2007					5071.12	
8/17/2007	44	189	988	4.1	Pumping	
8/13/2007					5070.22	

Well ID:	CMP22						
NRC/WDEQ UCL	Chloride (mg/L) 0	Alkalinity (mg/L CaCO ₃) 0	Conductivity (µMhos/cm) 0	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
8/1/2007			· · · · · · · · · · · · · · · · · · ·		5069.72		
7/17/2007					5070.92	•	
7/2/2007					5123.32		
6/20/2007	34	171	612	3.8	Pumping		
6/4/2007					5078.52		

Monitor Well Report

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
	0	0	0			·
5/16/2008					5104.5	
5/2/2008				``	5108	
4/18/2008					5106.3	
4/18/2008	29	187	647		5103.9	
4/2/2008					5106	
3/18/2008					5103.1	
3/4/2008					5105.1	
2/21/2008					5104.8	
2/7/2008	28	173	653	4.5	5105.1	
2/5/2008					5104.5	
1/22/2008					5105.1	
1/8/2008					5105.3	
12/18/2007					5104.5	
12/6/2007	34	211	1196	8	5108.7	· ·
12/5/2007					5108.5	
11/20/2007		·			5112.3	
11/7/2007					5110.7	
10/25/2007					5119.1	
10/15/2007	33	201	952	5.1	Pumping	
10/11/2007		. *			5113.9	
9/26/2007					5104.7	
9/12/2007					5100.7	
8/28/2007					5097.5	
8/17/2007	25	189	964	6.2	5097.7	
8/13/2007					5099.7	

Monitor Well Report

	NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
-	UCL	0	0	0			
	8/1/2007				·	5098.7	
	7/17/2007					5102	
	7/2/2007					5102.5	
	6/20/2007	20	188	688	6	5102.7	
	6/4/2007					5104.3	

Monitor Well Report

Well ID:	CMP24		-			
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/4/2008	37	169	1104	8.6	Pumping	
2/7/2008	41	203	768	5.4	Pumping	
12/6/2007	60	237	1392	18.6	Pumping	
11/26/2007					4989.68	
10/15/2007	72	271	1320	17.7	Pumping	
8/17/2007	96	322	1792	27.8	Pumping	
6/20/2007	164	499	2176	66.3	Pumping	

Thursday, June 26, 2008

Monitor Well Report

Well ID:	CMP25					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0 .	0		•	
4/30/2008	53	249	898	12.6	Pumping	
2/7/2008	51	234	872	9.7	Pumping	
12/6/2007	50	235	1316	11.8	Pumping	
10/15/2007	69	288	1276	16.9	Pumping	
8/17/2007	61	289	1372	17.6	Pumping	
6/20/2007	37	235	684	8.1	Pumping	

Thursday, June 26, 2008

Monitor Well Report

Well ID:	CMP26					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/18/2008	31	176	651		Pumping	
2/7/2008	35	210	767	9.3	Pumping	
12/14/2007	45	266	962	14.4	Pumping	
10/15/2007	42	277	11 12	11.2	Pumping	
8/17/2007	41	278	1324	11.8	5096.15	
6/20/2007	41	285	1003	10.3	5100.75	

Monitor Well Report

Well ID: CM	P27	
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NRC/WDEQ UCL	Chloride (mg/L) 0	Alkalinity (mg/L CaCO ₃) 0	Conductivity (µMhos/cm) 0	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
4/4/2008	151	633	2876	14.5	5113.6	
2/7/2008	143	600	1622	16.5	5114.3	
12/6/2007	145	595	2800	17.3	5116.8	
11/26/2007					5117.5	
10/15/2007	148	613	2524	16.3	5120.8	
8/17/2007	145	600	2864	17.2	5105.5	
6/21/2007	157	651	2344	17	5110.5	

Monitor Well Report

Well ID: CMP28

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
5/16/2008					5053.8	
5/2/2008					5057.1	
4/18/2008					5049.3	
4/4/2008	37	210	711	6.3	Pumping	
4/2/2008					5051.4	
3/18/2008					5051.1	
3/4/2008					5057.7	
2/21/2008					5054.5	
2/7/2008	42	226	324	4.4	Pumping	
2/5/2008					5109.2	
1/22/2008					5058.8	
1/8/2008					5059.3	
12/18/2007					5054.7	
12/6/2007	50	258	1384	[`] 11.8	Pumping	
12/5/2007					5056.9	
11/20/2007					5059.7	
11/7/2007					5058.5	
10/25/2007		•			5085.7	
10/15/2007	44	219	932	4.5	Pumping	
10/11/2007					5082	
9/26/2007					5056.7	
9/12/2007					5058.2	
8/28/2007					5054.1	
8/17/2007	62	301	1492	15.2	Pumping	
8/13/2007					5054.3	

Page 87 of 129

Monitor Well Report

Well ID:	CMP28		-				
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
8/1/2007					5055.1		
7/17/2007					5054.2		
7/2/2007					5061.7		
6/20/2007	44	267	1016	13.3	Pumping	•	
6/4/2007					5057.2		

Monitor Well Report

4020

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Well ID:	CMP29						
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/4/2008	26	188	1091	5	Pumping		
2/7/2008	29	191	992	3.4	Pumping		
12/6/2007	29	201	964	9.8	Pumping		
10/15/2007	35	210	784	8.4	Pumping		
8/17/2007	45	269	1168	15.7	Pumping		
6/20/2007	31	257	795	24.1	Pumping		

Monitor Well Report

Well ID:	CMP30					
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
4/4/2008	30	237	1390	6.5	Pumping	
2/7/2008	39	279	843	12.6	Pumping	
12/11/2007	87	522	2216		Pumping	
11/26/2007					5100.8	
10/15/2007	89	505	2048	33.4	5109.7	
8/17/2007	53	362	1688	19.2	Pumping	
6/20/2007	60	384	1441	19.7	Pumping	

Monitor Well Report

Well ID: CMP31

NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
UCL	0	0	0			
5/16/2008					5096.4	
5/2/2008					5100.4	
4/18/2008					5096.4	
4/4/2008	27	172	596	3.3	Pumping	
4/2/2008					5096	
3/18/2008					5094.6	
3/4/2008					5100.6	
2/21/2008					5100.1	
2/7/2008	33	205	707	5.9	Pumping	
2/5/2008					5099.2	
1/22/2008		•			5102.2	
1/8/2008					5099.9	
12/18/2007					5106.7	
12/11/2007	47	307	1528		Pumping	
12/5/2007					5108.8	·
11/20/2007					5110	
11/7/2007					5110	
10/25/2007					5118.8	
10/15/2007	50	305	1268	9.9	5115.4	
10/11/2007					5112.8	
9/26/2007					5103.2	
9/12/2007					5097.7	
8/28/2007					5095.7	
8/17/2007	48	298	1416	10.4	5096.1	
8/13/2007					5095.6	

Page 92 of 129

Monitor Well Report

Well ID: C	N	۱P	31	
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NRC/WDEQ UCL	Chloride (mg/L) 0	Alkalinity (mg/L CaCO ₃) 0	Conductivity (µMhos/cm) 0	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments
8/1/2007					5096.4	· .
7/17/2007					5099.6	
7/2/2007					5099.4	
6/20/2007	53	311	1165	. 10.1	5099.6	
6/4/2007					5101.3	

Monitor Well Report

Well ID:	CMP32	· .	-				
NRC/WDEQ	Chloride (mg/L)	Alkalinity (mg/L CaCO ₃)	Conductivity (µMhos/cm)	U ₃ O ₈ (mg/L)	Water Level (ft. MSL)	Comments	
UCL	0	0	0				
4/4/2008	3	165	646	0	5112.3		
2/7/2008	3	162	671	0.1	5117.9		
12/6/2007	2	163	653	0.1	5115.5		
11/26/2007					5117.2	·	
10/15/2007	3	167	687	0	5120.3		
8/17/2007	3	163	673	0.1	5103.4		
6/20/2007	3	168	688	0.1	5108.9		

19

APPENDIX 2

2007 ANNUAL MONITORING REPORT FOR BONER BROS. PARTNERSHIP SECTION 22 SW¹/4 NW¹/4

A. <u>Introduction</u>

The Lease and Monitoring Agreement No. 25008 (effective January 1, 1995) by, and between, Boner Bros. Partnership and Power Resources, Inc. (PRI), within Section IV-Monitoring plan, requires PRI to conduct water monitoring of the pumpback sumps, vegetation monitoring of areas downstream from the pumpback sumps, visual inspections of the area, and the submittal of an Annual Monitoring Report which summarizes the results of the monitoring activities. The report contained herein constitutes the required Annual Monitoring Report for the Calendar Year 2007.

B. <u>Visual Inspections</u>

In accordance with the Lease and Monitoring Agreement, the seepage area, pumpback sumps and potentially affected lands were inspected on at least a monthly basis. The Interceptor Trench installed in August 1996 and between the Satellite No. 1 Purge Storage Reservoir (PSR-1) and the P-1 through P-5 seep areas (see Figure 1) continues to be very effective at intercepting seepage in the vicinity of the seep areas. At the time that the Interceptor Trench became operational, pumping of the South Pumpback Sump was discontinued.

During the period December 27, 2006 through December 26, 2007 both the East Pumpback Sump and South Pumpback Sumps were off, and all seep areas were mostly dry. Therefore, it is unlikely that any seepage flowed directly onto Boner lands at either area.

C. <u>Water Monitoring</u>

In accordance with the Lease and Monitoring agreement, water collected in the East and South Pumpback Sumps was sampled and analyzed for dissolved selenium on a quarterly basis. The samples were obtained directly from the sump vaults.

Results of the monitoring are shown in Table 1. A review of the results show that selenium concentration at both locations remained low, however the samples of March 13, 2007 showed concentrations higher than normal in the East Sump. The mean selenium concentration at the East Pumpback Sump remained low at .115 mg/L. The mean selenium concentration at the South Pumpback Sump showed an insignificant increase from .003 mg/L the previous year to 0.004 mg/L. These mean concentrations shown are below Class III (Livestock) and Class I (Domestic) standards of 5.0 mg/L

Date	East Pumpback Sump	South Pumpback Sump
03/13/07	0.391	0.001
05/11/07	0.002	0.009
08/10/07	0.024	0.002
11/16/07	0.041	0.004
Mean	0.115	0.004

Table 1Dissolved Selenium Concentrations (mg/L) in Water

D. Vegetation Monitoring

In accordance with the Lease and Monitoring Agreement, vegetation samples were obtained during the "growing season" portion of 2007. Samples were obtained on June 21, 2007. Consistent with previous monitoring, the vegetation samples were obtained from the drainage bottom, downstream of the East Pumpback Sump at locations just upstream of the Section 22 fence (Site #1, Background) and approximately 100 ft. and 300 to 400 ft downstream of the Section 22 fence (Sites #2 and #3 respectively). Sample locations are shown on Figure 1.

The vegetation samples were obtained by clipping similar grasses at each location. The samples were submitted to Energy Labs for total selenium analysis. Results of the laboratory analysis are included in Table 2. A review of the results show that the selenium concentrations at Site #2 remained low, and increased from the previous year at Site #1 (Background)and Site #3. Both Sites #2 and #3 were well below the selenium concentration at the Background site.

All selenium concentrations are below the generally accepted 5-20 mg/kg livestock forage threshold. In summary, it appears that there has been no significant changes in vegetation selenium concentrations within the area which was potentially affected by seepage in 1994.

Selenium Concentrations (mg/kg) In Vegetation at Section 22 Drainage

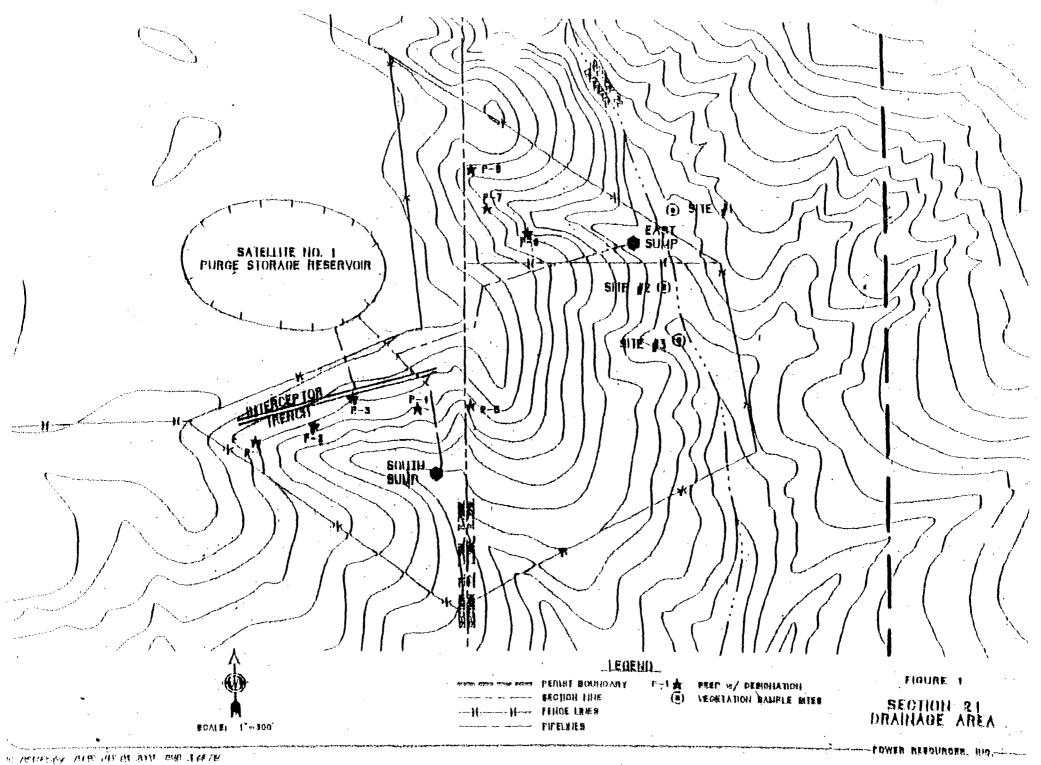
Date	Site #1 (Background)	<u>Site #2</u>	<u>Site #3</u>
06/21/06	3.9	0.5	1.8

E. <u>Conclusions</u>

The monitoring requirements specified in the Lease and Monitoring Agreement were conducted during 2007. Results of the monitoring requirements, including visual observations, show that there have been no significant impacts to surface water or vegetation on lands owned by Boner Bros. Partnerships during 2007.

Figure 2 shows a graph of the selenium concentration in the vegetation from 1996 through 2007. This figure illustrates that the selenium concentrations in the vegetation at the potentially affected area (Sample Sites #2 and #3) are relatively indistinguishable from the background levels (Site #1). Although there are a few samples that show selenium concentrations above background levels, they are within the natural variability of the vegetation types and sampling method. Additionally, these concentrations are below the extremely conservative threshold of 5 mg/kg selenium that the WDEQ typically uses as a "level of concern".

As of July 2004, operations have ceased at Satellite No. 1 and wastewater is no longer being discharged into PSR No. 1. As a result, water levels in PSR No. 1 have consequently dried up. Both The East Pumpback Sump and South Pumpback sumps were off the entire year, and the Interceptor Trench has been off since May 15, 2005. Since PSR-1 is currently dry, it is anticipated that seepage rates will continue to decline.



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APPENDIX 3

APPENDIX 4

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DEPARTMENT OF ENVIRONMENTAL QUALITY STATE OF WYOMING

NOTICE OF VIOLATION

IN THE MATTER OF THE NOTICE OF VIOLATION ISSUED TO



Dave Freudenthal, Governor

Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

John Corra, Director

CERTIFIED MAIL, RETURN RECEIPT REQUESTED # 7005 1820 0005 1478 8415

September 12, 2007

John McCarthy Power Resources, Inc. P.O. Box 1210 Glenrock, WY 82637 RECEIVED

SEP 18 2007

SMITH RANCH - HIGHLAND

Insitu Uranium Operation, Permit #603, Notice of Violation, Docket No. 4122-07 Re:

Dear Mr. McCarthy:

Enclosed you will find a Notice of Violation issued under the provisions of 35-11-415(b)(ii). The Notice of Violation is based on the spill reported by PRI, and the follow-up inspection conducted by Ms. Pam Rothwell and Mr. Steve Ingle on June 28, 2007.

The Land Quality Division is attempting to resolve this issue without further enforcement action, and requires that you contact Mr. Lowell Spackman, LQD District I Supervisor, at 307-777-7052 within fifteen (15) days of receipt of this letter to schedule a meeting to resolve this enforcement action. Should resolution of this enforcement action be reached as a result of this meeting, a Settlement Agreement will be signed by both parties.

Respectfully,

John V. Corra, Director Department of Environmental Quality

Enclosure: xc:

Notice of Violation Lowell Spackman, LQD District I

Richard A. Chancellor, Administrator Land Quality Division

Herschler Building · 122 West 25th Street · Cheyenne, Wyoming 82002 · http://deg.state.wy.us

ADMIN/OUTREACH (307) 777-7758 FAX 777-3610

ABANDONED MINES

AIR QUALITY (307) 777-6145 (307) 777-7391 FAX 777-6462 FAX 777-5616

INDUSTRIAL SITING (307) 777-7368 FAX 777-6937

LAND QUALITY (307) 777-7756 FAX 777-5864

SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973

WATER QUALITY (307) 777-7781 FAX 777-5973



8. Wyoming Statute §35-11-901(a) provides that any person who violates any provision of the Environmental Quality Act or any rule, standard, permit, license or variance adopted hereunder is liable to a penalty of ten thousand dollars (\$10,000.00) for each day of violation, which penalty may be recovered in a civil action brought by the Attorney General in the name of the People of the State of Wyoming.

NOTHING IN THIS NOTICE shall be interpreted to in any way, limit or contravene any other remedy available under the Environmental Quality Act, nor shall this Order be interpreted as being a condition precedent to any other enforcement action.

September, 2007 day of SIGNED this **J**ohn V. Corra Director Department of Environmental Quality Richard A. Chancellor Administrator Land Quality Division John F. Wagner Administrator Water Quality Division

Please direct all inquiries regarding this Notice of Violation and Order to Mr. Lowell Spackman, Wyoming Department of Environmental Quality, Land Quality Division, Cheyenne Office, 122 West 25th Street, Cheyenne, WY 82002. Telephone No. (307) 777-7052.

CERTIFIED MAIL, # 7005 1820 0005 1478 8415 RETURN RECEIPT REQUESTED DOCKET NO. 4122-07

Cc: Lowell Spackman, District I Carol Bilbrough, LQD Cheyenne Brian Lovett, WQD Cheyenne

DEPARTMENT OF ENVIRONMENTAL QUALITY STATE OF WYOMING

NOTICE OF VIOLATION

IN THE MATTER OF THE NOTICE OF VIOLATION ISSUED TO POWER RESOURCES, INC. P.O. BOX 1219 GLENROCK, WY 82637 Re: Insitu Uranium Operation, Permit #603 Re: Insitu Uranium Operation, Permit #633

DOCKET NO. 4231-08

NOTICE

NOTICE IS HEREBY GIVEN THAT:

- 1. Notice of Violation is being sent to you pursuant to W.S. §35-11-701(c) which requires that a written notice shall be issued in the case of failure to correct or remedy an alleged violation specifying the provision of the act, rule, regulation, standard, permit, license, or variance alleged to be violated.
- 2. As a result of Land Quality Division (LQD) concerns over the slow pace of groundwater restoration of wellfields at Power Resources, Inc. Permits 603 and 633 Insitu Uranium Mine, an investigation was conducted of the mine and reclamation plans in the approved permits, plus information provided in annual reports. This investigation was conducted by LQD staff during October and November of 2007. In addition to the violations cited below, LQD identified serious deficiencies with both permits. The plans contained in the permit documents are dated and incomplete in numerous ways: spill detection, reporting, and follow-up protocols are not defined in the permit; groundwater restoration procedures, necessary facilities, and time schedules for restoration must be thoroughly described; waste disposal facilities and processes must be described for all waste streams; all critical process installations need thorough construction details and specifications; and topsoil protection procedures are not adequately defined. As a consequence of the inadequacies of the permits, both operations are seriously under-bonded.
- 3. The investigation found that PRI failed to conduct concurrent reclamation which is a violation of Chapter 3, Section 2(k)(i)(D) requiring concurrent reclamation; and that PRI failed to follow the approved permits, which is a violation of W.S. §35-11-415(a). The following lists the specific violations:

Permit 603

- a. Wellfield C was in production for approximately ten years. The approved Mine Plan states, "Once a wellfield is installed it takes approximately one to three years to recover the leachable uranium from a production area." Extending the production time period has become a routine practice and is not in compliance with the approved permit or the requirement for concurrent reclamation.
- b. In addition to the production phase, Wellfield C has now been in restoration for ten years. The 2007 Annual Report states that the ground water quality is similar to "end of mining" wellfield conditions. The permit states that restoration and stability are estimated to take approximately five years. This restoration delay is not in compliance with the approved permit or the requirement for concurrent reclamation.
- c. Wellfield E has removed 100% of the leachable reserves, and in recent years wellfield production has slowed to maintenance levels. This rate of production delays completion of mining and restoration of this wellfield

unit. This is not in compliance with the approved permit, and is a violation of Chapter 2, Section 2(b)(ii) which requires coordination of the Mine and Reclamation Plans to facilitate orderly development and reclamation.

d. The timetable listing the schedule of mining-related activities in the permit (Figure A, page OP-3A) and the timetable provided in the 2007 annual report both indicate that PRI is not in compliance with their restoration schedules for Wellfields C, D, and E. The schedule shows that Wellfield C should be decommissioning instead of in restoration, and that Wellfields D and E should be in restoration instead of production.

Permit 633

- a. The permit indicates that "An updated schedule will be supplied with the annual report if the mining or restoration schedule varies from Table 3-1." The timetable commitments in the permit are not consistent with wellfield status. Therefore, the table in the annual report is the schedule that PRI is committed to for wellfield status. Based on this table, PRI is not in compliance with their restoration schedules for Wellfields 2, 3, and 4/4A. The annual report text indicates that Wellfield 2 will continue to be in production, while the annual report schedule referred to in the permit shows that it will be in restoration in 2008. Wellfields 3 and 4/4a should be in restoration instead of production.
- b. The permit states that it generally takes "three years for uranium production, and three years for aquifer restoration." Actual times for wellfield production and restoration are, thus far, 2-3 times longer than permit commitments.
- 4. Wyoming Statute §35-11-901(a) provides that any person who violates any provision of the Environmental Quality Act or any rule, standard, permit, license or variance adopted hereunder is liable to a penalty of ten thousand dollars (\$10,000.00) for each day of violation, which penalty may be recovered in a civil action brought by the Attorney General in the name of the People of the State of Wyoming.

NOTHING IN THIS NOTICE shall be interpreted to in any way, limit or contravene any other remedy available under the Environmental Quality Act, nor shall this Order be interpreted as being a condition precedent to any other enforcement action.

SIGNED this

day of

. 2008

John V./Corra

7-74

Director Department of Environmental Quality

Donald R. McKenzie Administrator Land Quality Division

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Please direct all inquiries regarding this Notice of Violation to Mr. Donald R. McKenzie, Administrator, Land Quality Division, Wyoming Department of Environmental Quality, 122 West 25th Street, Cheyenne, WY 82002. Telephone No. (307) 777-7046.

ec: Lowell Spackman, District I Mark Moxley, District II Docket # 4231-08 Doug Mandeville, NRC

THIS PAGE IS AN OVERSIZED DRAWING OR FIGURE, THAT CAN BE VIEWED AT THE RECORD TITLED: DRAWING NO.: PLATE NO. OP-1, "SMITH RANCH-HIGHLANDS

LAYOUT"

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