APPENDIX C

RADIOLOGICAL SURVEY REPORT

NECR MINE AND CHURCH ROCK MILL SITE

AVM ENVIRONMENTAL SERVICES, INC.

Radiological Survey Report
NECR Mine & Mill Site Pre-Design Studies

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1.0 Introduction

Radiological surveys consisting of direct gamma radiation level measurements and subsurface soil screening were conducted during the Pre-Design Studies (PDS) for the NECR Mine and Mill Site consistent with the PDS Work Plan and the Field Sampling Plan (FSP). The PDS surveys included confirmation of the Removal Action Level (RAL) boundary for the NECR Mine Site, ex-situ subsurface soil screening by gamma radiation level measurement for clean and Principal Threat Waste (PTW) material at the NECR Mine Site, and pre and post gamma radiation level surveys at borehole drilling areas on the NECR Mill Tailings Impoundment. The PDS field radiological activities were conducted during October 21, 2013 to February 18, 2014.

2.0 RAL Boundary Delineation

In order to confirm the location of the RA boundary, a gamma survey was conducted during October 21, 2013 to October 23, 2013 along the RAL (FSL) boundary that was developed based on the RSE (MWH, 2007a). The RAL boundary gamma survey consisted of a walk-over survey to delineate the location of the RA boundary. Similar to the instrumentation used for direct gamma radiation level measurements during the NECR Mine Site RSE, a 0.5-inch lead collimated 2x2 NaI scintillation detector (Eberline SPA-3 #30) for detection of gamma radiation and a ratemeter/scaler (Ludlum 2221 #68782) for processing and counting the detected gamma radiation were used during the PDS RAL boundary delineation. The instrumentation calibration and daily function check records for this survey are included in Appendix A.

A value of 5,200 counts per minute (cpm) for the 0.5 inch lead collimated 2x2 NaI detector equivalent to the 2.24 pCi/g Ra-226 RAL that was determined using a site specific updated correlation for the Interim Status Survey of the 2009 Interim Removal Action (IRA) Area (Step-out Area No. 1) (MWH, 2010) was used to screen RAL boundary. The RAL boundary shape file that was developed based on the 2007 RSE was used with a mobile mapping DGPS (Magellan MMCX) to field locate and walk along the 2007 RAL boundary. Gamma radiation level scan with the collimated detector was conducted in serpentine pattern extending approximately 20' along either side of the 2007 RAL boundary. Where gamma scan cpm was above the RAL, the scan was shifted outside of the 2007 RAL boundary until the scan cpm was observed at or below the RAL. Where gamma scan cpm was below the RAL, the scan was shifted inside of the 2007 RAL boundary until the scan cpm was observed at the RAL. The revised boundary segments were marked with pin flags and the revised boundary coordinates were logged using the Magellan MMCX. Figure 1 shows the 2007 RSE RAL boundary and the October 2013 PDS revised RAL boundary. As shown in Figure 1, the RAL area has appreciably increased in area between NEMSA and Sandfill No.3, and the RAL area has decreased in the Bone yard area.

3.0 Subsurface Soil Screening

Selected subsurface soils collected during drilling for radiological characterization were field-screened during October 29, 2013 to November 13, 2014 for the NECR PDS using an ex-situ gamma screening method to estimate the Ra-226 activity consistent with AVM SOP-4 included in the FSP. This field soil screening procedure consisted of measuring 609 KeV peak gamma radiations, which indicates the Ra-226 activity based on the radiological decay chain. A single channel analyzer (SCA), Ludlum L221 #68782 integrated with a 3x3 NaI scintillation detector (Ludlum 44-20 #295573) was used to measure 609 KeV region radiations. The soil screening instrumentation calibration and daily function check are included in Appendix A. Three Ra-226 reference soil samples were prepared for subsurface soil screening. A low level, 2.0 pCi/g which was prepared for the use during the 2009 IRA. This low level reference sample has a Ra-226 activity of 2.0 pCi/g, which is conservatively below the RAL. Two high level reference samples, 100 and 200 pCi/g, were prepared by blending a local matrix soil near background levels with a Certified Reference Material, CRM 3-B (3.90% U3O8 with Ra to U weight ration of 3.38E-07 which results in 11,178 pCi/g Ra-226) from the Department of Energy's New Brunswick Laboratory. The matrix blending provided compensation for local background. The high level reference soil sample preparation and CRM 3-B NBL certificate are included in Appendix B.

A reference sample and subsequent investigation samples were placed in a heavily shielded counting chamber (plastic bag lined 1.5 inch thick x 7.5 Inch ID x 12 inch tall lead ring collimator with a 1.5 inch thick lead bottom shield). The samples were placed on the plastic lined 3x3 NaI detector and gamma radiation counts were obtained. The count rate of the screening samples in cpm was then compared to the reference soil count rate, which provides an estimate of the screening sample Ra-226 concentration. Since this is a screening method only and provides an estimate of the Ra-226 activity, some subsurface soil samples were collected for laboratory analysis over similar intervals as the screening samples and were used to qualitatively assess the accuracy of the screening results.

3.1 Subsurface Soil Screening for Clean Material

A total of 52 subsurface soil samples were screened to determine if their concentrations were above or below the RAL of 2.24 pCi/g. The soil sample gamma radiation screening forms for the clean material are included in Appendix B. The soil screening data is summarized in Table 1. The field screening indicated 28 soil samples were below the 2.24 pCi/g RAL and 24 soil samples at or above the 2.24 pCi/g RAL. Out of these 52 samples, 23 samples were sent to Energy Laboratories, Inc. in Casper Wyoming for Ra-226 analysis using EPA Method 901.1. The sample Chain of Custody (COC) and the laboratory analytical results report are included in the MWH PDS Report. The laboratory results in Table 1 show that 21 samples (91%) out of 23 samples agree with the field soil screening results. The field screening

showed Ra-226 in one sample NECR2-CC3 006 (20-22.5) at about RAL (2.24 pCi/g) level while the laboratory results showed above the RAL at 3.1 +/- 0.6 pCi/g. For the other sample, P1-CC01-002 (5-10'), the field screening estimated Ra-226 slightly above the RAL, while the laboratory results showed the Ra-226 concentration <RAL at 1.2 +/- 0.5 pCi/g. Comparison of the field screening and laboratory results show that the field soil screening results are slightly conservative.

3.2 Subsurface Soil Screening for Principal Threat Waste

A total of 155 subsurface soil samples were screened in the field during the PDS for PTW (200 pCi/g Level). The field soil sample gamma radiation screening forms for the PTW material are included in Appendix B. The soil screening data are summarized in Table 2. The field screening estimated Ra-226 level above the PTW level in 27 soil samples. Out of these 155 soil samples, 61 samples, including six field QA/QC duplicates, were sent to Energy Laboratories, Inc. in Casper Wyoming for Ra-226 analysis using EPA Method 901.1. The sample Chain of Custody (COC) and the laboratory analytical results report are included in the MWH PDS Report. The laboratory results are also included in Table 2 along with the field screening results, which show that 49 samples (89%) out of 55 samples agree with the field soil screening results for PTW. In six samples [SP-CC04-004 (7.5-10.5'), SP-CC05-003 (5-7.5'), SP-CC08-001 (0-2.5'), SP-CC09-003 (5.0-7.5'), SP-CC11-001 (0-2.5') and P1-CC12-004 (12.5-15')] the laboratory results did not agree with field screening. The field screening estimated Ra-226 level at 200 pCi/g in five samples and slightly above the PTW level of 200 pCi/g in one sample, while the laboratory results showed Ra-226 level below the 200 pCi/g PTW level in all six samples. Comparison of the field screening and laboratory results show that the field soil screening results are slightly conservative.

Six of the 61 soil samples sent to the laboratory were field QA/QC duplicate samples for Ra-226 analysis using EPA method 901.1. The Ra-226 analytical results of the original and QA/QC duplicate samples are summarized in Table 3. The results show that Ra-226 level in QA/QC samples are within 20% of the original samples range, while Ra-226 level in other two QA/QC samples are at 24% and 26% of the original sample.

4.0 Tailings Impoundment Borehole Area Gamma Radiation Survey

GPS based gamma radiation scan surveys were conducted at 33 borehole locations on the NECR Mill Tailings Impoundment. A pre-drilling gamma survey was conducted during November 4, 2013 to November 12, 2014 to establish baseline gamma radiation levels at borehole locations. The GPS based gamma radiation scan survey was performed to log gamma radiation rate in counts per minute with corresponding point location coordinates in a data logger. This scan survey was performed by walking approximately 400 square foot area with a bare 2x2 NaI detector (SPA-3 #30) at about 12 inches from ground surface along transect spacing of about 8 feet for a two minute scan around each borehole. The

detector was connected to a Ludlum 2221 (#290801) and coupled with a DGPS/data logger unit (Magellan MMCX). The MMCX is a real time DGPS with data logging capabilities using TDS SOLO surveying software. The Ludlum 2221 was operated in ratemeter mode, allowing a gamma count rate (cpm) to be logged with its corresponding coordinates in 2-second intervals. The gamma scan survey instrumentation calibration and daily function check are included in Appendix A.

Following borehole drilling and any cleanup at borehole locations, a post-drilling gamma scan survey was conducted at each borehole similar to the pre-drilling scan, and was performed on February 18, 2014 to confirm that the cover on tailings impoundment at borehole locations areas was not contaminated from the drilling operation. The post-drilling gamma scan survey was conducted at all 33 location. The scan survey was conducted at location 16X even though no drilling was conducted this location.

The pre-drilling and post-drilling gamma scan data from the MMCX DGPS/data logger were exported and formatted in Excel files, which are included in Appendix C. The scan gamma radiation level rates in counts per minute measured by the detector were converted to exposure rate (uR/hr) using a conversion factor (0.0011 cpm/uR/hr) for the 2x2 NaI detector determined at DOE Grants calibration pad using a calibrated uR meter (Ludlum Model 19 #76248). The pre-drilling scan data is shown in Figure 2 and post-drilling data in Figure 3. The gamma scan data is summarized in Table 4. The average of pre-drilling and post-drilling exposure rates are essentially the same. The post-drilling average rates were higher than pre-drilling at some borehole (about half) locations and lower than the pre-drilling average rates at other locations, all within less than one percent.

TABLES

Table 1
NECR Mine Site Subsurface Soil Sample Field Gamma Radiation Screening
Clean (RAL) Material Screening

Sample Data		Field Soil Screening Data				Laboratory Data				
Soil Sample ID	Date	2.0 pCi/g Reference Soil CPM	Soil Sample CPM	Estimated Ra-226 pCi/g	Comments	Sample Sent to Lab	Ra-226 pCi/g	Error Estimate pCi/g	MDC pCi/g	Comments
NECR2-CC1 (0-5')	11/29/2013	493	4491	**>2.24**	**>RAL**					
NECR2-CC1 002 (5-7')	11/29/2013	493	523	**>2.24**	**>RAL**	x	2.3	0.5	0.5	**>RAL**
NECR2-CC2 001(0-2.5')	11/29/2013	493	2673	**>2.24**	**>RAL**	x	29.4	1.6	0.7	**>RAL**
NECR2-CC2 003 (4-9')	11/29/2013	493	380	<2.24	**<RAL**					
NECR2-CC3 001 (0-4')	11/29/2013	493	6822	**>2.24**	**>RAL**					
NECR2-CC3 002 (4-5')	11/29/2013	493	1899	**>2.24**	**>RAL**					
NECR2-CC3 003 (5-7')	11/29/2013	493	1013	**>2.24**	**>RAL**					
NECR2-CC3 004 (14-15')	11/29/2013	493	4508	**>2.24**	**>RAL**					
NECR2-CC3 005 (15-20')	11/29/2013	493	2027	**>2.24**	**>RAL**	x	13.2	1.2	0.9	**>RAL**
NECR2-CC3 006 (20-22.5)	11/29/2013	493	452	<2.24	**<RAL**					
NECR2-CC4 001 (0-5')	11/29/2013	493	498	**≈2.24**	**≈RAL**	x	3.1	0.6	0.6	**>RAL**
NECR2-CC5 001 (0-2.5')	11/29/2013	493	958	**>2.24**	**>RAL**					
NECR2-CC5 004 (5-8')	11/29/2013	493	404	<2.24	**<RAL**	x	1.7	0.6	0.6	**<RAL**
NECR2-CC6 003 (0-2.5')	10/30/2013	475	361	<2.24	**<RAL**	x	1.8	0.6	0.7	**<RAL**
Road-CC01-001 (0-5')	10/30/2013	475	719	**>2.24**	**>RAL**					
Road-CC01-002 (5-10')	10/30/2013	475	349	<2.24	**<RAL**	x	1.0	0.5	0.6	**<RAL**
Road-CC02-001 (0-5')	10/30/2013	475	335	<2.24	**<RAL**	x	1.1	0.4	0.5	**<RAL**
Road-CC03-001 (0-5')	10/30/2013	475	391	<2.24	**<RAL**	x	1.2	0.5	0.5	**<RAL**
NECR1-CC002:06 Bulk	10/31/2013	419	618	**>2.24**	**>RAL**	x	3.2	0.5	0.4	**>RAL**
NECR2-CC07-001 (5-9')	10/31/2013	419	6771	**>2.24**	**>RAL**					
NECR1-CC07-002 (9-11')	10/31/2013	419	667	**>2.24**	**>RAL**					
NECR1-CC07-003 (12-15')	10/31/2013	419	416	**≈2.24**	**≈RAL**	x	1.2	0.5	0.6	**<RAL**
NECR1-CC09-001 (5-8.8')	10/31/2013	417	760	**>2.24**	**>RAL**	x	2.1	0.5	0.5	**>RAL**
NECR1-CC10-001 (9.5-15')	10/31/2013	417	12344	**>2.24**	**>RAL**	x	70.1	2.2	0.9	**>RAL**
PND3-CC01-001 (0-5')	10/31/2013	417	328	<2.24	**<RAL**	x	1.2	0.5	0.6	**<RAL**
PND3-CC01-002 (11.5-15')	10/31/2013	417	378	<2.24	**<RAL**					
PND3-CC02-001 (1-5')	10/31/2013	417	371	<2.24	**<RAL**					
PND3-CC02-002 (5-10')	10/31/2013	417	405	<2.24	**<RAL**	x	1.5	0.5	0.5	**<RAL**
PND3-CC02-003 (15-20')	10/31/2013	417	375	<2.24	**<RAL**					
PND3-CC03-001 (1-5')	10/31/2013	417	705	**>2.24**	**>RAL**					
PND3-CC03-002 (10-20')	10/31/2013	417	417	**≈2.24**	**≈RAL**	x	1.4	0.5	0.5	**<RAL**
P2-CC01-001 (0-5')	11/6/2013	515	1084	**>2.24**	**>RAL**	x	5.0	0.7	0.6	**>RAL**
P2-CC01-002 (5.5-7.4')	11/6/2013	515	487	<2.24	**<RAL**					
P2-CC01-003 (7.4-10')	11/6/2013	515	490	≤2.24	**≤RAL**					
P2-CC02-001 (6"-5')	11/6/2013	515	584	**>2.24**	**>RAL**					
P2-CC02-002 (5-10')	11/6/2013	515	465	<2.24	**<RAL**	x	1.1	0.5	0.6	**<RAL**
P2-CC03-001 (0-5')	11/6/2013	515	533	**≥2.24**	**≥RAL**	x	2.0	0.5	0.5	**≈RAL**
P2-CC03-002 (5.3-7.5')	11/6/2013	515	486	<2.24	**<RAL**					
P1-CC01-001 (0-3')	11/6/2013	515	2608	**>2.24**	**>RAL**					
P1-CC01-002 (5-10')	11/6/2013	515	556	**>2.24**	**>RAL**	x	1.2	0.5	0.5	**<RAL**
P1-CC02-001 (0-5')	11/6/2013	515	1206	**>2.24**	**>RAL**					
P1-CC02-002 (5-8')	11/6/2013	515	1982	**>2.24**	**>RAL**	x	10.2	0.8	0.5	**>RAL**
P1-CC02-003 (8-15')	11/6/2013	515	517	**≈2.24**	**≈RAL**					
Yard-CC01-001 (0-5')	11/8/2013	393	327	<2.24	**<RAL**	x	1.1	0.4	0.6	**<RAL**
Yard-CC01-002 (6-10')	11/8/2013	393	302	<2.24	**<RAL**					
Yard-CC01-003 (10-15')	11/8/2013	393	313	<2.24	**<RAL**					
Yard-CC02-001 (0-5')	11/8/2013	393	338	<2.24	**<RAL**	x	1.1	0.5	0.6	**<RAL**
Yard-CC02-002 (5-10')	11/8/2013	393	287	<2.24	**<RAL**					
Yard-CC02-003 (10-15')	11/8/2013	393	317	<2.24	**<RAL**					
NECR1-52A-001 (9.1-14.1')	11/13/2013	441	654	**>2.24**	**>RAL**					
NECR1-52A-003 (16.6-19.1')	11/13/2013	441	419	<2.24	**<RAL**					
NECR1-52A-002 (14.1-16.6')	11/13/2013	441	450	**≥2.24**	**≥RAL**					

Table 2
NECR Mine Site Subsurface Soil Sample Field Gamma Radiation Screening
PTW Screening

Sample Data		Field Soil Screening Data					Laboratory Data				
Soil Sample ID	Date	100 pCi/g Reference Soil CPM	200 pCi/g Reference Soil CPM	Soil Sample CPM	Screening Results Estimated	PTW	Sample Sent to Lab	Ra-226 pCi/g	Error Estimate pCi/g	MDC pCi/g	PTW
SP-CC01-001 (0-5')	11/1/2013	9394	17810	11923	<200	N	X	98.9	3	1	N
SP-CC01-002 (5-10')	11/1/2013	9394	17810	2728	<100	N					
SP-CC02-001 (0-2.5')	11/1/2013	9394	17810	3032	<100	N					
SP-CC02-002 (2.5-5.0')	11/1/2013	9394	17810	545	<100	N	X	1.7	0.6	0.6	N
SP-CC02-003 (7.5-10')	11/1/2013	9394	17810	412	<100	N					
SP-CC03-001 (0-2.5')	11/1/2013	9394	17810	1783	<100	N					
SP-CC03-002 (2.5-5')	11/1/2013	9394	17810	414	<100	N	X	2.1	0.5	0.5	N
SP-CC03-003 (5-10')	11/1/2013	9394	17810	373	<100	N					
SP-CC04-001 (0-2.5')	11/1/2013	9394	17810	11532	<200	N					
SP-CC04-002 (2.5-5.0')	11/1/2013	9394	17810	13474	<200	N					
SP-CC04-003 (5-7.5')	11/1/2013	9394	17810	13807	<200	N					
SP-CC04-004 (7.5-10.5')	11/1/2013	9394	17810	21702	>200	Y	X	162	3.8	1.7	N
SP-CC04-005 (10-12.5')	11/1/2013	9394	17810	11365	<200	N	X	65.3	2.1	1	N
SP-CC04-006 (15.0-17.5')	11/1/2013	9394	17810	12238	<200	N					
SP-CC05-001 (0-2.5')	11/1/2013	9394	17810	10225	<200	N					
SP-CC05-002 (2.5-5')	11/1/2013	9394	17810	16466	≈200	Y					
SP-CC05-003 (5-7.5')	11/1/2013	9394	17810	17941	≈200	Y	X	140	3.6	1.6	N
SP-CC05-004 (7.5-10')	11/1/2013	9394	17810	15893	<200	N	X	158	3.8	1.7	N
SP-CC05-005 (10-12.5')	11/1/2013	9394	17810	4923	<100	N					
SP-CC05-006 (12.5-15')	11/1/2013	9394	17810	632	<100	N					
SP-CC05-007 (15.0-20.0')	11/1/2013	9394	17810	850	<100	N					
SP-CC05-008 (20.0-22.5')	11/1/2013	9394	17810	699	<100	N					
SP-CC06-001 (0-2.5')	11/4/2013	10140	19032	4016	<100	N					
SP-CC06-002 (2.5-5.0')	11/4/2013	10140	19032	434	<100	N	X	2	0.6	0.5	N
SP-CC06-003 (5-7.5')	11/4/2013	10140	19032	456	<100	N					
SP-CC06-004 (7.5-10.0')	11/4/2013	10140	19032	534	<100	N					
SP-CC07-001 (0-2.5')	11/4/2013	10140	19032	7199	<100	N					
SP-CC07-002 (2.5-5.0')	11/4/2013	10140	19032	12425	<200	N	X	78.6	2.6	1	N
SP-CC07-003 (5.0-7.5')	11/4/2013	10140	19032	639	<100	N					
SP-CC07-004 (7.5-10.0')	11/4/2013	10140	19032	510	<100	N					
SP-CC08-001 (0-2.5')	11/4/2013	10140	19032	19089	≈200	Y	X	150	3.6	1.5	N
SP-CC08-002 (2.5-5.0')	11/4/2013	10140	19032	16043	<200	N	X	119	3.1	1.3	N
SP-CC08-003 (6.0-8.5')	11/4/2013	10140	19032	1267	<100	N					
SP-CC08-004 (12.5-15.0')	11/4/2013	10140	19032	640	<100	N					
SP-CC09-001 (0-2.5')	11/4/2013	10140	19032	18120	<200	N					
SP-CC09-002 (2.5-5.0')	11/4/2013	10140	19032	12009	<200	N					
SP-CC09-003 (5.0-7.5')	11/4/2013	10140	19032	19393	≈200	Y	X	135	3.5	1.5	N
SP-CC09-004 (7.5-10.0')	11/4/2013	10140	19032	15469	<200	N	X	145	3.7	1.7	N
SP-CC09-005 (10.5-12.5')	11/4/2013	10140	19032	2855	<100	N					
SP-CC10-001 (0-2.5')	11/4/2013	10140	19032	19048	>200	Y					
SP-CC10-002 (2.5-5.0')	11/4/2013	10140	19032	17954	<200	N					
SP-CC10-003 (5.0-7.5')	11/4/2013	10140	19032	19423	>200	Y	X	133	3.7	1.7	N
SP-CC10-203 (5.0-7.4'), Duplicate of SP-CC10-003							X	144	3	1.1	N
SP-CC10-004 (11.0-15.0')	11/4/2013	10140	19032	2837	<100	N	X	3.6	0.6	0.5	N
SP-CC10-005 (15.0-17.5')	11/4/2013	10140	19032	1413	<100	N	X	1.6	0.5	0.6	N
SP-CC10-205 (15.0-17.5'), Duplicate of SP-CC10-005							X	1.8	0.6	0.6	N
SP-CC11-001 (0-2.5')	11/4/2013	10140	19032	18345	≈200	Y	X	157	3.3	1.3	N
SP-CC11-002 (2.5-4.5')	11/4/2013	10140	19032	11967	<200	N	X	118	3.3	1.3	N
SP-CC11-003 (5.0-7.5')	11/4/2013	10140	19032	1492	<100	N					
SP-CC12-001 (0-2.0')	11/4/2013	10140	19032	13203	<200	N	X	106	2.6	1.1	N
SP-CC12-002 (2.5-5.0')	11/4/2013	10140	19032	730	<100	N					
NECR1-CC11-001 (3.0-5.0')	11/6/2013	9741	17877	14984	<200	N	X	98.7	2.9	1.2	N
NECR1-CC11-002 (5.0-7.5')	11/6/2013	9741	17877	3779	<100	N					
NECR1-CC11-003 (7.5-10.0')	11/6/2013	9741	17877	577	<100	N					

Table 2
NECR Mine Site Subsurface Soil Sample Field Gamma Radiation Screening
PTW Screening

Sample Data		Field Soil Screening Data					Laboratory Data				
Soil Sample ID	Date	100 pCi/g Reference Soil CPM	200 pCi/g Reference Soil CPM	Soil Sample CPM	Screening Results Estimated	PTW	Sample Sent to Lab	Ra-226 pCi/g	Error Estimate pCi/g	MDC pCi/g	PTW
NECR1-CC11-004 (12.5-15')	11/6/2013	9741	17887	411	<100	N					
NECR1-CC12-001 (0-2.5')	11/6/2013	9741	17887	1593	<100	N					
NECR1-CC12-002 (2.5-5')	11/6/2013	9741	17887	14451	<200	N	X	147	3.4	1.3	N
NECR1-CC12-003 (5-7.5')	11/6/2013	9741	17887	347	<100	N					
NECR1-CC12-004 (7.5-10')	11/6/2013	9741	17887	339	<100	N					
NECR1-CC13-001 (2.5-5')	11/6/2013	9741	17887	2919	<100	N					
NECR1-CC13-002 (5-7.5')	11/6/2013	9741	17887	9110	<100	N					
NECR1-CC13-003 (7.5-10')	11/6/2013	9741	17887	8003	<100	N					
NECR1-CC13-004 (10-12.5')	11/6/2013	9741	17887	7650	<100	N	X	60.8	2.1	0.8	N
NECR1-CC13-204 (10-12.5'), Duplicate of NECR1-CC13-004							X	57.6	1.9	0.8	N
NECR1-CC13-005 (12.5-15')	11/6/2013	9741	17887	7831	<100	N					
NECR1-CC14-001 (1.5-5')	11/6/2013	9741	17887	1311	<100	N					
NECR1-CC14-002 (7.5-10')	11/6/2013	9741	17887	631	<100	N					
NECR1-CC14-003 (12-15')	11/6/2013	9741	17887	458	<100	N	X	1.2	0.5	0.5	N
NECR1-CC14-005 (17.5-20')	11/7/2013	9327	17735	395	<100	N					
NECR1-CC14-004 (15-17.5')	11/7/2013	9327	17735	329	<100	N					
NECR1-CC15-001 (5-10')	11/7/2013	9327	17735	607	<100	N	X	2	0.5	0.5	N
NECR1-CC15-002 (10-12')	11/7/2013	9327	17735	1412	<100	N					
NECR1-CC15-003 (15-17.5')	11/7/2013	9327	17735	372	<100	N					
NECR1-CC15-004 (20-22.5')	11/7/2013	9327	17735	324	<100	N					
NECR1-CC16-001 (2.5-5')	11/7/2013	9327	17735	503	<100	N					
NECR1-CC16-002 (7.5-10')	11/7/2013	9327	17735	1182	<100	N	X	6.9	0.7	0.4	N
NECR1-CC16-003 (10-15')	11/7/2013	9327	17735	341	<100	N					
NECR1-CC16-004 (16-18')	11/7/2013	9327	17735	360	<100	N					
NECR1-CC16-005 (18-20')	11/7/2013	9327	17735	242	<100	N					
PND3-CC04-001 (0-5')	11/7/2013	9235	17519	2025	<100	N					
PND3-CC04-002 (5-10')	11/7/2013	9235	17519	3406	<100	N	X	21.1	1.1	0.6	N
PND3-CC04-003 (12.5-15')	11/7/2013	9235	17519	484	<100	N					
PND3-CC04-004 (15-20')	11/7/2013	9235	17519	373	<100	N					
PND3-CC04-005 (22-25')	11/7/2013	9235	17519	371	<100	N					
PND3-CC05-001 (0-2.5')	11/7/2013	9235	17519	1006	<100	N					
PND3-CC05-002 (5-7.5')	11/7/2013	9235	17519	2116	<100	N	X	12	1	0.7	N
PND3-CC05-003 (7.5-10')	11/7/2013	9235	17519	543	<100	N					
PND3-CC06-001 (0-2.5')	11/7/2013	9235	17519	2443	<100	N	X	18.2	1.2	0.7	N
PND3-CC06-002 (5-10')	11/7/2013	9235	17519	350	<100	N					
NMSA-CC01-001 (1.5-5')	11/8/2013	8917	16229	7095	<100	N					
NMSA-CC01-002 (5.5-7.5')	11/8/2013	8917	16229	304	<100	N	X	1	0.4	0.5	N
NMSA-CC01-003 (7.5-10')	11/8/2013	8917	16229	300	<100	N					
NMSA-CC01-004 (11-12.5')	11/8/2013	8917	16229	349	<100	N					
NMSA-CC01-005 (16.5-20')	11/8/2013	8917	16229	410	<100	N					
NMSA-CC01-006 (20-25')	11/8/2013	8917	16229	400	<100	N					
NMSA-CC03-001 (2.5-5')	11/8/2013	8917	16229	7933	<100	N					
NMSA-CC03-004 (5-7.5')	11/8/2013	8917	16229	9989	<200	N	X	82	2.6	1.2	N
NMSA-CC03-005 (7.5-10')	11/8/2013	8917	16229	8443	<100	N					
P1-CC03-001 (0-2.5')	11/11/2013	9939	17973	36475	>200	Y	X	504	8.4	3	Y
P1-CC03-002 (2.5-5')	11/11/2013	9939	17973	1217	<100	N	X	1.8	0.6	0.6	N
P1-CC03-003 (5-10')	11/11/2013	9939	17973	683	<100	N					
P1-CC04-001 (0-2.5')	11/11/2013	9939	17973	44517	>200	Y					
P1-CC04-002 (2.5-5')	11/11/2013	9939	17973	34976	>200	Y	X	372	6.5	2.5	Y
P1-CC04-003 (5-7.5')	11/11/2013	9939	17973	523	<100	N	X	1.3	0.6	0.6	N
P1-CC04-004 (7.5-10')	11/11/2013	9939	17973	467	<100	N					
P1-CC05-001 (0-2.5')	11/11/2013	9939	17973	25845	>200	Y					
P1-CC05-002 (2.5-5')	11/11/2013	9939	17973	21621	>200	Y	X	205	5.1	2.4	Y
P1-CC05-003 (5-7')	11/11/2013	9939	17973	3146	<100	N	X	23.5	1.6	0.9	N

Table 2
NECR Mine Site Subsurface Soil Sample Field Gamma Radiation Screening
PTW Screening

Sample Data		Field Soil Screening Data					Laboratory Data				
Soil Sample ID	Date	100 pCi/g Reference Soil CPM	200 pCi/g Reference Soil CPM	Soil Sample CPM	Screening Results Estimated	PTW	Sample Sent to Lab	Ra-226 pCi/g	Error Estimate pCi/g	MDC pCi/g	PTW
P1-CC05-004 (7-10')	11/11/2013	9939	17973	433	<100	N					
P1-CC06-001 (0-2.5')	11/11/2013	9939	17973	22741	>200	Y					
P1-CC06-002 (2.5-5')	11/11/2013	9939	17973	33215	>200	Y	X	399	7.1	2.9	Y
P1-CC06-003 (5-7.5')	11/11/2013	9939	17973	371	<100	N	X	1.1	0.5	0.6	N
P1-CC06-004 (7.5-10')	11/11/2013	9939	17973	362	<100	N					
P1-CC07-001 (0-2.5')	11/12/2013	9111	17884	7657	<100	N					
P1-CC07-002 (2.5-5')	11/12/2013	9111	17884	33212	>200	Y	X	322	6	2.3	Y
P1-CC07-003 (5-7.5')	11/12/2013	9111	17884	9977	<200	N	X	87.1	2.7	1.2	N
P1-CC07-004 (7.5-10')	11/12/2013	9111	17884	411	<100	N					
P1-CC08-001 (0-2.5')	11/12/2013	9111	17884	36385	>200	Y	X	492	8	3.4	Y
P1-CC08-002 (2.5-5')	11/12/2013	9111	17884	4210	<100	N	X	27.7	1.6	0.7	N
P1-CC08-003 (5-10')	11/12/2013	9111	17884	603	<100	N					
P1-CC10-001 (0-2.5')	11/12/2013	9111	17884	30076	>200	Y					
P1-CC10-002 (2.5-5')	11/12/2013	9111	17884	18558	>200	Y					
P1-CC10-003 (5-7.5')	11/12/2013	9111	17884	35315	>200	Y	X	168	5.2	2.3	N
TPH-P1-CC10-003 (5-7.5'), Duplicate of P1-CC10-003							X	211	4.8	1.8	Y
P1-CC10-004 (7.5-10')	11/12/2013	9111	17884	324	<100	N	X	1	0.6	0.6	N
P1-CC11-001 (0-2.5')	11/12/2013	9111	17884	6146	<100	N					
P1-CC11-002 (2.5-5')	11/12/2013	9111	17884	9579	<200	N					
P1-CC11-003 (5-7.5')	11/12/2013	9111	17884	23697	>200	Y					
P1-CC11-004 (7.5-10')	11/12/2013	9111	17884	67660	>200	Y	X	887	11.9	4.8	Y
TPH-P1-CC11-004 (7.5-10.0'), Duplicate of P1-CC11-004							X	895	10.1	4.1	Y
P1-CC11-005 (10-12.5')	11/12/2013	9111	17884	50824	>200	Y	X	473	7.1	3	Y
P1-CC11-006 (12.5-15')	11/12/2013	9111	17884	578	<100	N	X	1.9	0.5	0.6	N
P1-CC12-001 (0-2.5')	11/12/2013	9111	17884	6353	<100	N					
P1-CC12-002 (2.5-5')	11/12/2013	9111	17884	12371	<200	N					
P1-CC12-003 (5-10')	11/12/2013	9111	17884	6555	<100	N					
P1-CC12-004 (12.5-15')	11/12/2013	9111	17884	18704	≈200	Y	X	199	5.7	2.2	N
TPH-P1-CC12-004 (12.5-15'), Duplicate of P1-CC12-004							X	152	4.6	2.1	N
P1-CC12-005 (15-17.5')	11/12/2013	9111	17884	523	<100	N	X	1.3	0.5	0.5	N
P1-CC13-001 (0-5')	11/12/2013	9111	17884	16587	<200	N					
P1-CC13-002 (5-7.5')	11/12/2013	9111	17884	61684	>200	Y	X	923	11.7	4.6	Y
P1-CC13-003 (7.5-10')	11/12/2013	9111	17884	57736	>200	Y	X	592	7.4	2.9	Y
P1-CC13-004 (10-12.5')	11/12/2013	9111	17884	35459	>200	Y					
P1-CC13-005 (12.5-14')	11/12/2013	9111	17884	654	<100	N	X	1.3	0.4	0.5	N
P1-CC14-001 (20-22.5')	11/13/2013	9501	18104	408	<100	N					
P1-CC14-002 (22.5-25')	11/13/2013	9501	18104	386	<100	N	X	0.9	0.6	0.7	N
P1-CC14-004 (27.5-30')	11/13/2013	9501	18104	417	<100	N					
P1-CC14-003 (25-27.5')	11/13/2013	9501	18104	381	<100	N					
Bulk Sample from Pond 3	11/13/2013	9501	18104	1745	<100	N					
P1-CC15-001 (0-5')	11/13/2013	9501	18104	2184	<100	N					
P1-CC15-002 (5-10')	11/13/2013	9501	18104	466	<100	N					
P1-CC15-003 (10-12.5')	11/13/2013	9501	18104	412	<100	N					
P1-CC15-004 (12.5-15')	11/13/2013	9501	18104	457	<100	N					
P1-CC15-006 (17.5-20')	11/13/2013	9501	18104	472	<100	N					
P1-CC15-005 (15-17.5')	11/13/2013	9501	18104	402	<100	N	X	1.3	0.5	0.6	N
P1-CC15-007 (20-22.5')	11/13/2013	9501	18104	424	<100	N					
P1-CC16-001 (0-5')	11/13/2013	9501	18104	897	<100	N					
P1-CC16-002 (5-7.5')	11/13/2013	9501	18104	430	<100	N					
P1-CC16-003 (7.5-10')	11/13/2013	9501	18104	409	<100	N					
P1-CC16-004 (10-12.5')	11/13/2013	9501	18104	463	<100	N					
P1-CC16-006 (15-17.5')	11/13/2013	9501	18104	468	<100	N					
P1-CC16-005 (12.5-15')	11/13/2013	9501	18104	532	<100	N	X	2.2	0.6	0.6	N

Table 3
NECR Mine Site Subsurface Soil Sample Field Gamma Radiation Screening
Laboratory Field Duplicate Sample Results

Sample Data		Laboratory Results		
Soil Sample ID	**Date**	**Ra-226 pCi/g**	**Error Estimate pCi/g**	**MDC pCi/g**
SP-CC10-003 (5.0-7.5')	11/4/2013	133	3.7	1.7
SP-CC10-203 (5.0-7.4'), Duplicate of SP-CC10-003		144	3.0	1.1
SP-CC10-005 (15.0-17.5')	11/4/2013	1.6	0.5	0.6
SP-CC10-205 (15.0-17.5'), Duplicate of SP-CC10-005		1.8	0.6	0.6
NECR1-CC13-004 (10-12.5')	11/6/2013	60.8	2.1	0.8
NECR1-CC13-204 (10-12.5'), Duplicate of NECR1-CC13-004		57.6	1.9	0.8
P1-CC10-003 (5-7.5')	11/12/2013	168	5.2	2.3
TPH-P1-CC10-003 (5-7.5'), Duplicate of P1-CC10-003		211	4.8	1.8
P1-CC11-004 (7.5-10')	11/12/2013	887	11.9	4.8
TPH-P1-CC11-004 (7.5-10.0'), Duplicate of P1-CC11-004		895	10.1	4.1
P1-CC12-004 (12.5-15')	11/12/2013	199	5.7	2.2
TPH-P1-CC12-004 (12.5-15'), Duplicate of P1-CC12-004		152	4.6	2.1

Table 4

NECR PDS Tailings Impoundment Pre & Post Borehole Drilling Gamma Radiation Scan Data Summary

TI Drill Borehole ID	Borehole Location Coordinates (NAD83, NM West, feet)		Borehole Pre-Drill Gamma Radiatio Scan (60-point Average, 2x2 NaI Detector)			Borehole Post-Drill Gamma Radiatio Scan (60-point Average, 2x2 NaI Detector)		
	Northing	Easting	Date	CPM[1]	Exposure Rate uR/hr[2]	Date	CPM	Exposure Rate uR/hr
1	1,692,260.79	2,524,538.26	11/04/13	19321	21.3	02/18/14	19401	21.4
3	1,692,335.11	2,524,322.92	11/04/13	17512	19.4	02/18/14	17468	19.3
4	1,692,392.28	2,524,886.53	11/04/13	19312	21.3	02/18/14	19333	21.4
2	1,692,646.51	2,525,095.66	11/04/13	16389	18.1	02/18/14	16386	18.1
23	1,692,860.91	2,525,720.40	11/04/13	17098	18.9	02/18/14	17031	18.8
25	1,692,438.45	2,525,690.13	11/04/13	15928	17.6	02/18/14	15943	17.6
5	1,692,071.99	2,525,537.34	11/04/13	17638	19.5	02/18/14	17663	19.5
15	1,691,691.09	2,525,088.56	11/04/13	17281	19.1	02/18/14	17348	19.2
7	1,691,702.56	2,524,668.51	11/04/13	18342	20.3	02/18/14	18313	20.2
21	1,691,222.32	2,524,549.55	11/04/13	22849	25.2	02/18/14	22934	25.3
8	1,691,550.95	2,525,850.37	11/04/13	17769	19.6	02/18/14	17792	19.7
12	1,691,529.29	2,526,209.55	11/04/13	15465	17.1	02/18/14	15473	17.1
11	1,691,704.92	2,526,257.29	11/04/13	15440	17.1	02/18/14	15374	17.0
6	1,691,925.96	2,525,900.25	11/04/13	17575	19.4	02/18/14	17585	19.4
10	1,691,774.61	2,525,854.31	11/04/13	16062	17.7	02/18/14	16052	17.7
9	1,691,741.61	2,525,575.41	11/04/13	18025	19.9	02/18/14	18020	19.9
16X	1,691,162.95	2,525,201.92	11/07/13	15919	17.6	02/18/14	15939	17.6
13	1,692,235.26	2,525,211.63	11/07/13	15033	16.6	02/18/14	15000	16.6
14	1,691,558.42	2,525,649.64	11/08/13	17218	19.0	02/18/14	17301	19.1
16	1,691,910.32	2,525,663.85	11/08/13	15953	17.6	02/18/14	15882	17.5
22	1,691,810.06	2,524,177.45	11/09/13	20808	23.0	02/18/14	20846	23.0
30	1,691,580.19	2,524,021.19	11/09/13	24273	26.8	02/18/14	24252	26.8
31	1,691,284.29	2,523,555.36	11/09/13	60970	67.4	02/18/14	59548	65.8
32	1,690,899.61	2,523,233.36	11/09/13	27837	30.8	02/18/14	27752	30.7
26	1,691,993.76	2,524,848.44	11/09/13	16475	18.2	02/18/14	16501	18.2
24	1,692,571.56	2,525,404.65	11/09/13	16259	18.0	02/18/14	16235	17.9
17	1,692,061.61	2,526,087.64	11/09/13	17358	19.2	02/18/14	17447	19.3
18	1,691,834.10	2,526,003.74	11/09/13	15995	17.7	02/18/14	15999	17.7
19	1,691,636.38	2,525,915.13	11/09/13	15320	16.9	02/18/14	15980	17.7
20	1,691,423.56	2,525,856.49	11/09/13	16223	17.9	02/18/14	16237	17.9
28	1,692,486.12	2,524,694.69	11/09/13	16358	18.1	02/18/14	16363	18.1
29	1,693,006.22	2,525,269.08	11/09/13	16765	18.5	02/18/14	16696	18.4
27	1,691,676.56	2,526,100.65	11/12/13	15768	17.4	02/18/14	15705	17.4
Average				**18986**	**20.980**		**18964**	**20.955**

Notes: 1) Gamma Radiation counts measured by 2x2 NaI Scintillation Detector; 2) Gmaa Radiation Counts (CPM) converted to exposure Rate (uR/hr) using conversion factor determined at Grants calibration pad

FIGURES

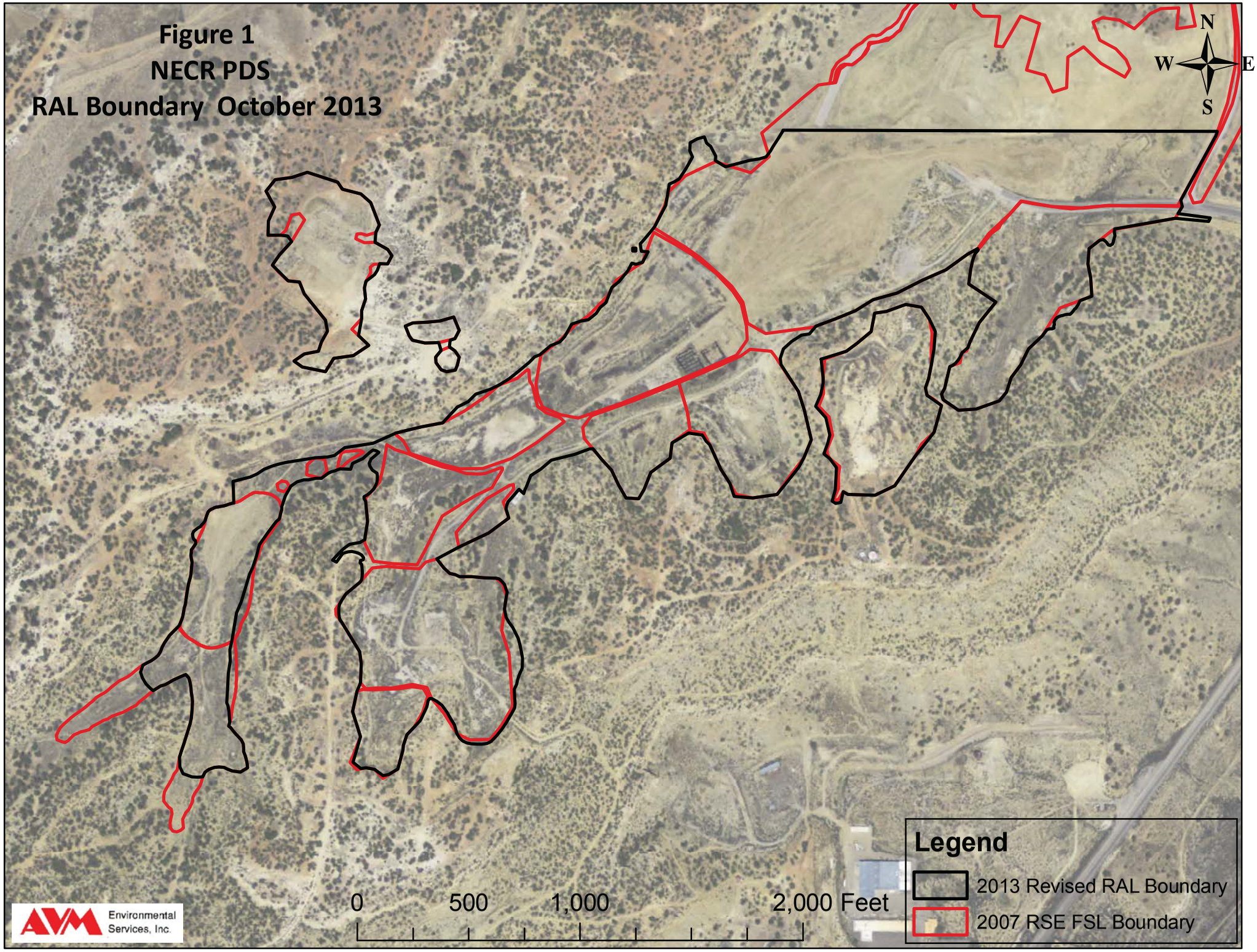


Figure 1
NECR PDS
RAL Boundary October 2013
N
W
E
S
Legend
2013 Revised RAL Boundary
2007 RSE FSL Boundary
0
500
1,000
2,000 Feet
AVM Environmental Services, Inc.

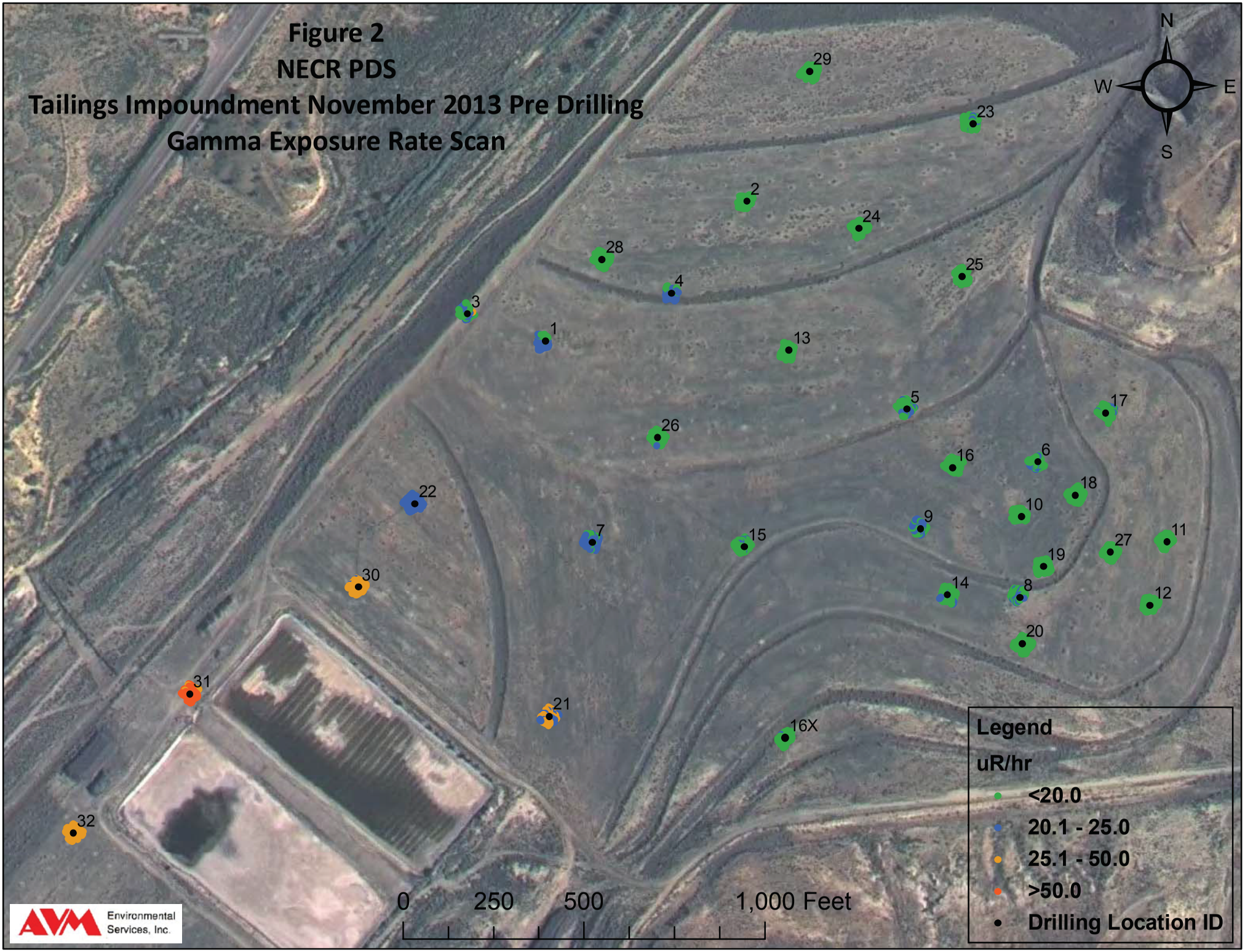


Figure 2
NECR PDS
Tailings Impoundment November 2013 Pre Drilling
Gamma Exposure Rate Scan
N
W
E
S
29
23
2
24
28
25
4
3
1
13
5
17
26
16
6
22
18
10
9
7
15
11
27
19
30
14
8
12
20
31
21
16X
32
0
250
500
1,000 Feet
Legend
uR/hr
<20.0
20.1 - 25.0
25.1 - 50.0
>50.0
Drilling Location ID
AVM Environmental Services, Inc.

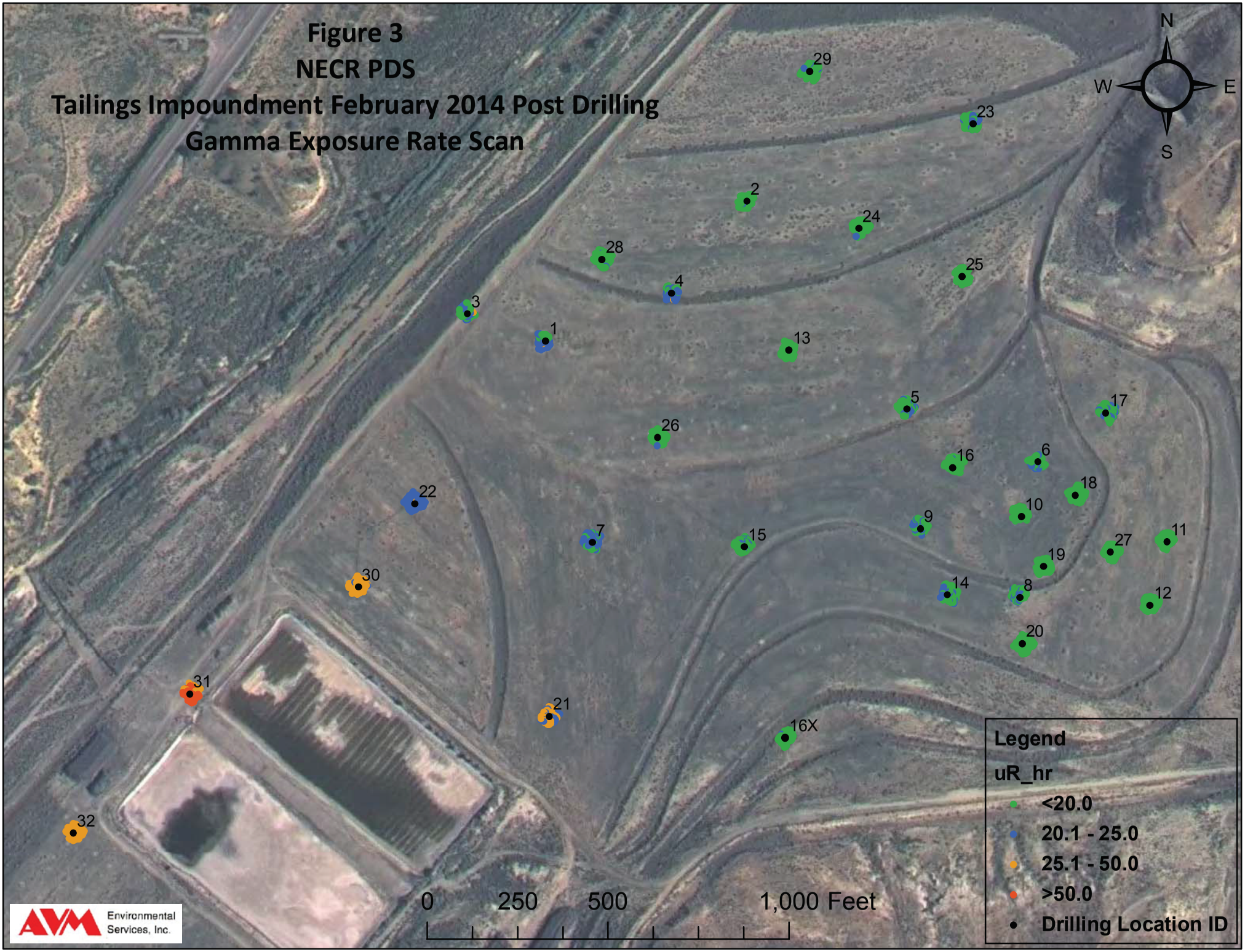


Figure 3
NECR PDS
Tailings Impoundment February 2014 Post Drilling
Gamma Exposure Rate Scan
N
W
E
S
29
23
2
24
28
25
4
3
1
13
5
17
26
6
16
18
22
10
9
7
15
11
27
19
30
14
8
12
20
31
21
16X
32
Legend
uR_hr
<20.0
20.1 - 25.0
25.1 - 50.0
>50.0
Drilling Location ID
0
250
500
1,000 Feet
AVM Environmental Services, Inc.

APPENDICES

Appendix A

Radiological Instrumentation Calibration and Function Checks

AVM Environmental Services Inc.
Scaler/Ratemeter - Detector Calibration Form

Scaler/Ratemeter L2221 S# 68782
Detector SPA-3 S# 4085.22-30

Source: U308 in Can Strength: 1%

Scaler/Ratemeter Threshhold set @ 10 mV, Window IN/OUT out, Window N/A mV

HV	Reading, CPM (Source)	Reading, CPM (Background)
500	10060	251
550	22173	500
600	47166	714
650	62634	843
700	77143	1020
750	88257	1149
800	92491	1192
850	95069	1255
900	95134	1271
950	96573	1265
1000	97033	1306
1050	98855	1360
1100	101513	1461
1150	1265536	1661
1200	151333	2204
1250	199512	3107
1300		
1350		
1400		

HV Set @ 900 VDC (Instrument)

Background reading at designated function check location in office.

Count #	Reading (CPM) Bare	Collimated
1	8275	2949
2	8210	3143
3	8198	3058
4	8383	3251
5	8399	3034
Average	8294	3087

FC Range 6635-9952 2460-3704

Count Readings with 1 percent U_3O_8 can directly under collimated detector on designated function check location in office.

Count #	Reading (CPM)
1	97766
2	97409
3	98235
4	97434
5	98021
Average	97773

~~FC Range~~

VDC (DVM Fluke 8020B)

Input Sensitivity (THR), mV 10

Function Check with 1 percent U_3O_8 ore in can. Can Directly under the detector.
Acceptable Function check range is: 18218 to 111330 CPM

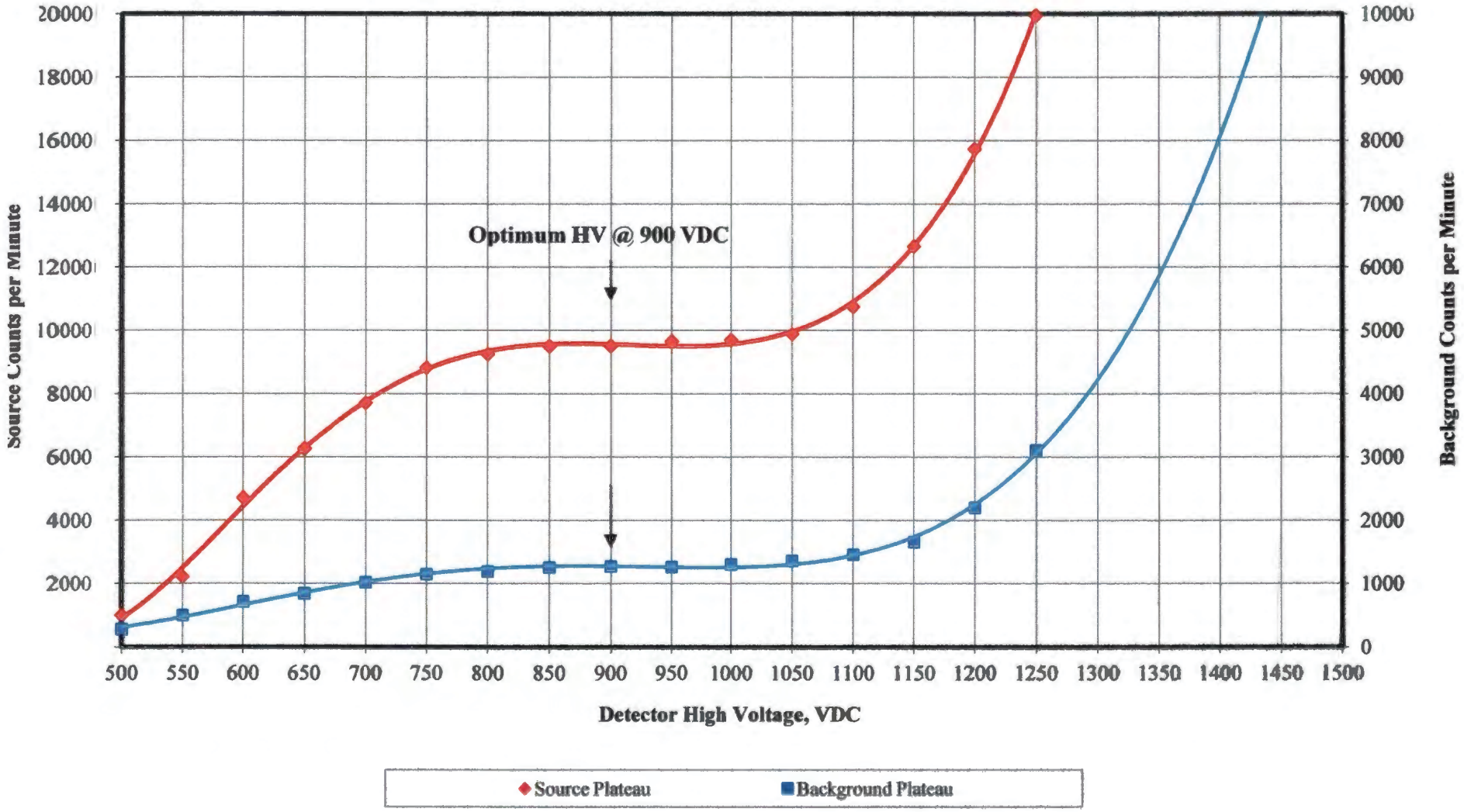
Count Readings for Calibration Pad GPL (87.78 pCi/gm Ra-226)

	Bare (Uncollimated)		Collimated	
#1	84535	cpm	42131	cpm
#2	84130	cpm	43453	cpm
#3	83583	cpm	43100	cpm
#4	84276	cpm	48245	cpm
#5	84194	cpm	48346	cpm
Average	84155	cpm	48265	cpm
Eff(avg cpm/87.78 pCi/gm	958.7	cpm/pCi/gm	549.8	cpm/pCi/gm

uR/hr @ 1.0' = 93
Ludlum model 19 # 76248
0.001105 uR/hr/cpm

Date 3-21-15 By

Detector High Voltage Plateau
SPA-3 #408522-30 with Ludlum 2221 #68782
1% Uranium Ore in Sealed Can
March 26, 2013



AVM Environmental Services Inc.

Scaler/Ratemeter Calibration Form

Model : L2221 S/N: 68782

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

HV Calibration

HV Readout (2 points): Ref/Inst 600 / 600 Ref/Inst 1000 / 1000

Ratemeter Calibration

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

Range/Mode		Calibration Point (Pulser Setting) cpm x multiplier	Target CPM (±5%)	As Found Reading		Left or Set Reading
Ratemeter		40x1	38-42	40		40
		40x10	380-420	400		400
		40x100	3800-4200	4000		4000
		40x1K	38K-42K	40,000		40,000
		40x10K	380K-420K	400000		400000
Digital Ratemeter		40x1	38-42	40		40
		40x10	380-420	400		400
		40x100	3800-4200	3999		3999
		40x1K	38K-42K	39996		39996
		40x10K	380K-420K	399965		399965

Threshold/Gain Calibration

WIN OUT

Pulser Amplitude (mV)	Pulser CPM		L2221 Theshold (mv)	Target CPM	L2221 CPM Found		L2221 CPM Left or Set @
10.0	40000		100 (10 mV)	27K -33K	25950		30042
20.0	40000		200 (20 mV)	27K -33K	30103		30103
30.0	40000		300 (30 mV)	27K -33K	30125		30125
40.0	40000		400 (40 mV)	27K -33K	31580		31580
50.0	40000		500 (50 mV)	27K -33K	32740		32740

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

Window Cut-off Points Check

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (10.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (10.0 mV) ✓

Date 3-26-13 Calibrated By

AVM Environmental Services, Inc.
Scaler/Ratemeter - 2" x 2" NaI Detector Function Check

Function Check Source ID: 1% U_3O_8 Ore in Sealed can

2" x 2" NaI Detector ID: SPA-3 S# 408522-30

Acceptable background Count (cpm) Range (20%) 6635 to 9952 (Bare)

Acceptable background Count (cpm) Range (20%) 2460 to 3704 (collimated)

Acceptable Source Count (cpm) Range (20%) 78220 to 117320

Date	Scaler/Ratemeter	Physical Check	Cal Due	Battery[1] Volts or OK	HV Volts	THR mV[2]	Window In or OUT[3]	C.C.[4]	BKG Counts cpm	Source Counrts cpm	Within Acceptable Range Y or N	MDC pCi/gm	Tech
3-27-13	L2221 S#165715	✓	3-26-14	✓	900	10	out	—	7340 Bare 2870 coll.	97372	y		VP
10-21-13	L2221 S#63752	✓	3-26-14	6.2	900	10	out	—	8060 Bare 2930 coll	98741	y	-	VP
10-22-13	L2221 S#68782	✓	3-26-14	✓	900	10	out	-	7911 Bare 3049 coll	97672	y	-	VP
10-22-13	L2221 S#68782	✓	3-26-14	✓	900	10	out	—	8030 Bare 2927 coll	98555	y	-	VP
11-4-13	L2221 S# 290801	✓	3-26-14	✓	900	10	out	—	7920 Bare 2872 coll	98334	y	—	VP
11-7-13	L2221 S# 290801	✓	3-26-14	✓	900	10	out	—	8089 Bare	98716	y	—	VP
11-8-13	L2221 S# 290801	✓	3-26-14	✓	900	10	out	-	7910 Bare	97464	y	—	VP
11-9-13	L2221 S# 290801	✓	3-26-14	✓	900	10	out	—	7933 Bare	98741	y	-	VP
1-12-13	L2221 S# 290801	✓	3-26-14	✓	900	10	out	—	7838 Bare	98234	y	-	VP
1-14-14	L2221 S#68782	✓	3-26-14	✓	900	10	out	—	8044 Bare	98477	y	-	VP
2-18-14	L2221 S#68782	✓	3-26-14	✓	900	10	out	—	7998	98002	y	—	VP

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 10.0 mV; (3) Window Position must be OUT; (4) CC on L2241-2 set at 0.001
Check HV and Threshold using Ludlum 500 pulser.

AVM Environmental Services Inc.
L2221 SCA/L44-20 Energy Calibration Form

SCA: L2221, SR #68782 Detector: Ludlum 44-20 (3x3 NaI Scintillator) #295573

Calibration Source: Cs-137 Check Source, 5 uCi (August 2008) For 662 KeV Peak Cal

Threshold (input sensitivity **652**

Window, In/Out **IN** Window **20**

HV Initial 100, At Peak 642

Maximum CPM: 170K Background CPM: 30

HV Set @ 642 VDC

For Bi-214 609.2 KeV Peak (559 - 659 KeV ROI), Set Threshold @ 559, Window @ 100

Calibration Check w 1% U3O8 Ore Check Source: 20015 CPM

Bkg @ 5.59mv Thr & 10.0mv Window IN = 57 cpm

Date 10-26-13 Calibrated By

AVM Environmental Services, Inc.
Ludlum SCA L2221 - 44-20 3x3 NaI Detector Function Check
559 - 659 KeV Gamma Radiation Soil Screening

L2221 #68782

Ludlum 44-20 3x3 NaI Detector, #PR295573

Function Check Source ID: 1% U_3O_8 Ore in Sealed can

Acceptable background Count (cpm) Range (20%) 45 ~~24~~ up to 80

Acceptable Source Count (cpm) Range (20%) 16012 to 24018

Date	Physical Check	Cal Date	Battery[1] Volts or OK	HV Volts	Threshhold mV [2]	Window mV	Window In/Out	BKG Counts cpm	Source Counrts cpm	Within Acceptable Range Y or N	MDC pCi/gm	Tech
10-26-13	ok	10-26-13	ok	642	559	100	in	60	19986	y	—	VP
10 29-13	ok	10 26-13	ok	642	559	100	in	76	20542	y	—	VP
10-30 13	ok	10-26 13	ok	642	559	100	in	74	20089	y	—	VP
10 31-13	ok	10-26-13	ok	642	559	100	in	62	20142	y	—	VP
11-1-13	ok	10 26 13	ok	642	559	100	in	79	19989	y	—	VP
11-4-13	ok	10-26-13	ok	641	559	100	in	78	20220	y	—	VP
11-5 13	ok	10-26-13	ok	642	559	100	in	69	19957	y	—	VP
11-6-13	ok	10-26-13	ok	643	559	100	in	61	20306	y	—	VP
11-7-13	ok	10-26 13	ok	642	559	100	in	66	20794	y	—	VP
11-8-13	ok	10-26-13	ok	643	559	100	in	67	20127	y	—	VP
11-11-13	ok	10-26-13	ok	640	559	100	in	74	20045	y	—	VP
11-12-13	ok	10-26 13	ok	640	559	100	in	77	20439	y	—	VP
11-13-13	ok	10-26-13	ok	637	559	100	in	69	20889	y	—	VP

Note: (1) Battery Voltage for Ludlum 2221 must be >5.3 volts; (2) Threshhold must be at 220 mV; (3) Window @ 440, must be IN

AVM Environmental Services Inc.

Scaler/Ratemeter Calibration Form

Model : L2221 S/N: 290801

Reference Instrument/Source: Ludlum Pulser 500, S/N:114513

HV Calibration

HV Readout (2 points): Ref/Inst 1000 / 1000 Ref/Inst 1000 / 1000

Ratemeter Calibration

Instrument Threshold @ 100 (10 mV), WIN: Out, HV 900VDC; Pulser Threshold @ 200 (20mV)

Range/Mode		Calibration Point (Pulser Setting) cpm x multiplier	Target CPM (±5%)	As Found Reading		Left or Set Reading
Ratemeter		40x1	38-42	40		40
		40x10	380-420	400		400
		40x100	3800-4200	4000		4000
		40x1K	38K-42K	40000		40000
		40x10K	380K-420K	400000		400000
Digital Ratemeter		40x1	38-42	40		40
		40x10	380-420	400		400
		40x100	3800-4200	3998		3998
		40x1K	38K-42K	39999		39999
		40x10K	380K-420K	399981		399981

Threshold/Gain Calibration

WIN OUT

Pulser Amplitude (mV)	Pulser CPM		L2221 Theshold (mv)	Target CPM	L2221 CPM Found		L2221 CPM Left or Set @
10.0	40000		100 (10 mV)	27K -33K	27954		30008
20.0	40000		200 (20 mV)	27K -33K	31467		30012
30.0	40000		300 (30 mV)	27K -33K	30028		30028
40.0	40000		400 (40 mV)	27K -33K	31330		31330
50.0	40000		500 (50 mV)	27K -33K	30640		30640

Note: Use R174 Gain Control on Power Supply Board to adjust L2221 CPM @75% for Threshold/Gain Calibration

Window Cut-off Points Check

L2221 Threshold set @100 (10.0 mv)

WIN @ 100 (10.0 mV) ✓ WIN @ 400 (10.0 mV) ✓

WIN @ 200 (20.0 mV) ✓ WIN @ 500 (10.0 mV) ✓

Date 3-26-13 Calibrated By

Appendix B

NECR PDS Field Soil Sample Gamma Radiation Screening Forms and Reference Soil Sample Preparation

AVM Environmental Services, Inc.
Ra-226 Standards Preparation for NECR PDS PTW Soil Screening

Ra-226 standards were prepared by blending local matrix soil and Certified Reference Material (CRM) from the Department of Energy's New Brunswick Laboratory (NBL). These standards were prepared to calibrate the gamma radiation soil screening system for NECR PDS. The gamma soil screening system will be utilized to determine if the soil sample is above or below the PTW level (200 pCi/g Ra-226). The matrix blending provides additional compensation for local background. To increase range accuracy, the higher Radium content CRM was diluted with the local matrix to bring the standard concentrations to 200 and 100 pCi/gm of Ra-226. An NBL CRM 3-B (3.90% U_3O_8 with Ra to U weight ratio of 3.38E-07 which results to 11,178 pCi/gm Ra-226) was used to prepare matrix standards.

200 pCi/g Reference Soil Sample

71.2176 grams of CRM-3B @ 11,178 pCi/g = 796,070 pCi
3,930 grams of Matrix Soil (@1.0 pCi/g) = 3930 pCi
4001 grams Total = 800,000 pCi

Ra-226 concentration = 200.0 pCi/g (October 26, 2013)

100 pCi/g Reference Soil Sample

35.4299 grams of CRM-3B @ 11,178 pCi/g = 396,035 pCi
3965 grams of Matrix Soil (@1.0 pCi/g) = 3965 pCi
4000 grams Total = 400,000 pCi

Ra-226 concentration = 100.0 pCi/g (October 26, 2013)

The matrix soil was weighed using the Ohaus LS2000 electronic balance. The CRM was weighed with the Mettler H5 balance, SN#58395. The soils and CRM were transferred into a gallon glass jar and mixed by rolling. The entire matrix standards were transferred into 1 gallon zip lock bags and labeled.

U. S. Department of Energy
New Brunswick Laboratory

New Brunswick Laboratory Certified Reference Materials Certificate of Analysis

CRM 3-B

Low Grade Pitchblende

U_3O_8 content of the material dried at 110°C to constant weight - 3.90%

This material was made from a pitchblende ore diluted with dunite and was prepared to test procedures for chemical analysis. Analyses on the pitchblende ore from which this sample was made show that the ratio of grams of radium to grams of uranium is 3.38×10^{-7}.

June 1969
New Brunswick, New Jersey

Clement J. Rodden
Area Manager

AVM Environ .al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#6878 Detector 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR 2, NECR mine site

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
10-29-13	BKG	—	380/5m	—	76		19-21 uR/hr
10-29-13 910	2.0 Ref. Soil	3000	2405/5m 2466/5m 2465/5m	—	481 493 493		2445 cp5m Avg. 489 cpm Avg
10-29-13 1120	NECR-PDS-mine NECR2-CC1 (0-5') #49	3000	22457/5m	—	4491	72.0	
10-29-13 1150	NECR2-cc1 (5-7') #49	3000	2525/5m 2716/5m	—	505 543 521	VP 72.0	3rd Run 2607 2616 Avg. 523 Avg
10-29-13 1340	NECR 2-CC2 001 (0-2.5')	3000	13366/5m	—		72.0	
10-29-13 1350	NECR 2-CC2-003 (4-4')	3000	1902/5m	—	380	<2.0	
10-29-13 1400	NECR2-CC3-001 (0-4')	3000	34114/5m	—	6822	72.0	
10-29-13 1410	NECR2-CC3-002 (4-5')	3000	9494/5m	—	1899	72.0	
10-29-13 1430	NECR2-CC3-003 (5-7')	3000	5067/5m	—	1013	>2.0	
10-29-13 1442	NECR2-CC3-004 (14'-15')	3000	22542/5m	—	4508	72.0	Clay moist Chunks.
10-29-13 1452	NECR2-CC3 (15'-20')	3000	10138/5m	—	2027	72.0	Clay moist large chunks
10-29-13 1530	NECR2-CC3-006 (20'-22.5')	3000	2261/5m 2148/5m	—	452	<2.0	
10-29-13 1600	NECR2-CC4-001 (0-5')	3000	2510/5m 2491/5m	—	502 498	~~2.0~~ ~~VP~~	3rd Run 2432 486 2477 Avg. 495 Avg.
10-29-13 1640	NECR2-CC5 001 (0-2.5')	3000	4790/5m	—	958	72.0	
10-29-13	NECR2-CC5-004 (5'-8')	2980	2024/5m	—	404	<2.0	

Technician Signature _____, Reviewed by _____

NECR2-CC3-007 22.5-25 - Not Run prior Clean

NECR2-CC2-003 (2.5-4') not enough Sample 1900g still Run for 1 min @ 430 cpm

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 SN68782 Detector L44-20 S#209573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR2 / NECR1 NECR mine Side

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
10-30-13	BKG	—	370/5m	—	74		18-20uR/hr
10-30-13 0803	2.0 Ref Soil	3000	2365/5m 2410/5m 2356/5m	—	473 482 471		6p5m Avg = 2377 CPM Avg = 475
10-30-13 0840	NECR2-CC06-003 (0-2.5')	3000	1803/5m	—	361	<2.0	
10-30-13 1056	Road-CC01-001 (0-5')	3000	3597/5m	—	719	>2.0	
10-30-13 1013	Road-CC01-002 (5'-10')	3000	1749/5m	—	349	<2.0	
10-30-13 1050	Road-CC02-001 (0-5'	3000	1675/5m	—	335	<2.0	
10-30-13 1115	Road-CC03-001 (0-5')	3000	1956/5m	—	391	<2.0	
10-31-13	BKG	—	310/5m	—	62		10-14 uR/hr
10-31-13 0830	2.0 Ref Soil	3000	2078/5m 2118/5m 2092/5m	—	415 424 413		6p5m Avg = 2096 CPM Avg = 419
10-31-13 1025	NECR1-CC02:06-Bulk	3000	3090/5m	—	618	>2.0	
10-31-13 1120	NECR2-CC07-00 (5-9')	3000	33859/5m	—	6771	>2.0	
10-31-13 1145	NECR1-CC07-003 (12-15')	3000	2081/5m	—	416	JP ~~<2.0~~	
10-17-13 1200	NECR1-CC07-002 (9'-11')	3000	3339/5m	—	667	>2.0	
10-17-17	BKG			—			17-19 uR/hr.
10-13-17 1330	2.0 Ref Soil	3000	2062 2133 2076	—	412 426 413		6p5m Avg 2087 CPM Avg 417

Technician Signature _____, Reviewed by _____

AVM Enviro .tal Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Description NECR mine site Sediment Pad

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
10-31-13 1405	NECR1 - CC09 - 001 (5-8.8)	3000	3803/5m	—	760	72.0	
10-31-13 1425	NECR 1 - CC10 - 001 (9.5-15)	3000	12344/1m	—	12344	72.0	
10-31-13 1535	PND3 - CC01 - 001 (0-5)	3000	1641/5m	—	328	<2.0	
10-31-13 1543	PND3 - CC01 - 002 (11½-15)	3000	1894/5m	—	378	<2.0	
10-31-13 1625	PND3 - CC02 - 001 (1-5')	3000	1856/5m	—	371	<2.0	
10-31-13 1635	PND3 - CC02 - 002 (5-10)	3000	2025/5m	—	405	≈2.0	
10-31-13 1643	PND3 - CC02 - 003 (15-20'	3000	1874/5m	—	375	<2.0	
10-31-13 1710	PND3 - CC03 - 001 (1-5')	3000	3526/5m	—	705	>2.0	
10-31-13 1730	PND3 - CC03 - 002 (10-20)	3000	2087/5m	—	417	≈2.0	

Technician Signature _____, Reviewed by _____

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine Site Pond 2, Pond 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-6-13	BKG	-	61/5m	-	12 ~~10~~		10.15 uR/hr
11-6-13 0810	2.0 Ref Soil	3000	2599/2585/2549/5m	-	519 517 509		CPM Avg. = 2578 CPM Avg = 515
11-6-13 0830	P2-CC01-001 (0-5')	3000	5422/5m	-	1084	>2.0	
11-6-13 0850	P2-CC01-002 (5.5-7.4)	3000	2436/5m	-	487	~2.0	< RAL
11-6-13 0900	P2-CC01-003 (7.4-10')	3000	2452/5m	-	490	~2.0	< RAL
11-6-13 0910	P2-CC02-001 (6"-5')	3000	2923/5m	-	584	>2.0	
11-6-13 0925	P2-CC02-002 (5-10)	3000	2325/5m	-	465	<2.0	< RAL
11-6-13 955	P2-CC03-001 (0-5')	3000	2664/5m	-	533	~2.0	~ RAL
11-6-13 1007	P2-CC03-002 (5.3-7.5')	3000	2430/5m	-	486	<2.0	< RAL
11-6-13 1035	P1-CC01-001 (0-3')	3000	13043/5m	-	2608	>2.0	
11-6-13 1045	P1-CC01-002 (5-10')	3000	2781/5m	-	556	>2.0	
11-6-13 1126	P1-CC02-001 (0-5')	3000	6030/5m	-	1206	>2.0	
11-6-13 1140	P1-CC02-002 (5-8')	3000	9911/5m	-	1982	>2.0	
11-6-13 1153	P1-CC02-003 (8-15')	3000	2589/5m	-	517	~2.0	~ RAL

Technician Signature _____, Reviewed by _____

AVM Enviro al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mw Site NEMSA / Boneyard

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-8-13	BKG	—	333/5m	—	67		12-15 uR/hr
11-8-13 0815	20 Ref Soil	3000	2003 1978 1927 /5m	—	400 395 385		avg 5m — 1969 Avg cpm - 393
11-8-13 0840	Yard-CC01-001 (0-5')	3000	1635 /5m	—	327	<2.0	<RAL
11-8-13 0900	Yard-CC01-002 (5-10')	3000	1514 /5m	—	302	<2.0	
11-8-13 0913	Yard-CC01-003 (10-15)	3000	1567 /5m	—	313	<2.0	
11-8-13 0945	Yard-CC02-001 (0-5')	3000	1690/5m	—	338	<2.0	
11-8-13 0958	Yard-CC02-002 (5-10)	3000	1438 /5m	—	287	<2.0	
11-8-13 1007	Yard-CC02-003 (10-15)	3000	1587/5m	—	317	<2.0	

Technician Signature _____, Reviewed by _____

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gam[illegible] Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Main Site NECR1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-13-13	Bkg	—	357/5m	—	71		19-22 uR/hr
11-13-13 1420	2.0 Ref Soil	3000	2210 2156 2253/5m	—	442 431 450		avg CPM 441 avg cpsm 2206
11-13-13 1518	NECR1-52A-001 (9.1-14.1)	3000	3269/5m	—	654	>2.0	above 2.0
11-13-13 1548	NECR1-52A-003 (16.6-19.1)	3000	2099/5m	—	419	<2.0	
11-13-13 1554	NECR1-52A-002 (14.1-16.6)	3000	2253/5m	—	450	>2.0	

Technician Signature [signature], Reviewed by [signature]

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter LZ221 S#68782 Detector L44-20 S# 295573
Instrument Calibration Date: 10-28-13, Instrument Function Check Performed: ✓
Survey Area/Unit Description NECR

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-1-13	Blank	—	79/1m	—	79/min		~20 mR/h
11-1-13 0832	200 pCi/g Reference	3000	18048 17573	—	17810/min		
11-1-13 0836	100 pCi/g Reference	3000	9372 9417/min	—	9394/min		
11-1-13 0841	SP-CC01-001 (0-5')	3000	11923/min	—	11923/min	<200 >100	
11-1-13 0852	SP-CC01-002 (5-10')	3000	2728/min	—	2723/min	<100	
11-1-13 0930	SP-002-001 (0-2.5')	3000	3032/min	—	3032/min	<100	
11-1-13 0938	SP-002-002 (2.5'-5.0')	3000	545 524/min	—	545/min	<<100	
11-1-13 0951	SP-002-003 (7.5-10')	2812	386 379/min	412/min	412/min	<100 <2.24	
11-1-13 1015	SP-CC03-001 (0-2.5')	3000	1783/min	—	1783/min	<100	
11-1-13 1021	SP-CC03-002 (2.5-5.0')	3000	414/min	—	414/min	<100 <2.24	
11-1-13 1030	SP-CC03-003 (5-10')	3000	373/min	—	373/min	<100 <2.24	
11-1-13 1052	SP-CC04-001 (0-2.5')	3000	11532/min	—	11532/min	<200 >100	
11-1-13 1100	SP-CC04-002 (2.5-5.0')	3000	13474/min	—	13474/min	<200 >100	
11-1-13 1108	SP-CC04-003 (5-7.5')	3000	13807/min	—	13807/min	<200 >100	
11-1-13 1116	SP-CC04-004 (7.5'-10')	3000	21702/min	—	21702/min	>200	PTW

Technician Signature _____, Reviewed by _____

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter 2221 s#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decription NECR mine site Sediment Pad

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-1-13 1124	SP-CC04-005 (10-12.5')	3000	11365/min	—	11365/min	<200 >100	
11-1-13 1141	SP-CC04-006 (15.0-17.5')	3000	12238/min	—	12238/min	<200 >100	
11-1-13 1313	SP-005-001 (0-2½')	3000	10225/m	—	10225	<200 >100	
11-1-13 1325	SP-005-002 (2½-5')	3000	16466/m	—	16466	<200 >100	
11-1-13 1332	SP-005-003 (5-7½')	3000	17941/m	—	17941	>200 >100	
11-1-13 1340	SP-005-004 (7½-10')	3000	15893/m	—	15893	<200 >100	
11-1-13 1346	SP-005-005 (10-12½')	3000	4923/m	—	4923	<200 <100	
11-1-13 1400	SP-005-006 (12½-15')	3000	632	—	632	<200 <100	
11-1-13 1410	SP-005-007 (15-20')	3000	850	—	850	<200 <100	
11-1-13 1420	SP-005-008 (20-22.5')	3000	699	—	699	<200 <100	

Technician Signature _____, Reviewed by _____

AVM Enviro[illegible]tal Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-24-13, Instrument Function Check Performed: ✓
Survey Area/Unit Description NECR mine site Sediment Pad

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-4-13	Bkg	—	88/min	—			19-21 uR/hr
11-4-13 0900	100 pCi/g Ref Soil	3000	10051 10255 10114 /m	—	10051 ~~10255~~ 10114		cpm Avg. 10140
11-4-13 0905	200 pCi/g Ref Soil	3000	18888 19027 19182	—	19032		cpm Avg. 19032
11-4-13 0935	SP-CC06-001 (0-2.5)	3000	4016/m	—	4016	<200 <100	
11-4-13 0940	SP-CC06002 (2.5-5')	3000	434/m	—	434	<200 <100	
11-4-13 0950	SP-CC06-003 (5-7.5')	3000	456/m	—	456	<200 ~~<400~~	
11-4-13 950	SP-CC06-004 (7.5-10')	2300	410/m	534/m	VP ~~410~~ 534	<200 <100	
11-4-13 1021	SP-CC07-001 (0-2.5')	3000	7199/m	—	7199	<200 <100	
11-4-13 1035	SP-CC07-002 (2.5-5')	3000	12425/m	—	12425	<200 >100	
11-4-13 1040	SP-CC07-003 (5-7.5')	3000	639/m	—	639	<200 <100	
11-4-13 1050	SP-CC07-004 (7.5'-10)	3000	510/m	—	510	<200 ~~<400~~	
11-4-13 1108	SP-CC08-001 (0-2.5	3000	19089/m	—	19089	~~>~~200 >100	~ 200 pCi/g, PTW
11-4-13 1115	SP-CC08-002 (2.5-5')	3000	16043/m	—	16043	<200 >100	
11-4-13 1125	SP CC08-003 (6-8.5')	3000	1267/m	—	1267	<200 <100	
11-4-13 1137	SP-CC08-004 (12.5-15	2800	598/m	640/m	~~598~~ VP 640	<200 <100	

Technician Signature _____, Reviewed by _____

AVM Environ[illegible]al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine site Sediment Pad

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-4-13 1205	SP-CC09-001 (0-2.5')	3000	18120	—	18120	<200 >100	
11-4-13 1215	SP-CC09-002 (2.5-5')	2900	11609	12009	12009	<200 >100	
11-4-13 1225	SP-CC09-003 (5-7.5)	3000	19343	—	19393	>200 >200	PTW
11-4-13 1235	SP-CC09-004 (7.5-10')	3000	15469	—	15469	<200 >100	
11-4-13 1240	SP-CC09-005 (10.5-12.5)	3000	2855	—	2855	<200 <100	
11-4-13 1357	SP-CC10-001 (0-2.5')	3000	19048	—	19048	>200 >100	PTW
11-4-13 1405	SP-CC10-002 (2.5-5')	3000	17954	—	17954	<200 >100	
11-4-13 1415	SP-CC10-003 (5-7.5)	3000	19423	—	19423	>200 >100	PTW
11-4-13 1430	SP-CC10-004 (11-15)	2264	2141	2837	2837	<200 <100	
11-4-13 1440	SP-CC10-005 (15-17.5)	2974	1401	1413	1413	<200 <100	
11-4-13 1515	SP-CC11-001 (0-2½)	3000	18345	—	18345	<200 >100	~200pCi/g Could be PTW
11-4-13 1525	SP-CC11-002 (2½-4½)	3000	11967	—	11967	<200 <100	
11-4-13 1530	SP-CC11-003 (5-7½)	3000	1492	—	1492	<200 <100	
11-4-13 1600	SP-CC12-001 (0-2'	3000	13203	—	13203	<200 >100	
11-4-13 1620	SP-CC12-002 (2½-5'	3000	730	—	730	<200 <100	

Technician Signature _____, Reviewed by _____

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site NECR1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-6-13	BKG	-	64/m	-			
11-6-13 1230	100 pCi/g Ref Soil	3000	9707 9745 9770 /m	-	9707 9745 9770		CPM Avg - 9741
11-6-13 1237	200 pCi/g Ref Soil	3000	17939 17862 17831 /m	-	17939 17862 17831		CPM Avg - 17877
11-6-13 1330	NECR1-CC11-001(3-5')	230	11526/m	14984	14984	<200	<PTW
11-6-13 1336	NECR1-CC11-002(5-7.5')	3000	3779/m	-	3779	<100	
11-6-13 1347	NECR1-CC11-003 (7.5-10)'	3000	577/m	-	577	<100	
11-6-13 1400	NECR1-CC11-004 (12.5'-15)	3000	411/m	-	411	<100	
11-6-13 1420	NECR1-CC12-001 (0-2.5')	3000	1593/m	-	1593	<100	
11-6-13 1425	NECR1-CC12-002(2.5-5')	3000	14451/m	-	14451	<200	
11-6-13 1440	NECR1-CC12-003(5-7.5)	3000	347/m	-	347	<100	
11-6-13 1446	NECR1-CC12-004 (7.5-10')	3000	339/m	-	339	<100	
11-6-13 1503	NECR1-CC13-001 (2.5-5')	3000	2919/m	-	2919	<100	
11-6-13 1520	NECR1-CC13-002 (5-7.5)	3000	9110/m	-	9110	<100	
11-6-13 1530	NECR1-CC13-003 (7.5-10')	3000	8003/m	-	8003	<100	
11-6-13 1545	NECR1-CC13-004 (10-12.5)	3000	7650/m	-	7650	<100	

Technician Signature _____, Reviewed by _____

AVM Environ al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mw Sh. NECR1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-6-13 1550	NECR1-CC13-005 (12.5-15')	3000	7831/m	—	7831	<100	LPTW
11-6-13 1615	NECR1-CC14-001 (1.5-5')	3000	1311/m	—	1311	<100	
11-6-13 1633	NECR1-CC14-002 (7.5-10)	3000	631/m	—	631/m	<100	
11-6-13 1645	NECR1-CC14-003 (12-15')	3000	458/m	—	458	<100	
11-7-13	BkG	—	66/m	—			9-11 uR/hr
11-7-13 804	100 pCi/g Ref Soil	3000	9209 9476 9297 /m	—	9209 9476 9297		9-11 uR/hr Cpm Avg-9327
11-7-13 815	200 pCi/g Ref Soil	3000	17570 17577 18058 /m	—	17570 17577 18058		Cpm Avg. 17735
11-7-13 0825	NECR1-CC14-005 (17.5-20)	3000	395/m	—	395	<100	LPTW
11-7-13 0832	NECR1-CC14-004 (15-17.5)	3000	329/m	—	329	<100	
11-7-13 0907	~~NECR1-CC15-00~~ VP NECR1-CC15 (5-10')	3000	607/m	—	607	<100	
11-7-13 0920	NECR1-CC15-002 (10-12')	2500	1177/m	1412	1412	<100	
11-7-13 0940	NECR1-CC15-003 (15-17.5	3000	372/m	—	372	<100	
11-7-13 0952	NECR1-CC15-004 (20-22.5)	3000	324/m	—	324	<100	
11-7-13 1025	NECR1-CC16-001 (2.5-5')	3000	503/m	—	503	<100	
11-7-13 1040	NECR1-CC16-002 (7.5-10')	2800	1104/m	1182	1182	<100	

Technician Signature _____, Reviewed by _____

AVM Enviro. ...tal Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L22218#68782, Detector 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine site NECR1 & pond 3

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-7-13 1050	NECR1-CC16-003(10-15)'	3000	341/m	—	341	<100	<PTW
11-7-13 1110	NECR1 CC16-004 (16-18)	3000	360/m	—	360	<100	
11-7-13 1114	NECR1-CC16-005(18-20)	3000	242/m	—	242	<100	
11-7-13	BKG	—	56/m	—	56		
11-7-13 1145	100 pCi/g Ref Soil	3000	9231 9205 9268 /m	—	9231 9205 9268		cpm Avg 9235
11-7-13 1152	200 pCi/g Ref Soil	3000	17516 17536 17405 /m	—	17516 17536 17405		cpm Avg. 17519
11-7-13 1343	PND3-CC04-001(0-5')	3000	2025/m	—	2025	<100	<PTW
11-7-13 1400	PND3-CC04-002(5-10)	3000	3406/m	—	3406	<100	
11-7-13 1415	PND3-CC04-003(12.5-15)	3000	484/m	—	484	<100	
11-7-13 1435	PND3-CC04-004(15-20')	3000	373/m	—	373	<100	
11-7-13 1455	PND3-CC04-005(22-25	3000	371/m	—	371	<100	
11-7-13 1525	PND3-CC05-001(0-2.5')	3000	1006/m	—	1006	<100	
11-7-13 1530	PND3-CC05-002(5-7.5	3000	2116/m	—	2116	<100	
11-7-13 1540	PND3-CC05-003(7.5-10')	3000	543/m	—	543	<100	
11-7-13 1612	PND3-CC06-001(0-2.5')	3000	2443/m	—	2443	<100	

Technician Signature _____, Reviewed by _____

AVM Environmental Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 s#68782, Detector 44-20 s# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine site pond 3

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-7-13 1625	PND3-CC06-002(5-10')	3000	350/m	—	35⁰	<100	<PTW

Technician Signature _____, Reviewed by _____

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter Ludlum 2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine site NEMSA

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-8-13	BKG	—	66	—	66		12-15 uR/hr.
11-8-13 1020	100 Ref Soil	3000	8781 9029 8942 /m	—	8781 9029 8942		Avg CPM - 8917
11-8-13 1028	200 Ref Soil	3000	16040 16342 16307 /m	—	16040 16342 16307		Avg CPM - 16229
11-8-13 1045	NMSA-CC01-001 (1½-5')	3000	7095 /m	—	7095	<100	<PTW
11-8-13 1104	NMSA-CC01-002 (5½-7½)	3000	304 /m	—	304	<100	
11-8-13 1109	NMSA-CC01-003 (7½-10)	3000	300 /m	—	300	<100	
11-8-13 1120	NMSA-CC01-004 (11-12.5)	3000	349 /m	—	349	<100	
11-8-13 1135	NMSA-CC01-005 (16½-20)	3000	410 /m	—	410	<100	
11-8-13 1150	NMSA-CC01-006 (20-25)	3000	408 /m	—	408	<100	
11-8-13 1400	NMSA-CC03-001 (2½-5)	3000	7933 /m	—	7933	<100	
11-8-13 1415	NMSA-CC03-004 (5-7.5)	3000	9989 /m	—	9989	<200 >100	
11-8-13 1425	NMSA-CC03-005 (7.5-10')	3000	8443 /m	—	8443	<100	✓

Technician Signature [signature], Reviewed by [signature]

AVM Enviro al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site Pond 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-1-13	BKG	—	90/m	—			
11-11-13 1122	100 pCi/g Ref Soil	3000	9934 10005 9879 /m	—	9934 10005 9879		avg Cpm - 9939
11-11-13 1129	200 pCi/g Ref Soil	3000	18060 17991 17867 /m	—	18060 17991 17867		avg CPM - 17973
11-11-13 1310	P1-CC03-001 (0-2½)	3000	36475/m	—	36475	>200	PTW
11-11-13 1317	P1-CC03-002 (2½-5)	3000	1217/m	—	1217	<100	<PTW
11-11-13 1322	P1-CC03-003 (5-10)	3000	683/m	—	683	<100	<PTW
11-11-13 1353	P1-CC04-001 (0-2½)	3000	44517/m	—	44517	>200	PTW
11-11-13 1402	P1-CC04-002 (2.5-5')	3000	34976/m	—	34976	>200	PTW
11-11-13 1411	P1-CC04-003 (5-7½)	3000	523/m	—	523	<100	<PTW
11-11-13 1418	P1-CC04-004 (7½-10)	3000	467/m	—	467	<100	<PTW
11-11-13 1445	P1-CC05-001 (0-2½)	3000	25845/m	—	25845	>200	PTW
11-11-13 1450	P1-CC05-002 (2½-5)	~~3000~~ VP 2660	19171/m	21621	21621	>200	PTW
11-11-13 1455	P1-CC05-003 (5-7')	3000	3146/m	—	3146	<100	<PTW
11-11-13 1510	P1-CC05-004 (7-10')	3000	433/m	—	433	<100	<PTW
11-11-13 1543	P1-CC06-001 (0-2.5)	3000	22741/m	—	22741	>200	PTW

Technician Signature _____, Reviewed by _____

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector L 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR mine site Road 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-11-13 1551	P1-CC06-002(2.5-5)	3000	33215/m	—	33215	>200	PTW
11-11-13 1600	P1-CC06-003(5-7.5)	3000	371/m	—	371	<100	<PTW
11-11-13 1608	P1-CC06-004(7.5-10)	3000	362/m	—	362	<100	<PTW
11-12-13	BKG	—	77	—			
11-12-13 729	100 pCi/g Ref Soil	3000	9183 9049 9100 /m	—	9183 9049 9100		avg CPM - 9111
11-12-13 734	200 pCi/g Ref Soil	3000	17978 17925 17749/m	—	17978 17925 17749		avg CPM - 17884
11-12-13 820	P1-CC07-001 (0-2½)	3000	7657/m	—	7657	<100	<PTW
11-12-13 826	P1-CC07-002(2½-5)	3000	33212/m	—	33212	>200	PTW
11-12-13 842	P1-CC07-003(5-7½)	3000	9977/m	—	9977	<200 7100	<PTW
11-12-13 848	P1-CC07-004 (7½-10)	3000	411/m	—	411	<100	<PTW
11-12-13 917	P1-CC08-001 (0-2.5)	3000	36385/m	—	36385	>200	PTW
11-12-13 921	P1-CC08-002(2.5-5)	3000	4210/m	—	4210	<100	<PTW
11-12-13 938	P1-CC08-003(5-10)	3000	603/m	—	603	<100	<PTW
11-12-13 1131	P1-CC10-001(0-2.5)	3000	30076/m		30076	>200	PTW
11-12-13 1135	P1-CC10-002(2.5-5)	3000	18558/m		18558	>200	PTW

ian Signature _____, Reviewed by _____

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site Pond 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-12-13 1149	P1-CC10-003(5-7.5)	3000	35315/m		35315	>200	PTW
11-12-13 1155	P1-CC10-004(7.5-10')	3000	324/m		324	<100	<PTW
11-12-13 1316	P1-CC11-001(0-2½)	3000	6146/m	—	6146	<100	<PTW
11-12-13 1322	P1-CC11-002(2½-5)	3000	9579/m	—	9579	<200 >100	<PTW
11-12-13 1335	P1-CC11-003(5-7½)	3000	23697/m	—	23697	>200	PTW
11-12-13 1343	P1-CC11-004(7½-10)	3000	67660/m	—	67660	>200	PTW
11-12-13 1402	P1-CC11-005(10-12.5)	3000	50824/m	—	50824	>200	PTW
11-12-13 1408	P1-CC11-006(12.5-15)	3000	578/m	—	578	<100	<PTW
11-12-13 1438	P1-CC012-001(0-2½)	3000	6353/m	—	6353	<100	<PTW
11-12-13 1444	P1-CC12-002(2½-5)	3000	12371/m	—	12371	<200 >100	<PTW
11-12-13 1451	P1-CC12-003(5-10')	3000	6555/m	—	6555	<100	<PTW
11-12-13 1505	P1-CC12-004(12.5-15)	3000	18704/m	—	18704	>200	PTW
11-12-13 1525	P1-CC12-005(15-17.5)	3000	523/m	—	523	<100	<PTW
11-12-13 1604	P1-CC13-001(0-5)	3000	16587/m	—	16587	<200 >100	<PTW
11-12-13 1609	P1-CC13-002(5-7.5)	3000	61684/m		61684	>200	PTW

Technician Signature [signature], Reviewed by [signature]

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782 Detector 44-20 S#295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-12-13 1627	P1-CC13-003 (7.5-10')	3000	57736/m	—	57736	>200	PTW
11-12-13 1627	P1-CC13-004 (10-12.5)	3000	35459/m	-	35459	>200	PTW
11-12-13 1635	P1-CC13-005 (12.5-14')	3000	654/m	-	654	<100	< PTW

Technician Signature _____, Reviewed by _____

AVM Enviro al Services, Inc.
Field Soil Sample Gamma Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782, Detector 44-20 S# 295573
Instrument Calibration Date: 10-26-13, Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site POND 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-13-13	BKG	—	82/m	—	82		19-22 uR/hr
11-13-13 0737	100 pCi/g Ref Soil	3000	9609 9419 9480/m	—	9609 9419 9480		avg CPM - 9501
11-13-13 744	200 pCi/g Ref Soil	3000	18228 18054 18032/m	—	18228 18054 18032		avg CPM - 18104
11-13-13 902	P1-CC14-001 (20-22.5)	3000	408/m	—	408	<100	
11-13-13 912	P1-CC14-002 (22.5-25.0)	3000	386/m	—	386	<100	
11-13-13 933	P1-CC14-004 (27.5-30.0)	3000	417/m	—	417	<100	
11-13-13 939	P1-CC14-003 (25-27.5)	3000	381/m	—	381	<100	
11-13-13 953	Bulk Sample from Pond 3	3000	1745/m	—	1745	<100	
11-13-13 1044	P1-CC15-001 (0-5)	3000	2184/m	—	2184	<100	
11-13-13 1049	P1-CC15-002 (5-10)	3000	466/m	—	466	<100	
11-13-13 1101	P1-CC15-003 (10-12.5)	3000	412/m	—	412	<100	
11-13-13 1106	P1-CC15-004 (12.5-15.0)	3000	457/m	—	457	<100	
11-13-13 1120	P1-CC15-006 (17.5-20.0)	3000	472/m	—	472	<100	
11-13-13 1126	P1-CC15-005 (15-17.5)	3000	402/m	—	402	<100	
11-13-13 1138	P1-CC15-007 (20-22.5)	3000	424/m	—	424	<100	

Technician Signature _____, Reviewed by _____

AVM Enviro[illegible]al Services, Inc.
Field Soil Sample Gam[illegible] Radiation Screening Form
UNC NECR Pre-Design Sampling Activities

Instrumentation : Scaler/Ratemeter L2221 S#68782 Detector 44-20 295573
Instrument Calibration Date: 10-26-13 , Instrument Function Check Performed: ✓
Survey Area/Unit Decsription NECR Mine Site Pond 1

Date/Time	Soil Sample ID	Sample Weight Grams	609 (559-669) Kev Gross Counts	Weight Corrected Counts	CPM	Estimated Ra-226 pCi/g	Comments
11-13-13 1316	P1-CC16-001 (0-5)	3000	897/m	—	897	<100	
11-13-13 1321	P1-CC16-002 (5-7.5)	3000	430/m	—	430	<100	
11-13-13 1335	P1-CC16-003 (7.5-10)	3000	409/m	—	409	<100	
11-13-13 1340	P1-CC16-004 (10-12.5)	3000	463/m	—	463	<100	
11-13-13 1354	P1-CC16-006 (15-17.5)	3000	468/m	—	468	<100	
11-13-13 1359	P1-CC16-005 (12.5-15)	3000	532/m	—	532	<100	

Technician Signature [signature], Reviewed by [signature]

Appendix C

NECR PDS Tailings Impoundment Borehole Location Pre and Post Drilling Gamma Radiation Scan Survey Data

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 1	1	11/4/2013	1,692,246	2,524,548	16,762	18.5	21.3
	2	11/4/2013	1,692,246	2,524,548	20,033	22.1	
	3	11/4/2013	1,692,243	2,524,545	19,974	22.1	
	4	11/4/2013	1,692,241	2,524,542	20,211	22.3	
	5	11/4/2013	1,692,240	2,524,537	20,892	23.1	
	6	11/4/2013	1,692,239	2,524,531	20,516	22.7	
	7	11/4/2013	1,692,237	2,524,527	20,681	22.9	
	8	11/4/2013	1,692,235	2,524,523	20,087	22.2	
	9	11/4/2013	1,692,236	2,524,519	20,977	23.2	
	10	11/4/2013	1,692,241	2,524,519	21,260	23.5	
	11	11/4/2013	1,692,244	2,524,523	20,690	22.9	
	12	11/4/2013	1,692,246	2,524,527	19,808	21.9	
	13	11/4/2013	1,692,246	2,524,532	20,280	22.4	
	14	11/4/2013	1,692,246	2,524,536	21,367	23.6	
	15	11/4/2013	1,692,247	2,524,540	20,526	22.7	
	16	11/4/2013	1,692,247	2,524,545	20,389	22.5	
	17	11/4/2013	1,692,249	2,524,549	19,998	22.1	
	18	11/4/2013	1,692,251	2,524,547	20,893	23.1	
	19	11/4/2013	1,692,253	2,524,546	19,711	21.8	
	20	11/4/2013	1,692,254	2,524,542	19,608	21.7	
	21	11/4/2013	1,692,253	2,524,537	19,162	21.2	
	22	11/4/2013	1,692,253	2,524,532	21,088	23.3	
	23	11/4/2013	1,692,253	2,524,528	22,017	24.3	
	24	11/4/2013	1,692,252	2,524,523	20,661	22.8	
	25	11/4/2013	1,692,252	2,524,518	20,659	22.8	
	26	11/4/2013	1,692,255	2,524,515	20,713	22.9	
	27	11/4/2013	1,692,257	2,524,520	21,225	23.5	
	28	11/4/2013	1,692,256	2,524,524	20,711	22.9	
	29	11/4/2013	1,692,256	2,524,528	20,279	22.4	
	30	11/4/2013	1,692,256	2,524,533	20,239	22.4	
	31	11/4/2013	1,692,257	2,524,538	21,319	23.6	
	32	11/4/2013	1,692,258	2,524,544	21,246	23.5	
	33	11/4/2013	1,692,260	2,524,547	21,184	23.4	
	34	11/4/2013	1,692,261	2,524,545	19,290	21.3	
	35	11/4/2013	1,692,261	2,524,541	18,880	20.9	
	36	11/4/2013	1,692,261	2,524,536	18,012	19.9	
	37	11/4/2013	1,692,261	2,524,531	18,648	20.6	
	38	11/4/2013	1,692,262	2,524,526	19,037	21.0	
	39	11/4/2013	1,692,263	2,524,523	18,928	20.9	
	40	11/4/2013	1,692,265	2,524,518	19,299	21.3	
	41	11/4/2013	1,692,267	2,524,522	18,491	20.4	
	42	11/4/2013	1,692,268	2,524,526	18,363	20.3	
	43	11/4/2013	1,692,268	2,524,531	18,157	20.1	
	44	11/4/2013	1,692,268	2,524,536	18,725	20.7	
	45	11/4/2013	1,692,268	2,524,541	18,208	20.1	
	46	11/4/2013	1,692,269	2,524,545	17,159	19.0	
	47	11/4/2013	1,692,272	2,524,545	15,512	17.1	
	48	11/4/2013	1,692,273	2,524,542	16,429	18.2	
	49	11/4/2013	1,692,273	2,524,537	17,179	19.0	
	50	11/4/2013	1,692,273	2,524,532	17,180	19.0	
	51	11/4/2013	1,692,272	2,524,528	17,400	19.2	
	52	11/4/2013	1,692,273	2,524,523	17,432	19.3	
	53	11/4/2013	1,692,276	2,524,519	17,203	19.0	
	54	11/4/2013	1,692,277	2,524,519	17,572	19.4	
	55	11/4/2013	1,692,275	2,524,520	18,547	20.5	
	56	11/4/2013	1,692,278	2,524,518	18,590	20.5	
	57	11/4/2013	1,692,278	2,524,523	19,016	21.0	
	58	11/4/2013	1,692,277	2,524,527	17,863	19.7	
	59	11/4/2013	1,692,277	2,524,530	16,603	18.3	
	60	11/4/2013	1,692,278	2,524,535	16,364	18.1	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 1	61	2/18/2014	1,692,247	2,524,549	16,327	18.0	21.4
	62	2/18/2014	1,692,246	2,524,549	19,728	21.8	
	63	2/18/2014	1,692,243	2,524,546	20,476	22.6	
	64	2/18/2014	1,692,242	2,524,545	20,697	22.9	
	65	2/18/2014	1,692,241	2,524,540	21,678	24.0	
	66	2/18/2014	1,692,240	2,524,532	20,681	22.9	
	67	2/18/2014	1,692,238	2,524,530	20,469	22.6	
	68	2/18/2014	1,692,237	2,524,527	20,593	22.8	
	69	2/18/2014	1,692,238	2,524,521	21,833	24.1	
	70	2/18/2014	1,692,241	2,524,522	21,284	23.5	
	71	2/18/2014	1,692,244	2,524,524	19,040	21.0	
	72	2/18/2014	1,692,246	2,524,528	20,633	22.8	
	73	2/18/2014	1,692,246	2,524,534	21,096	23.3	
	74	2/18/2014	1,692,248	2,524,536	21,057	23.3	
	75	2/18/2014	1,692,249	2,524,540	20,062	22.2	
	76	2/18/2014	1,692,249	2,524,547	20,531	22.7	
	77	2/18/2014	1,692,249	2,524,552	19,551	21.6	
	78	2/18/2014	1,692,252	2,524,548	21,315	23.6	
	79	2/18/2014	1,692,254	2,524,549	19,475	21.5	
	80	2/18/2014	1,692,254	2,524,544	19,558	21.6	
	81	2/18/2014	1,692,254	2,524,541	19,546	21.6	
	82	2/18/2014	1,692,254	2,524,534	21,213	23.4	
	83	2/18/2014	1,692,253	2,524,531	22,755	25.1	
	84	2/18/2014	1,692,253	2,524,526	20,980	23.2	
	85	2/18/2014	1,692,253	2,524,519	20,686	22.9	
	86	2/18/2014	1,692,255	2,524,518	21,285	23.5	
	87	2/18/2014	1,692,259	2,524,521	21,507	23.8	
	88	2/18/2014	1,692,257	2,524,527	21,463	23.7	
	89	2/18/2014	1,692,257	2,524,528	20,734	22.9	
	90	2/18/2014	1,692,257	2,524,535	20,167	22.3	
	91	2/18/2014	1,692,258	2,524,542	20,479	22.6	
	92	2/18/2014	1,692,258	2,524,546	20,896	23.1	
	93	2/18/2014	1,692,260	2,524,550	21,914	24.2	
	94	2/18/2014	1,692,262	2,524,547	18,659	20.6	
	95	2/18/2014	1,692,263	2,524,542	19,502	21.5	
	96	2/18/2014	1,692,262	2,524,538	18,612	20.6	
	97	2/18/2014	1,692,263	2,524,533	19,138	21.1	
	98	2/18/2014	1,692,263	2,524,529	19,156	21.2	
	99	2/18/2014	1,692,264	2,524,525	18,710	20.7	
	100	2/18/2014	1,692,266	2,524,520	19,083	21.1	
	101	2/18/2014	1,692,268	2,524,522	17,948	19.8	
	102	2/18/2014	1,692,269	2,524,530	18,833	20.8	
	103	2/18/2014	1,692,269	2,524,534	18,302	20.2	
	104	2/18/2014	1,692,268	2,524,538	19,072	21.1	
	105	2/18/2014	1,692,269	2,524,542	17,767	19.6	
	106	2/18/2014	1,692,269	2,524,548	17,818	19.7	
	107	2/18/2014	1,692,272	2,524,549	15,305	16.9	
	108	2/18/2014	1,692,274	2,524,543	16,458	18.2	
	109	2/18/2014	1,692,273	2,524,539	16,898	18.7	
	110	2/18/2014	1,692,273	2,524,534	17,375	19.2	
	111	2/18/2014	1,692,273	2,524,530	17,289	19.1	
	112	2/18/2014	1,692,273	2,524,523	16,844	18.6	
	113	2/18/2014	1,692,277	2,524,520	17,650	19.5	
	114	2/18/2014	1,692,278	2,524,521	16,962	18.7	
	115	2/18/2014	1,692,277	2,524,523	19,343	21.4	
	116	2/18/2014	1,692,279	2,524,518	18,181	20.1	
	117	2/18/2014	1,692,280	2,524,525	18,904	20.9	
	118	2/18/2014	1,692,278	2,524,529	17,298	19.1	
	119	2/18/2014	1,692,279	2,524,531	17,144	18.9	
	120	2/18/2014	1,692,278	2,524,538	16,119	17.8	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 3	61	11/4/2013	1,692,332	2,524,343	18,194	20.1	19.4
	62	11/4/2013	1,692,332	2,524,343	17,128	18.9	
	63	11/4/2013	1,692,331	2,524,341	17,247	19.1	
	64	11/4/2013	1,692,328	2,524,336	17,328	19.1	
	65	11/4/2013	1,692,326	2,524,331	17,905	19.8	
	66	11/4/2013	1,692,323	2,524,327	17,811	19.7	
	67	11/4/2013	1,692,320	2,524,323	20,932	23.1	
	68	11/4/2013	1,692,319	2,524,318	20,157	22.3	
	69	11/4/2013	1,692,323	2,524,319	17,624	19.5	
	70	11/4/2013	1,692,326	2,524,322	19,082	21.1	
	71	11/4/2013	1,692,329	2,524,326	20,053	22.2	
	72	11/4/2013	1,692,333	2,524,330	20,531	22.7	
	73	11/4/2013	1,692,335	2,524,334	21,892	24.2	
	74	11/4/2013	1,692,338	2,524,336	24,092	26.6	
	75	11/4/2013	1,692,341	2,524,337	24,438	27.0	
	76	11/4/2013	1,692,340	2,524,334	24,560	27.1	
	77	11/4/2013	1,692,337	2,524,331	22,370	24.7	
	78	11/4/2013	1,692,336	2,524,327	18,663	20.6	
	79	11/4/2013	1,692,334	2,524,323	16,371	18.1	
	80	11/4/2013	1,692,333	2,524,318	15,552	17.2	
	81	11/4/2013	1,692,330	2,524,313	15,735	17.4	
	82	11/4/2013	1,692,329	2,524,309	15,950	17.6	
	83	11/4/2013	1,692,330	2,524,308	15,356	17.0	
	84	11/4/2013	1,692,328	2,524,305	15,568	17.2	
	85	11/4/2013	1,692,331	2,524,305	15,395	17.0	
	86	11/4/2013	1,692,334	2,524,310	15,713	17.4	
	87	11/4/2013	1,692,337	2,524,315	15,654	17.3	
	88	11/4/2013	1,692,339	2,524,319	15,758	17.4	
	89	11/4/2013	1,692,341	2,524,324	14,885	16.4	
	90	11/4/2013	1,692,345	2,524,328	14,886	16.4	
	91	11/4/2013	1,692,348	2,524,330	15,808	17.5	
	92	11/4/2013	1,692,350	2,524,329	16,841	18.6	
	93	11/4/2013	1,692,351	2,524,327	15,664	17.3	
	94	11/4/2013	1,692,348	2,524,322	16,276	18.0	
	95	11/4/2013	1,692,344	2,524,319	15,821	17.5	
	96	11/4/2013	1,692,341	2,524,314	15,506	17.1	
	97	11/4/2013	1,692,337	2,524,310	14,844	16.4	
	98	11/4/2013	1,692,336	2,524,306	15,369	17.0	
	99	11/4/2013	1,692,335	2,524,303	16,199	17.9	
	100	11/4/2013	1,692,334	2,524,299	17,242	19.1	
	101	11/4/2013	1,692,336	2,524,301	17,496	19.3	
	102	11/4/2013	1,692,340	2,524,305	16,500	18.2	
	103	11/4/2013	1,692,343	2,524,310	16,487	18.2	
	104	11/4/2013	1,692,347	2,524,315	16,133	17.8	
	105	11/4/2013	1,692,350	2,524,319	15,005	16.6	
	106	11/4/2013	1,692,353	2,524,324	15,712	17.4	
	107	11/4/2013	1,692,357	2,524,325	15,294	16.9	
	108	11/4/2013	1,692,358	2,524,322	15,346	17.0	
	109	11/4/2013	1,692,356	2,524,317	16,005	17.7	
	110	11/4/2013	1,692,353	2,524,313	18,657	20.6	
	111	11/4/2013	1,692,349	2,524,309	18,891	20.9	
	112	11/4/2013	1,692,348	2,524,304	18,742	20.7	
	113	11/4/2013	1,692,351	2,524,303	18,739	20.7	
	114	11/4/2013	1,692,354	2,524,306	18,912	20.9	
	115	11/4/2013	1,692,358	2,524,310	18,441	20.4	
	116	11/4/2013	1,692,362	2,524,314	18,540	20.5	
	117	11/4/2013	1,692,364	2,524,318	17,917	19.8	
	118	11/4/2013	1,692,366	2,524,319	17,219	19.0	
	119	11/4/2013	1,692,348	2,524,300	17,688	19.5	
	120	11/4/2013	1,692,344	2,524,301	16,597	18.3	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 3	1	2/18/2014	1,692,333	2,524,344	18,120	20.0	19.3
	2	2/18/2014	1,692,333	2,524,343	16,677	18.4	
	3	2/18/2014	1,692,331	2,524,343	17,120	18.9	
	4	2/18/2014	1,692,329	2,524,337	16,777	18.5	
	5	2/18/2014	1,692,326	2,524,332	18,041	19.9	
	6	2/18/2014	1,692,323	2,524,329	17,804	19.7	
	7	2/18/2014	1,692,320	2,524,324	20,727	22.9	
	8	2/18/2014	1,692,319	2,524,319	21,004	23.2	
	9	2/18/2014	1,692,324	2,524,321	16,991	18.8	
	10	2/18/2014	1,692,326	2,524,323	18,534	20.5	
	11	2/18/2014	1,692,330	2,524,328	19,891	22.0	
	12	2/18/2014	1,692,333	2,524,333	21,253	23.5	
	13	2/18/2014	1,692,336	2,524,335	21,828	24.1	
	14	2/18/2014	1,692,338	2,524,339	23,462	25.9	
	15	2/18/2014	1,692,341	2,524,338	23,859	26.4	
	16	2/18/2014	1,692,341	2,524,336	24,132	26.7	
	17	2/18/2014	1,692,337	2,524,332	22,093	24.4	
	18	2/18/2014	1,692,336	2,524,329	18,990	21.0	
	19	2/18/2014	1,692,335	2,524,323	16,871	18.6	
	20	2/18/2014	1,692,333	2,524,319	14,879	16.4	
	21	2/18/2014	1,692,330	2,524,315	15,393	17.0	
	22	2/18/2014	1,692,329	2,524,309	16,604	18.3	
	23	2/18/2014	1,692,330	2,524,310	15,495	17.1	
	24	2/18/2014	1,692,328	2,524,307	15,753	17.4	
	25	2/18/2014	1,692,332	2,524,306	15,206	16.8	
	26	2/18/2014	1,692,334	2,524,310	15,071	16.7	
	27	2/18/2014	1,692,338	2,524,315	14,918	16.5	
	28	2/18/2014	1,692,339	2,524,320	15,539	17.2	
	29	2/18/2014	1,692,342	2,524,325	15,472	17.1	
	30	2/18/2014	1,692,345	2,524,330	15,378	17.0	
	31	2/18/2014	1,692,349	2,524,331	15,910	17.6	
	32	2/18/2014	1,692,351	2,524,332	17,077	18.9	
	33	2/18/2014	1,692,351	2,524,327	14,935	16.5	
	34	2/18/2014	1,692,348	2,524,324	16,119	17.8	
	35	2/18/2014	1,692,344	2,524,320	16,017	17.7	
	36	2/18/2014	1,692,341	2,524,317	14,889	16.5	
	37	2/18/2014	1,692,338	2,524,311	14,878	16.4	
	38	2/18/2014	1,692,336	2,524,309	14,986	16.6	
	39	2/18/2014	1,692,336	2,524,304	16,462	18.2	
	40	2/18/2014	1,692,334	2,524,301	17,760	19.6	
	41	2/18/2014	1,692,337	2,524,302	16,725	18.5	
	42	2/18/2014	1,692,340	2,524,307	16,786	18.5	
	43	2/18/2014	1,692,344	2,524,310	16,041	17.7	
	44	2/18/2014	1,692,347	2,524,317	15,649	17.3	
	45	2/18/2014	1,692,350	2,524,322	14,566	16.1	
	46	2/18/2014	1,692,353	2,524,326	16,319	18.0	
	47	2/18/2014	1,692,357	2,524,327	15,796	17.5	
	48	2/18/2014	1,692,358	2,524,325	16,017	17.7	
	49	2/18/2014	1,692,356	2,524,319	16,265	18.0	
	50	2/18/2014	1,692,353	2,524,314	19,204	21.2	
	51	2/18/2014	1,692,350	2,524,309	18,930	20.9	
	52	2/18/2014	1,692,348	2,524,305	18,952	20.9	
	53	2/18/2014	1,692,351	2,524,305	18,592	20.5	
	54	2/18/2014	1,692,355	2,524,309	18,623	20.6	
	55	2/18/2014	1,692,358	2,524,311	19,148	21.2	
	56	2/18/2014	1,692,362	2,524,315	19,207	21.2	
	57	2/18/2014	1,692,365	2,524,319	18,422	20.4	
	58	2/18/2014	1,692,366	2,524,321	16,453	18.2	
	59	2/18/2014	1,692,348	2,524,301	17,348	19.2	
	60	2/18/2014	1,692,345	2,524,301	16,093	17.8	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 4	121	11/4/2013	1,692,374	2,524,872	18,562	20.5	21.3
	122	11/4/2013	1,692,375	2,524,872	20,272	22.4	
	123	11/4/2013	1,692,376	2,524,871	19,902	22.0	
	124	11/4/2013	1,692,383	2,524,872	20,711	22.9	
	125	11/4/2013	1,692,387	2,524,871	20,712	22.9	
	126	11/4/2013	1,692,392	2,524,873	19,928	22.0	
	127	11/4/2013	1,692,396	2,524,873	20,608	22.8	
	128	11/4/2013	1,692,401	2,524,872	18,197	20.1	
	129	11/4/2013	1,692,406	2,524,872	17,159	19.0	
	130	11/4/2013	1,692,412	2,524,873	16,956	18.7	
	131	11/4/2013	1,692,413	2,524,877	16,888	18.7	
	132	11/4/2013	1,692,409	2,524,879	16,692	18.4	
	133	11/4/2013	1,692,404	2,524,878	17,871	19.7	
	134	11/4/2013	1,692,400	2,524,878	16,718	18.5	
	135	11/4/2013	1,692,395	2,524,878	16,310	18.0	
	136	11/4/2013	1,692,391	2,524,878	17,658	19.5	
	137	11/4/2013	1,692,387	2,524,877	18,116	20.0	
	138	11/4/2013	1,692,382	2,524,878	19,501	21.5	
	139	11/4/2013	1,692,377	2,524,878	20,137	22.3	
	140	11/4/2013	1,692,377	2,524,881	22,121	24.4	
	141	11/4/2013	1,692,380	2,524,881	20,507	22.7	
	142	11/4/2013	1,692,385	2,524,883	21,502	23.8	
	143	11/4/2013	1,692,389	2,524,884	20,716	22.9	
	144	11/4/2013	1,692,393	2,524,886	20,759	22.9	
	145	11/4/2013	1,692,397	2,524,885	21,697	24.0	
	146	11/4/2013	1,692,403	2,524,887	17,846	19.7	
	147	11/4/2013	1,692,406	2,524,890	18,648	20.6	
	148	11/4/2013	1,692,404	2,524,893	18,707	20.7	
	149	11/4/2013	1,692,399	2,524,893	18,215	20.1	
	150	11/4/2013	1,692,395	2,524,891	18,997	21.0	
	151	11/4/2013	1,692,391	2,524,890	17,313	19.1	
	152	11/4/2013	1,692,387	2,524,890	19,323	21.4	
	153	11/4/2013	1,692,381	2,524,889	20,152	22.3	
	154	11/4/2013	1,692,376	2,524,888	21,656	23.9	
	155	11/4/2013	1,692,375	2,524,891	22,142	24.5	
	156	11/4/2013	1,692,379	2,524,892	20,108	22.2	
	157	11/4/2013	1,692,383	2,524,892	20,058	22.2	
	158	11/4/2013	1,692,388	2,524,893	21,203	23.4	
	159	11/4/2013	1,692,392	2,524,893	21,025	23.2	
	160	11/4/2013	1,692,395	2,524,895	19,957	22.1	
	161	11/4/2013	1,692,401	2,524,896	19,953	22.0	
	162	11/4/2013	1,692,406	2,524,898	18,134	20.0	
	163	11/4/2013	1,692,407	2,524,902	17,317	19.1	
	164	11/4/2013	1,692,404	2,524,903	17,442	19.3	
	165	11/4/2013	1,692,399	2,524,901	18,389	20.3	
	166	11/4/2013	1,692,394	2,524,899	19,057	21.1	
	167	11/4/2013	1,692,390	2,524,896	18,804	20.8	
	168	11/4/2013	1,692,386	2,524,895	19,109	21.1	
	169	11/4/2013	1,692,380	2,524,893	20,143	22.3	
	170	11/4/2013	1,692,374	2,524,893	21,245	23.5	
	171	11/4/2013	1,692,372	2,524,895	21,232	23.5	
	172	11/4/2013	1,692,375	2,524,897	18,921	20.9	
	173	11/4/2013	1,692,374	2,524,900	19,521	21.6	
	174	11/4/2013	1,692,378	2,524,900	19,114	21.1	
	175	11/4/2013	1,692,382	2,524,901	18,755	20.7	
	176	11/4/2013	1,692,386	2,524,901	20,299	22.4	
	177	11/4/2013	1,692,389	2,524,898	20,537	22.7	
	178	11/4/2013	1,692,393	2,524,900	18,269	20.2	
	179	11/4/2013	1,692,393	2,524,904	17,756	19.6	
	180	11/4/2013	1,692,395	2,524,907	19,144	21.2	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 4	1321	2/18/2014	1,692,375	2,524,872	18,332	20.3	21.4
	1322	2/18/2014	1,692,375	2,524,874	20,694	22.9	
	1323	2/18/2014	1,692,376	2,524,874	19,288	21.3	
	1324	2/18/2014	1,692,383	2,524,874	20,748	22.9	
	1325	2/18/2014	1,692,388	2,524,873	20,890	23.1	
	1326	2/18/2014	1,692,392	2,524,873	20,589	22.8	
	1327	2/18/2014	1,692,396	2,524,873	20,353	22.5	
	1328	2/18/2014	1,692,401	2,524,874	18,491	20.4	
	1329	2/18/2014	1,692,407	2,524,873	17,026	18.8	
	1330	2/18/2014	1,692,412	2,524,875	17,566	19.4	
	1331	2/18/2014	1,692,413	2,524,879	17,475	19.3	
	1332	2/18/2014	1,692,410	2,524,880	17,234	19.0	
	1333	2/18/2014	1,692,405	2,524,880	18,113	20.0	
	1334	2/18/2014	1,692,400	2,524,880	16,905	18.7	
	1335	2/18/2014	1,692,395	2,524,880	16,539	18.3	
	1336	2/18/2014	1,692,391	2,524,878	16,932	18.7	
	1337	2/18/2014	1,692,387	2,524,879	18,907	20.9	
	1338	2/18/2014	1,692,383	2,524,878	19,369	21.4	
	1339	2/18/2014	1,692,378	2,524,881	19,794	21.9	
	1340	2/18/2014	1,692,378	2,524,882	22,071	24.4	
	1341	2/18/2014	1,692,381	2,524,884	20,074	22.2	
	1342	2/18/2014	1,692,385	2,524,884	21,584	23.9	
	1343	2/18/2014	1,692,390	2,524,886	20,655	22.8	
	1344	2/18/2014	1,692,393	2,524,886	21,069	23.3	
	1345	2/18/2014	1,692,398	2,524,886	20,825	23.0	
	1346	2/18/2014	1,692,404	2,524,889	17,605	19.5	
	1347	2/18/2014	1,692,407	2,524,891	18,459	20.4	
	1348	2/18/2014	1,692,404	2,524,895	17,963	19.8	
	1349	2/18/2014	1,692,400	2,524,896	18,957	20.9	
	1350	2/18/2014	1,692,396	2,524,891	18,740	20.7	
	1351	2/18/2014	1,692,392	2,524,892	17,318	19.1	
	1352	2/18/2014	1,692,388	2,524,891	19,404	21.4	
	1353	2/18/2014	1,692,381	2,524,891	19,644	21.7	
	1354	2/18/2014	1,692,377	2,524,891	21,597	23.9	
	1355	2/18/2014	1,692,376	2,524,893	22,946	25.4	
	1356	2/18/2014	1,692,380	2,524,895	20,489	22.6	
	1357	2/18/2014	1,692,384	2,524,894	19,676	21.7	
	1358	2/18/2014	1,692,388	2,524,896	21,133	23.4	
	1359	2/18/2014	1,692,392	2,524,894	20,705	22.9	
	1360	2/18/2014	1,692,396	2,524,895	19,495	21.5	
	1361	2/18/2014	1,692,401	2,524,897	20,377	22.5	
	1362	2/18/2014	1,692,406	2,524,899	18,014	19.9	
	1363	2/18/2014	1,692,408	2,524,904	17,584	19.4	
	1364	2/18/2014	1,692,404	2,524,903	17,660	19.5	
	1365	2/18/2014	1,692,399	2,524,903	18,950	20.9	
	1366	2/18/2014	1,692,394	2,524,900	19,826	21.9	
	1367	2/18/2014	1,692,390	2,524,899	19,543	21.6	
	1368	2/18/2014	1,692,387	2,524,897	18,900	20.9	
	1369	2/18/2014	1,692,381	2,524,895	19,561	21.6	
	1370	2/18/2014	1,692,375	2,524,896	20,940	23.1	
	1371	2/18/2014	1,692,372	2,524,898	21,201	23.4	
	1372	2/18/2014	1,692,375	2,524,899	18,712	20.7	
	1373	2/18/2014	1,692,375	2,524,900	19,206	21.2	
	1374	2/18/2014	1,692,378	2,524,902	18,391	20.3	
	1375	2/18/2014	1,692,382	2,524,904	19,497	21.5	
	1376	2/18/2014	1,692,387	2,524,904	19,639	21.7	
	1377	2/18/2014	1,692,390	2,524,899	21,285	23.5	
	1378	2/18/2014	1,692,393	2,524,901	18,532	20.5	
	1379	2/18/2014	1,692,394	2,524,906	17,160	19.0	
	1380	2/18/2014	1,692,395	2,524,908	19,324	21.4	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 2	181	11/4/2013	1,692,627	2,525,097	15,596	17.2	18.1
	182	11/4/2013	1,692,627	2,525,097	15,000	16.6	
	183	11/4/2013	1,692,626	2,525,096	14,984	16.6	
	184	11/4/2013	1,692,627	2,525,092	15,241	16.8	
	185	11/4/2013	1,692,626	2,525,087	16,278	18.0	
	186	11/4/2013	1,692,627	2,525,082	16,476	18.2	
	187	11/4/2013	1,692,628	2,525,077	17,219	19.0	
	188	11/4/2013	1,692,630	2,525,073	16,396	18.1	
	189	11/4/2013	1,692,633	2,525,073	16,093	17.8	
	190	11/4/2013	1,692,634	2,525,077	15,440	17.1	
	191	11/4/2013	1,692,635	2,525,082	16,103	17.8	
	192	11/4/2013	1,692,637	2,525,087	16,741	18.5	
	193	11/4/2013	1,692,638	2,525,092	15,987	17.7	
	194	11/4/2013	1,692,639	2,525,096	17,360	19.2	
	195	11/4/2013	1,692,639	2,525,101	17,630	19.5	
	196	11/4/2013	1,692,639	2,525,105	16,914	18.7	
	197	11/4/2013	1,692,641	2,525,108	16,753	18.5	
	198	11/4/2013	1,692,643	2,525,105	17,575	19.4	
	199	11/4/2013	1,692,643	2,525,101	17,073	18.9	
	200	11/4/2013	1,692,643	2,525,096	16,716	18.5	
	201	11/4/2013	1,692,642	2,525,092	16,320	18.0	
	202	11/4/2013	1,692,641	2,525,087	16,732	18.5	
	203	11/4/2013	1,692,640	2,525,084	17,861	19.7	
	204	11/4/2013	1,692,639	2,525,079	17,643	19.5	
	205	11/4/2013	1,692,640	2,525,074	16,518	18.3	
	206	11/4/2013	1,692,641	2,525,071	15,617	17.3	
	207	11/4/2013	1,692,644	2,525,069	16,731	18.5	
	208	11/4/2013	1,692,646	2,525,074	15,561	17.2	
	209	11/4/2013	1,692,646	2,525,078	15,966	17.6	
	210	11/4/2013	1,692,648	2,525,080	16,327	18.0	
	211	11/4/2013	1,692,652	2,525,081	16,072	17.8	
	212	11/4/2013	1,692,654	2,525,085	15,650	17.3	
	213	11/4/2013	1,692,653	2,525,088	15,863	17.5	
	214	11/4/2013	1,692,650	2,525,090	15,842	17.5	
	215	11/4/2013	1,692,650	2,525,093	16,878	18.7	
	216	11/4/2013	1,692,650	2,525,097	15,937	17.6	
	217	11/4/2013	1,692,651	2,525,102	15,800	17.5	
	218	11/4/2013	1,692,651	2,525,106	16,586	18.3	
	219	11/4/2013	1,692,652	2,525,111	17,236	19.0	
	220	11/4/2013	1,692,654	2,525,112	17,230	19.0	
	221	11/4/2013	1,692,655	2,525,110	16,000	17.7	
	222	11/4/2013	1,692,655	2,525,105	16,744	18.5	
	223	11/4/2013	1,692,655	2,525,101	16,719	18.5	
	224	11/4/2013	1,692,655	2,525,096	15,730	17.4	
	225	11/4/2013	1,692,655	2,525,091	15,521	17.2	
	226	11/4/2013	1,692,656	2,525,086	15,801	17.5	
	227	11/4/2013	1,692,656	2,525,081	16,029	17.7	
	228	11/4/2013	1,692,657	2,525,076	16,745	18.5	
	229	11/4/2013	1,692,660	2,525,075	17,009	18.8	
	230	11/4/2013	1,692,661	2,525,079	16,259	18.0	
	231	11/4/2013	1,692,661	2,525,084	16,903	18.7	
	232	11/4/2013	1,692,660	2,525,088	17,406	19.2	
	233	11/4/2013	1,692,660	2,525,093	17,305	19.1	
	234	11/4/2013	1,692,660	2,525,098	16,812	18.6	
	235	11/4/2013	1,692,659	2,525,103	16,330	18.0	
	236	11/4/2013	1,692,660	2,525,108	15,451	17.1	
	237	11/4/2013	1,692,661	2,525,111	15,557	17.2	
	238	11/4/2013	1,692,663	2,525,110	15,326	16.9	
	239	11/4/2013	1,692,664	2,525,106	16,992	18.8	
	240	11/4/2013	1,692,664	2,525,101	16,784	18.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 2	1501	2/18/2014	1,692,628	2,525,100	15,998	17.7	18.1
	1502	2/18/2014	1,692,627	2,525,098	14,799	16.4	
	1503	2/18/2014	1,692,627	2,525,097	15,027	16.6	
	1504	2/18/2014	1,692,627	2,525,094	15,298	16.9	
	1505	2/18/2014	1,692,627	2,525,089	15,545	17.2	
	1506	2/18/2014	1,692,627	2,525,084	16,078	17.8	
	1507	2/18/2014	1,692,629	2,525,079	16,547	18.3	
	1508	2/18/2014	1,692,631	2,525,073	16,604	18.3	
	1509	2/18/2014	1,692,634	2,525,075	15,727	17.4	
	1510	2/18/2014	1,692,634	2,525,080	15,148	16.7	
	1511	2/18/2014	1,692,636	2,525,085	15,498	17.1	
	1512	2/18/2014	1,692,637	2,525,087	17,385	19.2	
	1513	2/18/2014	1,692,638	2,525,094	16,677	18.4	
	1514	2/18/2014	1,692,639	2,525,099	17,516	19.4	
	1515	2/18/2014	1,692,639	2,525,103	17,588	19.4	
	1516	2/18/2014	1,692,640	2,525,108	16,660	18.4	
	1517	2/18/2014	1,692,642	2,525,109	16,782	18.5	
	1518	2/18/2014	1,692,643	2,525,106	17,176	19.0	
	1519	2/18/2014	1,692,644	2,525,103	17,212	19.0	
	1520	2/18/2014	1,692,644	2,525,097	16,017	17.7	
	1521	2/18/2014	1,692,643	2,525,094	16,742	18.5	
	1522	2/18/2014	1,692,642	2,525,088	17,346	19.2	
	1523	2/18/2014	1,692,641	2,525,084	18,615	20.6	
	1524	2/18/2014	1,692,640	2,525,080	17,262	19.1	
	1525	2/18/2014	1,692,641	2,525,077	16,553	18.3	
	1526	2/18/2014	1,692,641	2,525,073	15,951	17.6	
	1527	2/18/2014	1,692,645	2,525,070	16,566	18.3	
	1528	2/18/2014	1,692,646	2,525,074	15,607	17.2	
	1529	2/18/2014	1,692,646	2,525,080	15,392	17.0	
	1530	2/18/2014	1,692,649	2,525,082	17,062	18.9	
	1531	2/18/2014	1,692,653	2,525,082	15,536	17.2	
	1532	2/18/2014	1,692,654	2,525,087	15,224	16.8	
	1533	2/18/2014	1,692,653	2,525,089	16,034	17.7	
	1534	2/18/2014	1,692,651	2,525,092	15,242	16.8	
	1535	2/18/2014	1,692,650	2,525,094	16,563	18.3	
	1536	2/18/2014	1,692,651	2,525,097	16,523	18.3	
	1537	2/18/2014	1,692,652	2,525,104	16,503	18.2	
	1538	2/18/2014	1,692,652	2,525,108	17,125	18.9	
	1539	2/18/2014	1,692,653	2,525,112	17,220	19.0	
	1540	2/18/2014	1,692,655	2,525,114	17,856	19.7	
	1541	2/18/2014	1,692,656	2,525,112	16,210	17.9	
	1542	2/18/2014	1,692,655	2,525,107	16,484	18.2	
	1543	2/18/2014	1,692,655	2,525,102	17,065	18.9	
	1544	2/18/2014	1,692,656	2,525,098	15,465	17.1	
	1545	2/18/2014	1,692,656	2,525,092	15,016	16.6	
	1546	2/18/2014	1,692,657	2,525,089	16,333	18.0	
	1547	2/18/2014	1,692,656	2,525,083	15,637	17.3	
	1548	2/18/2014	1,692,657	2,525,079	16,418	18.1	
	1549	2/18/2014	1,692,661	2,525,077	16,996	18.8	
	1550	2/18/2014	1,692,662	2,525,081	16,529	18.3	
	1551	2/18/2014	1,692,661	2,525,085	16,832	18.6	
	1552	2/18/2014	1,692,660	2,525,089	16,616	18.4	
	1553	2/18/2014	1,692,660	2,525,093	17,934	19.8	
	1554	2/18/2014	1,692,661	2,525,100	17,354	19.2	
	1555	2/18/2014	1,692,660	2,525,105	16,195	17.9	
	1556	2/18/2014	1,692,660	2,525,109	14,811	16.4	
	1557	2/18/2014	1,692,661	2,525,113	15,851	17.5	
	1558	2/18/2014	1,692,663	2,525,112	14,946	16.5	
	1559	2/18/2014	1,692,665	2,525,108	17,353	19.2	
	1560	2/18/2014	1,692,665	2,525,101	16,892	18.7	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 23	241	11/4/2013	1,692,848	2,525,696	16,261	18.0	18.9
	242	11/4/2013	1,692,848	2,525,696	17,002	18.8	
	243	11/4/2013	1,692,849	2,525,695	17,686	19.5	
	244	11/4/2013	1,692,853	2,525,696	16,506	18.2	
	245	11/4/2013	1,692,859	2,525,694	16,847	18.6	
	246	11/4/2013	1,692,865	2,525,695	17,251	19.1	
	247	11/4/2013	1,692,871	2,525,694	17,600	19.4	
	248	11/4/2013	1,692,877	2,525,693	16,771	18.5	
	249	11/4/2013	1,692,882	2,525,695	16,804	18.6	
	250	11/4/2013	1,692,879	2,525,698	17,278	19.1	
	251	11/4/2013	1,692,874	2,525,699	16,667	18.4	
	252	11/4/2013	1,692,869	2,525,700	17,524	19.4	
	253	11/4/2013	1,692,864	2,525,702	16,670	18.4	
	254	11/4/2013	1,692,859	2,525,703	16,385	18.1	
	255	11/4/2013	1,692,854	2,525,704	16,821	18.6	
	256	11/4/2013	1,692,849	2,525,705	17,251	19.1	
	257	11/4/2013	1,692,845	2,525,707	17,354	19.2	
	258	11/4/2013	1,692,847	2,525,708	16,894	18.7	
	259	11/4/2013	1,692,852	2,525,708	17,548	19.4	
	260	11/4/2013	1,692,858	2,525,708	16,683	18.4	
	261	11/4/2013	1,692,863	2,525,707	16,499	18.2	
	262	11/4/2013	1,692,869	2,525,707	16,669	18.4	
	263	11/4/2013	1,692,874	2,525,707	16,912	18.7	
	264	11/4/2013	1,692,878	2,525,708	17,243	19.1	
	265	11/4/2013	1,692,883	2,525,708	15,488	17.1	
	266	11/4/2013	1,692,886	2,525,711	16,690	18.4	
	267	11/4/2013	1,692,882	2,525,713	17,024	18.8	
	268	11/4/2013	1,692,878	2,525,713	16,776	18.5	
	269	11/4/2013	1,692,873	2,525,713	15,889	17.6	
	270	11/4/2013	1,692,867	2,525,714	15,866	17.5	
	271	11/4/2013	1,692,861	2,525,714	17,367	19.2	
	272	11/4/2013	1,692,855	2,525,714	16,505	18.2	
	273	11/4/2013	1,692,850	2,525,715	17,645	19.5	
	274	11/4/2013	1,692,845	2,525,715	19,188	21.2	
	275	11/4/2013	1,692,844	2,525,717	17,110	18.9	
	276	11/4/2013	1,692,849	2,525,718	16,391	18.1	
	277	11/4/2013	1,692,855	2,525,719	16,703	18.5	
	278	11/4/2013	1,692,861	2,525,720	17,895	19.8	
	279	11/4/2013	1,692,866	2,525,721	17,855	19.7	
	280	11/4/2013	1,692,871	2,525,723	17,213	19.0	
	281	11/4/2013	1,692,877	2,525,724	16,591	18.3	
	282	11/4/2013	1,692,881	2,525,728	16,617	18.4	
	283	11/4/2013	1,692,878	2,525,730	16,717	18.5	
	284	11/4/2013	1,692,873	2,525,728	16,094	17.8	
	285	11/4/2013	1,692,867	2,525,728	16,941	18.7	
	286	11/4/2013	1,692,862	2,525,726	16,555	18.3	
	287	11/4/2013	1,692,857	2,525,726	17,291	19.1	
	288	11/4/2013	1,692,852	2,525,726	18,199	20.1	
	289	11/4/2013	1,692,847	2,525,727	17,792	19.7	
	290	11/4/2013	1,692,845	2,525,730	16,300	18.0	
	291	11/4/2013	1,692,847	2,525,732	17,934	19.8	
	292	11/4/2013	1,692,852	2,525,733	17,309	19.1	
	293	11/4/2013	1,692,857	2,525,733	17,454	19.3	
	294	11/4/2013	1,692,863	2,525,733	16,727	18.5	
	295	11/4/2013	1,692,868	2,525,734	18,476	20.4	
	296	11/4/2013	1,692,872	2,525,736	17,846	19.7	
	297	11/4/2013	1,692,883	2,525,720	18,611	20.6	
	298	11/4/2013	1,692,879	2,525,719	17,902	19.8	
	299	11/4/2013	1,692,874	2,525,719	18,190	20.1	
	300	11/4/2013	1,692,868	2,525,718	17,603	19.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 23	181	2/18/2014	1,692,848	2,525,698	16,176	17.9	18.8
	182	2/18/2014	1,692,848	2,525,699	16,357	18.1	
	183	2/18/2014	1,692,849	2,525,698	16,993	18.8	
	184	2/18/2014	1,692,853	2,525,698	17,250	19.1	
	185	2/18/2014	1,692,861	2,525,697	17,429	19.3	
	186	2/18/2014	1,692,866	2,525,696	17,361	19.2	
	187	2/18/2014	1,692,872	2,525,695	18,332	20.3	
	188	2/18/2014	1,692,877	2,525,694	16,753	18.5	
	189	2/18/2014	1,692,882	2,525,698	16,259	18.0	
	190	2/18/2014	1,692,879	2,525,699	16,694	18.4	
	191	2/18/2014	1,692,874	2,525,700	16,318	18.0	
	192	2/18/2014	1,692,870	2,525,701	17,985	19.9	
	193	2/18/2014	1,692,865	2,525,704	16,191	17.9	
	194	2/18/2014	1,692,860	2,525,703	15,900	17.6	
	195	2/18/2014	1,692,855	2,525,705	16,428	18.2	
	196	2/18/2014	1,692,850	2,525,707	16,810	18.6	
	197	2/18/2014	1,692,847	2,525,709	16,826	18.6	
	198	2/18/2014	1,692,848	2,525,710	16,487	18.2	
	199	2/18/2014	1,692,853	2,525,709	16,937	18.7	
	200	2/18/2014	1,692,858	2,525,711	15,934	17.6	
	201	2/18/2014	1,692,864	2,525,710	16,924	18.7	
	202	2/18/2014	1,692,870	2,525,707	16,121	17.8	
	203	2/18/2014	1,692,875	2,525,708	16,571	18.3	
	204	2/18/2014	1,692,879	2,525,709	16,849	18.6	
	205	2/18/2014	1,692,884	2,525,710	15,110	16.7	
	206	2/18/2014	1,692,887	2,525,714	16,943	18.7	
	207	2/18/2014	1,692,882	2,525,714	16,684	18.4	
	208	2/18/2014	1,692,878	2,525,714	17,124	18.9	
	209	2/18/2014	1,692,874	2,525,713	15,986	17.7	
	210	2/18/2014	1,692,868	2,525,717	16,034	17.7	
	211	2/18/2014	1,692,862	2,525,714	16,787	18.5	
	212	2/18/2014	1,692,856	2,525,716	16,648	18.4	
	213	2/18/2014	1,692,850	2,525,717	18,279	20.2	
	214	2/18/2014	1,692,845	2,525,718	19,579	21.6	
	215	2/18/2014	1,692,845	2,525,719	17,368	19.2	
	216	2/18/2014	1,692,849	2,525,720	16,105	17.8	
	217	2/18/2014	1,692,856	2,525,722	16,178	17.9	
	218	2/18/2014	1,692,862	2,525,722	17,891	19.8	
	219	2/18/2014	1,692,867	2,525,722	17,486	19.3	
	220	2/18/2014	1,692,871	2,525,725	17,089	18.9	
	221	2/18/2014	1,692,877	2,525,726	16,187	17.9	
	222	2/18/2014	1,692,881	2,525,728	16,534	18.3	
	223	2/18/2014	1,692,880	2,525,730	17,417	19.2	
	224	2/18/2014	1,692,874	2,525,731	16,237	17.9	
	225	2/18/2014	1,692,867	2,525,730	16,821	18.6	
	226	2/18/2014	1,692,864	2,525,728	16,668	18.4	
	227	2/18/2014	1,692,858	2,525,726	17,162	19.0	
	228	2/18/2014	1,692,852	2,525,727	17,976	19.9	
	229	2/18/2014	1,692,848	2,525,728	17,702	19.6	
	230	2/18/2014	1,692,846	2,525,730	16,160	17.9	
	231	2/18/2014	1,692,848	2,525,733	18,090	20.0	
	232	2/18/2014	1,692,853	2,525,736	17,293	19.1	
	233	2/18/2014	1,692,858	2,525,736	17,110	18.9	
	234	2/18/2014	1,692,864	2,525,733	17,074	18.9	
	235	2/18/2014	1,692,868	2,525,735	19,209	21.2	
	236	2/18/2014	1,692,873	2,525,738	18,414	20.3	
	237	2/18/2014	1,692,884	2,525,721	18,329	20.3	
	238	2/18/2014	1,692,879	2,525,720	18,320	20.2	
	239	2/18/2014	1,692,875	2,525,721	17,742	19.6	
	240	2/18/2014	1,692,869	2,525,719	18,219	20.1	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 25	301	11/4/2013	1,692,448	2,525,671	15,504	17.1	17.6
	302	11/4/2013	1,692,448	2,525,671	15,560	17.2	
	303	11/4/2013	1,692,449	2,525,671	16,858	18.6	
	304	11/4/2013	1,692,452	2,525,673	16,409	18.1	
	305	11/4/2013	1,692,455	2,525,677	16,108	17.8	
	306	11/4/2013	1,692,458	2,525,680	16,196	17.9	
	307	11/4/2013	1,692,460	2,525,683	15,521	17.2	
	308	11/4/2013	1,692,463	2,525,687	15,572	17.2	
	309	11/4/2013	1,692,463	2,525,692	16,308	18.0	
	310	11/4/2013	1,692,459	2,525,692	16,302	18.0	
	311	11/4/2013	1,692,457	2,525,689	14,734	16.3	
	312	11/4/2013	1,692,455	2,525,686	16,172	17.9	
	313	11/4/2013	1,692,454	2,525,683	16,238	17.9	
	314	11/4/2013	1,692,452	2,525,678	16,484	18.2	
	315	11/4/2013	1,692,449	2,525,673	15,987	17.7	
	316	11/4/2013	1,692,445	2,525,671	15,557	17.2	
	317	11/4/2013	1,692,446	2,525,674	15,000	16.6	
	318	11/4/2013	1,692,447	2,525,680	16,024	17.7	
	319	11/4/2013	1,692,448	2,525,684	17,032	18.8	
	320	11/4/2013	1,692,450	2,525,689	16,939	18.7	
	321	11/4/2013	1,692,451	2,525,693	15,030	16.6	
	322	11/4/2013	1,692,452	2,525,698	15,986	17.7	
	323	11/4/2013	1,692,452	2,525,703	16,171	17.9	
	324	11/4/2013	1,692,453	2,525,708	15,967	17.6	
	325	11/4/2013	1,692,449	2,525,705	16,174	17.9	
	326	11/4/2013	1,692,446	2,525,701	15,191	16.8	
	327	11/4/2013	1,692,444	2,525,697	14,909	16.5	
	328	11/4/2013	1,692,442	2,525,693	15,907	17.6	
	329	11/4/2013	1,692,440	2,525,688	16,808	18.6	
	330	11/4/2013	1,692,438	2,525,683	16,710	18.5	
	331	11/4/2013	1,692,436	2,525,678	16,648	18.4	
	332	11/4/2013	1,692,433	2,525,675	16,526	18.3	
	333	11/4/2013	1,692,431	2,525,676	15,987	17.7	
	334	11/4/2013	1,692,431	2,525,680	15,597	17.2	
	335	11/4/2013	1,692,431	2,525,685	14,970	16.5	
	336	11/4/2013	1,692,432	2,525,690	15,106	16.7	
	337	11/4/2013	1,692,433	2,525,695	15,368	17.0	
	338	11/4/2013	1,692,433	2,525,700	16,008	17.7	
	339	11/4/2013	1,692,435	2,525,704	16,462	18.2	
	340	11/4/2013	1,692,432	2,525,710	16,546	18.3	
	341	11/4/2013	1,692,429	2,525,708	15,434	17.1	
	342	11/4/2013	1,692,428	2,525,702	16,102	17.8	
	343	11/4/2013	1,692,428	2,525,697	16,873	18.6	
	344	11/4/2013	1,692,427	2,525,691	15,046	16.6	
	345	11/4/2013	1,692,427	2,525,686	16,127	17.8	
	346	11/4/2013	1,692,427	2,525,680	14,491	16.0	
	347	11/4/2013	1,692,425	2,525,675	15,303	16.9	
	348	11/4/2013	1,692,422	2,525,677	16,100	17.8	
	349	11/4/2013	1,692,422	2,525,681	16,804	18.6	
	350	11/4/2013	1,692,422	2,525,686	14,893	16.5	
	351	11/4/2013	1,692,424	2,525,690	14,912	16.5	
	352	11/4/2013	1,692,425	2,525,696	15,981	17.7	
	353	11/4/2013	1,692,425	2,525,701	15,717	17.4	
	354	11/4/2013	1,692,426	2,525,705	15,993	17.7	
	355	11/4/2013	1,692,424	2,525,710	15,918	17.6	
	356	11/4/2013	1,692,420	2,525,706	16,117	17.8	
	357	11/4/2013	1,692,418	2,525,701	16,506	18.2	
	358	11/4/2013	1,692,418	2,525,697	16,196	17.9	
	359	11/4/2013	1,692,417	2,525,692	15,852	17.5	
	360	11/4/2013	1,692,415	2,525,688	16,736	18.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 25	301	2/18/2014	1,692,448	2,525,674	15,812	17.5	17.6
	302	2/18/2014	1,692,448	2,525,672	16,142	17.8	
	303	2/18/2014	1,692,451	2,525,673	17,164	19.0	
	304	2/18/2014	1,692,453	2,525,675	15,767	17.4	
	305	2/18/2014	1,692,455	2,525,677	15,857	17.5	
	306	2/18/2014	1,692,458	2,525,683	15,640	17.3	
	307	2/18/2014	1,692,461	2,525,684	15,828	17.5	
	308	2/18/2014	1,692,463	2,525,688	14,906	16.5	
	309	2/18/2014	1,692,464	2,525,694	15,942	17.6	
	310	2/18/2014	1,692,461	2,525,693	15,959	17.6	
	311	2/18/2014	1,692,457	2,525,691	15,420	17.0	
	312	2/18/2014	1,692,456	2,525,688	16,433	18.2	
	313	2/18/2014	1,692,455	2,525,683	15,701	17.3	
	314	2/18/2014	1,692,454	2,525,678	16,915	18.7	
	315	2/18/2014	1,692,449	2,525,674	15,240	16.8	
	316	2/18/2014	1,692,447	2,525,671	15,127	16.7	
	317	2/18/2014	1,692,447	2,525,675	15,558	17.2	
	318	2/18/2014	1,692,447	2,525,681	15,886	17.6	
	319	2/18/2014	1,692,449	2,525,686	17,600	19.4	
	320	2/18/2014	1,692,452	2,525,690	17,020	18.8	
	321	2/18/2014	1,692,453	2,525,696	14,838	16.4	
	322	2/18/2014	1,692,452	2,525,700	15,316	16.9	
	323	2/18/2014	1,692,453	2,525,706	16,598	18.3	
	324	2/18/2014	1,692,455	2,525,709	16,694	18.4	
	325	2/18/2014	1,692,449	2,525,706	15,533	17.2	
	326	2/18/2014	1,692,446	2,525,703	14,959	16.5	
	327	2/18/2014	1,692,444	2,525,700	15,080	16.7	
	328	2/18/2014	1,692,443	2,525,694	15,546	17.2	
	329	2/18/2014	1,692,441	2,525,691	16,928	18.7	
	330	2/18/2014	1,692,439	2,525,684	16,876	18.6	
	331	2/18/2014	1,692,438	2,525,680	15,962	17.6	
	332	2/18/2014	1,692,435	2,525,677	16,606	18.3	
	333	2/18/2014	1,692,431	2,525,679	16,571	18.3	
	334	2/18/2014	1,692,432	2,525,682	15,106	16.7	
	335	2/18/2014	1,692,432	2,525,686	15,637	17.3	
	336	2/18/2014	1,692,434	2,525,690	14,800	16.4	
	337	2/18/2014	1,692,433	2,525,697	15,305	16.9	
	338	2/18/2014	1,692,435	2,525,700	16,275	18.0	
	339	2/18/2014	1,692,436	2,525,706	16,573	18.3	
	340	2/18/2014	1,692,434	2,525,713	16,742	18.5	
	341	2/18/2014	1,692,431	2,525,710	15,889	17.6	
	342	2/18/2014	1,692,428	2,525,703	16,753	18.5	
	343	2/18/2014	1,692,429	2,525,697	17,007	18.8	
	344	2/18/2014	1,692,429	2,525,691	15,531	17.2	
	345	2/18/2014	1,692,428	2,525,687	16,855	18.6	
	346	2/18/2014	1,692,427	2,525,680	13,912	15.4	
	347	2/18/2014	1,692,426	2,525,675	15,350	17.0	
	348	2/18/2014	1,692,423	2,525,677	15,445	17.1	
	349	2/18/2014	1,692,424	2,525,684	16,880	18.7	
	350	2/18/2014	1,692,424	2,525,688	14,897	16.5	
	351	2/18/2014	1,692,424	2,525,691	15,618	17.3	
	352	2/18/2014	1,692,427	2,525,696	15,399	17.0	
	353	2/18/2014	1,692,427	2,525,703	15,272	16.9	
	354	2/18/2014	1,692,427	2,525,708	15,998	17.7	
	355	2/18/2014	1,692,425	2,525,711	15,439	17.1	
	356	2/18/2014	1,692,422	2,525,709	16,669	18.4	
	357	2/18/2014	1,692,419	2,525,702	16,182	17.9	
	358	2/18/2014	1,692,418	2,525,697	16,703	18.5	
	359	2/18/2014	1,692,419	2,525,695	16,496	18.2	
	360	2/18/2014	1,692,415	2,525,690	16,435	18.2	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 5	361	11/4/2013	1,692,100	2,525,535	17,155	19.0	19.5
	362	11/4/2013	1,692,100	2,525,535	16,768	18.5	
	363	11/4/2013	1,692,099	2,525,537	16,371	18.1	
	364	11/4/2013	1,692,096	2,525,542	16,366	18.1	
	365	11/4/2013	1,692,088	2,525,552	16,642	18.4	
	366	11/4/2013	1,692,083	2,525,554	17,271	19.1	
	367	11/4/2013	1,692,077	2,525,559	18,423	20.4	
	368	11/4/2013	1,692,074	2,525,557	17,834	19.7	
	369	11/4/2013	1,692,076	2,525,553	18,384	20.3	
	370	11/4/2013	1,692,080	2,525,549	18,538	20.5	
	371	11/4/2013	1,692,084	2,525,544	17,777	19.6	
	372	11/4/2013	1,692,088	2,525,541	18,228	20.1	
	373	11/4/2013	1,692,092	2,525,537	17,221	19.0	
	374	11/4/2013	1,692,095	2,525,533	16,541	18.3	
	375	11/4/2013	1,692,099	2,525,529	17,463	19.3	
	376	11/4/2013	1,692,098	2,525,526	18,602	20.6	
	377	11/4/2013	1,692,095	2,525,528	17,757	19.6	
	378	11/4/2013	1,692,091	2,525,532	17,861	19.7	
	379	11/4/2013	1,692,087	2,525,535	17,107	18.9	
	380	11/4/2013	1,692,083	2,525,539	17,310	19.1	
	381	11/4/2013	1,692,079	2,525,543	17,396	19.2	
	382	11/4/2013	1,692,075	2,525,547	17,085	18.9	
	383	11/4/2013	1,692,070	2,525,551	16,328	18.0	
	384	11/4/2013	1,692,066	2,525,552	17,379	19.2	
	385	11/4/2013	1,692,065	2,525,548	19,264	21.3	
	386	11/4/2013	1,692,068	2,525,545	20,103	22.2	
	387	11/4/2013	1,692,071	2,525,542	22,001	24.3	
	388	11/4/2013	1,692,074	2,525,539	19,857	21.9	
	389	11/4/2013	1,692,078	2,525,536	17,127	18.9	
	390	11/4/2013	1,692,082	2,525,533	17,141	18.9	
	391	11/4/2013	1,692,086	2,525,529	17,268	19.1	
	392	11/4/2013	1,692,090	2,525,525	17,006	18.8	
	393	11/4/2013	1,692,093	2,525,521	16,745	18.5	
	394	11/4/2013	1,692,092	2,525,518	16,851	18.6	
	395	11/4/2013	1,692,087	2,525,519	16,903	18.7	
	396	11/4/2013	1,692,083	2,525,522	17,121	18.9	
	397	11/4/2013	1,692,079	2,525,525	16,797	18.6	
	398	11/4/2013	1,692,075	2,525,528	15,472	17.1	
	399	11/4/2013	1,692,071	2,525,532	15,763	17.4	
	400	11/4/2013	1,692,067	2,525,535	16,486	18.2	
	401	11/4/2013	1,692,063	2,525,538	16,244	17.9	
	402	11/4/2013	1,692,059	2,525,540	18,981	21.0	
	403	11/4/2013	1,692,055	2,525,541	19,081	21.1	
	404	11/4/2013	1,692,055	2,525,537	18,623	20.6	
	405	11/4/2013	1,692,059	2,525,534	17,151	19.0	
	406	11/4/2013	1,692,063	2,525,531	18,110	20.0	
	407	11/4/2013	1,692,065	2,525,529	20,653	22.8	
	408	11/4/2013	1,692,069	2,525,525	19,627	21.7	
	409	11/4/2013	1,692,073	2,525,521	16,554	18.3	
	410	11/4/2013	1,692,077	2,525,517	16,462	18.2	
	411	11/4/2013	1,692,080	2,525,512	16,961	18.7	
	412	11/4/2013	1,692,080	2,525,509	16,553	18.3	
	413	11/4/2013	1,692,076	2,525,511	17,000	18.8	
	414	11/4/2013	1,692,072	2,525,515	17,659	19.5	
	415	11/4/2013	1,692,068	2,525,519	16,976	18.8	
	416	11/4/2013	1,692,063	2,525,523	18,105	20.0	
	417	11/4/2013	1,692,060	2,525,528	19,045	21.0	
	418	11/4/2013	1,692,056	2,525,531	19,631	21.7	
	419	11/4/2013	1,692,051	2,525,531	17,958	19.8	
	420	11/4/2013	1,692,053	2,525,525	17,212	19.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 5	241	2/18/2014	1,692,100	2,525,538	16,657	18.4	19.5
	242	2/18/2014	1,692,100	2,525,538	16,373	18.1	
	243	2/18/2014	1,692,099	2,525,538	16,894	18.7	
	244	2/18/2014	1,692,096	2,525,542	16,477	18.2	
	245	2/18/2014	1,692,088	2,525,553	16,327	18.0	
	246	2/18/2014	1,692,084	2,525,555	17,792	19.7	
	247	2/18/2014	1,692,078	2,525,561	18,842	20.8	
	248	2/18/2014	1,692,074	2,525,559	17,971	19.9	
	249	2/18/2014	1,692,077	2,525,554	18,637	20.6	
	250	2/18/2014	1,692,081	2,525,550	18,247	20.2	
	251	2/18/2014	1,692,084	2,525,547	17,280	19.1	
	252	2/18/2014	1,692,088	2,525,543	18,504	20.4	
	253	2/18/2014	1,692,092	2,525,538	17,576	19.4	
	254	2/18/2014	1,692,096	2,525,535	16,991	18.8	
	255	2/18/2014	1,692,099	2,525,531	16,954	18.7	
	256	2/18/2014	1,692,099	2,525,528	19,382	21.4	
	257	2/18/2014	1,692,095	2,525,528	18,023	19.9	
	258	2/18/2014	1,692,092	2,525,534	17,981	19.9	
	259	2/18/2014	1,692,088	2,525,537	17,625	19.5	
	260	2/18/2014	1,692,084	2,525,541	17,669	19.5	
	261	2/18/2014	1,692,079	2,525,545	18,091	20.0	
	262	2/18/2014	1,692,076	2,525,549	17,670	19.5	
	263	2/18/2014	1,692,071	2,525,552	17,080	18.9	
	264	2/18/2014	1,692,067	2,525,554	17,717	19.6	
	265	2/18/2014	1,692,065	2,525,550	18,947	20.9	
	266	2/18/2014	1,692,068	2,525,546	19,388	21.4	
	267	2/18/2014	1,692,072	2,525,545	22,114	24.4	
	268	2/18/2014	1,692,075	2,525,541	20,407	22.5	
	269	2/18/2014	1,692,079	2,525,538	16,949	18.7	
	270	2/18/2014	1,692,082	2,525,534	16,757	18.5	
	271	2/18/2014	1,692,087	2,525,532	17,506	19.3	
	272	2/18/2014	1,692,090	2,525,526	17,063	18.9	
	273	2/18/2014	1,692,093	2,525,522	16,421	18.1	
	274	2/18/2014	1,692,092	2,525,520	16,397	18.1	
	275	2/18/2014	1,692,088	2,525,522	17,342	19.2	
	276	2/18/2014	1,692,084	2,525,523	16,997	18.8	
	277	2/18/2014	1,692,079	2,525,527	16,169	17.9	
	278	2/18/2014	1,692,075	2,525,530	15,248	16.8	
	279	2/18/2014	1,692,071	2,525,535	15,691	17.3	
	280	2/18/2014	1,692,067	2,525,536	16,464	18.2	
	281	2/18/2014	1,692,064	2,525,539	16,210	17.9	
	282	2/18/2014	1,692,059	2,525,543	18,924	20.9	
	283	2/18/2014	1,692,056	2,525,541	18,516	20.5	
	284	2/18/2014	1,692,056	2,525,537	18,210	20.1	
	285	2/18/2014	1,692,059	2,525,534	16,620	18.4	
	286	2/18/2014	1,692,063	2,525,532	17,470	19.3	
	287	2/18/2014	1,692,065	2,525,530	20,104	22.2	
	288	2/18/2014	1,692,069	2,525,528	20,135	22.2	
	289	2/18/2014	1,692,074	2,525,522	16,942	18.7	
	290	2/18/2014	1,692,078	2,525,520	16,819	18.6	
	291	2/18/2014	1,692,081	2,525,515	16,542	18.3	
	292	2/18/2014	1,692,081	2,525,511	17,106	18.9	
	293	2/18/2014	1,692,077	2,525,512	17,348	19.2	
	294	2/18/2014	1,692,072	2,525,516	17,119	18.9	
	295	2/18/2014	1,692,068	2,525,520	17,336	19.2	
	296	2/18/2014	1,692,064	2,525,525	17,794	19.7	
	297	2/18/2014	1,692,060	2,525,530	19,781	21.9	
	298	2/18/2014	1,692,057	2,525,533	19,588	21.6	
	299	2/18/2014	1,692,051	2,525,533	17,883	19.8	
	300	2/18/2014	1,692,054	2,525,528	16,727	18.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 15	421	11/4/2013	1,691,719	2,525,089	17,892	19.8	19.1
	422	11/4/2013	1,691,718	2,525,090	16,399	18.1	
	423	11/4/2013	1,691,717	2,525,092	17,061	18.9	
	424	11/4/2013	1,691,713	2,525,096	18,136	20.0	
	425	11/4/2013	1,691,710	2,525,097	17,403	19.2	
	426	11/4/2013	1,691,704	2,525,103	16,732	18.5	
	427	11/4/2013	1,691,700	2,525,106	17,797	19.7	
	428	11/4/2013	1,691,695	2,525,108	17,337	19.2	
	429	11/4/2013	1,691,695	2,525,101	17,733	19.6	
	430	11/4/2013	1,691,699	2,525,097	17,552	19.4	
	431	11/4/2013	1,691,703	2,525,094	17,688	19.5	
	432	11/4/2013	1,691,707	2,525,090	17,528	19.4	
	433	11/4/2013	1,691,711	2,525,086	17,247	19.1	
	434	11/4/2013	1,691,712	2,525,084	18,522	20.5	
	435	11/4/2013	1,691,710	2,525,083	17,596	19.4	
	436	11/4/2013	1,691,706	2,525,086	17,617	19.5	
	437	11/4/2013	1,691,703	2,525,089	17,218	19.0	
	438	11/4/2013	1,691,700	2,525,092	17,242	19.1	
	439	11/4/2013	1,691,697	2,525,096	17,765	19.6	
	440	11/4/2013	1,691,693	2,525,099	16,842	18.6	
	441	11/4/2013	1,691,689	2,525,102	16,810	18.6	
	442	11/4/2013	1,691,687	2,525,102	16,860	18.6	
	443	11/4/2013	1,691,686	2,525,098	17,386	19.2	
	444	11/4/2013	1,691,689	2,525,094	17,772	19.6	
	445	11/4/2013	1,691,693	2,525,090	17,078	18.9	
	446	11/4/2013	1,691,697	2,525,086	17,170	19.0	
	447	11/4/2013	1,691,701	2,525,082	17,535	19.4	
	448	11/4/2013	1,691,705	2,525,079	18,328	20.3	
	449	11/4/2013	1,691,710	2,525,075	17,666	19.5	
	450	11/4/2013	1,691,710	2,525,072	17,756	19.6	
	451	11/4/2013	1,691,706	2,525,073	17,486	19.3	
	452	11/4/2013	1,691,701	2,525,076	18,117	20.0	
	453	11/4/2013	1,691,697	2,525,079	18,260	20.2	
	454	11/4/2013	1,691,693	2,525,082	17,267	19.1	
	455	11/4/2013	1,691,689	2,525,086	17,635	19.5	
	456	11/4/2013	1,691,686	2,525,089	17,649	19.5	
	457	11/4/2013	1,691,682	2,525,092	17,851	19.7	
	458	11/4/2013	1,691,680	2,525,094	17,518	19.4	
	459	11/4/2013	1,691,677	2,525,090	17,390	19.2	
	460	11/4/2013	1,691,679	2,525,087	18,291	20.2	
	461	11/4/2013	1,691,683	2,525,083	17,831	19.7	
	462	11/4/2013	1,691,687	2,525,080	17,807	19.7	
	463	11/4/2013	1,691,691	2,525,075	17,355	19.2	
	464	11/4/2013	1,691,696	2,525,072	17,322	19.1	
	465	11/4/2013	1,691,701	2,525,068	16,815	18.6	
	466	11/4/2013	1,691,703	2,525,064	16,256	18.0	
	467	11/4/2013	1,691,701	2,525,063	16,257	18.0	
	468	11/4/2013	1,691,697	2,525,066	16,381	18.1	
	469	11/4/2013	1,691,692	2,525,070	16,783	18.5	
	470	11/4/2013	1,691,688	2,525,074	16,052	17.7	
	471	11/4/2013	1,691,684	2,525,077	16,375	18.1	
	472	11/4/2013	1,691,679	2,525,081	15,662	17.3	
	473	11/4/2013	1,691,675	2,525,084	16,721	18.5	
	474	11/4/2013	1,691,673	2,525,077	17,547	19.4	
	475	11/4/2013	1,691,677	2,525,073	17,096	18.9	
	476	11/4/2013	1,691,681	2,525,070	17,154	19.0	
	477	11/4/2013	1,691,686	2,525,067	17,861	19.7	
	478	11/4/2013	1,691,690	2,525,063	16,998	18.8	
	479	11/4/2013	1,691,694	2,525,060	15,953	17.6	
	480	11/4/2013	1,691,699	2,525,060	15,513	17.1	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 15	421	2/18/2014	1,691,719	2,525,089	17,490	19.3	19.2
	422	2/18/2014	1,691,718	2,525,091	16,075	17.8	
	423	2/18/2014	1,691,718	2,525,093	17,753	19.6	
	424	2/18/2014	1,691,713	2,525,097	18,505	20.4	
	425	2/18/2014	1,691,711	2,525,099	17,174	19.0	
	426	2/18/2014	1,691,705	2,525,103	16,031	17.7	
	427	2/18/2014	1,691,700	2,525,108	17,756	19.6	
	428	2/18/2014	1,691,695	2,525,110	16,811	18.6	
	429	2/18/2014	1,691,696	2,525,104	17,221	19.0	
	430	2/18/2014	1,691,700	2,525,100	18,176	20.1	
	431	2/18/2014	1,691,704	2,525,096	18,232	20.1	
	432	2/18/2014	1,691,707	2,525,091	17,324	19.1	
	433	2/18/2014	1,691,712	2,525,087	16,619	18.4	
	434	2/18/2014	1,691,712	2,525,086	19,202	21.2	
	435	2/18/2014	1,691,711	2,525,086	17,277	19.1	
	436	2/18/2014	1,691,707	2,525,088	18,391	20.3	
	437	2/18/2014	1,691,704	2,525,090	17,838	19.7	
	438	2/18/2014	1,691,700	2,525,093	17,893	19.8	
	439	2/18/2014	1,691,698	2,525,097	18,009	19.9	
	440	2/18/2014	1,691,694	2,525,100	16,333	18.0	
	441	2/18/2014	1,691,689	2,525,103	17,063	18.9	
	442	2/18/2014	1,691,688	2,525,104	16,136	17.8	
	443	2/18/2014	1,691,687	2,525,100	16,730	18.5	
	444	2/18/2014	1,691,690	2,525,096	17,831	19.7	
	445	2/18/2014	1,691,693	2,525,091	17,709	19.6	
	446	2/18/2014	1,691,697	2,525,089	17,765	19.6	
	447	2/18/2014	1,691,701	2,525,084	17,335	19.2	
	448	2/18/2014	1,691,705	2,525,082	18,817	20.8	
	449	2/18/2014	1,691,711	2,525,077	17,481	19.3	
	450	2/18/2014	1,691,711	2,525,073	17,538	19.4	
	451	2/18/2014	1,691,706	2,525,074	17,601	19.4	
	452	2/18/2014	1,691,701	2,525,077	18,792	20.8	
	453	2/18/2014	1,691,698	2,525,080	18,590	20.5	
	454	2/18/2014	1,691,693	2,525,085	16,730	18.5	
	455	2/18/2014	1,691,690	2,525,087	17,755	19.6	
	456	2/18/2014	1,691,687	2,525,091	18,195	20.1	
	457	2/18/2014	1,691,683	2,525,095	18,384	20.3	
	458	2/18/2014	1,691,680	2,525,095	18,048	19.9	
	459	2/18/2014	1,691,678	2,525,092	17,183	19.0	
	460	2/18/2014	1,691,679	2,525,090	18,006	19.9	
	461	2/18/2014	1,691,683	2,525,086	18,233	20.1	
	462	2/18/2014	1,691,688	2,525,082	18,188	20.1	
	463	2/18/2014	1,691,692	2,525,078	17,782	19.6	
	464	2/18/2014	1,691,696	2,525,072	17,070	18.9	
	465	2/18/2014	1,691,701	2,525,068	17,312	19.1	
	466	2/18/2014	1,691,703	2,525,064	15,794	17.5	
	467	2/18/2014	1,691,702	2,525,066	16,961	18.7	
	468	2/18/2014	1,691,697	2,525,067	16,410	18.1	
	469	2/18/2014	1,691,693	2,525,072	16,300	18.0	
	470	2/18/2014	1,691,688	2,525,075	16,569	18.3	
	471	2/18/2014	1,691,684	2,525,079	16,057	17.7	
	472	2/18/2014	1,691,679	2,525,083	15,465	17.1	
	473	2/18/2014	1,691,675	2,525,085	16,551	18.3	
	474	2/18/2014	1,691,674	2,525,080	17,453	19.3	
	475	2/18/2014	1,691,678	2,525,074	16,703	18.5	
	476	2/18/2014	1,691,682	2,525,072	17,392	19.2	
	477	2/18/2014	1,691,687	2,525,070	18,023	19.9	
	478	2/18/2014	1,691,691	2,525,065	17,465	19.3	
	479	2/18/2014	1,691,695	2,525,060	15,545	17.2	
	480	2/18/2014	1,691,700	2,525,061	15,814	17.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 7	481	11/4/2013	1,691,719	2,524,688	17,836	19.7	20.3
	482	11/4/2013	1,691,718	2,524,688	19,166	21.2	
	483	11/4/2013	1,691,715	2,524,688	18,213	20.1	
	484	11/4/2013	1,691,710	2,524,687	18,562	20.5	
	485	11/4/2013	1,691,704	2,524,685	18,868	20.8	
	486	11/4/2013	1,691,699	2,524,684	18,273	20.2	
	487	11/4/2013	1,691,693	2,524,683	18,715	20.7	
	488	11/4/2013	1,691,687	2,524,681	20,212	22.3	
	489	11/4/2013	1,691,682	2,524,678	18,531	20.5	
	490	11/4/2013	1,691,683	2,524,676	18,798	20.8	
	491	11/4/2013	1,691,687	2,524,675	18,396	20.3	
	492	11/4/2013	1,691,693	2,524,677	18,313	20.2	
	493	11/4/2013	1,691,698	2,524,678	19,235	21.3	
	494	11/4/2013	1,691,703	2,524,679	19,200	21.2	
	495	11/4/2013	1,691,709	2,524,680	18,748	20.7	
	496	11/4/2013	1,691,715	2,524,681	18,187	20.1	
	497	11/4/2013	1,691,720	2,524,682	17,813	19.7	
	498	11/4/2013	1,691,722	2,524,678	17,936	19.8	
	499	11/4/2013	1,691,718	2,524,676	18,788	20.8	
	500	11/4/2013	1,691,712	2,524,675	18,509	20.5	
	501	11/4/2013	1,691,706	2,524,673	18,769	20.7	
	502	11/4/2013	1,691,700	2,524,671	17,831	19.7	
	503	11/4/2013	1,691,694	2,524,669	18,970	21.0	
	504	11/4/2013	1,691,689	2,524,668	18,468	20.4	
	505	11/4/2013	1,691,684	2,524,665	16,953	18.7	
	506	11/4/2013	1,691,684	2,524,662	18,652	20.6	
	507	11/4/2013	1,691,689	2,524,662	18,122	20.0	
	508	11/4/2013	1,691,695	2,524,663	17,976	19.9	
	509	11/4/2013	1,691,701	2,524,663	18,027	19.9	
	510	11/4/2013	1,691,706	2,524,663	16,937	18.7	
	511	11/4/2013	1,691,712	2,524,664	17,349	19.2	
	512	11/4/2013	1,691,718	2,524,665	17,782	19.6	
	513	11/4/2013	1,691,723	2,524,667	16,969	18.8	
	514	11/4/2013	1,691,728	2,524,668	18,853	20.8	
	515	11/4/2013	1,691,728	2,524,664	16,813	18.6	
	516	11/4/2013	1,691,723	2,524,662	17,494	19.3	
	517	11/4/2013	1,691,717	2,524,660	16,584	18.3	
	518	11/4/2013	1,691,712	2,524,658	17,672	19.5	
	519	11/4/2013	1,691,706	2,524,656	16,972	18.8	
	520	11/4/2013	1,691,700	2,524,654	17,714	19.6	
	521	11/4/2013	1,691,696	2,524,648	18,314	20.2	
	522	11/4/2013	1,691,700	2,524,648	17,786	19.7	
	523	11/4/2013	1,691,705	2,524,650	18,212	20.1	
	524	11/4/2013	1,691,711	2,524,653	18,244	20.2	
	525	11/4/2013	1,691,717	2,524,655	18,392	20.3	
	526	11/4/2013	1,691,722	2,524,657	17,889	19.8	
	527	11/4/2013	1,691,727	2,524,658	18,027	19.9	
	528	11/4/2013	1,691,729	2,524,653	18,077	20.0	
	529	11/4/2013	1,691,724	2,524,651	18,402	20.3	
	530	11/4/2013	1,691,718	2,524,648	18,362	20.3	
	531	11/4/2013	1,691,713	2,524,645	19,060	21.1	
	532	11/4/2013	1,691,708	2,524,643	20,697	22.9	
	533	11/4/2013	1,691,703	2,524,641	20,001	22.1	
	534	11/4/2013	1,691,699	2,524,642	18,998	21.0	
	535	11/4/2013	1,691,696	2,524,647	19,077	21.1	
	536	11/4/2013	1,691,692	2,524,651	18,166	20.1	
	537	11/4/2013	1,691,692	2,524,656	18,706	20.7	
	538	11/4/2013	1,691,697	2,524,658	19,009	21.0	
	539	11/4/2013	1,691,708	2,524,668	19,116	21.1	
	540	11/4/2013	1,691,713	2,524,669	18,798	20.8	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 7	361	2/18/2014	1,691,722	2,524,691	18,575	20.5	20.2
	362	2/18/2014	1,691,720	2,524,691	19,168	21.2	
	363	2/18/2014	1,691,717	2,524,689	18,936	20.9	
	364	2/18/2014	1,691,711	2,524,687	18,997	21.0	
	365	2/18/2014	1,691,705	2,524,686	18,938	20.9	
	366	2/18/2014	1,691,700	2,524,687	18,931	20.9	
	367	2/18/2014	1,691,695	2,524,683	19,057	21.1	
	368	2/18/2014	1,691,689	2,524,683	19,205	21.2	
	369	2/18/2014	1,691,682	2,524,681	18,054	19.9	
	370	2/18/2014	1,691,684	2,524,678	18,874	20.9	
	371	2/18/2014	1,691,689	2,524,676	17,774	19.6	
	372	2/18/2014	1,691,693	2,524,678	18,774	20.7	
	373	2/18/2014	1,691,700	2,524,679	19,176	21.2	
	374	2/18/2014	1,691,706	2,524,680	19,246	21.3	
	375	2/18/2014	1,691,712	2,524,683	19,463	21.5	
	376	2/18/2014	1,691,716	2,524,683	18,159	20.1	
	377	2/18/2014	1,691,722	2,524,684	17,037	18.8	
	378	2/18/2014	1,691,725	2,524,681	17,163	19.0	
	379	2/18/2014	1,691,720	2,524,678	19,441	21.5	
	380	2/18/2014	1,691,712	2,524,676	17,962	19.8	
	381	2/18/2014	1,691,708	2,524,675	18,648	20.6	
	382	2/18/2014	1,691,701	2,524,672	17,683	19.5	
	383	2/18/2014	1,691,697	2,524,671	19,357	21.4	
	384	2/18/2014	1,691,689	2,524,669	18,248	20.2	
	385	2/18/2014	1,691,685	2,524,667	17,197	19.0	
	386	2/18/2014	1,691,686	2,524,664	18,000	19.9	
	387	2/18/2014	1,691,690	2,524,663	17,438	19.3	
	388	2/18/2014	1,691,698	2,524,663	18,599	20.6	
	389	2/18/2014	1,691,702	2,524,666	17,806	19.7	
	390	2/18/2014	1,691,707	2,524,664	16,407	18.1	
	391	2/18/2014	1,691,713	2,524,665	17,657	19.5	
	392	2/18/2014	1,691,721	2,524,668	18,546	20.5	
	393	2/18/2014	1,691,724	2,524,668	16,913	18.7	
	394	2/18/2014	1,691,731	2,524,668	18,550	20.5	
	395	2/18/2014	1,691,730	2,524,666	15,740	17.4	
	396	2/18/2014	1,691,725	2,524,664	18,133	20.0	
	397	2/18/2014	1,691,719	2,524,661	16,279	18.0	
	398	2/18/2014	1,691,714	2,524,661	17,309	19.1	
	399	2/18/2014	1,691,709	2,524,656	17,384	19.2	
	400	2/18/2014	1,691,701	2,524,656	16,983	18.8	
	401	2/18/2014	1,691,698	2,524,648	18,049	19.9	
	402	2/18/2014	1,691,703	2,524,649	17,390	19.2	
	403	2/18/2014	1,691,708	2,524,650	17,420	19.2	
	404	2/18/2014	1,691,714	2,524,656	18,882	20.9	
	405	2/18/2014	1,691,720	2,524,656	19,025	21.0	
	406	2/18/2014	1,691,723	2,524,659	17,654	19.5	
	407	2/18/2014	1,691,729	2,524,660	18,603	20.6	
	408	2/18/2014	1,691,730	2,524,654	18,778	20.7	
	409	2/18/2014	1,691,726	2,524,651	18,184	20.1	
	410	2/18/2014	1,691,719	2,524,648	18,065	20.0	
	411	2/18/2014	1,691,714	2,524,646	18,202	20.1	
	412	2/18/2014	1,691,711	2,524,645	21,503	23.8	
	413	2/18/2014	1,691,704	2,524,642	19,316	21.3	
	414	2/18/2014	1,691,700	2,524,645	18,178	20.1	
	415	2/18/2014	1,691,697	2,524,649	19,715	21.8	
	416	2/18/2014	1,691,692	2,524,652	17,809	19.7	
	417	2/18/2014	1,691,695	2,524,658	18,156	20.1	
	418	2/18/2014	1,691,697	2,524,660	19,076	21.1	
	419	2/18/2014	1,691,709	2,524,669	19,533	21.6	
	420	2/18/2014	1,691,714	2,524,670	19,419	21.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 21	541	11/4/2013	1,691,248	2,524,548	22,412	24.8	25.2
	542	11/4/2013	1,691,248	2,524,548	23,344	25.8	
	543	11/4/2013	1,691,247	2,524,550	23,037	25.5	
	544	11/4/2013	1,691,244	2,524,554	24,043	26.6	
	545	11/4/2013	1,691,241	2,524,559	24,161	26.7	
	546	11/4/2013	1,691,238	2,524,563	22,522	24.9	
	547	11/4/2013	1,691,235	2,524,568	23,691	26.2	
	548	11/4/2013	1,691,231	2,524,573	22,055	24.4	
	549	11/4/2013	1,691,226	2,524,576	21,232	23.5	
	550	11/4/2013	1,691,223	2,524,571	21,494	23.8	
	551	11/4/2013	1,691,226	2,524,566	22,626	25.0	
	552	11/4/2013	1,691,230	2,524,560	20,928	23.1	
	553	11/4/2013	1,691,233	2,524,556	22,375	24.7	
	554	11/4/2013	1,691,236	2,524,551	23,209	25.6	
	555	11/4/2013	1,691,240	2,524,546	21,618	23.9	
	556	11/4/2013	1,691,240	2,524,540	22,761	25.2	
	557	11/4/2013	1,691,237	2,524,541	23,891	26.4	
	558	11/4/2013	1,691,233	2,524,545	24,451	27.0	
	559	11/4/2013	1,691,230	2,524,550	24,280	26.8	
	560	11/4/2013	1,691,226	2,524,555	23,793	26.3	
	561	11/4/2013	1,691,224	2,524,560	23,401	25.9	
	562	11/4/2013	1,691,220	2,524,565	23,633	26.1	
	563	11/4/2013	1,691,216	2,524,569	22,713	25.1	
	564	11/4/2013	1,691,213	2,524,564	21,490	23.7	
	565	11/4/2013	1,691,216	2,524,560	22,299	24.6	
	566	11/4/2013	1,691,218	2,524,556	21,300	23.5	
	567	11/4/2013	1,691,221	2,524,551	20,997	23.2	
	568	11/4/2013	1,691,224	2,524,546	22,653	25.0	
	569	11/4/2013	1,691,227	2,524,542	24,298	26.8	
	570	11/4/2013	1,691,230	2,524,537	22,462	24.8	
	571	11/4/2013	1,691,231	2,524,531	22,496	24.9	
	572	11/4/2013	1,691,228	2,524,533	23,214	25.7	
	573	11/4/2013	1,691,222	2,524,540	22,804	25.2	
	574	11/4/2013	1,691,219	2,524,545	22,514	24.9	
	575	11/4/2013	1,691,215	2,524,550	24,024	26.5	
	576	11/4/2013	1,691,211	2,524,555	22,554	24.9	
	577	11/4/2013	1,691,208	2,524,560	22,531	24.9	
	578	11/4/2013	1,691,204	2,524,562	21,618	23.9	
	579	11/4/2013	1,691,203	2,524,557	22,096	24.4	
	580	11/4/2013	1,691,206	2,524,552	23,370	25.8	
	581	11/4/2013	1,691,210	2,524,547	23,324	25.8	
	582	11/4/2013	1,691,213	2,524,542	22,292	24.6	
	583	11/4/2013	1,691,217	2,524,537	22,204	24.5	
	584	11/4/2013	1,691,220	2,524,532	23,093	25.5	
	585	11/4/2013	1,691,223	2,524,528	23,759	26.3	
	586	11/4/2013	1,691,220	2,524,526	23,225	25.7	
	587	11/4/2013	1,691,217	2,524,530	22,675	25.1	
	588	11/4/2013	1,691,213	2,524,534	22,519	24.9	
	589	11/4/2013	1,691,211	2,524,539	22,893	25.3	
	590	11/4/2013	1,691,208	2,524,542	23,177	25.6	
	591	11/4/2013	1,691,205	2,524,547	23,903	26.4	
	592	11/4/2013	1,691,201	2,524,552	23,393	25.8	
	593	11/4/2013	1,691,197	2,524,547	24,370	26.9	
	594	11/4/2013	1,691,199	2,524,544	23,369	25.8	
	595	11/4/2013	1,691,201	2,524,540	23,285	25.7	
	596	11/4/2013	1,691,203	2,524,536	23,711	26.2	
	597	11/4/2013	1,691,206	2,524,531	23,135	25.6	
	598	11/4/2013	1,691,209	2,524,527	22,040	24.4	
	599	11/4/2013	1,691,212	2,524,524	21,933	24.2	
	600	11/4/2013	1,691,215	2,524,524	22,278	24.6	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 21	1681	2/18/2014	1,691,248	2,524,549	22,221	24.6	25.3
	1682	2/18/2014	1,691,249	2,524,548	22,680	25.1	
	1683	2/18/2014	1,691,248	2,524,551	22,922	25.3	
	1684	2/18/2014	1,691,247	2,524,554	23,973	26.5	
	1685	2/18/2014	1,691,242	2,524,560	24,443	27.0	
	1686	2/18/2014	1,691,239	2,524,566	22,844	25.2	
	1687	2/18/2014	1,691,236	2,524,570	24,455	27.0	
	1688	2/18/2014	1,691,233	2,524,573	21,795	24.1	
	1689	2/18/2014	1,691,229	2,524,579	21,245	23.5	
	1690	2/18/2014	1,691,226	2,524,572	22,108	24.4	
	1691	2/18/2014	1,691,227	2,524,566	21,935	24.2	
	1692	2/18/2014	1,691,233	2,524,562	20,868	23.1	
	1693	2/18/2014	1,691,235	2,524,556	23,010	25.4	
	1694	2/18/2014	1,691,237	2,524,551	23,603	26.1	
	1695	2/18/2014	1,691,243	2,524,547	22,035	24.3	
	1696	2/18/2014	1,691,242	2,524,541	22,602	25.0	
	1697	2/18/2014	1,691,239	2,524,543	24,060	26.6	
	1698	2/18/2014	1,691,236	2,524,546	24,416	27.0	
	1699	2/18/2014	1,691,233	2,524,552	23,943	26.5	
	1700	2/18/2014	1,691,229	2,524,556	24,382	26.9	
	1701	2/18/2014	1,691,225	2,524,563	23,319	25.8	
	1702	2/18/2014	1,691,222	2,524,568	23,710	26.2	
	1703	2/18/2014	1,691,219	2,524,570	22,948	25.4	
	1704	2/18/2014	1,691,214	2,524,566	21,901	24.2	
	1705	2/18/2014	1,691,217	2,524,563	22,325	24.7	
	1706	2/18/2014	1,691,221	2,524,556	20,587	22.7	
	1707	2/18/2014	1,691,222	2,524,552	20,307	22.4	
	1708	2/18/2014	1,691,225	2,524,547	23,084	25.5	
	1709	2/18/2014	1,691,229	2,524,543	24,431	27.0	
	1710	2/18/2014	1,691,233	2,524,539	21,982	24.3	
	1711	2/18/2014	1,691,234	2,524,534	23,096	25.5	
	1712	2/18/2014	1,691,228	2,524,536	23,978	26.5	
	1713	2/18/2014	1,691,223	2,524,542	22,217	24.5	
	1714	2/18/2014	1,691,221	2,524,546	23,316	25.8	
	1715	2/18/2014	1,691,218	2,524,552	23,976	26.5	
	1716	2/18/2014	1,691,212	2,524,558	21,839	24.1	
	1717	2/18/2014	1,691,209	2,524,561	22,568	24.9	
	1718	2/18/2014	1,691,206	2,524,562	21,660	23.9	
	1719	2/18/2014	1,691,203	2,524,558	21,842	24.1	
	1720	2/18/2014	1,691,209	2,524,554	22,939	25.3	
	1721	2/18/2014	1,691,212	2,524,550	23,225	25.7	
	1722	2/18/2014	1,691,216	2,524,543	22,649	25.0	
	1723	2/18/2014	1,691,217	2,524,537	22,357	24.7	
	1724	2/18/2014	1,691,221	2,524,533	22,737	25.1	
	1725	2/18/2014	1,691,223	2,524,528	24,106	26.6	
	1726	2/18/2014	1,691,221	2,524,528	22,795	25.2	
	1727	2/18/2014	1,691,220	2,524,531	23,578	26.1	
	1728	2/18/2014	1,691,214	2,524,536	22,101	24.4	
	1729	2/18/2014	1,691,212	2,524,540	23,331	25.8	
	1730	2/18/2014	1,691,211	2,524,545	23,049	25.5	
	1731	2/18/2014	1,691,206	2,524,549	24,596	27.2	
	1732	2/18/2014	1,691,203	2,524,554	23,132	25.6	
	1733	2/18/2014	1,691,199	2,524,549	25,007	27.6	
	1734	2/18/2014	1,691,200	2,524,545	23,860	26.4	
	1735	2/18/2014	1,691,202	2,524,543	24,105	26.6	
	1736	2/18/2014	1,691,204	2,524,536	24,355	26.9	
	1737	2/18/2014	1,691,207	2,524,533	22,582	25.0	
	1738	2/18/2014	1,691,211	2,524,529	22,054	24.4	
	1739	2/18/2014	1,691,212	2,524,526	22,157	24.5	
	1740	2/18/2014	1,691,216	2,524,526	22,702	25.1	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 8	601	11/4/2013	1,691,554	2,525,826	17,194	19.0	19.6
	602	11/4/2013	1,691,554	2,525,826	17,237	19.0	
	603	11/4/2013	1,691,555	2,525,825	16,369	18.1	
	604	11/4/2013	1,691,559	2,525,826	16,806	18.6	
	605	11/4/2013	1,691,564	2,525,827	17,490	19.3	
	606	11/4/2013	1,691,568	2,525,829	17,011	18.8	
	607	11/4/2013	1,691,572	2,525,832	17,647	19.5	
	608	11/4/2013	1,691,577	2,525,835	17,979	19.9	
	609	11/4/2013	1,691,574	2,525,838	18,573	20.5	
	610	11/4/2013	1,691,570	2,525,837	17,264	19.1	
	611	11/4/2013	1,691,566	2,525,835	16,956	18.7	
	612	11/4/2013	1,691,561	2,525,834	16,342	18.1	
	613	11/4/2013	1,691,556	2,525,832	17,013	18.8	
	614	11/4/2013	1,691,552	2,525,830	16,745	18.5	
	615	11/4/2013	1,691,547	2,525,828	17,483	19.3	
	616	11/4/2013	1,691,546	2,525,831	18,244	20.2	
	617	11/4/2013	1,691,548	2,525,833	18,028	19.9	
	618	11/4/2013	1,691,553	2,525,835	17,658	19.5	
	619	11/4/2013	1,691,558	2,525,836	17,387	19.2	
	620	11/4/2013	1,691,562	2,525,838	17,900	19.8	
	621	11/4/2013	1,691,567	2,525,840	16,835	18.6	
	622	11/4/2013	1,691,572	2,525,842	17,783	19.7	
	623	11/4/2013	1,691,575	2,525,845	17,701	19.6	
	624	11/4/2013	1,691,573	2,525,848	17,500	19.3	
	625	11/4/2013	1,691,569	2,525,847	16,953	18.7	
	626	11/4/2013	1,691,564	2,525,844	17,859	19.7	
	627	11/4/2013	1,691,560	2,525,842	17,586	19.4	
	628	11/4/2013	1,691,555	2,525,841	17,216	19.0	
	629	11/4/2013	1,691,550	2,525,839	16,876	18.6	
	630	11/4/2013	1,691,546	2,525,837	18,253	20.2	
	631	11/4/2013	1,691,541	2,525,837	17,917	19.8	
	632	11/4/2013	1,691,539	2,525,838	18,008	19.9	
	633	11/4/2013	1,691,542	2,525,840	18,186	20.1	
	634	11/4/2013	1,691,546	2,525,841	19,069	21.1	
	635	11/4/2013	1,691,550	2,525,843	19,148	21.2	
	636	11/4/2013	1,691,556	2,525,846	18,160	20.1	
	637	11/4/2013	1,691,560	2,525,848	19,007	21.0	
	638	11/4/2013	1,691,565	2,525,850	20,390	22.5	
	639	11/4/2013	1,691,570	2,525,853	19,671	21.7	
	640	11/4/2013	1,691,574	2,525,855	18,250	20.2	
	641	11/4/2013	1,691,573	2,525,858	17,936	19.8	
	642	11/4/2013	1,691,568	2,525,856	16,950	18.7	
	643	11/4/2013	1,691,564	2,525,854	17,667	19.5	
	644	11/4/2013	1,691,559	2,525,851	19,083	21.1	
	645	11/4/2013	1,691,555	2,525,849	19,984	22.1	
	646	11/4/2013	1,691,550	2,525,846	18,138	20.0	
	647	11/4/2013	1,691,545	2,525,845	17,205	19.0	
	648	11/4/2013	1,691,541	2,525,841	16,975	18.8	
	649	11/4/2013	1,691,537	2,525,841	18,775	20.7	
	650	11/4/2013	1,691,537	2,525,842	17,839	19.7	
	651	11/4/2013	1,691,540	2,525,846	18,243	20.2	
	652	11/4/2013	1,691,544	2,525,850	16,739	18.5	
	653	11/4/2013	1,691,546	2,525,854	17,104	18.9	
	654	11/4/2013	1,691,550	2,525,857	17,283	19.1	
	655	11/4/2013	1,691,555	2,525,859	17,904	19.8	
	656	11/4/2013	1,691,560	2,525,861	17,962	19.8	
	657	11/4/2013	1,691,562	2,525,866	17,534	19.4	
	658	11/4/2013	1,691,557	2,525,867	17,512	19.4	
	659	11/4/2013	1,691,553	2,525,864	17,196	19.0	
	660	11/4/2013	1,691,549	2,525,862	18,413	20.3	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 8	1141	2/18/2014	1,691,554	2,525,829	17,946	19.8	19.7
	1142	2/18/2014	1,691,554	2,525,826	17,544	19.4	
	1143	2/18/2014	1,691,557	2,525,829	16,452	18.2	
	1144	2/18/2014	1,691,561	2,525,829	16,694	18.4	
	1145	2/18/2014	1,691,565	2,525,830	17,709	19.6	
	1146	2/18/2014	1,691,571	2,525,831	17,448	19.3	
	1147	2/18/2014	1,691,575	2,525,832	18,386	20.3	
	1148	2/18/2014	1,691,577	2,525,837	17,682	19.5	
	1149	2/18/2014	1,691,575	2,525,841	18,007	19.9	
	1150	2/18/2014	1,691,572	2,525,841	17,181	19.0	
	1151	2/18/2014	1,691,569	2,525,835	16,956	18.7	
	1152	2/18/2014	1,691,563	2,525,837	15,767	17.4	
	1153	2/18/2014	1,691,558	2,525,833	16,628	18.4	
	1154	2/18/2014	1,691,552	2,525,833	17,498	19.3	
	1155	2/18/2014	1,691,548	2,525,832	16,735	18.5	
	1156	2/18/2014	1,691,546	2,525,833	18,648	20.6	
	1157	2/18/2014	1,691,550	2,525,835	17,296	19.1	
	1158	2/18/2014	1,691,555	2,525,835	18,430	20.4	
	1159	2/18/2014	1,691,560	2,525,837	17,292	19.1	
	1160	2/18/2014	1,691,563	2,525,840	16,185	17.9	
	1161	2/18/2014	1,691,567	2,525,841	17,581	19.4	
	1162	2/18/2014	1,691,572	2,525,844	18,057	20.0	
	1163	2/18/2014	1,691,577	2,525,848	18,251	20.2	
	1164	2/18/2014	1,691,575	2,525,848	16,946	18.7	
	1165	2/18/2014	1,691,570	2,525,850	16,889	18.7	
	1166	2/18/2014	1,691,567	2,525,846	17,923	19.8	
	1167	2/18/2014	1,691,562	2,525,846	17,987	19.9	
	1168	2/18/2014	1,691,557	2,525,845	17,341	19.2	
	1169	2/18/2014	1,691,551	2,525,840	16,243	17.9	
	1170	2/18/2014	1,691,546	2,525,840	18,170	20.1	
	1171	2/18/2014	1,691,541	2,525,841	18,470	20.4	
	1172	2/18/2014	1,691,541	2,525,839	17,341	19.2	
	1173	2/18/2014	1,691,544	2,525,842	17,504	19.3	
	1174	2/18/2014	1,691,546	2,525,844	18,580	20.5	
	1175	2/18/2014	1,691,552	2,525,846	19,184	21.2	
	1176	2/18/2014	1,691,558	2,525,849	18,050	19.9	
	1177	2/18/2014	1,691,561	2,525,848	19,478	21.5	
	1178	2/18/2014	1,691,566	2,525,853	21,113	23.3	
	1179	2/18/2014	1,691,573	2,525,854	20,364	22.5	
	1180	2/18/2014	1,691,577	2,525,858	18,206	20.1	
	1181	2/18/2014	1,691,576	2,525,858	17,340	19.2	
	1182	2/18/2014	1,691,569	2,525,857	17,087	18.9	
	1183	2/18/2014	1,691,565	2,525,855	17,579	19.4	
	1184	2/18/2014	1,691,561	2,525,854	18,283	20.2	
	1185	2/18/2014	1,691,558	2,525,850	20,537	22.7	
	1186	2/18/2014	1,691,550	2,525,850	18,326	20.3	
	1187	2/18/2014	1,691,546	2,525,845	17,821	19.7	
	1188	2/18/2014	1,691,542	2,525,843	16,312	18.0	
	1189	2/18/2014	1,691,539	2,525,844	19,375	21.4	
	1190	2/18/2014	1,691,539	2,525,846	17,900	19.8	
	1191	2/18/2014	1,691,543	2,525,848	18,864	20.8	
	1192	2/18/2014	1,691,546	2,525,852	16,126	17.8	
	1193	2/18/2014	1,691,548	2,525,855	16,817	18.6	
	1194	2/18/2014	1,691,551	2,525,858	16,737	18.5	
	1195	2/18/2014	1,691,555	2,525,861	18,178	20.1	
	1196	2/18/2014	1,691,560	2,525,863	18,490	20.4	
	1197	2/18/2014	1,691,563	2,525,868	17,806	19.7	
	1198	2/18/2014	1,691,558	2,525,869	17,924	19.8	
	1199	2/18/2014	1,691,555	2,525,864	17,769	19.6	
	1200	2/18/2014	1,691,549	2,525,863	18,080	20.0	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 12	661	11/4/2013	1,691,520	2,526,191	15,740	17.4	17.1
	662	11/4/2013	1,691,520	2,526,191	14,859	16.4	
	663	11/4/2013	1,691,522	2,526,191	15,375	17.0	
	664	11/4/2013	1,691,528	2,526,192	14,846	16.4	
	665	11/4/2013	1,691,534	2,526,192	15,466	17.1	
	666	11/4/2013	1,691,539	2,526,193	15,413	17.0	
	667	11/4/2013	1,691,545	2,526,194	16,251	18.0	
	668	11/4/2013	1,691,549	2,526,196	17,001	18.8	
	669	11/4/2013	1,691,551	2,526,201	15,320	16.9	
	670	11/4/2013	1,691,546	2,526,202	16,124	17.8	
	671	11/4/2013	1,691,541	2,526,201	15,677	17.3	
	672	11/4/2013	1,691,536	2,526,200	15,551	17.2	
	673	11/4/2013	1,691,530	2,526,199	15,248	16.8	
	674	11/4/2013	1,691,524	2,526,199	16,136	17.8	
	675	11/4/2013	1,691,519	2,526,198	15,786	17.4	
	676	11/4/2013	1,691,514	2,526,197	16,031	17.7	
	677	11/4/2013	1,691,512	2,526,199	16,257	18.0	
	678	11/4/2013	1,691,516	2,526,200	15,787	17.4	
	679	11/4/2013	1,691,522	2,526,201	15,099	16.7	
	680	11/4/2013	1,691,527	2,526,202	15,601	17.2	
	681	11/4/2013	1,691,532	2,526,203	15,727	17.4	
	682	11/4/2013	1,691,537	2,526,204	15,763	17.4	
	683	11/4/2013	1,691,543	2,526,205	15,404	17.0	
	684	11/4/2013	1,691,548	2,526,206	15,664	17.3	
	685	11/4/2013	1,691,551	2,526,209	17,162	19.0	
	686	11/4/2013	1,691,548	2,526,211	16,199	17.9	
	687	11/4/2013	1,691,544	2,526,212	15,952	17.6	
	688	11/4/2013	1,691,540	2,526,213	16,490	18.2	
	689	11/4/2013	1,691,536	2,526,212	16,123	17.8	
	690	11/4/2013	1,691,532	2,526,209	15,921	17.6	
	691	11/4/2013	1,691,527	2,526,207	15,974	17.7	
	692	11/4/2013	1,691,522	2,526,206	14,719	16.3	
	693	11/4/2013	1,691,517	2,526,204	15,303	16.9	
	694	11/4/2013	1,691,511	2,526,203	14,593	16.1	
	695	11/4/2013	1,691,512	2,526,206	14,881	16.4	
	696	11/4/2013	1,691,516	2,526,208	14,598	16.1	
	697	11/4/2013	1,691,521	2,526,210	15,092	16.7	
	698	11/4/2013	1,691,526	2,526,212	15,161	16.8	
	699	11/4/2013	1,691,531	2,526,213	14,881	16.4	
	700	11/4/2013	1,691,537	2,526,215	15,769	17.4	
	701	11/4/2013	1,691,542	2,526,215	16,230	17.9	
	702	11/4/2013	1,691,547	2,526,217	15,712	17.4	
	703	11/4/2013	1,691,549	2,526,221	14,869	16.4	
	704	11/4/2013	1,691,544	2,526,222	15,006	16.6	
	705	11/4/2013	1,691,539	2,526,222	14,925	16.5	
	706	11/4/2013	1,691,534	2,526,221	15,632	17.3	
	707	11/4/2013	1,691,529	2,526,219	14,619	16.2	
	708	11/4/2013	1,691,524	2,526,218	15,308	16.9	
	709	11/4/2013	1,691,519	2,526,217	15,245	16.8	
	710	11/4/2013	1,691,514	2,526,217	15,439	17.1	
	711	11/4/2013	1,691,513	2,526,220	15,404	17.0	
	712	11/4/2013	1,691,518	2,526,222	15,205	16.8	
	713	11/4/2013	1,691,523	2,526,224	13,971	15.4	
	714	11/4/2013	1,691,528	2,526,225	15,081	16.7	
	715	11/4/2013	1,691,533	2,526,227	15,314	16.9	
	716	11/4/2013	1,691,538	2,526,228	14,623	16.2	
	717	11/4/2013	1,691,543	2,526,230	14,970	16.5	
	718	11/4/2013	1,691,539	2,526,234	14,881	16.4	
	719	11/4/2013	1,691,534	2,526,234	15,173	16.8	
	720	11/4/2013	1,691,529	2,526,231	15,372	17.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 12	1021	2/18/2014	1,691,522	2,526,194	16,169	17.9	17.1
	1022	2/18/2014	1,691,521	2,526,192	14,131	15.6	
	1023	2/18/2014	1,691,522	2,526,191	15,867	17.5	
	1024	2/18/2014	1,691,530	2,526,194	15,121	16.7	
	1025	2/18/2014	1,691,536	2,526,195	15,874	17.5	
	1026	2/18/2014	1,691,542	2,526,193	14,697	16.2	
	1027	2/18/2014	1,691,548	2,526,195	16,501	18.2	
	1028	2/18/2014	1,691,552	2,526,199	17,192	19.0	
	1029	2/18/2014	1,691,552	2,526,202	14,803	16.4	
	1030	2/18/2014	1,691,550	2,526,205	15,491	17.1	
	1031	2/18/2014	1,691,544	2,526,205	16,328	18.0	
	1032	2/18/2014	1,691,539	2,526,204	14,998	16.6	
	1033	2/18/2014	1,691,533	2,526,200	15,285	16.9	
	1034	2/18/2014	1,691,527	2,526,202	15,603	17.2	
	1035	2/18/2014	1,691,521	2,526,201	16,428	18.2	
	1036	2/18/2014	1,691,515	2,526,198	15,353	17.0	
	1037	2/18/2014	1,691,514	2,526,201	15,943	17.6	
	1038	2/18/2014	1,691,518	2,526,204	16,412	18.1	
	1039	2/18/2014	1,691,524	2,526,202	15,680	17.3	
	1040	2/18/2014	1,691,529	2,526,204	15,090	16.7	
	1041	2/18/2014	1,691,534	2,526,206	15,099	16.7	
	1042	2/18/2014	1,691,540	2,526,208	16,051	17.7	
	1043	2/18/2014	1,691,544	2,526,207	14,749	16.3	
	1044	2/18/2014	1,691,550	2,526,208	15,499	17.1	
	1045	2/18/2014	1,691,554	2,526,210	17,486	19.3	
	1046	2/18/2014	1,691,551	2,526,213	15,942	17.6	
	1047	2/18/2014	1,691,545	2,526,214	16,579	18.3	
	1048	2/18/2014	1,691,541	2,526,214	16,781	18.5	
	1049	2/18/2014	1,691,536	2,526,212	15,432	17.1	
	1050	2/18/2014	1,691,533	2,526,211	15,958	17.6	
	1051	2/18/2014	1,691,530	2,526,211	16,275	18.0	
	1052	2/18/2014	1,691,525	2,526,209	14,745	16.3	
	1053	2/18/2014	1,691,519	2,526,205	15,128	16.7	
	1054	2/18/2014	1,691,512	2,526,203	14,163	15.7	
	1055	2/18/2014	1,691,515	2,526,208	15,357	17.0	
	1056	2/18/2014	1,691,518	2,526,209	14,640	16.2	
	1057	2/18/2014	1,691,521	2,526,212	15,444	17.1	
	1058	2/18/2014	1,691,528	2,526,212	15,632	17.3	
	1059	2/18/2014	1,691,532	2,526,215	15,040	16.6	
	1060	2/18/2014	1,691,537	2,526,215	15,075	16.7	
	1061	2/18/2014	1,691,544	2,526,215	15,467	17.1	
	1062	2/18/2014	1,691,548	2,526,218	16,262	18.0	
	1063	2/18/2014	1,691,550	2,526,222	14,769	16.3	
	1064	2/18/2014	1,691,546	2,526,224	15,184	16.8	
	1065	2/18/2014	1,691,541	2,526,222	15,652	17.3	
	1066	2/18/2014	1,691,537	2,526,222	14,918	16.5	
	1067	2/18/2014	1,691,531	2,526,220	14,972	16.5	
	1068	2/18/2014	1,691,524	2,526,221	15,304	16.9	
	1069	2/18/2014	1,691,520	2,526,218	15,957	17.6	
	1070	2/18/2014	1,691,515	2,526,220	15,005	16.6	
	1071	2/18/2014	1,691,515	2,526,221	15,608	17.2	
	1072	2/18/2014	1,691,518	2,526,225	15,199	16.8	
	1073	2/18/2014	1,691,523	2,526,227	14,109	15.6	
	1074	2/18/2014	1,691,531	2,526,225	14,382	15.9	
	1075	2/18/2014	1,691,534	2,526,229	15,385	17.0	
	1076	2/18/2014	1,691,540	2,526,231	15,130	16.7	
	1077	2/18/2014	1,691,545	2,526,232	15,008	16.6	
	1078	2/18/2014	1,691,541	2,526,236	15,583	17.2	
	1079	2/18/2014	1,691,537	2,526,234	14,613	16.1	
	1080	2/18/2014	1,691,530	2,526,233	15,827	17.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 11	721	11/4/2013	1,691,729	2,526,254	16,331	18.0	17.1
	722	11/4/2013	1,691,728	2,526,254	14,135	15.6	
	723	11/4/2013	1,691,725	2,526,251	14,856	16.4	
	724	11/4/2013	1,691,723	2,526,246	15,631	17.3	
	725	11/4/2013	1,691,721	2,526,241	15,055	16.6	
	726	11/4/2013	1,691,717	2,526,237	15,198	16.8	
	727	11/4/2013	1,691,714	2,526,234	15,218	16.8	
	728	11/4/2013	1,691,710	2,526,230	14,680	16.2	
	729	11/4/2013	1,691,708	2,526,231	15,450	17.1	
	730	11/4/2013	1,691,709	2,526,234	15,325	16.9	
	731	11/4/2013	1,691,711	2,526,237	14,327	15.8	
	732	11/4/2013	1,691,714	2,526,241	14,518	16.0	
	733	11/4/2013	1,691,717	2,526,245	13,647	15.1	
	734	11/4/2013	1,691,720	2,526,249	14,986	16.6	
	735	11/4/2013	1,691,724	2,526,253	15,593	17.2	
	736	11/4/2013	1,691,727	2,526,257	16,064	17.8	
	737	11/4/2013	1,691,728	2,526,261	15,398	17.0	
	738	11/4/2013	1,691,724	2,526,261	15,414	17.0	
	739	11/4/2013	1,691,721	2,526,257	16,544	18.3	
	740	11/4/2013	1,691,717	2,526,254	16,405	18.1	
	741	11/4/2013	1,691,713	2,526,250	16,622	18.4	
	742	11/4/2013	1,691,709	2,526,247	16,524	18.3	
	743	11/4/2013	1,691,706	2,526,244	15,856	17.5	
	744	11/4/2013	1,691,702	2,526,240	15,136	16.7	
	745	11/4/2013	1,691,698	2,526,237	15,120	16.7	
	746	11/4/2013	1,691,697	2,526,239	16,489	18.2	
	747	11/4/2013	1,691,699	2,526,242	15,050	16.6	
	748	11/4/2013	1,691,702	2,526,246	15,464	17.1	
	749	11/4/2013	1,691,705	2,526,249	15,711	17.4	
	750	11/4/2013	1,691,709	2,526,253	15,993	17.7	
	751	11/4/2013	1,691,713	2,526,256	15,068	16.7	
	752	11/4/2013	1,691,718	2,526,259	14,680	16.2	
	753	11/4/2013	1,691,722	2,526,262	15,822	17.5	
	754	11/4/2013	1,691,724	2,526,266	15,159	16.8	
	755	11/4/2013	1,691,722	2,526,268	15,105	16.7	
	756	11/4/2013	1,691,718	2,526,266	15,805	17.5	
	757	11/4/2013	1,691,714	2,526,263	16,207	17.9	
	758	11/4/2013	1,691,709	2,526,260	15,857	17.5	
	759	11/4/2013	1,691,705	2,526,256	15,393	17.0	
	760	11/4/2013	1,691,700	2,526,253	15,438	17.1	
	761	11/4/2013	1,691,696	2,526,250	15,198	16.8	
	762	11/4/2013	1,691,692	2,526,247	15,668	17.3	
	763	11/4/2013	1,691,688	2,526,244	16,167	17.9	
	764	11/4/2013	1,691,685	2,526,245	16,395	18.1	
	765	11/4/2013	1,691,686	2,526,248	14,836	16.4	
	766	11/4/2013	1,691,690	2,526,251	15,338	16.9	
	767	11/4/2013	1,691,694	2,526,255	15,473	17.1	
	768	11/4/2013	1,691,699	2,526,258	15,316	16.9	
	769	11/4/2013	1,691,703	2,526,262	15,671	17.3	
	770	11/4/2013	1,691,706	2,526,266	15,267	16.9	
	771	11/4/2013	1,691,710	2,526,269	15,733	17.4	
	772	11/4/2013	1,691,712	2,526,273	15,991	17.7	
	773	11/4/2013	1,691,708	2,526,275	15,743	17.4	
	774	11/4/2013	1,691,704	2,526,271	14,874	16.4	
	775	11/4/2013	1,691,700	2,526,267	15,415	17.0	
	776	11/4/2013	1,691,696	2,526,263	15,029	16.6	
	777	11/4/2013	1,691,693	2,526,258	14,817	16.4	
	778	11/4/2013	1,691,689	2,526,254	15,142	16.7	
	779	11/4/2013	1,691,684	2,526,251	15,108	16.7	
	780	11/4/2013	1,691,684	2,526,254	15,917	17.6	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 11	901	2/18/2014	1,691,730	2,526,255	16,144	17.8	17.0
	902	2/18/2014	1,691,730	2,526,256	14,739	16.3	
	903	2/18/2014	1,691,728	2,526,252	15,560	17.2	
	904	2/18/2014	1,691,727	2,526,247	15,946	17.6	
	905	2/18/2014	1,691,723	2,526,244	14,575	16.1	
	906	2/18/2014	1,691,720	2,526,239	15,014	16.6	
	907	2/18/2014	1,691,714	2,526,235	15,566	17.2	
	908	2/18/2014	1,691,713	2,526,233	13,981	15.4	
	909	2/18/2014	1,691,708	2,526,233	15,472	17.1	
	910	2/18/2014	1,691,709	2,526,237	14,687	16.2	
	911	2/18/2014	1,691,715	2,526,238	14,567	16.1	
	912	2/18/2014	1,691,714	2,526,242	14,712	16.3	
	913	2/18/2014	1,691,718	2,526,246	13,667	15.1	
	914	2/18/2014	1,691,723	2,526,252	15,067	16.6	
	915	2/18/2014	1,691,727	2,526,254	15,935	17.6	
	916	2/18/2014	1,691,728	2,526,260	15,549	17.2	
	917	2/18/2014	1,691,731	2,526,262	15,464	17.1	
	918	2/18/2014	1,691,725	2,526,263	15,596	17.2	
	919	2/18/2014	1,691,722	2,526,258	15,957	17.6	
	920	2/18/2014	1,691,720	2,526,255	15,769	17.4	
	921	2/18/2014	1,691,714	2,526,251	17,075	18.9	
	922	2/18/2014	1,691,711	2,526,250	16,714	18.5	
	923	2/18/2014	1,691,710	2,526,246	15,355	17.0	
	924	2/18/2014	1,691,702	2,526,241	14,764	16.3	
	925	2/18/2014	1,691,702	2,526,238	14,550	16.1	
	926	2/18/2014	1,691,698	2,526,240	16,698	18.5	
	927	2/18/2014	1,691,699	2,526,245	15,499	17.1	
	928	2/18/2014	1,691,703	2,526,246	15,891	17.6	
	929	2/18/2014	1,691,707	2,526,250	15,364	17.0	
	930	2/18/2014	1,691,711	2,526,254	15,591	17.2	
	931	2/18/2014	1,691,716	2,526,259	14,400	15.9	
	932	2/18/2014	1,691,718	2,526,260	15,174	16.8	
	933	2/18/2014	1,691,722	2,526,263	16,065	17.8	
	934	2/18/2014	1,691,728	2,526,268	15,827	17.5	
	935	2/18/2014	1,691,726	2,526,270	14,576	16.1	
	936	2/18/2014	1,691,719	2,526,269	15,091	16.7	
	937	2/18/2014	1,691,717	2,526,264	16,206	17.9	
	938	2/18/2014	1,691,710	2,526,261	16,091	17.8	
	939	2/18/2014	1,691,709	2,526,258	15,894	17.6	
	940	2/18/2014	1,691,704	2,526,256	16,165	17.9	
	941	2/18/2014	1,691,697	2,526,252	15,059	16.6	
	942	2/18/2014	1,691,696	2,526,247	15,586	17.2	
	943	2/18/2014	1,691,688	2,526,247	15,905	17.6	
	944	2/18/2014	1,691,688	2,526,246	16,759	18.5	
	945	2/18/2014	1,691,687	2,526,250	14,545	16.1	
	946	2/18/2014	1,691,691	2,526,251	14,673	16.2	
	947	2/18/2014	1,691,696	2,526,258	15,474	17.1	
	948	2/18/2014	1,691,700	2,526,259	15,165	16.8	
	949	2/18/2014	1,691,705	2,526,263	14,971	16.5	
	950	2/18/2014	1,691,708	2,526,269	14,828	16.4	
	951	2/18/2014	1,691,714	2,526,270	15,227	16.8	
	952	2/18/2014	1,691,715	2,526,274	15,596	17.2	
	953	2/18/2014	1,691,711	2,526,276	16,097	17.8	
	954	2/18/2014	1,691,707	2,526,273	14,757	16.3	
	955	2/18/2014	1,691,702	2,526,270	15,282	16.9	
	956	2/18/2014	1,691,698	2,526,265	14,570	16.1	
	957	2/18/2014	1,691,695	2,526,260	14,825	16.4	
	958	2/18/2014	1,691,691	2,526,255	15,285	16.9	
	959	2/18/2014	1,691,687	2,526,253	14,424	15.9	
	960	2/18/2014	1,691,684	2,526,256	16,457	18.2	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan								NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate		Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr				Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 6	781	11/4/2013	1,691,916	2,525,918	16,655	18.4	19.4	Location ID 6	781	2/18/2014	1,691,918	2,525,920	16,861	18.6	19.4
	782	11/4/2013	1,691,914	2,525,917	15,779	17.4			782	2/18/2014	1,691,916	2,525,918	15,213	16.8	
	783	11/4/2013	1,691,913	2,525,913	16,795	18.6			783	2/18/2014	1,691,913	2,525,915	17,197	19.0	
	784	11/4/2013	1,691,911	2,525,909	17,512	19.4			784	2/18/2014	1,691,913	2,525,912	17,279	19.1	
	785	11/4/2013	1,691,908	2,525,904	16,984	18.8			785	2/18/2014	1,691,910	2,525,905	17,533	19.4	
	786	11/4/2013	1,691,906	2,525,900	17,820	19.7			786	2/18/2014	1,691,906	2,525,902	18,376	20.3	
	787	11/4/2013	1,691,904	2,525,895	18,765	20.7			787	2/18/2014	1,691,907	2,525,895	19,501	21.5	
	788	11/4/2013	1,691,906	2,525,892	19,072	21.1			788	2/18/2014	1,691,908	2,525,893	18,518	20.5	
	789	11/4/2013	1,691,906	2,525,891	18,705	20.7			789	2/18/2014	1,691,906	2,525,894	19,402	21.4	
	790	11/4/2013	1,691,908	2,525,893	16,896	18.7			790	2/18/2014	1,691,913	2,525,896	17,049	18.8	
	791	11/4/2013	1,691,911	2,525,897	18,765	20.7			791	2/18/2014	1,691,912	2,525,900	19,446	21.5	
	792	11/4/2013	1,691,913	2,525,901	19,212	21.2			792	2/18/2014	1,691,913	2,525,902	18,697	20.7	
	793	11/4/2013	1,691,915	2,525,905	19,246	21.3			793	2/18/2014	1,691,919	2,525,906	18,853	20.8	
	794	11/4/2013	1,691,918	2,525,908	16,803	18.6			794	2/18/2014	1,691,922	2,525,908	16,545	18.3	
	795	11/4/2013	1,691,919	2,525,911	17,397	19.2			795	2/18/2014	1,691,922	2,525,912	16,619	18.4	
	796	11/4/2013	1,691,921	2,525,912	17,943	19.8			796	2/18/2014	1,691,923	2,525,912	17,860	19.7	
	797	11/4/2013	1,691,922	2,525,909	17,448	19.3			797	2/18/2014	1,691,922	2,525,910	16,763	18.5	
	798	11/4/2013	1,691,919	2,525,907	17,430	19.3			798	2/18/2014	1,691,922	2,525,908	16,888	18.7	
	799	11/4/2013	1,691,918	2,525,904	16,384	18.1			799	2/18/2014	1,691,919	2,525,906	15,715	17.4	
	800	11/4/2013	1,691,917	2,525,900	17,096	18.9			800	2/18/2014	1,691,920	2,525,902	17,521	19.4	
	801	11/4/2013	1,691,916	2,525,895	18,631	20.6			801	2/18/2014	1,691,917	2,525,898	19,262	21.3	
	802	11/4/2013	1,691,915	2,525,890	17,582	19.4			802	2/18/2014	1,691,917	2,525,891	17,132	18.9	
	803	11/4/2013	1,691,914	2,525,886	17,504	19.3			803	2/18/2014	1,691,915	2,525,886	17,006	18.8	
	804	11/4/2013	1,691,914	2,525,881	18,977	21.0			804	2/18/2014	1,691,916	2,525,882	18,429	20.4	
	805	11/4/2013	1,691,917	2,525,881	18,348	20.3			805	2/18/2014	1,691,921	2,525,881	17,930	19.8	
	806	11/4/2013	1,691,919	2,525,884	17,601	19.4			806	2/18/2014	1,691,920	2,525,887	16,861	18.6	
	807	11/4/2013	1,691,920	2,525,888	18,157	20.1			807	2/18/2014	1,691,922	2,525,891	18,747	20.7	
	808	11/4/2013	1,691,921	2,525,892	17,755	19.6			808	2/18/2014	1,691,922	2,525,893	17,493	19.3	
	809	11/4/2013	1,691,923	2,525,896	17,476	19.3			809	2/18/2014	1,691,927	2,525,896	17,292	19.1	
	810	11/4/2013	1,691,925	2,525,900	19,158	21.2			810	2/18/2014	1,691,925	2,525,901	19,453	21.5	
	811	11/4/2013	1,691,927	2,525,903	17,414	19.2			811	2/18/2014	1,691,928	2,525,905	17,327	19.1	
	812	11/4/2013	1,691,929	2,525,907	17,306	19.1			812	2/18/2014	1,691,929	2,525,908	18,004	19.9	
	813	11/4/2013	1,691,933	2,525,909	16,798	18.6			813	2/18/2014	1,691,934	2,525,912	16,868	18.6	
	814	11/4/2013	1,691,935	2,525,908	17,422	19.3			814	2/18/2014	1,691,938	2,525,910	18,001	19.9	
	815	11/4/2013	1,691,934	2,525,907	16,545	18.3			815	2/18/2014	1,691,938	2,525,910	16,244	17.9	
	816	11/4/2013	1,691,932	2,525,904	15,964	17.6			816	2/18/2014	1,691,935	2,525,904	16,507	18.2	
	817	11/4/2013	1,691,929	2,525,900	17,420	19.2			817	2/18/2014	1,691,933	2,525,902	17,905	19.8	
	818	11/4/2013	1,691,926	2,525,896	16,565	18.3			818	2/18/2014	1,691,928	2,525,896	16,815	18.6	
	819	11/4/2013	1,691,924	2,525,891	16,226	17.9			819	2/18/2014	1,691,926	2,525,894	16,079	17.8	
	820	11/4/2013	1,691,922	2,525,887	16,784	18.5			820	2/18/2014	1,691,923	2,525,889	17,446	19.3	
	821	11/4/2013	1,691,918	2,525,883	17,715	19.6			821	2/18/2014	1,691,919	2,525,883	18,349	20.3	
	822	11/4/2013	1,691,918	2,525,878	18,189	20.1			822	2/18/2014	1,691,920	2,525,880	18,704	20.7	
	823	11/4/2013	1,691,921	2,525,876	18,821	20.8			823	2/18/2014	1,691,923	2,525,879	18,447	20.4	
	824	11/4/2013	1,691,924	2,525,879	17,444	19.3			824	2/18/2014	1,691,925	2,525,882	18,059	20.0	
	825	11/4/2013	1,691,926	2,525,884	18,099	20.0			825	2/18/2014	1,691,927	2,525,885	17,477	19.3	
	826	11/4/2013	1,691,929	2,525,888	17,923	19.8			826	2/18/2014	1,691,933	2,525,890	17,920	19.8	
	827	11/4/2013	1,691,931	2,525,892	17,731	19.6			827	2/18/2014	1,691,932	2,525,895	18,155	20.1	
	828	11/4/2013	1,691,935	2,525,896	17,766	19.6			828	2/18/2014	1,691,935	2,525,896	17,301	19.1	
	829	11/4/2013	1,691,938	2,525,900	17,644	19.5			829	2/18/2014	1,691,939	2,525,903	17,959	19.8	
	830	11/4/2013	1,691,941	2,525,903	17,075	18.9			830	2/18/2014	1,691,943	2,525,904	16,842	18.6	
	831	11/4/2013	1,691,944	2,525,904	17,680	19.5			831	2/18/2014	1,691,946	2,525,905	17,973	19.9	
	832	11/4/2013	1,691,943	2,525,901	18,632	20.6			832	2/18/2014	1,691,946	2,525,903	18,612	20.6	
	833	11/4/2013	1,691,940	2,525,896	17,299	19.1			833	2/18/2014	1,691,944	2,525,897	17,405	19.2	
	834	11/4/2013	1,691,937	2,525,891	17,631	19.5			834	2/18/2014	1,691,941	2,525,892	17,360	19.2	
	835	11/4/2013	1,691,934	2,525,886	17,062	18.9			835	2/18/2014	1,691,934	2,525,889	17,160	19.0	
	836	11/4/2013	1,691,931	2,525,882	17,716	19.6			836	2/18/2014	1,691,934	2,525,885	17,550	19.4	
	837	11/4/2013	1,691,927	2,525,878	17,037	18.8			837	2/18/2014	1,691,930	2,525,880	16,998	18.8	
	838	11/4/2013	1,691,925	2,525,874	17,344	19.2			838	2/18/2014	1,691,929	2,525,876	17,015	18.8	
	839	11/4/2013	1,691,928	2,525,871	16,866	18.6			839	2/18/2014	1,691,930	2,525,872	16,776	18.5	
	840	11/4/2013	1,691,932	2,525,875	16,460	18.2			840	2/18/2014	1,691,932	2,525,876	16,406	18.1	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 10	841	11/4/2013	1,691,793	2,525,830	16,102	17.8	17.7
	842	11/4/2013	1,691,793	2,525,830	14,895	16.5	
	843	11/4/2013	1,691,795	2,525,833	15,873	17.5	
	844	11/4/2013	1,691,796	2,525,837	15,774	17.4	
	845	11/4/2013	1,691,797	2,525,842	16,210	17.9	
	846	11/4/2013	1,691,798	2,525,847	16,205	17.9	
	847	11/4/2013	1,691,798	2,525,851	15,551	17.2	
	848	11/4/2013	1,691,797	2,525,856	15,444	17.1	
	849	11/4/2013	1,691,794	2,525,858	16,934	18.7	
	850	11/4/2013	1,691,791	2,525,856	15,407	17.0	
	851	11/4/2013	1,691,790	2,525,851	16,098	17.8	
	852	11/4/2013	1,691,789	2,525,847	16,700	18.5	
	853	11/4/2013	1,691,789	2,525,842	17,221	19.0	
	854	11/4/2013	1,691,789	2,525,837	15,378	17.0	
	855	11/4/2013	1,691,788	2,525,832	16,808	18.6	
	856	11/4/2013	1,691,787	2,525,829	16,350	18.1	
	857	11/4/2013	1,691,785	2,525,829	15,747	17.4	
	858	11/4/2013	1,691,785	2,525,833	16,308	18.0	
	859	11/4/2013	1,691,785	2,525,838	15,739	17.4	
	860	11/4/2013	1,691,786	2,525,843	15,919	17.6	
	861	11/4/2013	1,691,786	2,525,848	16,503	18.2	
	862	11/4/2013	1,691,787	2,525,853	16,973	18.8	
	863	11/4/2013	1,691,788	2,525,858	15,614	17.3	
	864	11/4/2013	1,691,789	2,525,863	15,277	16.9	
	865	11/4/2013	1,691,787	2,525,866	16,134	17.8	
	866	11/4/2013	1,691,785	2,525,865	16,026	17.7	
	867	11/4/2013	1,691,783	2,525,860	16,723	18.5	
	868	11/4/2013	1,691,781	2,525,855	16,366	18.1	
	869	11/4/2013	1,691,780	2,525,850	16,164	17.9	
	870	11/4/2013	1,691,778	2,525,845	15,522	17.2	
	871	11/4/2013	1,691,776	2,525,840	15,027	16.6	
	872	11/4/2013	1,691,775	2,525,835	16,242	17.9	
	873	11/4/2013	1,691,773	2,525,831	16,303	18.0	
	874	11/4/2013	1,691,771	2,525,828	16,261	18.0	
	875	11/4/2013	1,691,771	2,525,831	16,205	17.9	
	876	11/4/2013	1,691,772	2,525,835	15,756	17.4	
	877	11/4/2013	1,691,773	2,525,841	15,481	17.1	
	878	11/4/2013	1,691,774	2,525,846	16,047	17.7	
	879	11/4/2013	1,691,775	2,525,851	16,669	18.4	
	880	11/4/2013	1,691,777	2,525,856	16,694	18.4	
	881	11/4/2013	1,691,779	2,525,861	16,346	18.1	
	882	11/4/2013	1,691,781	2,525,867	16,970	18.8	
	883	11/4/2013	1,691,781	2,525,872	16,176	17.9	
	884	11/4/2013	1,691,776	2,525,871	15,895	17.6	
	885	11/4/2013	1,691,773	2,525,867	16,515	18.2	
	886	11/4/2013	1,691,772	2,525,861	15,056	16.6	
	887	11/4/2013	1,691,771	2,525,855	15,378	17.0	
	888	11/4/2013	1,691,770	2,525,850	15,996	17.7	
	889	11/4/2013	1,691,768	2,525,844	16,800	18.6	
	890	11/4/2013	1,691,767	2,525,840	16,299	18.0	
	891	11/4/2013	1,691,766	2,525,835	16,206	17.9	
	892	11/4/2013	1,691,763	2,525,834	15,867	17.5	
	893	11/4/2013	1,691,762	2,525,838	16,789	18.6	
	894	11/4/2013	1,691,763	2,525,844	15,530	17.2	
	895	11/4/2013	1,691,765	2,525,850	15,793	17.5	
	896	11/4/2013	1,691,766	2,525,856	16,529	18.3	
	897	11/4/2013	1,691,768	2,525,861	16,436	18.2	
	898	11/4/2013	1,691,769	2,525,866	15,451	17.1	
	899	11/4/2013	1,691,766	2,525,869	15,656	17.3	
	900	11/4/2013	1,691,763	2,525,866	15,374	17.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 10	601	2/18/2014	1,691,797	2,525,832	16,491	18.2	17.7
	602	2/18/2014	1,691,796	2,525,833	15,451	17.1	
	603	2/18/2014	1,691,796	2,525,833	15,125	16.7	
	604	2/18/2014	1,691,799	2,525,840	15,772	17.4	
	605	2/18/2014	1,691,797	2,525,845	16,653	18.4	
	606	2/18/2014	1,691,803	2,525,849	16,008	17.7	
	607	2/18/2014	1,691,801	2,525,855	15,719	17.4	
	608	2/18/2014	1,691,801	2,525,859	15,608	17.2	
	609	2/18/2014	1,691,795	2,525,861	16,747	18.5	
	610	2/18/2014	1,691,792	2,525,860	15,331	16.9	
	611	2/18/2014	1,691,795	2,525,854	15,501	17.1	
	612	2/18/2014	1,691,793	2,525,851	16,114	17.8	
	613	2/18/2014	1,691,789	2,525,846	17,131	18.9	
	614	2/18/2014	1,691,794	2,525,840	15,642	17.3	
	615	2/18/2014	1,691,790	2,525,834	17,338	19.2	
	616	2/18/2014	1,691,789	2,525,830	16,528	18.3	
	617	2/18/2014	1,691,789	2,525,831	15,008	16.6	
	618	2/18/2014	1,691,785	2,525,837	15,842	17.5	
	619	2/18/2014	1,691,788	2,525,841	16,148	17.8	
	620	2/18/2014	1,691,791	2,525,843	16,020	17.7	
	621	2/18/2014	1,691,787	2,525,848	16,176	17.9	
	622	2/18/2014	1,691,792	2,525,853	17,035	18.8	
	623	2/18/2014	1,691,793	2,525,860	15,610	17.2	
	624	2/18/2014	1,691,790	2,525,865	14,830	16.4	
	625	2/18/2014	1,691,789	2,525,867	15,709	17.4	
	626	2/18/2014	1,691,788	2,525,868	15,746	17.4	
	627	2/18/2014	1,691,788	2,525,861	17,378	19.2	
	628	2/18/2014	1,691,786	2,525,858	15,740	17.4	
	629	2/18/2014	1,691,785	2,525,854	15,813	17.5	
	630	2/18/2014	1,691,783	2,525,849	15,132	16.7	
	631	2/18/2014	1,691,778	2,525,843	15,556	17.2	
	632	2/18/2014	1,691,780	2,525,836	16,544	18.3	
	633	2/18/2014	1,691,778	2,525,835	16,862	18.6	
	634	2/18/2014	1,691,772	2,525,830	16,772	18.5	
	635	2/18/2014	1,691,773	2,525,833	15,995	17.7	
	636	2/18/2014	1,691,775	2,525,839	16,410	18.1	
	637	2/18/2014	1,691,773	2,525,844	15,560	17.2	
	638	2/18/2014	1,691,779	2,525,848	16,493	18.2	
	639	2/18/2014	1,691,778	2,525,853	16,531	18.3	
	640	2/18/2014	1,691,782	2,525,858	16,785	18.5	
	641	2/18/2014	1,691,781	2,525,862	16,888	18.7	
	642	2/18/2014	1,691,781	2,525,867	17,071	18.9	
	643	2/18/2014	1,691,786	2,525,873	15,512	17.1	
	644	2/18/2014	1,691,777	2,525,875	15,411	17.0	
	645	2/18/2014	1,691,774	2,525,869	17,237	19.0	
	646	2/18/2014	1,691,776	2,525,861	15,138	16.7	
	647	2/18/2014	1,691,773	2,525,859	14,670	16.2	
	648	2/18/2014	1,691,773	2,525,850	15,718	17.4	
	649	2/18/2014	1,691,769	2,525,848	17,369	19.2	
	650	2/18/2014	1,691,768	2,525,844	16,323	18.0	
	651	2/18/2014	1,691,766	2,525,836	15,712	17.4	
	652	2/18/2014	1,691,763	2,525,838	16,143	17.8	
	653	2/18/2014	1,691,766	2,525,839	17,035	18.8	
	654	2/18/2014	1,691,769	2,525,846	14,883	16.4	
	655	2/18/2014	1,691,766	2,525,851	15,598	17.2	
	656	2/18/2014	1,691,769	2,525,857	16,481	18.2	
	657	2/18/2014	1,691,769	2,525,865	16,692	18.4	
	658	2/18/2014	1,691,770	2,525,867	15,148	16.7	
	659	2/18/2014	1,691,771	2,525,870	15,616	17.3	
	660	2/18/2014	1,691,765	2,525,869	15,626	17.3	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 9	901	11/4/2013	1,691,746	2,525,592	18,053	19.9	19.9
	902	11/4/2013	1,691,746	2,525,592	16,268	18.0	
	903	11/4/2013	1,691,743	2,525,592	17,425	19.3	
	904	11/4/2013	1,691,739	2,525,589	17,950	19.8	
	905	11/4/2013	1,691,734	2,525,586	17,527	19.4	
	906	11/4/2013	1,691,729	2,525,583	17,080	18.9	
	907	11/4/2013	1,691,725	2,525,579	18,262	20.2	
	908	11/4/2013	1,691,722	2,525,576	18,151	20.1	
	909	11/4/2013	1,691,726	2,525,573	17,667	19.5	
	910	11/4/2013	1,691,730	2,525,575	17,525	19.4	
	911	11/4/2013	1,691,736	2,525,578	18,105	20.0	
	912	11/4/2013	1,691,741	2,525,581	18,413	20.3	
	913	11/4/2013	1,691,745	2,525,584	17,513	19.4	
	914	11/4/2013	1,691,750	2,525,586	17,866	19.7	
	915	11/4/2013	1,691,751	2,525,585	17,526	19.4	
	916	11/4/2013	1,691,748	2,525,582	18,140	20.0	
	917	11/4/2013	1,691,744	2,525,578	17,497	19.3	
	918	11/4/2013	1,691,740	2,525,575	18,802	20.8	
	919	11/4/2013	1,691,735	2,525,572	17,689	19.5	
	920	11/4/2013	1,691,730	2,525,569	18,864	20.8	
	921	11/4/2013	1,691,726	2,525,565	17,828	19.7	
	922	11/4/2013	1,691,726	2,525,561	17,302	19.1	
	923	11/4/2013	1,691,731	2,525,562	16,962	18.7	
	924	11/4/2013	1,691,735	2,525,564	17,129	18.9	
	925	11/4/2013	1,691,739	2,525,566	18,881	20.9	
	926	11/4/2013	1,691,744	2,525,568	19,111	21.1	
	927	11/4/2013	1,691,748	2,525,571	17,488	19.3	
	928	11/4/2013	1,691,753	2,525,573	18,274	20.2	
	929	11/4/2013	1,691,758	2,525,575	17,645	19.5	
	930	11/4/2013	1,691,762	2,525,575	17,953	19.8	
	931	11/4/2013	1,691,762	2,525,575	17,676	19.5	
	932	11/4/2013	1,691,759	2,525,572	18,009	19.9	
	933	11/4/2013	1,691,754	2,525,570	18,347	20.3	
	934	11/4/2013	1,691,749	2,525,567	16,981	18.8	
	935	11/4/2013	1,691,743	2,525,565	17,524	19.4	
	936	11/4/2013	1,691,738	2,525,562	17,375	19.2	
	937	11/4/2013	1,691,735	2,525,558	18,800	20.8	
	938	11/4/2013	1,691,739	2,525,557	19,730	21.8	
	939	11/4/2013	1,691,744	2,525,560	19,836	21.9	
	940	11/4/2013	1,691,748	2,525,562	18,874	20.9	
	941	11/4/2013	1,691,753	2,525,565	18,690	20.7	
	942	11/4/2013	1,691,758	2,525,568	17,697	19.6	
	943	11/4/2013	1,691,762	2,525,570	16,605	18.3	
	944	11/4/2013	1,691,766	2,525,568	17,346	19.2	
	945	11/4/2013	1,691,762	2,525,565	18,767	20.7	
	946	11/4/2013	1,691,757	2,525,562	18,624	20.6	
	947	11/4/2013	1,691,753	2,525,560	19,066	21.1	
	948	11/4/2013	1,691,748	2,525,558	17,540	19.4	
	949	11/4/2013	1,691,743	2,525,555	17,580	19.4	
	950	11/4/2013	1,691,743	2,525,551	17,391	19.2	
	951	11/4/2013	1,691,747	2,525,553	18,794	20.8	
	952	11/4/2013	1,691,752	2,525,555	18,942	20.9	
	953	11/4/2013	1,691,757	2,525,557	18,210	20.1	
	954	11/4/2013	1,691,762	2,525,559	17,793	19.7	
	955	11/4/2013	1,691,766	2,525,562	19,638	21.7	
	956	11/4/2013	1,691,768	2,525,567	18,466	20.4	
	957	11/4/2013	1,691,765	2,525,571	18,322	20.2	
	958	11/4/2013	1,691,762	2,525,575	17,472	19.3	
	959	11/4/2013	1,691,758	2,525,579	18,348	20.3	
	960	11/4/2013	1,691,755	2,525,584	18,136	20.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 9	481	2/18/2014	1,691,750	2,525,595	17,600	19.4	19.9
	482	2/18/2014	1,691,749	2,525,596	16,629	18.4	
	483	2/18/2014	1,691,745	2,525,593	17,078	18.9	
	484	2/18/2014	1,691,742	2,525,592	17,286	19.1	
	485	2/18/2014	1,691,737	2,525,588	17,852	19.7	
	486	2/18/2014	1,691,732	2,525,586	16,718	18.5	
	487	2/18/2014	1,691,727	2,525,581	17,506	19.3	
	488	2/18/2014	1,691,722	2,525,579	18,667	20.6	
	489	2/18/2014	1,691,731	2,525,574	18,205	20.1	
	490	2/18/2014	1,691,732	2,525,577	17,810	19.7	
	491	2/18/2014	1,691,739	2,525,580	18,310	20.2	
	492	2/18/2014	1,691,746	2,525,582	18,894	20.9	
	493	2/18/2014	1,691,747	2,525,585	18,039	19.9	
	494	2/18/2014	1,691,755	2,525,587	18,109	20.0	
	495	2/18/2014	1,691,755	2,525,587	17,571	19.4	
	496	2/18/2014	1,691,749	2,525,583	17,531	19.4	
	497	2/18/2014	1,691,745	2,525,581	18,080	20.0	
	498	2/18/2014	1,691,741	2,525,575	19,181	21.2	
	499	2/18/2014	1,691,740	2,525,574	17,395	19.2	
	500	2/18/2014	1,691,733	2,525,569	18,670	20.6	
	501	2/18/2014	1,691,731	2,525,566	17,637	19.5	
	502	2/18/2014	1,691,730	2,525,562	16,536	18.3	
	503	2/18/2014	1,691,733	2,525,563	16,583	18.3	
	504	2/18/2014	1,691,738	2,525,566	16,665	18.4	
	505	2/18/2014	1,691,744	2,525,570	19,702	21.8	
	506	2/18/2014	1,691,745	2,525,570	19,591	21.6	
	507	2/18/2014	1,691,753	2,525,575	17,245	19.1	
	508	2/18/2014	1,691,757	2,525,577	18,197	20.1	
	509	2/18/2014	1,691,760	2,525,579	17,556	19.4	
	510	2/18/2014	1,691,763	2,525,576	17,452	19.3	
	511	2/18/2014	1,691,765	2,525,575	17,363	19.2	
	512	2/18/2014	1,691,763	2,525,572	17,527	19.4	
	513	2/18/2014	1,691,758	2,525,574	18,627	20.6	
	514	2/18/2014	1,691,750	2,525,569	16,283	18.0	
	515	2/18/2014	1,691,744	2,525,567	17,981	19.9	
	516	2/18/2014	1,691,738	2,525,564	17,814	19.7	
	517	2/18/2014	1,691,738	2,525,561	18,394	20.3	
	518	2/18/2014	1,691,744	2,525,557	19,623	21.7	
	519	2/18/2014	1,691,745	2,525,561	20,324	22.5	
	520	2/18/2014	1,691,749	2,525,562	19,665	21.7	
	521	2/18/2014	1,691,756	2,525,566	18,830	20.8	
	522	2/18/2014	1,691,761	2,525,570	18,404	20.3	
	523	2/18/2014	1,691,766	2,525,574	17,072	18.9	
	524	2/18/2014	1,691,766	2,525,570	17,198	19.0	
	525	2/18/2014	1,691,764	2,525,567	19,193	21.2	
	526	2/18/2014	1,691,758	2,525,565	19,021	21.0	
	527	2/18/2014	1,691,758	2,525,562	19,204	21.2	
	528	2/18/2014	1,691,752	2,525,561	17,039	18.8	
	529	2/18/2014	1,691,744	2,525,559	16,975	18.8	
	530	2/18/2014	1,691,748	2,525,554	16,935	18.7	
	531	2/18/2014	1,691,750	2,525,554	18,101	20.0	
	532	2/18/2014	1,691,753	2,525,558	18,164	20.1	
	533	2/18/2014	1,691,759	2,525,557	18,605	20.6	
	534	2/18/2014	1,691,767	2,525,563	18,094	20.0	
	535	2/18/2014	1,691,768	2,525,565	20,356	22.5	
	536	2/18/2014	1,691,771	2,525,568	18,014	19.9	
	537	2/18/2014	1,691,766	2,525,573	17,726	19.6	
	538	2/18/2014	1,691,767	2,525,578	17,756	19.6	
	539	2/18/2014	1,691,763	2,525,582	19,038	21.0	
	540	2/18/2014	1,691,760	2,525,586	17,599	19.4	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 16X (Original 16 Moved out of Swale)	961	11/7/2013	1,691,155	2,525,184	15,529	17.2	17.6
	962	11/7/2013	1,691,156	2,525,184	15,935	17.6	
	963	11/7/2013	1,691,157	2,525,184	15,573	17.2	
	964	11/7/2013	1,691,160	2,525,185	16,081	17.8	
	965	11/7/2013	1,691,163	2,525,187	16,225	17.9	
	966	11/7/2013	1,691,166	2,525,192	15,663	17.3	
	967	11/7/2013	1,691,169	2,525,195	15,648	17.3	
	968	11/7/2013	1,691,172	2,525,200	15,772	17.4	
	969	11/7/2013	1,691,175	2,525,204	16,293	18.0	
	970	11/7/2013	1,691,179	2,525,207	16,301	18.0	
	971	11/7/2013	1,691,183	2,525,208	16,175	17.9	
	972	11/7/2013	1,691,183	2,525,207	16,322	18.0	
	973	11/7/2013	1,691,181	2,525,202	16,256	18.0	
	974	11/7/2013	1,691,178	2,525,198	17,622	19.5	
	975	11/7/2013	1,691,175	2,525,195	17,869	19.7	
	976	11/7/2013	1,691,172	2,525,191	18,170	20.1	
	977	11/7/2013	1,691,168	2,525,188	17,117	18.9	
	978	11/7/2013	1,691,164	2,525,185	15,782	17.4	
	979	11/7/2013	1,691,161	2,525,181	16,012	17.7	
	980	11/7/2013	1,691,157	2,525,181	14,552	16.1	
	981	11/7/2013	1,691,153	2,525,183	14,658	16.2	
	982	11/7/2013	1,691,153	2,525,186	16,293	18.0	
	983	11/7/2013	1,691,156	2,525,189	16,293	18.0	
	984	11/7/2013	1,691,159	2,525,193	15,433	17.1	
	985	11/7/2013	1,691,163	2,525,197	14,693	16.2	
	986	11/7/2013	1,691,167	2,525,200	14,358	15.9	
	987	11/7/2013	1,691,171	2,525,203	15,963	17.6	
	988	11/7/2013	1,691,174	2,525,207	17,073	18.9	
	989	11/7/2013	1,691,177	2,525,211	16,605	18.3	
	990	11/7/2013	1,691,181	2,525,214	15,722	17.4	
	991	11/7/2013	1,691,181	2,525,218	16,168	17.9	
	992	11/7/2013	1,691,177	2,525,219	15,262	16.9	
	993	11/7/2013	1,691,174	2,525,216	15,558	17.2	
	994	11/7/2013	1,691,171	2,525,213	16,148	17.8	
	995	11/7/2013	1,691,167	2,525,208	16,408	18.1	
	996	11/7/2013	1,691,164	2,525,204	16,110	17.8	
	997	11/7/2013	1,691,160	2,525,201	15,572	17.2	
	998	11/7/2013	1,691,156	2,525,197	16,066	17.8	
	999	11/7/2013	1,691,152	2,525,193	15,165	16.8	
	1000	11/7/2013	1,691,148	2,525,189	15,691	17.3	
	1001	11/7/2013	1,691,144	2,525,188	16,361	18.1	
	1002	11/7/2013	1,691,143	2,525,190	15,767	17.4	
	1003	11/7/2013	1,691,146	2,525,194	15,685	17.3	
	1004	11/7/2013	1,691,149	2,525,197	16,331	18.0	
	1005	11/7/2013	1,691,153	2,525,202	15,914	17.6	
	1006	11/7/2013	1,691,157	2,525,206	15,702	17.4	
	1007	11/7/2013	1,691,160	2,525,210	15,383	17.0	
	1008	11/7/2013	1,691,163	2,525,214	15,532	17.2	
	1009	11/7/2013	1,691,166	2,525,218	15,358	17.0	
	1010	11/7/2013	1,691,166	2,525,221	15,341	17.0	
	1011	11/7/2013	1,691,162	2,525,220	16,064	17.8	
	1012	11/7/2013	1,691,158	2,525,217	15,736	17.4	
	1013	11/7/2013	1,691,154	2,525,213	16,422	18.1	
	1014	11/7/2013	1,691,151	2,525,209	16,620	18.4	
	1015	11/7/2013	1,691,147	2,525,205	16,552	18.3	
	1016	11/7/2013	1,691,143	2,525,201	15,185	16.8	
	1017	11/7/2013	1,691,139	2,525,198	16,366	18.1	
	1018	11/7/2013	1,691,136	2,525,196	15,954	17.6	
	1019	11/7/2013	1,691,136	2,525,198	14,360	15.9	
	1020	11/7/2013	1,691,139	2,525,203	14,396	15.9	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 16X (Original 16 Moved out of Swale)	1621	2/18/2014	1,691,156	2,525,185	15,136	16.7	17.6
	1622	2/18/2014	1,691,159	2,525,187	15,800	17.5	
	1623	2/18/2014	1,691,158	2,525,185	14,950	16.5	
	1624	2/18/2014	1,691,161	2,525,188	16,019	17.7	
	1625	2/18/2014	1,691,166	2,525,189	16,593	18.3	
	1626	2/18/2014	1,691,167	2,525,194	15,212	16.8	
	1627	2/18/2014	1,691,171	2,525,199	15,257	16.9	
	1628	2/18/2014	1,691,174	2,525,201	15,554	17.2	
	1629	2/18/2014	1,691,178	2,525,207	15,810	17.5	
	1630	2/18/2014	1,691,182	2,525,210	16,257	18.0	
	1631	2/18/2014	1,691,184	2,525,210	16,247	18.0	
	1632	2/18/2014	1,691,185	2,525,209	16,778	18.5	
	1633	2/18/2014	1,691,183	2,525,204	16,592	18.3	
	1634	2/18/2014	1,691,181	2,525,200	17,043	18.8	
	1635	2/18/2014	1,691,175	2,525,197	17,715	19.6	
	1636	2/18/2014	1,691,173	2,525,192	18,695	20.7	
	1637	2/18/2014	1,691,168	2,525,189	17,478	19.3	
	1638	2/18/2014	1,691,165	2,525,186	15,138	16.7	
	1639	2/18/2014	1,691,164	2,525,184	15,574	17.2	
	1640	2/18/2014	1,691,159	2,525,182	14,257	15.8	
	1641	2/18/2014	1,691,155	2,525,185	15,178	16.8	
	1642	2/18/2014	1,691,154	2,525,186	15,768	17.4	
	1643	2/18/2014	1,691,157	2,525,190	16,665	18.4	
	1644	2/18/2014	1,691,159	2,525,193	15,519	17.1	
	1645	2/18/2014	1,691,165	2,525,197	15,194	16.8	
	1646	2/18/2014	1,691,169	2,525,202	14,559	16.1	
	1647	2/18/2014	1,691,174	2,525,204	15,918	17.6	
	1648	2/18/2014	1,691,175	2,525,207	17,299	19.1	
	1649	2/18/2014	1,691,179	2,525,215	17,200	19.0	
	1650	2/18/2014	1,691,184	2,525,215	15,098	16.7	
	1651	2/18/2014	1,691,181	2,525,221	16,084	17.8	
	1652	2/18/2014	1,691,177	2,525,221	14,648	16.2	
	1653	2/18/2014	1,691,177	2,525,220	15,986	17.7	
	1654	2/18/2014	1,691,173	2,525,214	15,549	17.2	
	1655	2/18/2014	1,691,168	2,525,210	16,956	18.7	
	1656	2/18/2014	1,691,164	2,525,207	16,789	18.6	
	1657	2/18/2014	1,691,162	2,525,203	15,919	17.6	
	1658	2/18/2014	1,691,158	2,525,198	15,427	17.0	
	1659	2/18/2014	1,691,154	2,525,194	14,888	16.5	
	1660	2/18/2014	1,691,150	2,525,191	15,054	16.6	
	1661	2/18/2014	1,691,148	2,525,191	16,835	18.6	
	1662	2/18/2014	1,691,145	2,525,193	15,384	17.0	
	1663	2/18/2014	1,691,149	2,525,197	15,896	17.6	
	1664	2/18/2014	1,691,150	2,525,200	16,271	18.0	
	1665	2/18/2014	1,691,154	2,525,204	16,451	18.2	
	1666	2/18/2014	1,691,158	2,525,208	15,902	17.6	
	1667	2/18/2014	1,691,161	2,525,212	15,739	17.4	
	1668	2/18/2014	1,691,165	2,525,217	16,085	17.8	
	1669	2/18/2014	1,691,169	2,525,218	15,662	17.3	
	1670	2/18/2014	1,691,168	2,525,224	15,303	16.9	
	1671	2/18/2014	1,691,165	2,525,222	15,726	17.4	
	1672	2/18/2014	1,691,160	2,525,221	15,544	17.2	
	1673	2/18/2014	1,691,156	2,525,216	16,900	18.7	
	1674	2/18/2014	1,691,153	2,525,210	16,818	18.6	
	1675	2/18/2014	1,691,150	2,525,207	15,980	17.7	
	1676	2/18/2014	1,691,144	2,525,205	15,142	16.7	
	1677	2/18/2014	1,691,142	2,525,199	16,881	18.7	
	1678	2/18/2014	1,691,137	2,525,200	16,609	18.4	
	1679	2/18/2014	1,691,137	2,525,201	15,035	16.6	
	1680	2/18/2014	1,691,139	2,525,204	14,394	15.9	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 13	1021	11/7/2013	1,692,243	2,525,226	14,197	15.7	16.6
	1022	11/7/2013	1,692,243	2,525,226	14,197	15.7	
	1023	11/7/2013	1,692,242	2,525,227	14,050	15.5	
	1024	11/7/2013	1,692,238	2,525,225	14,050	15.5	
	1025	11/7/2013	1,692,232	2,525,224	14,050	15.5	
	1026	11/7/2013	1,692,228	2,525,224	15,039	16.6	
	1027	11/7/2013	1,692,222	2,525,223	15,039	16.6	
	1028	11/7/2013	1,692,217	2,525,221	15,039	16.6	
	1029	11/7/2013	1,692,211	2,525,221	15,039	16.6	
	1030	11/7/2013	1,692,208	2,525,218	14,893	16.5	
	1031	11/7/2013	1,692,212	2,525,215	15,708	17.4	
	1032	11/7/2013	1,692,217	2,525,216	15,852	17.5	
	1033	11/7/2013	1,692,221	2,525,217	14,476	16.0	
	1034	11/7/2013	1,692,225	2,525,217	14,476	16.0	
	1035	11/7/2013	1,692,229	2,525,218	14,704	16.2	
	1036	11/7/2013	1,692,234	2,525,219	14,933	16.5	
	1037	11/7/2013	1,692,239	2,525,220	15,552	17.2	
	1038	11/7/2013	1,692,243	2,525,221	15,157	16.7	
	1039	11/7/2013	1,692,247	2,525,220	15,157	16.7	
	1040	11/7/2013	1,692,247	2,525,218	14,775	16.3	
	1041	11/7/2013	1,692,245	2,525,216	16,101	17.8	
	1042	11/7/2013	1,692,241	2,525,215	15,425	17.0	
	1043	11/7/2013	1,692,234	2,525,213	15,227	16.8	
	1044	11/7/2013	1,692,228	2,525,212	15,227	16.8	
	1045	11/7/2013	1,692,222	2,525,210	14,368	15.9	
	1046	11/7/2013	1,692,217	2,525,208	14,348	15.9	
	1047	11/7/2013	1,692,212	2,525,206	14,348	15.9	
	1048	11/7/2013	1,692,208	2,525,203	15,795	17.5	
	1049	11/7/2013	1,692,212	2,525,200	14,764	16.3	
	1050	11/7/2013	1,692,217	2,525,202	14,730	16.3	
	1051	11/7/2013	1,692,220	2,525,204	14,780	16.3	
	1052	11/7/2013	1,692,225	2,525,204	14,895	16.5	
	1053	11/7/2013	1,692,229	2,525,206	15,678	17.3	
	1054	11/7/2013	1,692,234	2,525,207	15,960	17.6	
	1055	11/7/2013	1,692,238	2,525,209	17,033	18.8	
	1056	11/7/2013	1,692,241	2,525,211	15,840	17.5	
	1057	11/7/2013	1,692,244	2,525,211	15,025	16.6	
	1058	11/7/2013	1,692,249	2,525,212	14,060	15.5	
	1059	11/7/2013	1,692,253	2,525,211	14,476	16.0	
	1060	11/7/2013	1,692,252	2,525,209	15,052	16.6	
	1061	11/7/2013	1,692,248	2,525,207	15,052	16.6	
	1062	11/7/2013	1,692,245	2,525,206	15,061	16.6	
	1063	11/7/2013	1,692,241	2,525,204	15,387	17.0	
	1064	11/7/2013	1,692,238	2,525,203	15,210	16.8	
	1065	11/7/2013	1,692,232	2,525,200	15,341	17.0	
	1066	11/7/2013	1,692,227	2,525,198	15,974	17.7	
	1067	11/7/2013	1,692,223	2,525,196	14,845	16.4	
	1068	11/7/2013	1,692,219	2,525,194	14,845	16.4	
	1069	11/7/2013	1,692,215	2,525,190	15,206	16.8	
	1070	11/7/2013	1,692,216	2,525,188	15,087	16.7	
	1071	11/7/2013	1,692,220	2,525,187	15,359	17.0	
	1072	11/7/2013	1,692,225	2,525,188	15,864	17.5	
	1073	11/7/2013	1,692,230	2,525,191	15,776	17.4	
	1074	11/7/2013	1,692,234	2,525,193	15,764	17.4	
	1075	11/7/2013	1,692,239	2,525,196	14,715	16.3	
	1076	11/7/2013	1,692,243	2,525,198	14,569	16.1	
	1077	11/7/2013	1,692,248	2,525,199	14,073	15.6	
	1078	11/7/2013	1,692,252	2,525,201	14,897	16.5	
	1079	11/7/2013	1,692,256	2,525,201	14,211	15.7	
	1080	11/7/2013	1,692,256	2,525,197	15,255	16.9	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 13	181	2/18/2014	1,692,245	2,525,227	13,815	15.3	16.6
	182	2/18/2014	1,692,245	2,525,228	14,648	16.2	
	183	2/18/2014	1,692,246	2,525,229	14,423	15.9	
	184	2/18/2014	1,692,238	2,525,227	13,906	15.4	
	185	2/18/2014	1,692,233	2,525,226	13,867	15.3	
	186	2/18/2014	1,692,233	2,525,224	14,466	16.0	
	187	2/18/2014	1,692,223	2,525,227	15,764	17.4	
	188	2/18/2014	1,692,217	2,525,225	14,430	15.9	
	189	2/18/2014	1,692,216	2,525,224	15,646	17.3	
	190	2/18/2014	1,692,210	2,525,221	14,439	16.0	
	191	2/18/2014	1,692,216	2,525,218	15,483	17.1	
	192	2/18/2014	1,692,222	2,525,216	15,400	17.0	
	193	2/18/2014	1,692,225	2,525,219	15,165	16.8	
	194	2/18/2014	1,692,229	2,525,221	14,865	16.4	
	195	2/18/2014	1,692,231	2,525,219	14,938	16.5	
	196	2/18/2014	1,692,237	2,525,223	15,424	17.0	
	197	2/18/2014	1,692,243	2,525,222	15,959	17.6	
	198	2/18/2014	1,692,244	2,525,225	15,785	17.4	
	199	2/18/2014	1,692,250	2,525,221	15,091	16.7	
	200	2/18/2014	1,692,250	2,525,219	14,382	15.9	
	201	2/18/2014	1,692,248	2,525,217	15,483	17.1	
	202	2/18/2014	1,692,245	2,525,218	14,986	16.6	
	203	2/18/2014	1,692,238	2,525,218	14,804	16.4	
	204	2/18/2014	1,692,232	2,525,213	14,941	16.5	
	205	2/18/2014	1,692,224	2,525,211	14,395	15.9	
	206	2/18/2014	1,692,221	2,525,212	14,983	16.6	
	207	2/18/2014	1,692,212	2,525,208	14,067	15.5	
	208	2/18/2014	1,692,211	2,525,204	15,832	17.5	
	209	2/18/2014	1,692,213	2,525,200	14,281	15.8	
	210	2/18/2014	1,692,220	2,525,202	14,655	16.2	
	211	2/18/2014	1,692,225	2,525,204	15,050	16.6	
	212	2/18/2014	1,692,225	2,525,207	15,278	16.9	
	213	2/18/2014	1,692,232	2,525,207	15,526	17.2	
	214	2/18/2014	1,692,236	2,525,211	15,982	17.7	
	215	2/18/2014	1,692,240	2,525,212	16,718	18.5	
	216	2/18/2014	1,692,241	2,525,213	16,029	17.7	
	217	2/18/2014	1,692,247	2,525,212	14,785	16.3	
	218	2/18/2014	1,692,254	2,525,213	13,776	15.2	
	219	2/18/2014	1,692,255	2,525,215	14,250	15.7	
	220	2/18/2014	1,692,256	2,525,210	15,411	17.0	
	221	2/18/2014	1,692,250	2,525,211	15,117	16.7	
	222	2/18/2014	1,692,245	2,525,207	15,226	16.8	
	223	2/18/2014	1,692,245	2,525,207	14,984	16.6	
	224	2/18/2014	1,692,243	2,525,204	14,807	16.4	
	225	2/18/2014	1,692,236	2,525,204	14,657	16.2	
	226	2/18/2014	1,692,232	2,525,200	16,007	17.7	
	227	2/18/2014	1,692,224	2,525,199	15,040	16.6	
	228	2/18/2014	1,692,221	2,525,194	14,438	16.0	
	229	2/18/2014	1,692,220	2,525,194	14,819	16.4	
	230	2/18/2014	1,692,221	2,525,190	15,199	16.8	
	231	2/18/2014	1,692,223	2,525,190	15,140	16.7	
	232	2/18/2014	1,692,227	2,525,190	16,600	18.3	
	233	2/18/2014	1,692,232	2,525,193	15,695	17.3	
	234	2/18/2014	1,692,239	2,525,195	16,010	17.7	
	235	2/18/2014	1,692,239	2,525,196	14,179	15.7	
	236	2/18/2014	1,692,245	2,525,199	13,895	15.4	
	237	2/18/2014	1,692,252	2,525,201	13,678	15.1	
	238	2/18/2014	1,692,255	2,525,203	15,415	17.0	
	239	2/18/2014	1,692,258	2,525,204	14,002	15.5	
	240	2/18/2014	1,692,260	2,525,199	15,939	17.6	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 14	1081	11/8/2013	1,691,565	2,525,673	16,544	18.3	19.0
	1082	11/8/2013	1,691,564	2,525,675	16,601	18.3	
	1083	11/8/2013	1,691,561	2,525,675	16,665	18.4	
	1084	11/8/2013	1,691,556	2,525,673	15,896	17.6	
	1085	11/8/2013	1,691,549	2,525,670	16,146	17.8	
	1086	11/8/2013	1,691,544	2,525,669	16,791	18.6	
	1087	11/8/2013	1,691,539	2,525,668	18,712	20.7	
	1088	11/8/2013	1,691,534	2,525,666	19,244	21.3	
	1089	11/8/2013	1,691,532	2,525,664	18,211	20.1	
	1090	11/8/2013	1,691,533	2,525,661	15,342	17.0	
	1091	11/8/2013	1,691,537	2,525,659	16,531	18.3	
	1092	11/8/2013	1,691,541	2,525,659	16,401	18.1	
	1093	11/8/2013	1,691,544	2,525,661	17,045	18.8	
	1094	11/8/2013	1,691,546	2,525,659	17,214	19.0	
	1095	11/8/2013	1,691,550	2,525,658	16,944	18.7	
	1096	11/8/2013	1,691,553	2,525,660	16,637	18.4	
	1097	11/8/2013	1,691,556	2,525,663	17,270	19.1	
	1098	11/8/2013	1,691,561	2,525,665	16,794	18.6	
	1099	11/8/2013	1,691,566	2,525,666	16,703	18.5	
	1100	11/8/2013	1,691,571	2,525,668	16,815	18.6	
	1101	11/8/2013	1,691,574	2,525,666	16,352	18.1	
	1102	11/8/2013	1,691,572	2,525,663	16,690	18.4	
	1103	11/8/2013	1,691,567	2,525,661	16,239	17.9	
	1104	11/8/2013	1,691,562	2,525,659	18,001	19.9	
	1105	11/8/2013	1,691,557	2,525,657	16,405	18.1	
	1106	11/8/2013	1,691,551	2,525,655	16,120	17.8	
	1107	11/8/2013	1,691,546	2,525,654	16,198	17.9	
	1108	11/8/2013	1,691,541	2,525,651	17,842	19.7	
	1109	11/8/2013	1,691,539	2,525,648	17,555	19.4	
	1110	11/8/2013	1,691,543	2,525,647	17,298	19.1	
	1111	11/8/2013	1,691,548	2,525,648	17,673	19.5	
	1112	11/8/2013	1,691,553	2,525,650	17,879	19.8	
	1113	11/8/2013	1,691,559	2,525,651	18,253	20.2	
	1114	11/8/2013	1,691,565	2,525,652	18,008	19.9	
	1115	11/8/2013	1,691,571	2,525,654	16,934	18.7	
	1116	11/8/2013	1,691,576	2,525,656	16,922	18.7	
	1117	11/8/2013	1,691,581	2,525,655	16,129	17.8	
	1118	11/8/2013	1,691,580	2,525,652	17,027	18.8	
	1119	11/8/2013	1,691,574	2,525,649	16,788	18.6	
	1120	11/8/2013	1,691,568	2,525,647	17,065	18.9	
	1121	11/8/2013	1,691,561	2,525,646	17,954	19.8	
	1122	11/8/2013	1,691,555	2,525,644	19,061	21.1	
	1123	11/8/2013	1,691,550	2,525,642	17,732	19.6	
	1124	11/8/2013	1,691,544	2,525,640	17,198	19.0	
	1125	11/8/2013	1,691,540	2,525,638	17,410	19.2	
	1126	11/8/2013	1,691,542	2,525,635	16,407	18.1	
	1127	11/8/2013	1,691,548	2,525,636	16,797	18.6	
	1128	11/8/2013	1,691,554	2,525,638	16,082	17.8	
	1129	11/8/2013	1,691,560	2,525,640	17,066	18.9	
	1130	11/8/2013	1,691,567	2,525,641	18,192	20.1	
	1131	11/8/2013	1,691,573	2,525,643	19,020	21.0	
	1132	11/8/2013	1,691,578	2,525,644	17,864	19.7	
	1133	11/8/2013	1,691,583	2,525,643	17,746	19.6	
	1134	11/8/2013	1,691,581	2,525,640	16,479	18.2	
	1135	11/8/2013	1,691,575	2,525,638	17,678	19.5	
	1136	11/8/2013	1,691,569	2,525,636	17,808	19.7	
	1137	11/8/2013	1,691,563	2,525,635	17,623	19.5	
	1138	11/8/2013	1,691,557	2,525,633	17,635	19.5	
	1139	11/8/2013	1,691,551	2,525,631	18,241	20.2	
	1140	11/8/2013	1,691,548	2,525,628	19,211	21.2	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 14	1201	2/18/2014	1,691,566	2,525,678	16,323	18.0	19.1
	1202	2/18/2014	1,691,568	2,525,679	17,374	19.2	
	1203	2/18/2014	1,691,566	2,525,677	16,745	18.5	
	1204	2/18/2014	1,691,561	2,525,677	15,735	17.4	
	1205	2/18/2014	1,691,549	2,525,675	16,447	18.2	
	1206	2/18/2014	1,691,546	2,525,671	17,027	18.8	
	1207	2/18/2014	1,691,546	2,525,669	18,910	20.9	
	1208	2/18/2014	1,691,538	2,525,668	19,378	21.4	
	1209	2/18/2014	1,691,534	2,525,667	19,008	21.0	
	1210	2/18/2014	1,691,538	2,525,665	16,039	17.7	
	1211	2/18/2014	1,691,537	2,525,660	16,452	18.2	
	1212	2/18/2014	1,691,546	2,525,665	16,789	18.6	
	1213	2/18/2014	1,691,549	2,525,663	17,605	19.5	
	1214	2/18/2014	1,691,550	2,525,662	16,810	18.6	
	1215	2/18/2014	1,691,552	2,525,661	17,370	19.2	
	1216	2/18/2014	1,691,557	2,525,665	15,987	17.7	
	1217	2/18/2014	1,691,557	2,525,668	17,579	19.4	
	1218	2/18/2014	1,691,561	2,525,668	17,138	18.9	
	1219	2/18/2014	1,691,566	2,525,669	16,076	17.8	
	1220	2/18/2014	1,691,573	2,525,668	17,425	19.3	
	1221	2/18/2014	1,691,580	2,525,667	16,224	17.9	
	1222	2/18/2014	1,691,575	2,525,663	16,486	18.2	
	1223	2/18/2014	1,691,571	2,525,665	16,980	18.8	
	1224	2/18/2014	1,691,565	2,525,664	18,273	20.2	
	1225	2/18/2014	1,691,557	2,525,662	16,819	18.6	
	1226	2/18/2014	1,691,556	2,525,659	16,091	17.8	
	1227	2/18/2014	1,691,549	2,525,656	15,886	17.6	
	1228	2/18/2014	1,691,543	2,525,654	18,390	20.3	
	1229	2/18/2014	1,691,541	2,525,653	17,959	19.8	
	1230	2/18/2014	1,691,546	2,525,652	17,082	18.9	
	1231	2/18/2014	1,691,549	2,525,649	17,135	18.9	
	1232	2/18/2014	1,691,555	2,525,654	17,160	19.0	
	1233	2/18/2014	1,691,562	2,525,654	18,290	20.2	
	1234	2/18/2014	1,691,568	2,525,657	18,598	20.6	
	1235	2/18/2014	1,691,571	2,525,657	17,521	19.4	
	1236	2/18/2014	1,691,578	2,525,656	16,494	18.2	
	1237	2/18/2014	1,691,585	2,525,660	15,433	17.1	
	1238	2/18/2014	1,691,584	2,525,654	17,144	18.9	
	1239	2/18/2014	1,691,575	2,525,653	17,236	19.0	
	1240	2/18/2014	1,691,571	2,525,647	16,639	18.4	
	1241	2/18/2014	1,691,564	2,525,648	17,321	19.1	
	1242	2/18/2014	1,691,559	2,525,645	18,691	20.7	
	1243	2/18/2014	1,691,554	2,525,644	17,245	19.1	
	1244	2/18/2014	1,691,546	2,525,643	16,832	18.6	
	1245	2/18/2014	1,691,546	2,525,639	17,496	19.3	
	1246	2/18/2014	1,691,544	2,525,637	17,001	18.8	
	1247	2/18/2014	1,691,548	2,525,641	16,423	18.1	
	1248	2/18/2014	1,691,556	2,525,642	16,465	18.2	
	1249	2/18/2014	1,691,564	2,525,644	17,437	19.3	
	1250	2/18/2014	1,691,573	2,525,642	18,051	19.9	
	1251	2/18/2014	1,691,576	2,525,645	18,371	20.3	
	1252	2/18/2014	1,691,584	2,525,646	17,245	19.1	
	1253	2/18/2014	1,691,589	2,525,647	17,811	19.7	
	1254	2/18/2014	1,691,587	2,525,642	16,297	18.0	
	1255	2/18/2014	1,691,580	2,525,640	18,455	20.4	
	1256	2/18/2014	1,691,573	2,525,638	18,204	20.1	
	1257	2/18/2014	1,691,566	2,525,636	18,192	20.1	
	1258	2/18/2014	1,691,561	2,525,638	17,878	19.8	
	1259	2/18/2014	1,691,557	2,525,635	18,820	20.8	
	1260	2/18/2014	1,691,551	2,525,630	19,773	21.8	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 16	1141	11/8/2013	1,691,939	2,525,662	15,625	17.3	17.6
	1142	11/8/2013	1,691,939	2,525,662	15,341	17.0	
	1143	11/8/2013	1,691,938	2,525,665	15,909	17.6	
	1144	11/8/2013	1,691,936	2,525,669	16,935	18.7	
	1145	11/8/2013	1,691,934	2,525,674	16,511	18.2	
	1146	11/8/2013	1,691,933	2,525,679	16,130	17.8	
	1147	11/8/2013	1,691,932	2,525,684	15,947	17.6	
	1148	11/8/2013	1,691,930	2,525,689	15,687	17.3	
	1149	11/8/2013	1,691,928	2,525,692	15,858	17.5	
	1150	11/8/2013	1,691,924	2,525,694	15,892	17.6	
	1151	11/8/2013	1,691,922	2,525,689	16,275	18.0	
	1152	11/8/2013	1,691,923	2,525,683	15,719	17.4	
	1153	11/8/2013	1,691,926	2,525,677	16,131	17.8	
	1154	11/8/2013	1,691,929	2,525,671	16,193	17.9	
	1155	11/8/2013	1,691,931	2,525,666	17,176	19.0	
	1156	11/8/2013	1,691,933	2,525,661	17,510	19.3	
	1157	11/8/2013	1,691,935	2,525,656	17,684	19.5	
	1158	11/8/2013	1,691,932	2,525,654	15,838	17.5	
	1159	11/8/2013	1,691,929	2,525,657	16,329	18.0	
	1160	11/8/2013	1,691,926	2,525,662	15,765	17.4	
	1161	11/8/2013	1,691,924	2,525,667	15,462	17.1	
	1162	11/8/2013	1,691,922	2,525,672	15,870	17.5	
	1163	11/8/2013	1,691,919	2,525,676	15,670	17.3	
	1164	11/8/2013	1,691,916	2,525,681	15,583	17.2	
	1165	11/8/2013	1,691,913	2,525,685	16,320	18.0	
	1166	11/8/2013	1,691,909	2,525,686	14,849	16.4	
	1167	11/8/2013	1,691,908	2,525,683	14,422	15.9	
	1168	11/8/2013	1,691,910	2,525,678	15,233	16.8	
	1169	11/8/2013	1,691,913	2,525,673	16,257	18.0	
	1170	11/8/2013	1,691,916	2,525,668	15,867	17.5	
	1171	11/8/2013	1,691,919	2,525,663	16,554	18.3	
	1172	11/8/2013	1,691,922	2,525,658	15,916	17.6	
	1173	11/8/2013	1,691,925	2,525,654	15,343	17.0	
	1174	11/8/2013	1,691,925	2,525,649	15,754	17.4	
	1175	11/8/2013	1,691,922	2,525,649	14,643	16.2	
	1176	11/8/2013	1,691,919	2,525,653	16,048	17.7	
	1177	11/8/2013	1,691,916	2,525,658	16,749	18.5	
	1178	11/8/2013	1,691,913	2,525,663	16,626	18.4	
	1179	11/8/2013	1,691,909	2,525,668	15,637	17.3	
	1180	11/8/2013	1,691,905	2,525,673	15,166	16.8	
	1181	11/8/2013	1,691,902	2,525,678	15,279	16.9	
	1182	11/8/2013	1,691,899	2,525,682	15,817	17.5	
	1183	11/8/2013	1,691,895	2,525,684	16,021	17.7	
	1184	11/8/2013	1,691,894	2,525,680	16,010	17.7	
	1185	11/8/2013	1,691,897	2,525,675	16,190	17.9	
	1186	11/8/2013	1,691,900	2,525,671	16,276	18.0	
	1187	11/8/2013	1,691,903	2,525,666	14,460	16.0	
	1188	11/8/2013	1,691,907	2,525,661	15,351	17.0	
	1189	11/8/2013	1,691,909	2,525,656	16,449	18.2	
	1190	11/8/2013	1,691,912	2,525,651	16,092	17.8	
	1191	11/8/2013	1,691,915	2,525,647	16,542	18.3	
	1192	11/8/2013	1,691,917	2,525,643	16,406	18.1	
	1193	11/8/2013	1,691,916	2,525,639	16,473	18.2	
	1194	11/8/2013	1,691,914	2,525,641	16,117	17.8	
	1195	11/8/2013	1,691,911	2,525,644	16,123	17.8	
	1196	11/8/2013	1,691,908	2,525,648	16,331	18.0	
	1197	11/8/2013	1,691,905	2,525,653	14,913	16.5	
	1198	11/8/2013	1,691,901	2,525,658	15,536	17.2	
	1199	11/8/2013	1,691,897	2,525,663	15,939	17.6	
	1200	11/8/2013	1,691,894	2,525,669	16,418	18.1	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 16	541	2/18/2014	1,691,939	2,525,663	15,780	17.4	17.5
	542	2/18/2014	1,691,941	2,525,666	15,797	17.5	
	543	2/18/2014	1,691,939	2,525,669	15,638	17.3	
	544	2/18/2014	1,691,939	2,525,670	16,328	18.0	
	545	2/18/2014	1,691,934	2,525,676	16,958	18.7	
	546	2/18/2014	1,691,937	2,525,682	15,770	17.4	
	547	2/18/2014	1,691,935	2,525,687	16,224	17.9	
	548	2/18/2014	1,691,930	2,525,692	15,570	17.2	
	549	2/18/2014	1,691,928	2,525,696	15,825	17.5	
	550	2/18/2014	1,691,925	2,525,696	15,288	16.9	
	551	2/18/2014	1,691,928	2,525,690	16,363	18.1	
	552	2/18/2014	1,691,928	2,525,684	15,956	17.6	
	553	2/18/2014	1,691,927	2,525,680	15,543	17.2	
	554	2/18/2014	1,691,934	2,525,673	16,821	18.6	
	555	2/18/2014	1,691,932	2,525,669	17,489	19.3	
	556	2/18/2014	1,691,935	2,525,663	18,168	20.1	
	557	2/18/2014	1,691,938	2,525,656	16,972	18.8	
	558	2/18/2014	1,691,935	2,525,654	15,441	17.1	
	559	2/18/2014	1,691,934	2,525,659	16,109	17.8	
	560	2/18/2014	1,691,929	2,525,665	15,774	17.4	
	561	2/18/2014	1,691,927	2,525,671	15,840	17.5	
	562	2/18/2014	1,691,925	2,525,675	15,348	17.0	
	563	2/18/2014	1,691,920	2,525,678	15,432	17.1	
	564	2/18/2014	1,691,918	2,525,685	14,938	16.5	
	565	2/18/2014	1,691,915	2,525,686	15,926	17.6	
	566	2/18/2014	1,691,910	2,525,687	14,243	15.7	
	567	2/18/2014	1,691,912	2,525,683	14,429	15.9	
	568	2/18/2014	1,691,915	2,525,680	15,801	17.5	
	569	2/18/2014	1,691,916	2,525,675	16,296	18.0	
	570	2/18/2014	1,691,917	2,525,668	15,361	17.0	
	571	2/18/2014	1,691,921	2,525,664	16,722	18.5	
	572	2/18/2014	1,691,925	2,525,660	16,672	18.4	
	573	2/18/2014	1,691,929	2,525,656	15,213	16.8	
	574	2/18/2014	1,691,925	2,525,650	15,267	16.9	
	575	2/18/2014	1,691,925	2,525,651	14,549	16.1	
	576	2/18/2014	1,691,921	2,525,655	15,455	17.1	
	577	2/18/2014	1,691,921	2,525,659	16,519	18.3	
	578	2/18/2014	1,691,913	2,525,665	16,291	18.0	
	579	2/18/2014	1,691,909	2,525,672	15,783	17.4	
	580	2/18/2014	1,691,907	2,525,676	14,526	16.1	
	581	2/18/2014	1,691,903	2,525,680	14,601	16.1	
	582	2/18/2014	1,691,903	2,525,682	16,068	17.8	
	583	2/18/2014	1,691,895	2,525,685	15,406	17.0	
	584	2/18/2014	1,691,896	2,525,682	15,847	17.5	
	585	2/18/2014	1,691,901	2,525,679	16,463	18.2	
	586	2/18/2014	1,691,904	2,525,673	15,922	17.6	
	587	2/18/2014	1,691,905	2,525,669	14,321	15.8	
	588	2/18/2014	1,691,908	2,525,664	14,725	16.3	
	589	2/18/2014	1,691,913	2,525,659	16,402	18.1	
	590	2/18/2014	1,691,912	2,525,654	15,986	17.7	
	591	2/18/2014	1,691,915	2,525,648	17,266	19.1	
	592	2/18/2014	1,691,922	2,525,643	16,791	18.6	
	593	2/18/2014	1,691,920	2,525,642	16,043	17.7	
	594	2/18/2014	1,691,916	2,525,641	16,843	18.6	
	595	2/18/2014	1,691,913	2,525,648	16,509	18.2	
	596	2/18/2014	1,691,913	2,525,652	16,022	17.7	
	597	2/18/2014	1,691,907	2,525,654	15,307	16.9	
	598	2/18/2014	1,691,904	2,525,660	15,236	16.8	
	599	2/18/2014	1,691,900	2,525,664	16,560	18.3	
	600	2/18/2014	1,691,898	2,525,673	16,166	17.9	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 22	1201	11/9/2013	1,691,839	2,524,171	17,857	19.7	23.0
	1202	11/9/2013	1,691,839	2,524,171	19,775	21.9	
	1203	11/9/2013	1,691,838	2,524,171	20,348	22.5	
	1204	11/9/2013	1,691,836	2,524,168	19,683	21.7	
	1205	11/9/2013	1,691,833	2,524,165	19,589	21.6	
	1206	11/9/2013	1,691,829	2,524,161	19,581	21.6	
	1207	11/9/2013	1,691,826	2,524,157	19,981	22.1	
	1208	11/9/2013	1,691,822	2,524,153	20,002	22.1	
	1209	11/9/2013	1,691,819	2,524,150	21,669	23.9	
	1210	11/9/2013	1,691,816	2,524,146	20,538	22.7	
	1211	11/9/2013	1,691,812	2,524,145	21,509	23.8	
	1212	11/9/2013	1,691,810	2,524,147	21,329	23.6	
	1213	11/9/2013	1,691,811	2,524,151	22,074	24.4	
	1214	11/9/2013	1,691,814	2,524,154	21,948	24.3	
	1215	11/9/2013	1,691,817	2,524,158	21,104	23.3	
	1216	11/9/2013	1,691,820	2,524,162	19,544	21.6	
	1217	11/9/2013	1,691,823	2,524,165	20,213	22.3	
	1218	11/9/2013	1,691,827	2,524,169	20,021	22.1	
	1219	11/9/2013	1,691,831	2,524,173	19,524	21.6	
	1220	11/9/2013	1,691,834	2,524,178	19,529	21.6	
	1221	11/9/2013	1,691,831	2,524,182	20,772	23.0	
	1222	11/9/2013	1,691,827	2,524,181	20,755	22.9	
	1223	11/9/2013	1,691,823	2,524,177	21,212	23.4	
	1224	11/9/2013	1,691,818	2,524,173	21,678	24.0	
	1225	11/9/2013	1,691,814	2,524,168	21,690	24.0	
	1226	11/9/2013	1,691,809	2,524,163	21,612	23.9	
	1227	11/9/2013	1,691,805	2,524,160	21,070	23.3	
	1228	11/9/2013	1,691,801	2,524,157	20,418	22.6	
	1229	11/9/2013	1,691,796	2,524,158	20,508	22.7	
	1230	11/9/2013	1,691,798	2,524,161	22,237	24.6	
	1231	11/9/2013	1,691,802	2,524,165	21,186	23.4	
	1232	11/9/2013	1,691,805	2,524,169	20,182	22.3	
	1233	11/9/2013	1,691,809	2,524,173	20,321	22.5	
	1234	11/9/2013	1,691,813	2,524,178	21,881	24.2	
	1235	11/9/2013	1,691,817	2,524,183	21,760	24.0	
	1236	11/9/2013	1,691,821	2,524,187	21,292	23.5	
	1237	11/9/2013	1,691,824	2,524,192	21,542	23.8	
	1238	11/9/2013	1,691,822	2,524,195	21,234	23.5	
	1239	11/9/2013	1,691,817	2,524,192	21,040	23.2	
	1240	11/9/2013	1,691,813	2,524,189	20,765	22.9	
	1241	11/9/2013	1,691,809	2,524,185	19,990	22.1	
	1242	11/9/2013	1,691,805	2,524,181	20,995	23.2	
	1243	11/9/2013	1,691,802	2,524,177	20,485	22.6	
	1244	11/9/2013	1,691,798	2,524,172	20,097	22.2	
	1245	11/9/2013	1,691,797	2,524,168	19,635	21.7	
	1246	11/9/2013	1,691,793	2,524,164	20,208	22.3	
	1247	11/9/2013	1,691,789	2,524,162	21,273	23.5	
	1248	11/9/2013	1,691,787	2,524,164	21,235	23.5	
	1249	11/9/2013	1,691,788	2,524,168	21,385	23.6	
	1250	11/9/2013	1,691,790	2,524,172	21,318	23.6	
	1251	11/9/2013	1,691,794	2,524,177	21,277	23.5	
	1252	11/9/2013	1,691,798	2,524,182	21,013	23.2	
	1253	11/9/2013	1,691,802	2,524,187	21,075	23.3	
	1254	11/9/2013	1,691,806	2,524,192	20,921	23.1	
	1255	11/9/2013	1,691,811	2,524,196	21,282	23.5	
	1256	11/9/2013	1,691,812	2,524,200	20,761	22.9	
	1257	11/9/2013	1,691,809	2,524,202	21,647	23.9	
	1258	11/9/2013	1,691,805	2,524,200	21,803	24.1	
	1259	11/9/2013	1,691,801	2,524,196	21,844	24.1	
	1260	11/9/2013	1,691,796	2,524,193	21,236	23.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 22	1801	2/18/2014	1,691,843	2,524,173	18,392	20.3	23.0
	1802	2/18/2014	1,691,840	2,524,173	19,916	22.0	
	1803	2/18/2014	1,691,838	2,524,171	19,971	22.1	
	1804	2/18/2014	1,691,842	2,524,172	20,222	22.3	
	1805	2/18/2014	1,691,836	2,524,169	20,390	22.5	
	1806	2/18/2014	1,691,832	2,524,162	20,252	22.4	
	1807	2/18/2014	1,691,826	2,524,159	20,456	22.6	
	1808	2/18/2014	1,691,826	2,524,158	20,290	22.4	
	1809	2/18/2014	1,691,823	2,524,154	22,286	24.6	
	1810	2/18/2014	1,691,816	2,524,149	20,017	22.1	
	1811	2/18/2014	1,691,814	2,524,146	21,140	23.4	
	1812	2/18/2014	1,691,812	2,524,150	20,968	23.2	
	1813	2/18/2014	1,691,817	2,524,153	21,328	23.6	
	1814	2/18/2014	1,691,818	2,524,159	22,281	24.6	
	1815	2/18/2014	1,691,820	2,524,159	21,715	24.0	
	1816	2/18/2014	1,691,822	2,524,163	19,341	21.4	
	1817	2/18/2014	1,691,827	2,524,168	19,920	22.0	
	1818	2/18/2014	1,691,830	2,524,174	19,724	21.8	
	1819	2/18/2014	1,691,833	2,524,177	20,327	22.5	
	1820	2/18/2014	1,691,836	2,524,178	19,751	21.8	
	1821	2/18/2014	1,691,833	2,524,183	20,551	22.7	
	1822	2/18/2014	1,691,830	2,524,184	20,457	22.6	
	1823	2/18/2014	1,691,826	2,524,178	20,637	22.8	
	1824	2/18/2014	1,691,820	2,524,177	21,391	23.6	
	1825	2/18/2014	1,691,815	2,524,171	20,566	22.7	
	1826	2/18/2014	1,691,812	2,524,166	22,416	24.8	
	1827	2/18/2014	1,691,806	2,524,163	21,123	23.3	
	1828	2/18/2014	1,691,804	2,524,158	21,120	23.3	
	1829	2/18/2014	1,691,800	2,524,160	21,081	23.3	
	1830	2/18/2014	1,691,799	2,524,165	21,916	24.2	
	1831	2/18/2014	1,691,805	2,524,166	21,176	23.4	
	1832	2/18/2014	1,691,811	2,524,171	19,478	21.5	
	1833	2/18/2014	1,691,813	2,524,176	20,905	23.1	
	1834	2/18/2014	1,691,816	2,524,182	22,727	25.1	
	1835	2/18/2014	1,691,820	2,524,186	21,093	23.3	
	1836	2/18/2014	1,691,827	2,524,191	21,013	23.2	
	1837	2/18/2014	1,691,827	2,524,194	20,869	23.1	
	1838	2/18/2014	1,691,822	2,524,200	21,410	23.7	
	1839	2/18/2014	1,691,823	2,524,194	20,505	22.7	
	1840	2/18/2014	1,691,819	2,524,190	21,389	23.6	
	1841	2/18/2014	1,691,811	2,524,189	20,689	22.9	
	1842	2/18/2014	1,691,807	2,524,183	21,386	23.6	
	1843	2/18/2014	1,691,804	2,524,179	20,538	22.7	
	1844	2/18/2014	1,691,800	2,524,174	19,275	21.3	
	1845	2/18/2014	1,691,799	2,524,170	20,076	22.2	
	1846	2/18/2014	1,691,797	2,524,168	20,935	23.1	
	1847	2/18/2014	1,691,794	2,524,162	21,056	23.3	
	1848	2/18/2014	1,691,788	2,524,169	21,583	23.8	
	1849	2/18/2014	1,691,791	2,524,169	21,451	23.7	
	1850	2/18/2014	1,691,791	2,524,175	20,777	23.0	
	1851	2/18/2014	1,691,795	2,524,179	21,876	24.2	
	1852	2/18/2014	1,691,800	2,524,185	21,707	24.0	
	1853	2/18/2014	1,691,806	2,524,189	20,294	22.4	
	1854	2/18/2014	1,691,807	2,524,192	21,759	24.0	
	1855	2/18/2014	1,691,813	2,524,198	21,114	23.3	
	1856	2/18/2014	1,691,818	2,524,202	21,566	23.8	
	1857	2/18/2014	1,691,814	2,524,207	20,861	23.1	
	1858	2/18/2014	1,691,809	2,524,203	22,008	24.3	
	1859	2/18/2014	1,691,803	2,524,201	20,230	22.4	
	1860	2/18/2014	1,691,801	2,524,194	21,047	23.3	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 30	1261	11/9/2013	1,691,604	2,524,016	23,298	25.7	26.8
	1262	11/9/2013	1,691,604	2,524,016	22,915	25.3	
	1263	11/9/2013	1,691,603	2,524,015	22,595	25.0	
	1264	11/9/2013	1,691,600	2,524,011	23,851	26.4	
	1265	11/9/2013	1,691,596	2,524,008	24,676	27.3	
	1266	11/9/2013	1,691,592	2,524,004	22,980	25.4	
	1267	11/9/2013	1,691,588	2,524,000	22,293	24.6	
	1268	11/9/2013	1,691,584	2,523,997	23,396	25.9	
	1269	11/9/2013	1,691,580	2,523,993	23,163	25.6	
	1270	11/9/2013	1,691,577	2,523,994	25,125	27.8	
	1271	11/9/2013	1,691,577	2,523,997	25,219	27.9	
	1272	11/9/2013	1,691,580	2,524,001	26,602	29.4	
	1273	11/9/2013	1,691,584	2,524,004	24,962	27.6	
	1274	11/9/2013	1,691,587	2,524,007	23,337	25.8	
	1275	11/9/2013	1,691,591	2,524,011	23,169	25.6	
	1276	11/9/2013	1,691,595	2,524,014	24,028	26.6	
	1277	11/9/2013	1,691,598	2,524,018	24,129	26.7	
	1278	11/9/2013	1,691,601	2,524,022	24,703	27.3	
	1279	11/9/2013	1,691,599	2,524,026	23,584	26.1	
	1280	11/9/2013	1,691,596	2,524,026	24,173	26.7	
	1281	11/9/2013	1,691,592	2,524,025	24,946	27.6	
	1282	11/9/2013	1,691,588	2,524,022	23,737	26.2	
	1283	11/9/2013	1,691,584	2,524,018	23,831	26.3	
	1284	11/9/2013	1,691,579	2,524,015	24,476	27.0	
	1285	11/9/2013	1,691,574	2,524,011	24,232	26.8	
	1286	11/9/2013	1,691,570	2,524,008	23,520	26.0	
	1287	11/9/2013	1,691,565	2,524,005	24,977	27.6	
	1288	11/9/2013	1,691,562	2,524,004	27,075	29.9	
	1289	11/9/2013	1,691,563	2,524,007	25,707	28.4	
	1290	11/9/2013	1,691,567	2,524,011	25,460	28.1	
	1291	11/9/2013	1,691,571	2,524,015	24,573	27.2	
	1292	11/9/2013	1,691,576	2,524,019	24,909	27.5	
	1293	11/9/2013	1,691,580	2,524,023	22,997	25.4	
	1294	11/9/2013	1,691,584	2,524,026	23,778	26.3	
	1295	11/9/2013	1,691,589	2,524,029	25,652	28.3	
	1296	11/9/2013	1,691,593	2,524,032	25,149	27.8	
	1297	11/9/2013	1,691,594	2,524,035	25,004	27.6	
	1298	11/9/2013	1,691,593	2,524,039	25,142	27.8	
	1299	11/9/2013	1,691,587	2,524,036	23,572	26.0	
	1300	11/9/2013	1,691,582	2,524,033	23,198	25.6	
	1301	11/9/2013	1,691,578	2,524,030	23,796	26.3	
	1302	11/9/2013	1,691,574	2,524,027	23,369	25.8	
	1303	11/9/2013	1,691,571	2,524,023	24,524	27.1	
	1304	11/9/2013	1,691,567	2,524,019	25,124	27.8	
	1305	11/9/2013	1,691,563	2,524,016	24,277	26.8	
	1306	11/9/2013	1,691,558	2,524,014	25,181	27.8	
	1307	11/9/2013	1,691,558	2,524,016	24,513	27.1	
	1308	11/9/2013	1,691,560	2,524,020	25,603	28.3	
	1309	11/9/2013	1,691,564	2,524,023	24,369	26.9	
	1310	11/9/2013	1,691,568	2,524,026	25,247	27.9	
	1311	11/9/2013	1,691,573	2,524,030	24,751	27.3	
	1312	11/9/2013	1,691,577	2,524,033	23,946	26.5	
	1313	11/9/2013	1,691,582	2,524,036	23,698	26.2	
	1314	11/9/2013	1,691,587	2,524,039	25,316	28.0	
	1315	11/9/2013	1,691,587	2,524,044	25,180	27.8	
	1316	11/9/2013	1,691,583	2,524,044	22,948	25.4	
	1317	11/9/2013	1,691,579	2,524,041	23,549	26.0	
	1318	11/9/2013	1,691,575	2,524,038	24,352	26.9	
	1319	11/9/2013	1,691,571	2,524,036	22,923	25.3	
	1320	11/9/2013	1,691,567	2,524,033	23,598	26.1	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 30	1741	2/18/2014	1,691,610	2,524,018	23,748	26.2	26.8
	1742	2/18/2014	1,691,609	2,524,020	22,766	25.2	
	1743	2/18/2014	1,691,607	2,524,018	22,981	25.4	
	1744	2/18/2014	1,691,604	2,524,016	24,293	26.8	
	1745	2/18/2014	1,691,598	2,524,012	24,498	27.1	
	1746	2/18/2014	1,691,594	2,524,008	23,476	25.9	
	1747	2/18/2014	1,691,590	2,524,002	21,502	23.8	
	1748	2/18/2014	1,691,590	2,523,997	23,505	26.0	
	1749	2/18/2014	1,691,583	2,523,994	23,887	26.4	
	1750	2/18/2014	1,691,578	2,523,995	24,433	27.0	
	1751	2/18/2014	1,691,579	2,524,001	24,412	27.0	
	1752	2/18/2014	1,691,585	2,524,003	27,547	30.4	
	1753	2/18/2014	1,691,589	2,524,006	25,325	28.0	
	1754	2/18/2014	1,691,593	2,524,012	22,485	24.8	
	1755	2/18/2014	1,691,592	2,524,016	23,817	26.3	
	1756	2/18/2014	1,691,600	2,524,018	23,938	26.5	
	1757	2/18/2014	1,691,602	2,524,022	24,712	27.3	
	1758	2/18/2014	1,691,604	2,524,024	24,493	27.1	
	1759	2/18/2014	1,691,602	2,524,029	23,037	25.5	
	1760	2/18/2014	1,691,601	2,524,031	23,360	25.8	
	1761	2/18/2014	1,691,594	2,524,026	24,795	27.4	
	1762	2/18/2014	1,691,594	2,524,023	23,800	26.3	
	1763	2/18/2014	1,691,586	2,524,021	23,470	25.9	
	1764	2/18/2014	1,691,580	2,524,016	23,836	26.3	
	1765	2/18/2014	1,691,576	2,524,016	24,601	27.2	
	1766	2/18/2014	1,691,573	2,524,009	23,778	26.3	
	1767	2/18/2014	1,691,570	2,524,006	25,189	27.8	
	1768	2/18/2014	1,691,563	2,524,004	27,546	30.4	
	1769	2/18/2014	1,691,564	2,524,010	24,750	27.3	
	1770	2/18/2014	1,691,571	2,524,014	24,970	27.6	
	1771	2/18/2014	1,691,572	2,524,020	24,614	27.2	
	1772	2/18/2014	1,691,577	2,524,019	24,406	27.0	
	1773	2/18/2014	1,691,585	2,524,024	23,345	25.8	
	1774	2/18/2014	1,691,589	2,524,027	23,591	26.1	
	1775	2/18/2014	1,691,589	2,524,032	24,731	27.3	
	1776	2/18/2014	1,691,595	2,524,034	24,943	27.6	
	1777	2/18/2014	1,691,600	2,524,038	24,309	26.9	
	1778	2/18/2014	1,691,596	2,524,041	25,844	28.6	
	1779	2/18/2014	1,691,591	2,524,036	23,642	26.1	
	1780	2/18/2014	1,691,588	2,524,035	23,237	25.7	
	1781	2/18/2014	1,691,580	2,524,032	22,872	25.3	
	1782	2/18/2014	1,691,579	2,524,031	23,359	25.8	
	1783	2/18/2014	1,691,574	2,524,028	24,450	27.0	
	1784	2/18/2014	1,691,567	2,524,024	24,832	27.4	
	1785	2/18/2014	1,691,566	2,524,020	24,583	27.2	
	1786	2/18/2014	1,691,564	2,524,018	25,837	28.5	
	1787	2/18/2014	1,691,559	2,524,018	24,280	26.8	
	1788	2/18/2014	1,691,565	2,524,024	25,915	28.6	
	1789	2/18/2014	1,691,565	2,524,026	24,195	26.7	
	1790	2/18/2014	1,691,574	2,524,030	25,117	27.8	
	1791	2/18/2014	1,691,575	2,524,034	25,430	28.1	
	1792	2/18/2014	1,691,580	2,524,036	24,509	27.1	
	1793	2/18/2014	1,691,586	2,524,040	24,543	27.1	
	1794	2/18/2014	1,691,588	2,524,043	25,343	28.0	
	1795	2/18/2014	1,691,588	2,524,047	25,384	28.0	
	1796	2/18/2014	1,691,584	2,524,048	22,122	24.4	
	1797	2/18/2014	1,691,585	2,524,045	23,518	26.0	
	1798	2/18/2014	1,691,578	2,524,040	24,087	26.6	
	1799	2/18/2014	1,691,575	2,524,038	23,553	26.0	
	1800	2/18/2014	1,691,567	2,524,035	23,576	26.1	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 31	1321	11/9/2013	1,691,296	2,523,580	43,950	48.6	67.4
	1322	11/9/2013	1,691,297	2,523,580	43,514	48.1	
	1323	11/9/2013	1,691,298	2,523,577	43,131	47.7	
	1324	11/9/2013	1,691,301	2,523,573	42,741	47.2	
	1325	11/9/2013	1,691,304	2,523,567	43,485	48.1	
	1326	11/9/2013	1,691,307	2,523,562	45,263	50.0	
	1327	11/9/2013	1,691,311	2,523,557	46,042	50.9	
	1328	11/9/2013	1,691,312	2,523,552	46,855	51.8	
	1329	11/9/2013	1,691,310	2,523,551	44,813	49.5	
	1330	11/9/2013	1,691,306	2,523,554	46,660	51.6	
	1331	11/9/2013	1,691,302	2,523,558	48,152	53.2	
	1332	11/9/2013	1,691,297	2,523,562	47,721	52.7	
	1333	11/9/2013	1,691,294	2,523,566	48,531	53.6	
	1334	11/9/2013	1,691,290	2,523,570	46,054	50.9	
	1335	11/9/2013	1,691,286	2,523,574	46,831	51.7	
	1336	11/9/2013	1,691,281	2,523,577	48,415	53.5	
	1337	11/9/2013	1,691,277	2,523,576	54,466	60.2	
	1338	11/9/2013	1,691,274	2,523,573	64,563	71.3	
	1339	11/9/2013	1,691,277	2,523,569	73,998	81.8	
	1340	11/9/2013	1,691,280	2,523,565	69,684	77.0	
	1341	11/9/2013	1,691,283	2,523,561	56,977	63.0	
	1342	11/9/2013	1,691,286	2,523,556	51,706	57.1	
	1343	11/9/2013	1,691,290	2,523,552	49,480	54.7	
	1344	11/9/2013	1,691,294	2,523,548	48,835	54.0	
	1345	11/9/2013	1,691,296	2,523,544	48,750	53.9	
	1346	11/9/2013	1,691,298	2,523,540	49,604	54.8	
	1347	11/9/2013	1,691,297	2,523,539	46,169	51.0	
	1348	11/9/2013	1,691,294	2,523,542	45,155	49.9	
	1349	11/9/2013	1,691,291	2,523,546	47,078	52.0	
	1350	11/9/2013	1,691,288	2,523,549	49,191	54.4	
	1351	11/9/2013	1,691,285	2,523,553	50,147	55.4	
	1352	11/9/2013	1,691,282	2,523,557	49,498	54.7	
	1353	11/9/2013	1,691,279	2,523,561	49,023	54.2	
	1354	11/9/2013	1,691,277	2,523,565	49,829	55.1	
	1355	11/9/2013	1,691,273	2,523,567	50,773	56.1	
	1356	11/9/2013	1,691,268	2,523,567	57,381	63.4	
	1357	11/9/2013	1,691,268	2,523,564	84,872	93.8	
	1358	11/9/2013	1,691,270	2,523,561	106,060	117.2	
	1359	11/9/2013	1,691,273	2,523,557	99,120	109.5	
	1360	11/9/2013	1,691,275	2,523,553	83,922	92.7	
	1361	11/9/2013	1,691,277	2,523,549	68,070	75.2	
	1362	11/9/2013	1,691,280	2,523,546	59,279	65.5	
	1363	11/9/2013	1,691,283	2,523,542	54,142	59.8	
	1364	11/9/2013	1,691,285	2,523,538	52,894	58.4	
	1365	11/9/2013	1,691,287	2,523,534	51,045	56.4	
	1366	11/9/2013	1,691,286	2,523,532	48,360	53.4	
	1367	11/9/2013	1,691,283	2,523,535	47,499	52.5	
	1368	11/9/2013	1,691,281	2,523,540	49,411	54.6	
	1369	11/9/2013	1,691,278	2,523,544	51,239	56.6	
	1370	11/9/2013	1,691,275	2,523,548	53,594	59.2	
	1371	11/9/2013	1,691,273	2,523,552	54,067	59.7	
	1372	11/9/2013	1,691,271	2,523,556	53,841	59.5	
	1373	11/9/2013	1,691,268	2,523,560	54,746	60.5	
	1374	11/9/2013	1,691,265	2,523,563	61,502	68.0	
	1375	11/9/2013	1,691,263	2,523,562	84,180	93.0	
	1376	11/9/2013	1,691,260	2,523,562	117,708	130.1	
	1377	11/9/2013	1,691,259	2,523,559	126,428	139.7	
	1378	11/9/2013	1,691,259	2,523,557	143,016	158.0	
	1379	11/9/2013	1,691,262	2,523,553	151,006	166.9	
	1380	11/9/2013	1,691,265	2,523,549	107,719	119.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 31	1861	2/18/2014	1,691,298	2,523,585	42,374	46.8	65.8
	1862	2/18/2014	1,691,298	2,523,582	42,256	46.7	
	1863	2/18/2014	1,691,298	2,523,578	41,649	46.0	
	1864	2/18/2014	1,691,302	2,523,574	41,571	45.9	
	1865	2/18/2014	1,691,306	2,523,568	42,314	46.8	
	1866	2/18/2014	1,691,308	2,523,566	44,834	49.5	
	1867	2/18/2014	1,691,311	2,523,557	45,916	50.7	
	1868	2/18/2014	1,691,314	2,523,554	45,222	50.0	
	1869	2/18/2014	1,691,310	2,523,556	44,715	49.4	
	1870	2/18/2014	1,691,306	2,523,557	46,007	50.8	
	1871	2/18/2014	1,691,302	2,523,561	47,576	52.6	
	1872	2/18/2014	1,691,297	2,523,564	45,855	50.7	
	1873	2/18/2014	1,691,294	2,523,568	48,515	53.6	
	1874	2/18/2014	1,691,291	2,523,571	43,963	48.6	
	1875	2/18/2014	1,691,286	2,523,577	44,295	48.9	
	1876	2/18/2014	1,691,283	2,523,578	48,574	53.7	
	1877	2/18/2014	1,691,279	2,523,581	54,052	59.7	
	1878	2/18/2014	1,691,276	2,523,578	61,028	67.4	
	1879	2/18/2014	1,691,278	2,523,570	70,742	78.2	
	1880	2/18/2014	1,691,281	2,523,566	68,184	75.3	
	1881	2/18/2014	1,691,283	2,523,565	55,755	61.6	
	1882	2/18/2014	1,691,287	2,523,558	51,000	56.4	
	1883	2/18/2014	1,691,290	2,523,552	49,553	54.8	
	1884	2/18/2014	1,691,295	2,523,549	47,997	53.0	
	1885	2/18/2014	1,691,298	2,523,545	47,427	52.4	
	1886	2/18/2014	1,691,298	2,523,544	48,739	53.9	
	1887	2/18/2014	1,691,298	2,523,540	44,198	48.8	
	1888	2/18/2014	1,691,295	2,523,546	44,678	49.4	
	1889	2/18/2014	1,691,293	2,523,550	45,418	50.2	
	1890	2/18/2014	1,691,289	2,523,552	47,849	52.9	
	1891	2/18/2014	1,691,286	2,523,555	48,550	53.6	
	1892	2/18/2014	1,691,282	2,523,560	48,950	54.1	
	1893	2/18/2014	1,691,279	2,523,565	47,500	52.5	
	1894	2/18/2014	1,691,277	2,523,565	48,550	53.6	
	1895	2/18/2014	1,691,274	2,523,568	49,985	55.2	
	1896	2/18/2014	1,691,269	2,523,569	56,864	62.8	
	1897	2/18/2014	1,691,268	2,523,564	82,646	91.3	
	1898	2/18/2014	1,691,270	2,523,561	100,114	110.6	
	1899	2/18/2014	1,691,273	2,523,561	97,873	108.1	
	1900	2/18/2014	1,691,277	2,523,558	80,660	89.1	
	1901	2/18/2014	1,691,280	2,523,551	64,082	70.8	
	1902	2/18/2014	1,691,282	2,523,548	57,370	63.4	
	1903	2/18/2014	1,691,284	2,523,544	53,703	59.3	
	1904	2/18/2014	1,691,286	2,523,542	51,644	57.1	
	1905	2/18/2014	1,691,287	2,523,538	50,860	56.2	
	1906	2/18/2014	1,691,288	2,523,536	47,757	52.8	
	1907	2/18/2014	1,691,284	2,523,538	46,719	51.6	
	1908	2/18/2014	1,691,282	2,523,544	47,835	52.9	
	1909	2/18/2014	1,691,279	2,523,547	50,705	56.0	
	1910	2/18/2014	1,691,277	2,523,548	51,537	56.9	
	1911	2/18/2014	1,691,274	2,523,554	53,714	59.4	
	1912	2/18/2014	1,691,272	2,523,560	53,342	58.9	
	1913	2/18/2014	1,691,269	2,523,562	53,422	59.0	
	1914	2/18/2014	1,691,267	2,523,566	59,470	65.7	
	1915	2/18/2014	1,691,263	2,523,564	82,248	90.9	
	1916	2/18/2014	1,691,261	2,523,567	113,702	125.6	
	1917	2/18/2014	1,691,259	2,523,561	125,584	138.8	
	1918	2/18/2014	1,691,260	2,523,562	138,105	152.6	
	1919	2/18/2014	1,691,263	2,523,557	150,634	166.5	
	1920	2/18/2014	1,691,265	2,523,550	106,486	117.7	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 32	1381	11/9/2013	1,690,904	2,523,260	26,521	29.3	30.8
	1382	11/9/2013	1,690,904	2,523,260	26,905	29.7	
	1383	11/9/2013	1,690,904	2,523,258	27,944	30.9	
	1384	11/9/2013	1,690,908	2,523,255	28,726	31.7	
	1385	11/9/2013	1,690,911	2,523,251	29,568	32.7	
	1386	11/9/2013	1,690,914	2,523,247	29,127	32.2	
	1387	11/9/2013	1,690,917	2,523,243	28,874	31.9	
	1388	11/9/2013	1,690,920	2,523,240	31,099	34.4	
	1389	11/9/2013	1,690,923	2,523,236	28,935	32.0	
	1390	11/9/2013	1,690,925	2,523,233	29,316	32.4	
	1391	11/9/2013	1,690,924	2,523,234	29,752	32.9	
	1392	11/9/2013	1,690,923	2,523,231	28,177	31.1	
	1393	11/9/2013	1,690,919	2,523,233	28,110	31.1	
	1394	11/9/2013	1,690,916	2,523,237	28,552	31.5	
	1395	11/9/2013	1,690,913	2,523,241	28,044	31.0	
	1396	11/9/2013	1,690,910	2,523,244	27,509	30.4	
	1397	11/9/2013	1,690,908	2,523,248	27,502	30.4	
	1398	11/9/2013	1,690,905	2,523,251	28,131	31.1	
	1399	11/9/2013	1,690,901	2,523,256	27,810	30.7	
	1400	11/9/2013	1,690,897	2,523,259	27,808	30.7	
	1401	11/9/2013	1,690,892	2,523,257	28,184	31.1	
	1402	11/9/2013	1,690,892	2,523,252	27,663	30.6	
	1403	11/9/2013	1,690,895	2,523,248	28,157	31.1	
	1404	11/9/2013	1,690,898	2,523,244	27,923	30.9	
	1405	11/9/2013	1,690,902	2,523,240	27,958	30.9	
	1406	11/9/2013	1,690,905	2,523,235	27,251	30.1	
	1407	11/9/2013	1,690,908	2,523,231	29,091	32.1	
	1408	11/9/2013	1,690,911	2,523,226	29,961	33.1	
	1409	11/9/2013	1,690,913	2,523,221	28,646	31.7	
	1410	11/9/2013	1,690,915	2,523,217	28,012	31.0	
	1411	11/9/2013	1,690,913	2,523,216	28,170	31.1	
	1412	11/9/2013	1,690,910	2,523,219	26,002	28.7	
	1413	11/9/2013	1,690,907	2,523,223	27,872	30.8	
	1414	11/9/2013	1,690,904	2,523,227	27,246	30.1	
	1415	11/9/2013	1,690,900	2,523,231	26,638	29.4	
	1416	11/9/2013	1,690,896	2,523,236	26,647	29.4	
	1417	11/9/2013	1,690,893	2,523,240	26,851	29.7	
	1418	11/9/2013	1,690,890	2,523,244	26,744	29.6	
	1419	11/9/2013	1,690,886	2,523,246	25,954	28.7	
	1420	11/9/2013	1,690,882	2,523,246	27,690	30.6	
	1421	11/9/2013	1,690,883	2,523,241	27,509	30.4	
	1422	11/9/2013	1,690,887	2,523,237	27,212	30.1	
	1423	11/9/2013	1,690,890	2,523,233	27,112	30.0	
	1424	11/9/2013	1,690,894	2,523,230	28,233	31.2	
	1425	11/9/2013	1,690,897	2,523,226	28,885	31.9	
	1426	11/9/2013	1,690,901	2,523,222	28,782	31.8	
	1427	11/9/2013	1,690,903	2,523,218	28,802	31.8	
	1428	11/9/2013	1,690,906	2,523,214	27,587	30.5	
	1429	11/9/2013	1,690,904	2,523,212	28,822	31.8	
	1430	11/9/2013	1,690,901	2,523,214	26,780	29.6	
	1431	11/9/2013	1,690,898	2,523,217	26,882	29.7	
	1432	11/9/2013	1,690,894	2,523,220	28,000	30.9	
	1433	11/9/2013	1,690,891	2,523,224	26,490	29.3	
	1434	11/9/2013	1,690,888	2,523,229	25,607	28.3	
	1435	11/9/2013	1,690,885	2,523,233	26,522	29.3	
	1436	11/9/2013	1,690,880	2,523,234	27,924	30.9	
	1437	11/9/2013	1,690,877	2,523,231	27,772	30.7	
	1438	11/9/2013	1,690,878	2,523,228	26,765	29.6	
	1439	11/9/2013	1,690,881	2,523,223	26,726	29.5	
	1440	11/9/2013	1,690,883	2,523,220	26,766	29.6	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 32	1921	2/18/2014	1,690,905	2,523,264	26,729	29.5	30.7
	1922	2/18/2014	1,690,905	2,523,261	26,811	29.6	
	1923	2/18/2014	1,690,905	2,523,261	27,288	30.2	
	1924	2/18/2014	1,690,909	2,523,258	29,220	32.3	
	1925	2/18/2014	1,690,912	2,523,253	29,604	32.7	
	1926	2/18/2014	1,690,915	2,523,248	29,887	33.0	
	1927	2/18/2014	1,690,919	2,523,244	28,776	31.8	
	1928	2/18/2014	1,690,921	2,523,242	30,604	33.8	
	1929	2/18/2014	1,690,924	2,523,241	28,031	31.0	
	1930	2/18/2014	1,690,925	2,523,234	28,553	31.6	
	1931	2/18/2014	1,690,926	2,523,234	27,204	30.1	
	1932	2/18/2014	1,690,924	2,523,233	27,857	30.8	
	1933	2/18/2014	1,690,921	2,523,235	27,990	30.9	
	1934	2/18/2014	1,690,917	2,523,240	27,773	30.7	
	1935	2/18/2014	1,690,914	2,523,242	28,394	31.4	
	1936	2/18/2014	1,690,911	2,523,245	28,481	31.5	
	1937	2/18/2014	1,690,909	2,523,249	28,052	31.0	
	1938	2/18/2014	1,690,907	2,523,254	27,407	30.3	
	1939	2/18/2014	1,690,903	2,523,257	28,505	31.5	
	1940	2/18/2014	1,690,898	2,523,260	27,525	30.4	
	1941	2/18/2014	1,690,893	2,523,258	28,826	31.9	
	1942	2/18/2014	1,690,893	2,523,255	28,101	31.1	
	1943	2/18/2014	1,690,897	2,523,250	28,190	31.1	
	1944	2/18/2014	1,690,898	2,523,245	27,096	29.9	
	1945	2/18/2014	1,690,904	2,523,240	27,481	30.4	
	1946	2/18/2014	1,690,906	2,523,235	27,799	30.7	
	1947	2/18/2014	1,690,910	2,523,236	29,600	32.7	
	1948	2/18/2014	1,690,912	2,523,227	28,376	31.4	
	1949	2/18/2014	1,690,914	2,523,223	28,090	31.0	
	1950	2/18/2014	1,690,915	2,523,218	27,409	30.3	
	1951	2/18/2014	1,690,913	2,523,220	29,108	32.2	
	1952	2/18/2014	1,690,911	2,523,220	26,893	29.7	
	1953	2/18/2014	1,690,908	2,523,225	27,139	30.0	
	1954	2/18/2014	1,690,905	2,523,229	27,768	30.7	
	1955	2/18/2014	1,690,902	2,523,234	26,976	29.8	
	1956	2/18/2014	1,690,898	2,523,240	26,604	29.4	
	1957	2/18/2014	1,690,894	2,523,242	27,549	30.4	
	1958	2/18/2014	1,690,891	2,523,246	27,181	30.0	
	1959	2/18/2014	1,690,886	2,523,247	26,172	28.9	
	1960	2/18/2014	1,690,883	2,523,248	27,260	30.1	
	1961	2/18/2014	1,690,883	2,523,244	26,796	29.6	
	1962	2/18/2014	1,690,889	2,523,242	26,531	29.3	
	1963	2/18/2014	1,690,890	2,523,234	27,885	30.8	
	1964	2/18/2014	1,690,894	2,523,230	29,014	32.1	
	1965	2/18/2014	1,690,899	2,523,229	28,521	31.5	
	1966	2/18/2014	1,690,903	2,523,223	28,173	31.1	
	1967	2/18/2014	1,690,904	2,523,222	28,465	31.5	
	1968	2/18/2014	1,690,907	2,523,217	28,076	31.0	
	1969	2/18/2014	1,690,904	2,523,213	28,970	32.0	
	1970	2/18/2014	1,690,902	2,523,215	25,944	28.7	
	1971	2/18/2014	1,690,899	2,523,222	26,160	28.9	
	1972	2/18/2014	1,690,895	2,523,224	28,009	30.9	
	1973	2/18/2014	1,690,891	2,523,227	26,135	28.9	
	1974	2/18/2014	1,690,890	2,523,231	26,175	28.9	
	1975	2/18/2014	1,690,885	2,523,237	26,743	29.6	
	1976	2/18/2014	1,690,880	2,523,238	28,186	31.1	
	1977	2/18/2014	1,690,879	2,523,234	27,579	30.5	
	1978	2/18/2014	1,690,880	2,523,232	26,282	29.0	
	1979	2/18/2014	1,690,881	2,523,226	27,339	30.2	
	1980	2/18/2014	1,690,884	2,523,222	25,834	28.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 26	1441	11/9/2013	1,691,996	2,524,873	16,056	17.7	18.2
	1442	11/9/2013	1,691,996	2,524,873	15,757	17.4	
	1443	11/9/2013	1,691,996	2,524,872	15,817	17.5	
	1444	11/9/2013	1,691,999	2,524,869	16,421	18.1	
	1445	11/9/2013	1,692,003	2,524,865	15,704	17.4	
	1446	11/9/2013	1,692,006	2,524,862	16,098	17.8	
	1447	11/9/2013	1,692,008	2,524,859	16,822	18.6	
	1448	11/9/2013	1,692,011	2,524,855	16,309	18.0	
	1449	11/9/2013	1,692,013	2,524,851	15,773	17.4	
	1450	11/9/2013	1,692,016	2,524,848	16,476	18.2	
	1451	11/9/2013	1,692,017	2,524,845	16,955	18.7	
	1452	11/9/2013	1,692,015	2,524,845	16,262	18.0	
	1453	11/9/2013	1,692,012	2,524,847	17,690	19.5	
	1454	11/9/2013	1,692,009	2,524,849	16,855	18.6	
	1455	11/9/2013	1,692,007	2,524,852	16,299	18.0	
	1456	11/9/2013	1,692,004	2,524,855	16,019	17.7	
	1457	11/9/2013	1,692,001	2,524,858	16,814	18.6	
	1458	11/9/2013	1,691,998	2,524,860	17,638	19.5	
	1459	11/9/2013	1,691,995	2,524,863	16,253	18.0	
	1460	11/9/2013	1,691,992	2,524,866	16,105	17.8	
	1461	11/9/2013	1,691,989	2,524,868	16,973	18.8	
	1462	11/9/2013	1,691,986	2,524,869	16,872	18.6	
	1463	11/9/2013	1,691,982	2,524,865	16,676	18.4	
	1464	11/9/2013	1,691,982	2,524,863	17,000	18.8	
	1465	11/9/2013	1,691,984	2,524,860	16,612	18.4	
	1466	11/9/2013	1,691,989	2,524,856	15,866	17.5	
	1467	11/9/2013	1,691,993	2,524,853	16,732	18.5	
	1468	11/9/2013	1,691,997	2,524,850	16,138	17.8	
	1469	11/9/2013	1,691,999	2,524,848	16,340	18.1	
	1470	11/9/2013	1,692,004	2,524,842	15,297	16.9	
	1471	11/9/2013	1,692,006	2,524,839	14,899	16.5	
	1472	11/9/2013	1,692,008	2,524,835	15,385	17.0	
	1473	11/9/2013	1,692,007	2,524,833	16,050	17.7	
	1474	11/9/2013	1,692,006	2,524,833	17,161	19.0	
	1475	11/9/2013	1,692,001	2,524,836	17,241	19.1	
	1476	11/9/2013	1,691,998	2,524,839	16,419	18.1	
	1477	11/9/2013	1,691,995	2,524,843	15,755	17.4	
	1478	11/9/2013	1,691,991	2,524,846	16,163	17.9	
	1479	11/9/2013	1,691,989	2,524,848	15,952	17.6	
	1480	11/9/2013	1,691,984	2,524,852	16,011	17.7	
	1481	11/9/2013	1,691,981	2,524,856	17,385	19.2	
	1482	11/9/2013	1,691,977	2,524,858	17,958	19.8	
	1483	11/9/2013	1,691,973	2,524,860	17,341	19.2	
	1484	11/9/2013	1,691,971	2,524,857	16,603	18.3	
	1485	11/9/2013	1,691,973	2,524,853	16,904	18.7	
	1486	11/9/2013	1,691,977	2,524,849	15,854	17.5	
	1487	11/9/2013	1,691,981	2,524,846	16,867	18.6	
	1488	11/9/2013	1,691,985	2,524,842	16,577	18.3	
	1489	11/9/2013	1,691,989	2,524,838	17,028	18.8	
	1490	11/9/2013	1,691,992	2,524,835	16,562	18.3	
	1491	11/9/2013	1,691,995	2,524,831	16,309	18.0	
	1492	11/9/2013	1,691,995	2,524,829	16,195	17.9	
	1493	11/9/2013	1,691,992	2,524,827	15,584	17.2	
	1494	11/9/2013	1,691,989	2,524,830	16,533	18.3	
	1495	11/9/2013	1,691,986	2,524,833	16,217	17.9	
	1496	11/9/2013	1,691,983	2,524,836	16,095	17.8	
	1497	11/9/2013	1,691,980	2,524,839	16,474	18.2	
	1498	11/9/2013	1,691,976	2,524,842	17,120	18.9	
	1499	11/9/2013	1,691,973	2,524,845	17,086	18.9	
	1500	11/9/2013	1,691,970	2,524,847	18,162	20.1	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 26	121	2/18/2014	1,691,997	2,524,875	15,298	16.9	18.2
	122	2/18/2014	1,691,997	2,524,876	16,452	18.2	
	123	2/18/2014	1,691,999	2,524,873	16,332	18.0	
	124	2/18/2014	1,692,000	2,524,872	16,050	17.7	
	125	2/18/2014	1,692,005	2,524,868	16,112	17.8	
	126	2/18/2014	1,692,008	2,524,865	15,929	17.6	
	127	2/18/2014	1,692,010	2,524,860	16,077	17.8	
	128	2/18/2014	1,692,011	2,524,858	16,830	18.6	
	129	2/18/2014	1,692,014	2,524,852	16,091	17.8	
	130	2/18/2014	1,692,018	2,524,849	15,899	17.6	
	131	2/18/2014	1,692,018	2,524,850	16,801	18.6	
	132	2/18/2014	1,692,015	2,524,846	15,513	17.1	
	133	2/18/2014	1,692,012	2,524,847	17,376	19.2	
	134	2/18/2014	1,692,011	2,524,850	17,266	19.1	
	135	2/18/2014	1,692,007	2,524,857	16,749	18.5	
	136	2/18/2014	1,692,005	2,524,859	15,683	17.3	
	137	2/18/2014	1,692,002	2,524,862	16,170	17.9	
	138	2/18/2014	1,691,999	2,524,860	17,317	19.1	
	139	2/18/2014	1,691,996	2,524,864	15,842	17.5	
	140	2/18/2014	1,691,994	2,524,870	16,700	18.5	
	141	2/18/2014	1,691,991	2,524,870	16,949	18.7	
	142	2/18/2014	1,691,988	2,524,873	16,560	18.3	
	143	2/18/2014	1,691,983	2,524,867	16,440	18.2	
	144	2/18/2014	1,691,984	2,524,868	17,501	19.3	
	145	2/18/2014	1,691,985	2,524,860	16,589	18.3	
	146	2/18/2014	1,691,990	2,524,859	15,743	17.4	
	147	2/18/2014	1,691,994	2,524,858	16,458	18.2	
	148	2/18/2014	1,691,998	2,524,850	16,149	17.8	
	149	2/18/2014	1,692,000	2,524,852	16,126	17.8	
	150	2/18/2014	1,692,005	2,524,847	15,732	17.4	
	151	2/18/2014	1,692,007	2,524,843	15,081	16.7	
	152	2/18/2014	1,692,010	2,524,836	15,613	17.3	
	153	2/18/2014	1,692,009	2,524,834	15,357	17.0	
	154	2/18/2014	1,692,008	2,524,835	17,705	19.6	
	155	2/18/2014	1,692,003	2,524,838	17,675	19.5	
	156	2/18/2014	1,691,999	2,524,843	16,606	18.3	
	157	2/18/2014	1,691,996	2,524,848	15,173	16.8	
	158	2/18/2014	1,691,993	2,524,847	16,652	18.4	
	159	2/18/2014	1,691,991	2,524,849	16,454	18.2	
	160	2/18/2014	1,691,985	2,524,854	16,646	18.4	
	161	2/18/2014	1,691,982	2,524,857	16,601	18.3	
	162	2/18/2014	1,691,979	2,524,862	17,963	19.8	
	163	2/18/2014	1,691,975	2,524,865	17,331	19.2	
	164	2/18/2014	1,691,973	2,524,861	16,881	18.7	
	165	2/18/2014	1,691,974	2,524,853	17,522	19.4	
	166	2/18/2014	1,691,979	2,524,851	15,133	16.7	
	167	2/18/2014	1,691,981	2,524,846	17,036	18.8	
	168	2/18/2014	1,691,986	2,524,842	16,061	17.7	
	169	2/18/2014	1,691,989	2,524,842	17,796	19.7	
	170	2/18/2014	1,691,994	2,524,837	15,832	17.5	
	171	2/18/2014	1,691,997	2,524,834	16,568	18.3	
	172	2/18/2014	1,691,996	2,524,832	15,818	17.5	
	173	2/18/2014	1,691,993	2,524,830	15,123	16.7	
	174	2/18/2014	1,691,990	2,524,834	17,297	19.1	
	175	2/18/2014	1,691,986	2,524,834	16,473	18.2	
	176	2/18/2014	1,691,983	2,524,836	16,425	18.1	
	177	2/18/2014	1,691,981	2,524,843	17,156	19.0	
	178	2/18/2014	1,691,977	2,524,845	17,039	18.8	
	179	2/18/2014	1,691,974	2,524,849	17,404	19.2	
	180	2/18/2014	1,691,971	2,524,848	18,896	20.9	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 24	1501	11/9/2013	1,692,576	2,525,432	15,747	17.4	18.0
	1502	11/9/2013	1,692,576	2,525,433	16,275	18.0	
	1503	11/9/2013	1,692,578	2,525,431	16,600	18.3	
	1504	11/9/2013	1,692,581	2,525,428	16,127	17.8	
	1505	11/9/2013	1,692,584	2,525,424	16,000	17.7	
	1506	11/9/2013	1,692,587	2,525,420	15,582	17.2	
	1507	11/9/2013	1,692,589	2,525,416	16,181	17.9	
	1508	11/9/2013	1,692,592	2,525,412	15,741	17.4	
	1509	11/9/2013	1,692,594	2,525,407	16,815	18.6	
	1510	11/9/2013	1,692,593	2,525,404	16,101	17.8	
	1511	11/9/2013	1,692,591	2,525,405	16,669	18.4	
	1512	11/9/2013	1,692,588	2,525,408	16,444	18.2	
	1513	11/9/2013	1,692,585	2,525,413	17,218	19.0	
	1514	11/9/2013	1,692,582	2,525,416	15,728	17.4	
	1515	11/9/2013	1,692,578	2,525,420	14,521	16.0	
	1516	11/9/2013	1,692,574	2,525,423	16,032	17.7	
	1517	11/9/2013	1,692,571	2,525,427	15,956	17.6	
	1518	11/9/2013	1,692,568	2,525,430	15,357	17.0	
	1519	11/9/2013	1,692,565	2,525,427	16,199	17.9	
	1520	11/9/2013	1,692,567	2,525,424	16,364	18.1	
	1521	11/9/2013	1,692,569	2,525,420	16,444	18.2	
	1522	11/9/2013	1,692,572	2,525,416	15,827	17.5	
	1523	11/9/2013	1,692,575	2,525,413	16,960	18.7	
	1524	11/9/2013	1,692,578	2,525,409	17,111	18.9	
	1525	11/9/2013	1,692,579	2,525,405	17,097	18.9	
	1526	11/9/2013	1,692,582	2,525,401	16,322	18.0	
	1527	11/9/2013	1,692,585	2,525,398	16,284	18.0	
	1528	11/9/2013	1,692,586	2,525,394	15,706	17.4	
	1529	11/9/2013	1,692,586	2,525,391	15,984	17.7	
	1530	11/9/2013	1,692,584	2,525,388	15,829	17.5	
	1531	11/9/2013	1,692,580	2,525,390	16,007	17.7	
	1532	11/9/2013	1,692,577	2,525,394	16,607	18.4	
	1533	11/9/2013	1,692,573	2,525,398	16,336	18.1	
	1534	11/9/2013	1,692,570	2,525,401	16,293	18.0	
	1535	11/9/2013	1,692,566	2,525,404	16,796	18.6	
	1536	11/9/2013	1,692,561	2,525,409	16,004	17.7	
	1537	11/9/2013	1,692,558	2,525,413	15,771	17.4	
	1538	11/9/2013	1,692,555	2,525,415	16,675	18.4	
	1539	11/9/2013	1,692,551	2,525,414	16,245	18.0	
	1540	11/9/2013	1,692,552	2,525,411	17,182	19.0	
	1541	11/9/2013	1,692,556	2,525,408	16,990	18.8	
	1542	11/9/2013	1,692,560	2,525,404	16,220	17.9	
	1543	11/9/2013	1,692,564	2,525,402	15,961	17.6	
	1544	11/9/2013	1,692,568	2,525,399	15,371	17.0	
	1545	11/9/2013	1,692,571	2,525,396	16,453	18.2	
	1546	11/9/2013	1,692,575	2,525,392	16,489	18.2	
	1547	11/9/2013	1,692,578	2,525,388	15,446	17.1	
	1548	11/9/2013	1,692,580	2,525,384	16,065	17.8	
	1549	11/9/2013	1,692,578	2,525,381	15,028	16.6	
	1550	11/9/2013	1,692,574	2,525,382	15,752	17.4	
	1551	11/9/2013	1,692,571	2,525,385	16,158	17.9	
	1552	11/9/2013	1,692,568	2,525,387	16,045	17.7	
	1553	11/9/2013	1,692,565	2,525,390	16,401	18.1	
	1554	11/9/2013	1,692,562	2,525,393	16,798	18.6	
	1555	11/9/2013	1,692,559	2,525,396	15,907	17.6	
	1556	11/9/2013	1,692,555	2,525,398	17,015	18.8	
	1557	11/9/2013	1,692,551	2,525,400	17,593	19.4	
	1558	11/9/2013	1,692,547	2,525,403	16,476	18.2	
	1559	11/9/2013	1,692,546	2,525,400	16,395	18.1	
	1560	11/9/2013	1,692,548	2,525,397	17,819	19.7	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 24	1381	2/18/2014	1,692,577	2,525,434	16,400	18.1	17.9
	1382	2/18/2014	1,692,578	2,525,437	16,525	18.3	
	1383	2/18/2014	1,692,580	2,525,434	17,365	19.2	
	1384	2/18/2014	1,692,586	2,525,428	16,747	18.5	
	1385	2/18/2014	1,692,586	2,525,430	15,851	17.5	
	1386	2/18/2014	1,692,589	2,525,424	16,270	18.0	
	1387	2/18/2014	1,692,593	2,525,419	15,994	17.7	
	1388	2/18/2014	1,692,595	2,525,416	15,732	17.4	
	1389	2/18/2014	1,692,594	2,525,407	15,652	17.3	
	1390	2/18/2014	1,692,594	2,525,404	16,241	17.9	
	1391	2/18/2014	1,692,591	2,525,406	16,715	18.5	
	1392	2/18/2014	1,692,593	2,525,409	17,067	18.9	
	1393	2/18/2014	1,692,587	2,525,414	17,676	19.5	
	1394	2/18/2014	1,692,587	2,525,420	16,362	18.1	
	1395	2/18/2014	1,692,579	2,525,421	14,714	16.3	
	1396	2/18/2014	1,692,577	2,525,424	15,624	17.3	
	1397	2/18/2014	1,692,574	2,525,428	15,909	17.6	
	1398	2/18/2014	1,692,571	2,525,433	14,797	16.4	
	1399	2/18/2014	1,692,565	2,525,427	15,628	17.3	
	1400	2/18/2014	1,692,569	2,525,424	16,594	18.3	
	1401	2/18/2014	1,692,572	2,525,423	16,067	17.8	
	1402	2/18/2014	1,692,577	2,525,421	15,689	17.3	
	1403	2/18/2014	1,692,575	2,525,413	16,600	18.3	
	1404	2/18/2014	1,692,582	2,525,411	16,826	18.6	
	1405	2/18/2014	1,692,582	2,525,407	16,539	18.3	
	1406	2/18/2014	1,692,582	2,525,403	16,897	18.7	
	1407	2/18/2014	1,692,585	2,525,402	15,685	17.3	
	1408	2/18/2014	1,692,589	2,525,399	14,966	16.5	
	1409	2/18/2014	1,692,588	2,525,392	15,588	17.2	
	1410	2/18/2014	1,692,586	2,525,391	15,392	17.0	
	1411	2/18/2014	1,692,582	2,525,393	16,543	18.3	
	1412	2/18/2014	1,692,580	2,525,395	16,615	18.4	
	1413	2/18/2014	1,692,578	2,525,400	16,350	18.1	
	1414	2/18/2014	1,692,573	2,525,406	15,748	17.4	
	1415	2/18/2014	1,692,571	2,525,405	16,781	18.5	
	1416	2/18/2014	1,692,565	2,525,411	16,073	17.8	
	1417	2/18/2014	1,692,561	2,525,416	15,965	17.6	
	1418	2/18/2014	1,692,560	2,525,417	16,374	18.1	
	1419	2/18/2014	1,692,553	2,525,414	16,261	18.0	
	1420	2/18/2014	1,692,555	2,525,414	16,474	18.2	
	1421	2/18/2014	1,692,562	2,525,413	16,917	18.7	
	1422	2/18/2014	1,692,561	2,525,405	16,359	18.1	
	1423	2/18/2014	1,692,565	2,525,406	16,102	17.8	
	1424	2/18/2014	1,692,572	2,525,400	15,484	17.1	
	1425	2/18/2014	1,692,572	2,525,398	16,649	18.4	
	1426	2/18/2014	1,692,579	2,525,393	15,787	17.4	
	1427	2/18/2014	1,692,580	2,525,393	15,426	17.0	
	1428	2/18/2014	1,692,581	2,525,388	15,876	17.5	
	1429	2/18/2014	1,692,583	2,525,387	14,313	15.8	
	1430	2/18/2014	1,692,578	2,525,387	16,484	18.2	
	1431	2/18/2014	1,692,573	2,525,387	16,381	18.1	
	1432	2/18/2014	1,692,570	2,525,389	15,979	17.7	
	1433	2/18/2014	1,692,567	2,525,391	16,068	17.8	
	1434	2/18/2014	1,692,566	2,525,396	17,444	19.3	
	1435	2/18/2014	1,692,560	2,525,400	15,192	16.8	
	1436	2/18/2014	1,692,557	2,525,401	17,268	19.1	
	1437	2/18/2014	1,692,554	2,525,403	16,989	18.8	
	1438	2/18/2014	1,692,548	2,525,403	17,173	19.0	
	1439	2/18/2014	1,692,547	2,525,401	16,441	18.2	
	1440	2/18/2014	1,692,549	2,525,398	18,469	20.4	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 17	1561	11/9/2013	1,692,075	2,526,111	17,102	18.9	19.2
	1562	11/9/2013	1,692,075	2,526,111	18,416	20.3	
	1563	11/9/2013	1,692,076	2,526,109	17,842	19.7	
	1564	11/9/2013	1,692,077	2,526,105	18,451	20.4	
	1565	11/9/2013	1,692,079	2,526,100	18,784	20.8	
	1566	11/9/2013	1,692,080	2,526,095	18,477	20.4	
	1567	11/9/2013	1,692,081	2,526,093	17,791	19.7	
	1568	11/9/2013	1,692,084	2,526,086	17,268	19.1	
	1569	11/9/2013	1,692,085	2,526,082	17,520	19.4	
	1570	11/9/2013	1,692,086	2,526,079	17,184	19.0	
	1571	11/9/2013	1,692,084	2,526,078	16,677	18.4	
	1572	11/9/2013	1,692,083	2,526,079	16,469	18.2	
	1573	11/9/2013	1,692,079	2,526,086	16,924	18.7	
	1574	11/9/2013	1,692,077	2,526,090	17,477	19.3	
	1575	11/9/2013	1,692,074	2,526,094	17,275	19.1	
	1576	11/9/2013	1,692,072	2,526,099	16,897	18.7	
	1577	11/9/2013	1,692,071	2,526,101	17,926	19.8	
	1578	11/9/2013	1,692,067	2,526,109	17,342	19.2	
	1579	11/9/2013	1,692,064	2,526,111	17,832	19.7	
	1580	11/9/2013	1,692,062	2,526,108	18,681	20.6	
	1581	11/9/2013	1,692,063	2,526,104	17,357	19.2	
	1582	11/9/2013	1,692,066	2,526,100	17,476	19.3	
	1583	11/9/2013	1,692,068	2,526,096	17,236	19.0	
	1584	11/9/2013	1,692,070	2,526,092	17,632	19.5	
	1585	11/9/2013	1,692,072	2,526,087	17,687	19.5	
	1586	11/9/2013	1,692,073	2,526,083	17,602	19.5	
	1587	11/9/2013	1,692,076	2,526,079	17,192	19.0	
	1588	11/9/2013	1,692,077	2,526,076	16,674	18.4	
	1589	11/9/2013	1,692,075	2,526,073	17,086	18.9	
	1590	11/9/2013	1,692,073	2,526,070	16,734	18.5	
	1591	11/9/2013	1,692,071	2,526,073	17,096	18.9	
	1592	11/9/2013	1,692,070	2,526,075	17,592	19.4	
	1593	11/9/2013	1,692,065	2,526,081	17,606	19.5	
	1594	11/9/2013	1,692,063	2,526,085	17,875	19.8	
	1595	11/9/2013	1,692,060	2,526,089	17,055	18.8	
	1596	11/9/2013	1,692,057	2,526,093	16,559	18.3	
	1597	11/9/2013	1,692,055	2,526,098	17,425	19.3	
	1598	11/9/2013	1,692,052	2,526,102	17,527	19.4	
	1599	11/9/2013	1,692,050	2,526,106	18,041	19.9	
	1600	11/9/2013	1,692,047	2,526,105	18,042	19.9	
	1601	11/9/2013	1,692,048	2,526,101	17,893	19.8	
	1602	11/9/2013	1,692,050	2,526,097	17,424	19.3	
	1603	11/9/2013	1,692,052	2,526,092	16,925	18.7	
	1604	11/9/2013	1,692,054	2,526,089	16,597	18.3	
	1605	11/9/2013	1,692,056	2,526,085	16,661	18.4	
	1606	11/9/2013	1,692,059	2,526,080	16,571	18.3	
	1607	11/9/2013	1,692,061	2,526,076	16,308	18.0	
	1608	11/9/2013	1,692,063	2,526,072	16,631	18.4	
	1609	11/9/2013	1,692,066	2,526,067	17,118	18.9	
	1610	11/9/2013	1,692,066	2,526,064	18,453	20.4	
	1611	11/9/2013	1,692,064	2,526,064	16,304	18.0	
	1612	11/9/2013	1,692,061	2,526,067	16,187	17.9	
	1613	11/9/2013	1,692,058	2,526,071	17,073	18.9	
	1614	11/9/2013	1,692,055	2,526,076	16,944	18.7	
	1615	11/9/2013	1,692,051	2,526,080	18,053	19.9	
	1616	11/9/2013	1,692,048	2,526,085	17,535	19.4	
	1617	11/9/2013	1,692,045	2,526,089	16,689	18.4	
	1618	11/9/2013	1,692,041	2,526,093	16,985	18.8	
	1619	11/9/2013	1,692,038	2,526,097	17,609	19.5	
	1620	11/9/2013	1,692,033	2,526,095	17,691	19.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 17	841	2/18/2014	1,692,078	2,526,114	17,336	19.2	19.3
	842	2/18/2014	1,692,076	2,526,115	18,189	20.1	
	843	2/18/2014	1,692,076	2,526,110	18,243	20.2	
	844	2/18/2014	1,692,078	2,526,109	17,687	19.5	
	845	2/18/2014	1,692,082	2,526,102	18,897	20.9	
	846	2/18/2014	1,692,083	2,526,097	18,898	20.9	
	847	2/18/2014	1,692,082	2,526,096	18,519	20.5	
	848	2/18/2014	1,692,087	2,526,090	17,267	19.1	
	849	2/18/2014	1,692,087	2,526,085	17,368	19.2	
	850	2/18/2014	1,692,087	2,526,083	17,626	19.5	
	851	2/18/2014	1,692,085	2,526,082	17,145	18.9	
	852	2/18/2014	1,692,084	2,526,083	15,753	17.4	
	853	2/18/2014	1,692,080	2,526,086	16,624	18.4	
	854	2/18/2014	1,692,078	2,526,093	17,632	19.5	
	855	2/18/2014	1,692,077	2,526,097	17,558	19.4	
	856	2/18/2014	1,692,072	2,526,103	17,039	18.8	
	857	2/18/2014	1,692,071	2,526,105	17,147	18.9	
	858	2/18/2014	1,692,068	2,526,112	17,299	19.1	
	859	2/18/2014	1,692,064	2,526,114	17,202	19.0	
	860	2/18/2014	1,692,063	2,526,112	19,083	21.1	
	861	2/18/2014	1,692,065	2,526,108	17,895	19.8	
	862	2/18/2014	1,692,067	2,526,105	17,393	19.2	
	863	2/18/2014	1,692,071	2,526,100	16,509	18.2	
	864	2/18/2014	1,692,072	2,526,095	17,949	19.8	
	865	2/18/2014	1,692,073	2,526,092	18,248	20.2	
	866	2/18/2014	1,692,073	2,526,087	18,007	19.9	
	867	2/18/2014	1,692,076	2,526,083	17,267	19.1	
	868	2/18/2014	1,692,078	2,526,080	16,206	17.9	
	869	2/18/2014	1,692,078	2,526,073	16,894	18.7	
	870	2/18/2014	1,692,076	2,526,074	17,140	18.9	
	871	2/18/2014	1,692,073	2,526,076	17,872	19.7	
	872	2/18/2014	1,692,072	2,526,080	16,982	18.8	
	873	2/18/2014	1,692,068	2,526,084	17,588	19.4	
	874	2/18/2014	1,692,064	2,526,086	18,413	20.3	
	875	2/18/2014	1,692,061	2,526,091	17,469	19.3	
	876	2/18/2014	1,692,059	2,526,097	16,787	18.5	
	877	2/18/2014	1,692,056	2,526,100	16,795	18.6	
	878	2/18/2014	1,692,053	2,526,107	16,926	18.7	
	879	2/18/2014	1,692,050	2,526,109	18,757	20.7	
	880	2/18/2014	1,692,050	2,526,108	17,350	19.2	
	881	2/18/2014	1,692,049	2,526,103	18,459	20.4	
	882	2/18/2014	1,692,052	2,526,099	18,183	20.1	
	883	2/18/2014	1,692,052	2,526,093	16,573	18.3	
	884	2/18/2014	1,692,054	2,526,091	16,477	18.2	
	885	2/18/2014	1,692,059	2,526,087	16,021	17.7	
	886	2/18/2014	1,692,060	2,526,082	16,844	18.6	
	887	2/18/2014	1,692,064	2,526,076	16,425	18.1	
	888	2/18/2014	1,692,064	2,526,072	16,449	18.2	
	889	2/18/2014	1,692,067	2,526,068	17,809	19.7	
	890	2/18/2014	1,692,069	2,526,069	19,044	21.0	
	891	2/18/2014	1,692,065	2,526,067	16,170	17.9	
	892	2/18/2014	1,692,063	2,526,073	16,495	18.2	
	893	2/18/2014	1,692,060	2,526,071	17,198	19.0	
	894	2/18/2014	1,692,057	2,526,081	17,632	19.5	
	895	2/18/2014	1,692,054	2,526,081	18,167	20.1	
	896	2/18/2014	1,692,051	2,526,089	18,241	20.2	
	897	2/18/2014	1,692,046	2,526,093	17,045	18.8	
	898	2/18/2014	1,692,042	2,526,094	16,869	18.6	
	899	2/18/2014	1,692,040	2,526,102	17,888	19.8	
	900	2/18/2014	1,692,034	2,526,098	17,865	19.7	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 18	1621	11/9/2013	1,691,811	2,526,012	15,136	16.7	17.7
	1622	11/9/2013	1,691,811	2,526,012	15,390	17.0	
	1623	11/9/2013	1,691,812	2,526,015	14,016	15.5	
	1624	11/9/2013	1,691,814	2,526,017	14,618	16.2	
	1625	11/9/2013	1,691,818	2,526,019	13,734	15.2	
	1626	11/9/2013	1,691,823	2,526,022	14,784	16.3	
	1627	11/9/2013	1,691,828	2,526,024	14,820	16.4	
	1628	11/9/2013	1,691,832	2,526,027	14,602	16.1	
	1629	11/9/2013	1,691,836	2,526,028	16,220	17.9	
	1630	11/9/2013	1,691,840	2,526,029	16,599	18.3	
	1631	11/9/2013	1,691,841	2,526,027	16,693	18.4	
	1632	11/9/2013	1,691,838	2,526,024	16,850	18.6	
	1633	11/9/2013	1,691,834	2,526,021	17,413	19.2	
	1634	11/9/2013	1,691,831	2,526,017	16,712	18.5	
	1635	11/9/2013	1,691,827	2,526,014	16,918	18.7	
	1636	11/9/2013	1,691,824	2,526,012	15,697	17.3	
	1637	11/9/2013	1,691,820	2,526,010	16,195	17.9	
	1638	11/9/2013	1,691,815	2,526,008	15,879	17.5	
	1639	11/9/2013	1,691,812	2,526,004	16,266	18.0	
	1640	11/9/2013	1,691,813	2,526,001	16,478	18.2	
	1641	11/9/2013	1,691,816	2,526,002	15,810	17.5	
	1642	11/9/2013	1,691,819	2,526,004	16,041	17.7	
	1643	11/9/2013	1,691,823	2,526,007	15,445	17.1	
	1644	11/9/2013	1,691,827	2,526,009	15,974	17.7	
	1645	11/9/2013	1,691,832	2,526,011	16,135	17.8	
	1646	11/9/2013	1,691,837	2,526,014	15,513	17.1	
	1647	11/9/2013	1,691,841	2,526,017	15,233	16.8	
	1648	11/9/2013	1,691,846	2,526,019	15,875	17.5	
	1649	11/9/2013	1,691,850	2,526,020	16,555	18.3	
	1650	11/9/2013	1,691,853	2,526,018	16,935	18.7	
	1651	11/9/2013	1,691,851	2,526,014	15,782	17.4	
	1652	11/9/2013	1,691,846	2,526,011	16,561	18.3	
	1653	11/9/2013	1,691,842	2,526,009	17,286	19.1	
	1654	11/9/2013	1,691,837	2,526,006	16,896	18.7	
	1655	11/9/2013	1,691,832	2,526,003	16,435	18.2	
	1656	11/9/2013	1,691,828	2,526,000	15,780	17.4	
	1657	11/9/2013	1,691,823	2,525,998	15,921	17.6	
	1658	11/9/2013	1,691,820	2,525,995	15,371	17.0	
	1659	11/9/2013	1,691,817	2,525,992	15,431	17.1	
	1660	11/9/2013	1,691,819	2,525,989	16,154	17.9	
	1661	11/9/2013	1,691,823	2,525,990	15,923	17.6	
	1662	11/9/2013	1,691,827	2,525,993	16,809	18.6	
	1663	11/9/2013	1,691,831	2,525,996	16,877	18.6	
	1664	11/9/2013	1,691,836	2,525,999	16,852	18.6	
	1665	11/9/2013	1,691,841	2,526,001	15,756	17.4	
	1666	11/9/2013	1,691,846	2,526,004	16,235	17.9	
	1667	11/9/2013	1,691,851	2,526,007	15,873	17.5	
	1668	11/9/2013	1,691,855	2,526,010	15,952	17.6	
	1669	11/9/2013	1,691,860	2,526,011	15,891	17.6	
	1670	11/9/2013	1,691,859	2,526,009	16,540	18.3	
	1671	11/9/2013	1,691,856	2,526,005	15,225	16.8	
	1672	11/9/2013	1,691,852	2,526,001	14,820	16.4	
	1673	11/9/2013	1,691,848	2,525,997	15,804	17.5	
	1674	11/9/2013	1,691,844	2,525,993	16,664	18.4	
	1675	11/9/2013	1,691,840	2,525,989	16,610	18.4	
	1676	11/9/2013	1,691,835	2,525,986	17,144	18.9	
	1677	11/9/2013	1,691,832	2,525,982	16,263	18.0	
	1678	11/9/2013	1,691,836	2,525,980	16,187	17.9	
	1679	11/9/2013	1,691,840	2,525,981	15,425	17.0	
	1680	11/9/2013	1,691,844	2,525,985	16,719	18.5	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 18	721	2/18/2014	1,691,811	2,526,015	14,573	16.1	17.7
	722	2/18/2014	1,691,814	2,526,014	14,748	16.3	
	723	2/18/2014	1,691,814	2,526,019	13,641	15.1	
	724	2/18/2014	1,691,815	2,526,018	15,309	16.9	
	725	2/18/2014	1,691,820	2,526,019	13,404	14.8	
	726	2/18/2014	1,691,823	2,526,025	14,341	15.8	
	727	2/18/2014	1,691,828	2,526,026	14,627	16.2	
	728	2/18/2014	1,691,833	2,526,031	14,618	16.2	
	729	2/18/2014	1,691,839	2,526,031	15,752	17.4	
	730	2/18/2014	1,691,842	2,526,034	16,689	18.4	
	731	2/18/2014	1,691,841	2,526,030	17,437	19.3	
	732	2/18/2014	1,691,840	2,526,026	16,711	18.5	
	733	2/18/2014	1,691,836	2,526,026	16,976	18.8	
	734	2/18/2014	1,691,832	2,526,022	16,671	18.4	
	735	2/18/2014	1,691,830	2,526,015	17,214	19.0	
	736	2/18/2014	1,691,825	2,526,013	15,839	17.5	
	737	2/18/2014	1,691,823	2,526,012	15,493	17.1	
	738	2/18/2014	1,691,816	2,526,009	15,376	17.0	
	739	2/18/2014	1,691,814	2,526,007	16,650	18.4	
	740	2/18/2014	1,691,816	2,526,004	17,176	19.0	
	741	2/18/2014	1,691,819	2,526,004	16,102	17.8	
	742	2/18/2014	1,691,821	2,526,006	15,517	17.1	
	743	2/18/2014	1,691,824	2,526,010	14,799	16.4	
	744	2/18/2014	1,691,831	2,526,010	16,109	17.8	
	745	2/18/2014	1,691,833	2,526,016	15,397	17.0	
	746	2/18/2014	1,691,839	2,526,016	15,967	17.6	
	747	2/18/2014	1,691,843	2,526,021	15,225	16.8	
	748	2/18/2014	1,691,847	2,526,023	15,458	17.1	
	749	2/18/2014	1,691,853	2,526,023	17,066	18.9	
	750	2/18/2014	1,691,856	2,526,021	17,262	19.1	
	751	2/18/2014	1,691,854	2,526,016	15,701	17.3	
	752	2/18/2014	1,691,847	2,526,013	17,326	19.1	
	753	2/18/2014	1,691,844	2,526,010	17,621	19.5	
	754	2/18/2014	1,691,838	2,526,007	16,593	18.3	
	755	2/18/2014	1,691,835	2,526,004	15,980	17.7	
	756	2/18/2014	1,691,829	2,526,001	16,229	17.9	
	757	2/18/2014	1,691,825	2,526,003	15,511	17.1	
	758	2/18/2014	1,691,821	2,525,997	15,463	17.1	
	759	2/18/2014	1,691,819	2,525,993	14,766	16.3	
	760	2/18/2014	1,691,820	2,525,992	16,764	18.5	
	761	2/18/2014	1,691,824	2,525,992	16,318	18.0	
	762	2/18/2014	1,691,828	2,525,995	17,063	18.9	
	763	2/18/2014	1,691,834	2,525,999	16,176	17.9	
	764	2/18/2014	1,691,839	2,525,999	16,287	18.0	
	765	2/18/2014	1,691,843	2,526,001	15,778	17.4	
	766	2/18/2014	1,691,849	2,526,006	15,709	17.4	
	767	2/18/2014	1,691,854	2,526,011	15,926	17.6	
	768	2/18/2014	1,691,855	2,526,011	16,299	18.0	
	769	2/18/2014	1,691,860	2,526,015	16,640	18.4	
	770	2/18/2014	1,691,862	2,526,009	16,158	17.9	
	771	2/18/2014	1,691,858	2,526,007	15,212	16.8	
	772	2/18/2014	1,691,855	2,526,004	14,720	16.3	
	773	2/18/2014	1,691,849	2,526,002	15,067	16.6	
	774	2/18/2014	1,691,847	2,525,997	17,388	19.2	
	775	2/18/2014	1,691,842	2,525,995	17,109	18.9	
	776	2/18/2014	1,691,838	2,525,987	17,896	19.8	
	777	2/18/2014	1,691,835	2,525,986	16,941	18.7	
	778	2/18/2014	1,691,837	2,525,984	16,724	18.5	
	779	2/18/2014	1,691,841	2,525,982	15,296	16.9	
	780	2/18/2014	1,691,846	2,525,988	17,159	19.0	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 19	1681	11/9/2013	1,691,623	2,525,933	16,972	18.8	17.6
	1682	11/9/2013	1,691,623	2,525,933	17,047	18.8	
	1683	11/9/2013	1,691,625	2,525,934	17,643	19.5	
	1684	11/9/2013	1,691,626	2,525,937	17,737	19.6	
	1685	11/9/2013	1,691,630	2,525,936	18,010	19.9	
	1686	11/9/2013	1,691,635	2,525,935	16,513	18.2	
	1687	11/9/2013	1,691,640	2,525,933	15,948	17.6	
	1688	11/9/2013	1,691,645	2,525,932	15,339	16.9	
	1689	11/9/2013	1,691,650	2,525,930	14,611	16.1	
	1690	11/9/2013	1,691,655	2,525,928	15,520	17.1	
	1691	11/9/2013	1,691,658	2,525,924	15,894	17.6	
	1692	11/9/2013	1,691,657	2,525,921	15,604	17.2	
	1693	11/9/2013	1,691,653	2,525,921	15,220	16.8	
	1694	11/9/2013	1,691,647	2,525,923	15,213	16.8	
	1695	11/9/2013	1,691,642	2,525,925	15,755	17.4	
	1696	11/9/2013	1,691,637	2,525,927	15,345	17.0	
	1697	11/9/2013	1,691,632	2,525,928	15,380	17.0	
	1698	11/9/2013	1,691,627	2,525,930	15,944	17.6	
	1699	11/9/2013	1,691,623	2,525,932	14,991	16.6	
	1700	11/9/2013	1,691,620	2,525,930	14,521	16.0	
	1701	11/9/2013	1,691,622	2,525,926	16,016	17.7	
	1702	11/9/2013	1,691,627	2,525,923	16,094	17.8	
	1703	11/9/2013	1,691,632	2,525,922	16,151	17.8	
	1704	11/9/2013	1,691,636	2,525,919	15,892	17.6	
	1705	11/9/2013	1,691,641	2,525,917	16,083	17.8	
	1706	11/9/2013	1,691,646	2,525,916	15,587	17.2	
	1707	11/9/2013	1,691,651	2,525,914	15,626	17.3	
	1708	11/9/2013	1,691,655	2,525,912	15,746	17.4	
	1709	11/9/2013	1,691,654	2,525,908	14,835	16.4	
	1710	11/9/2013	1,691,651	2,525,908	15,600	17.2	
	1711	11/9/2013	1,691,647	2,525,910	14,351	15.9	
	1712	11/9/2013	1,691,642	2,525,912	14,386	15.9	
	1713	11/9/2013	1,691,638	2,525,914	15,891	17.6	
	1714	11/9/2013	1,691,633	2,525,916	16,209	17.9	
	1715	11/9/2013	1,691,628	2,525,919	15,648	17.3	
	1716	11/9/2013	1,691,624	2,525,921	15,657	17.3	
	1717	11/9/2013	1,691,619	2,525,921	15,760	17.4	
	1718	11/9/2013	1,691,618	2,525,917	15,600	17.2	
	1719	11/9/2013	1,691,622	2,525,914	15,639	17.3	
	1720	11/9/2013	1,691,626	2,525,912	16,108	17.8	
	1721	11/9/2013	1,691,631	2,525,909	17,125	18.9	
	1722	11/9/2013	1,691,635	2,525,907	17,250	19.1	
	1723	11/9/2013	1,691,640	2,525,906	16,281	18.0	
	1724	11/9/2013	1,691,645	2,525,904	15,584	17.2	
	1725	11/9/2013	1,691,649	2,525,902	15,277	16.9	
	1726	11/9/2013	1,691,653	2,525,900	14,628	16.2	
	1727	11/9/2013	1,691,652	2,525,897	15,671	17.3	
	1728	11/9/2013	1,691,647	2,525,897	15,933	17.6	
	1729	11/9/2013	1,691,642	2,525,898	15,659	17.3	
	1730	11/9/2013	1,691,638	2,525,900	15,782	17.4	
	1731	11/9/2013	1,691,634	2,525,902	14,834	16.4	
	1732	11/9/2013	1,691,629	2,525,903	15,559	17.2	
	1733	11/9/2013	1,691,624	2,525,904	15,611	17.3	
	1734	11/9/2013	1,691,619	2,525,905	16,509	18.2	
	1735	11/9/2013	1,691,614	2,525,903	16,922	18.7	
	1736	11/9/2013	1,691,615	2,525,900	17,492	19.3	
	1737	11/9/2013	1,691,618	2,525,899	17,388	19.2	
	1738	11/9/2013	1,691,623	2,525,897	16,246	18.0	
	1739	11/9/2013	1,691,628	2,525,896	16,858	18.6	
	1740	11/9/2013	1,691,633	2,525,894	16,486	18.2	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 19	661	2/18/2014	1,691,626	2,525,935	17,703	19.6	17.7
	662	2/18/2014	1,691,625	2,525,935	17,361	19.2	
	663	2/18/2014	1,691,627	2,525,936	17,390	19.2	
	664	2/18/2014	1,691,627	2,525,937	17,692	19.5	
	665	2/18/2014	1,691,632	2,525,938	17,777	19.6	
	666	2/18/2014	1,691,638	2,525,938	16,187	17.9	
	667	2/18/2014	1,691,643	2,525,935	15,481	17.1	
	668	2/18/2014	1,691,648	2,525,933	16,073	17.8	
	669	2/18/2014	1,691,650	2,525,932	14,602	16.1	
	670	2/18/2014	1,691,655	2,525,928	15,361	17.0	
	671	2/18/2014	1,691,659	2,525,927	15,652	17.3	
	672	2/18/2014	1,691,659	2,525,923	16,215	17.9	
	673	2/18/2014	1,691,653	2,525,922	15,562	17.2	
	674	2/18/2014	1,691,649	2,525,923	14,577	16.1	
	675	2/18/2014	1,691,643	2,525,928	16,198	17.9	
	676	2/18/2014	1,691,638	2,525,927	15,334	16.9	
	677	2/18/2014	1,691,633	2,525,929	14,746	16.3	
	678	2/18/2014	1,691,629	2,525,932	15,540	17.2	
	679	2/18/2014	1,691,625	2,525,933	15,513	17.1	
	680	2/18/2014	1,691,621	2,525,933	15,068	16.7	
	681	2/18/2014	1,691,623	2,525,929	15,445	17.1	
	682	2/18/2014	1,691,628	2,525,925	16,644	18.4	
	683	2/18/2014	1,691,635	2,525,922	15,819	17.5	
	684	2/18/2014	1,691,637	2,525,920	15,840	17.5	
	685	2/18/2014	1,691,641	2,525,919	15,402	17.0	
	686	2/18/2014	1,691,648	2,525,918	14,938	16.5	
	687	2/18/2014	1,691,653	2,525,916	15,999	17.7	
	688	2/18/2014	1,691,658	2,525,913	16,401	18.1	
	689	2/18/2014	1,691,655	2,525,911	14,621	16.2	
	690	2/18/2014	1,691,653	2,525,910	15,130	16.7	
	691	2/18/2014	1,691,648	2,525,913	14,485	16.0	
	692	2/18/2014	1,691,643	2,525,913	14,656	16.2	
	693	2/18/2014	1,691,639	2,525,915	16,130	17.8	
	694	2/18/2014	1,691,636	2,525,919	16,027	17.7	
	695	2/18/2014	1,691,629	2,525,921	15,640	17.3	
	696	2/18/2014	1,691,626	2,525,923	16,187	17.9	
	697	2/18/2014	1,691,622	2,525,922	16,177	17.9	
	698	2/18/2014	1,691,621	2,525,919	15,939	17.6	
	699	2/18/2014	1,691,622	2,525,916	14,938	16.5	
	700	2/18/2014	1,691,628	2,525,913	15,899	17.6	
	701	2/18/2014	1,691,633	2,525,910	17,743	19.6	
	702	2/18/2014	1,691,637	2,525,909	17,262	19.1	
	703	2/18/2014	1,691,642	2,525,907	16,372	18.1	
	704	2/18/2014	1,691,646	2,525,904	15,611	17.3	
	705	2/18/2014	1,691,650	2,525,905	15,359	17.0	
	706	2/18/2014	1,691,655	2,525,903	15,246	16.8	
	707	2/18/2014	1,691,653	2,525,898	16,248	18.0	
	708	2/18/2014	1,691,649	2,525,899	15,555	17.2	
	709	2/18/2014	1,691,643	2,525,901	16,156	17.9	
	710	2/18/2014	1,691,639	2,525,902	16,297	18.0	
	711	2/18/2014	1,691,634	2,525,902	15,161	16.8	
	712	2/18/2014	1,691,631	2,525,903	16,116	17.8	
	713	2/18/2014	1,691,625	2,525,904	15,196	16.8	
	714	2/18/2014	1,691,621	2,525,908	15,993	17.7	
	715	2/18/2014	1,691,614	2,525,905	17,681	19.5	
	716	2/18/2014	1,691,618	2,525,901	17,822	19.7	
	717	2/18/2014	1,691,621	2,525,900	17,629	19.5	
	718	2/18/2014	1,691,624	2,525,898	16,357	18.1	
	719	2/18/2014	1,691,628	2,525,898	16,247	18.0	
	720	2/18/2014	1,691,634	2,525,895	16,378	18.1	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 20	1741	11/9/2013	1,691,396	2,525,867	15,255	16.9	17.9
	1742	11/9/2013	1,691,397	2,525,867	15,719	17.4	
	1743	11/9/2013	1,691,398	2,525,868	15,843	17.5	
	1744	11/9/2013	1,691,402	2,525,870	15,836	17.5	
	1745	11/9/2013	1,691,407	2,525,873	16,918	18.7	
	1746	11/9/2013	1,691,410	2,525,876	15,727	17.4	
	1747	11/9/2013	1,691,414	2,525,880	15,581	17.2	
	1748	11/9/2013	1,691,418	2,525,883	16,214	17.9	
	1749	11/9/2013	1,691,423	2,525,885	16,219	17.9	
	1750	11/9/2013	1,691,427	2,525,885	16,833	18.6	
	1751	11/9/2013	1,691,429	2,525,882	16,170	17.9	
	1752	11/9/2013	1,691,425	2,525,879	16,500	18.2	
	1753	11/9/2013	1,691,421	2,525,876	15,554	17.2	
	1754	11/9/2013	1,691,416	2,525,872	16,317	18.0	
	1755	11/9/2013	1,691,412	2,525,869	15,365	17.0	
	1756	11/9/2013	1,691,407	2,525,867	15,662	17.3	
	1757	11/9/2013	1,691,403	2,525,864	16,762	18.5	
	1758	11/9/2013	1,691,399	2,525,861	16,751	18.5	
	1759	11/9/2013	1,691,395	2,525,857	15,998	17.7	
	1760	11/9/2013	1,691,396	2,525,854	15,234	16.8	
	1761	11/9/2013	1,691,400	2,525,856	15,378	17.0	
	1762	11/9/2013	1,691,406	2,525,858	16,111	17.8	
	1763	11/9/2013	1,691,411	2,525,860	16,461	18.2	
	1764	11/9/2013	1,691,415	2,525,862	16,676	18.4	
	1765	11/9/2013	1,691,420	2,525,864	16,301	18.0	
	1766	11/9/2013	1,691,425	2,525,865	16,261	18.0	
	1767	11/9/2013	1,691,431	2,525,867	15,750	17.4	
	1768	11/9/2013	1,691,434	2,525,869	15,445	17.1	
	1769	11/9/2013	1,691,439	2,525,871	15,605	17.2	
	1770	11/9/2013	1,691,442	2,525,870	16,513	18.2	
	1771	11/9/2013	1,691,439	2,525,867	15,963	17.6	
	1772	11/9/2013	1,691,434	2,525,864	16,343	18.1	
	1773	11/9/2013	1,691,430	2,525,861	16,001	17.7	
	1774	11/9/2013	1,691,426	2,525,858	15,697	17.3	
	1775	11/9/2013	1,691,422	2,525,855	15,488	17.1	
	1776	11/9/2013	1,691,417	2,525,852	17,100	18.9	
	1777	11/9/2013	1,691,412	2,525,849	17,024	18.8	
	1778	11/9/2013	1,691,408	2,525,846	17,372	19.2	
	1779	11/9/2013	1,691,408	2,525,842	16,456	18.2	
	1780	11/9/2013	1,691,412	2,525,844	16,869	18.6	
	1781	11/9/2013	1,691,418	2,525,846	16,343	18.1	
	1782	11/9/2013	1,691,422	2,525,849	16,459	18.2	
	1783	11/9/2013	1,691,427	2,525,852	16,419	18.1	
	1784	11/9/2013	1,691,432	2,525,854	16,826	18.6	
	1785	11/9/2013	1,691,436	2,525,856	17,606	19.5	
	1786	11/9/2013	1,691,440	2,525,859	17,023	18.8	
	1787	11/9/2013	1,691,443	2,525,860	16,374	18.1	
	1788	11/9/2013	1,691,445	2,525,858	16,753	18.5	
	1789	11/9/2013	1,691,446	2,525,855	16,244	17.9	
	1790	11/9/2013	1,691,442	2,525,852	17,267	19.1	
	1791	11/9/2013	1,691,438	2,525,850	16,577	18.3	
	1792	11/9/2013	1,691,434	2,525,847	15,417	17.0	
	1793	11/9/2013	1,691,430	2,525,844	15,724	17.4	
	1794	11/9/2013	1,691,426	2,525,842	15,656	17.3	
	1795	11/9/2013	1,691,422	2,525,840	15,570	17.2	
	1796	11/9/2013	1,691,418	2,525,836	15,912	17.6	
	1797	11/9/2013	1,691,414	2,525,834	16,323	18.0	
	1798	11/9/2013	1,691,416	2,525,831	16,380	18.1	
	1799	11/9/2013	1,691,422	2,525,833	16,036	17.7	
	1800	11/9/2013	1,691,426	2,525,835	17,222	19.0	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 20	1081	2/18/2014	1,691,397	2,525,868	14,697	16.2	17.9
	1082	2/18/2014	1,691,399	2,525,871	16,167	17.9	
	1083	2/18/2014	1,691,401	2,525,872	15,862	17.5	
	1084	2/18/2014	1,691,405	2,525,873	16,061	17.7	
	1085	2/18/2014	1,691,410	2,525,874	17,513	19.4	
	1086	2/18/2014	1,691,413	2,525,879	15,037	16.6	
	1087	2/18/2014	1,691,416	2,525,885	16,127	17.8	
	1088	2/18/2014	1,691,419	2,525,887	15,587	17.2	
	1089	2/18/2014	1,691,424	2,525,889	16,212	17.9	
	1090	2/18/2014	1,691,430	2,525,885	17,554	19.4	
	1091	2/18/2014	1,691,432	2,525,882	16,170	17.9	
	1092	2/18/2014	1,691,426	2,525,883	16,092	17.8	
	1093	2/18/2014	1,691,423	2,525,878	15,847	17.5	
	1094	2/18/2014	1,691,418	2,525,876	16,300	18.0	
	1095	2/18/2014	1,691,414	2,525,871	15,192	16.8	
	1096	2/18/2014	1,691,410	2,525,870	15,247	16.8	
	1097	2/18/2014	1,691,404	2,525,869	16,981	18.8	
	1098	2/18/2014	1,691,399	2,525,866	16,101	17.8	
	1099	2/18/2014	1,691,396	2,525,858	15,667	17.3	
	1100	2/18/2014	1,691,397	2,525,856	15,832	17.5	
	1101	2/18/2014	1,691,401	2,525,858	15,727	17.4	
	1102	2/18/2014	1,691,409	2,525,862	16,723	18.5	
	1103	2/18/2014	1,691,413	2,525,862	16,355	18.1	
	1104	2/18/2014	1,691,416	2,525,864	16,859	18.6	
	1105	2/18/2014	1,691,422	2,525,866	15,643	17.3	
	1106	2/18/2014	1,691,426	2,525,869	16,837	18.6	
	1107	2/18/2014	1,691,432	2,525,869	16,453	18.2	
	1108	2/18/2014	1,691,435	2,525,871	15,634	17.3	
	1109	2/18/2014	1,691,439	2,525,872	15,313	16.9	
	1110	2/18/2014	1,691,444	2,525,871	16,196	17.9	
	1111	2/18/2014	1,691,440	2,525,867	15,915	17.6	
	1112	2/18/2014	1,691,436	2,525,866	16,627	18.4	
	1113	2/18/2014	1,691,431	2,525,861	15,704	17.4	
	1114	2/18/2014	1,691,426	2,525,862	16,291	18.0	
	1115	2/18/2014	1,691,425	2,525,858	16,111	17.8	
	1116	2/18/2014	1,691,419	2,525,854	17,395	19.2	
	1117	2/18/2014	1,691,412	2,525,851	16,638	18.4	
	1118	2/18/2014	1,691,409	2,525,847	16,890	18.7	
	1119	2/18/2014	1,691,408	2,525,844	16,529	18.3	
	1120	2/18/2014	1,691,413	2,525,846	16,416	18.1	
	1121	2/18/2014	1,691,421	2,525,850	16,132	17.8	
	1122	2/18/2014	1,691,425	2,525,849	16,894	18.7	
	1123	2/18/2014	1,691,428	2,525,856	16,126	17.8	
	1124	2/18/2014	1,691,435	2,525,857	16,341	18.1	
	1125	2/18/2014	1,691,438	2,525,859	18,062	20.0	
	1126	2/18/2014	1,691,441	2,525,860	16,418	18.1	
	1127	2/18/2014	1,691,444	2,525,860	15,810	17.5	
	1128	2/18/2014	1,691,445	2,525,862	17,317	19.1	
	1129	2/18/2014	1,691,448	2,525,857	16,471	18.2	
	1130	2/18/2014	1,691,445	2,525,855	16,904	18.7	
	1131	2/18/2014	1,691,439	2,525,851	16,007	17.7	
	1132	2/18/2014	1,691,434	2,525,849	16,117	17.8	
	1133	2/18/2014	1,691,430	2,525,848	15,668	17.3	
	1134	2/18/2014	1,691,429	2,525,846	15,431	17.1	
	1135	2/18/2014	1,691,424	2,525,840	16,240	17.9	
	1136	2/18/2014	1,691,419	2,525,840	15,481	17.1	
	1137	2/18/2014	1,691,415	2,525,839	16,754	18.5	
	1138	2/18/2014	1,691,417	2,525,832	16,537	18.3	
	1139	2/18/2014	1,691,422	2,525,838	15,437	17.1	
	1140	2/18/2014	1,691,427	2,525,840	17,581	19.4	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 28	1801	11/9/2013	1,692,493	2,524,720	16,601	18.3	18.1
	1802	11/9/2013	1,692,493	2,524,720	16,093	17.8	
	1803	11/9/2013	1,692,494	2,524,719	15,793	17.5	
	1804	11/9/2013	1,692,495	2,524,716	16,623	18.4	
	1805	11/9/2013	1,692,497	2,524,712	16,015	17.7	
	1806	11/9/2013	1,692,501	2,524,707	15,993	17.7	
	1807	11/9/2013	1,692,503	2,524,702	15,993	17.7	
	1808	11/9/2013	1,692,505	2,524,697	15,378	17.0	
	1809	11/9/2013	1,692,508	2,524,693	16,705	18.5	
	1810	11/9/2013	1,692,511	2,524,689	17,184	19.0	
	1811	11/9/2013	1,692,510	2,524,686	17,002	18.8	
	1812	11/9/2013	1,692,508	2,524,684	16,165	17.9	
	1813	11/9/2013	1,692,505	2,524,686	15,656	17.3	
	1814	11/9/2013	1,692,502	2,524,690	17,791	19.7	
	1815	11/9/2013	1,692,500	2,524,695	17,499	19.3	
	1816	11/9/2013	1,692,497	2,524,699	15,985	17.7	
	1817	11/9/2013	1,692,494	2,524,704	15,133	16.7	
	1818	11/9/2013	1,692,492	2,524,708	15,445	17.1	
	1819	11/9/2013	1,692,489	2,524,712	16,000	17.7	
	1820	11/9/2013	1,692,485	2,524,716	16,112	17.8	
	1821	11/9/2013	1,692,481	2,524,718	16,614	18.4	
	1822	11/9/2013	1,692,480	2,524,716	15,472	17.1	
	1823	11/9/2013	1,692,482	2,524,711	15,927	17.6	
	1824	11/9/2013	1,692,484	2,524,707	15,930	17.6	
	1825	11/9/2013	1,692,488	2,524,702	15,187	16.8	
	1826	11/9/2013	1,692,500	2,524,680	16,696	18.4	
	1827	11/9/2013	1,692,501	2,524,676	17,103	18.9	
	1828	11/9/2013	1,692,498	2,524,677	15,144	16.7	
	1829	11/9/2013	1,692,495	2,524,679	15,928	17.6	
	1830	11/9/2013	1,692,491	2,524,684	16,126	17.8	
	1831	11/9/2013	1,692,488	2,524,689	16,073	17.8	
	1832	11/9/2013	1,692,485	2,524,694	16,028	17.7	
	1833	11/9/2013	1,692,483	2,524,700	16,622	18.4	
	1834	11/9/2013	1,692,480	2,524,705	16,764	18.5	
	1835	11/9/2013	1,692,478	2,524,710	17,097	18.9	
	1836	11/9/2013	1,692,475	2,524,714	17,234	19.0	
	1837	11/9/2013	1,692,472	2,524,712	17,108	18.9	
	1838	11/9/2013	1,692,474	2,524,709	17,300	19.1	
	1839	11/9/2013	1,692,475	2,524,705	16,925	18.7	
	1840	11/9/2013	1,692,477	2,524,700	17,287	19.1	
	1841	11/9/2013	1,692,478	2,524,695	16,101	17.8	
	1842	11/9/2013	1,692,479	2,524,690	16,949	18.7	
	1843	11/9/2013	1,692,480	2,524,685	15,714	17.4	
	1844	11/9/2013	1,692,482	2,524,680	15,131	16.7	
	1845	11/9/2013	1,692,485	2,524,676	15,985	17.7	
	1846	11/9/2013	1,692,487	2,524,671	15,347	17.0	
	1847	11/9/2013	1,692,484	2,524,669	16,022	17.7	
	1848	11/9/2013	1,692,482	2,524,672	15,448	17.1	
	1849	11/9/2013	1,692,480	2,524,676	16,114	17.8	
	1850	11/9/2013	1,692,478	2,524,681	15,567	17.2	
	1851	11/9/2013	1,692,475	2,524,686	15,930	17.6	
	1852	11/9/2013	1,692,473	2,524,691	15,435	17.1	
	1853	11/9/2013	1,692,471	2,524,696	17,914	19.8	
	1854	11/9/2013	1,692,469	2,524,701	17,537	19.4	
	1855	11/9/2013	1,692,465	2,524,703	17,804	19.7	
	1856	11/9/2013	1,692,462	2,524,704	17,280	19.1	
	1857	11/9/2013	1,692,461	2,524,700	17,469	19.3	
	1858	11/9/2013	1,692,462	2,524,695	17,130	18.9	
	1859	11/9/2013	1,692,465	2,524,691	16,354	18.1	
	1860	11/9/2013	1,692,468	2,524,687	16,526	18.3	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 28	1261	2/18/2014	1,692,496	2,524,723	16,831	18.6	18.1
	1262	2/18/2014	1,692,497	2,524,721	15,723	17.4	
	1263	2/18/2014	1,692,495	2,524,720	15,276	16.9	
	1264	2/18/2014	1,692,495	2,524,719	16,826	18.6	
	1265	2/18/2014	1,692,499	2,524,714	16,726	18.5	
	1266	2/18/2014	1,692,501	2,524,709	16,719	18.5	
	1267	2/18/2014	1,692,506	2,524,702	15,495	17.1	
	1268	2/18/2014	1,692,506	2,524,698	15,758	17.4	
	1269	2/18/2014	1,692,510	2,524,694	16,952	18.7	
	1270	2/18/2014	1,692,512	2,524,689	16,820	18.6	
	1271	2/18/2014	1,692,512	2,524,687	17,255	19.1	
	1272	2/18/2014	1,692,510	2,524,687	16,543	18.3	
	1273	2/18/2014	1,692,508	2,524,686	15,911	17.6	
	1274	2/18/2014	1,692,503	2,524,692	18,256	20.2	
	1275	2/18/2014	1,692,502	2,524,697	16,925	18.7	
	1276	2/18/2014	1,692,500	2,524,702	16,603	18.3	
	1277	2/18/2014	1,692,496	2,524,707	15,576	17.2	
	1278	2/18/2014	1,692,493	2,524,711	16,095	17.8	
	1279	2/18/2014	1,692,490	2,524,714	15,885	17.6	
	1280	2/18/2014	1,692,486	2,524,717	16,419	18.1	
	1281	2/18/2014	1,692,482	2,524,719	16,612	18.4	
	1282	2/18/2014	1,692,481	2,524,717	14,884	16.4	
	1283	2/18/2014	1,692,483	2,524,712	16,157	17.9	
	1284	2/18/2014	1,692,486	2,524,709	15,521	17.2	
	1285	2/18/2014	1,692,488	2,524,705	15,030	16.6	
	1286	2/18/2014	1,692,503	2,524,682	16,312	18.0	
	1287	2/18/2014	1,692,502	2,524,677	16,546	18.3	
	1288	2/18/2014	1,692,500	2,524,679	14,780	16.3	
	1289	2/18/2014	1,692,498	2,524,679	16,040	17.7	
	1290	2/18/2014	1,692,491	2,524,686	16,516	18.3	
	1291	2/18/2014	1,692,491	2,524,690	15,611	17.3	
	1292	2/18/2014	1,692,488	2,524,696	16,694	18.4	
	1293	2/18/2014	1,692,486	2,524,701	16,067	17.8	
	1294	2/18/2014	1,692,481	2,524,707	16,136	17.8	
	1295	2/18/2014	1,692,479	2,524,710	16,665	18.4	
	1296	2/18/2014	1,692,477	2,524,716	17,736	19.6	
	1297	2/18/2014	1,692,475	2,524,713	17,389	19.2	
	1298	2/18/2014	1,692,475	2,524,712	17,458	19.3	
	1299	2/18/2014	1,692,478	2,524,706	16,456	18.2	
	1300	2/18/2014	1,692,478	2,524,700	17,317	19.1	
	1301	2/18/2014	1,692,478	2,524,697	16,742	18.5	
	1302	2/18/2014	1,692,480	2,524,691	16,649	18.4	
	1303	2/18/2014	1,692,482	2,524,687	16,339	18.1	
	1304	2/18/2014	1,692,484	2,524,680	14,804	16.4	
	1305	2/18/2014	1,692,487	2,524,677	15,337	16.9	
	1306	2/18/2014	1,692,488	2,524,671	15,057	16.6	
	1307	2/18/2014	1,692,487	2,524,672	15,757	17.4	
	1308	2/18/2014	1,692,484	2,524,673	15,325	16.9	
	1309	2/18/2014	1,692,481	2,524,677	16,353	18.1	
	1310	2/18/2014	1,692,479	2,524,681	15,171	16.8	
	1311	2/18/2014	1,692,478	2,524,687	15,681	17.3	
	1312	2/18/2014	1,692,473	2,524,692	15,787	17.4	
	1313	2/18/2014	1,692,472	2,524,697	18,688	20.7	
	1314	2/18/2014	1,692,472	2,524,702	16,774	18.5	
	1315	2/18/2014	1,692,467	2,524,705	18,400	20.3	
	1316	2/18/2014	1,692,464	2,524,705	16,881	18.7	
	1317	2/18/2014	1,692,463	2,524,702	17,399	19.2	
	1318	2/18/2014	1,692,463	2,524,696	17,491	19.3	
	1319	2/18/2014	1,692,468	2,524,692	16,758	18.5	
	1320	2/18/2014	1,692,469	2,524,690	15,841	17.5	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 29	1861	11/9/2013	1,692,985	2,525,286	16,035	17.7	18.5
	1862	11/9/2013	1,692,986	2,525,286	16,320	18.0	
	1863	11/9/2013	1,692,988	2,525,288	16,205	17.9	
	1864	11/9/2013	1,692,993	2,525,288	15,742	17.4	
	1865	11/9/2013	1,692,997	2,525,290	16,818	18.6	
	1866	11/9/2013	1,693,002	2,525,291	15,856	17.5	
	1867	11/9/2013	1,693,007	2,525,293	16,685	18.4	
	1868	11/9/2013	1,693,011	2,525,294	17,982	19.9	
	1869	11/9/2013	1,693,016	2,525,294	16,925	18.7	
	1870	11/9/2013	1,693,018	2,525,293	16,680	18.4	
	1871	11/9/2013	1,693,018	2,525,289	17,242	19.1	
	1872	11/9/2013	1,693,013	2,525,287	16,823	18.6	
	1873	11/9/2013	1,693,008	2,525,285	16,825	18.6	
	1874	11/9/2013	1,693,003	2,525,283	15,302	16.9	
	1875	11/9/2013	1,692,997	2,525,282	16,151	17.8	
	1876	11/9/2013	1,692,992	2,525,280	16,787	18.5	
	1877	11/9/2013	1,692,986	2,525,279	16,927	18.7	
	1878	11/9/2013	1,692,982	2,525,280	16,774	18.5	
	1879	11/9/2013	1,692,979	2,525,278	15,565	17.2	
	1880	11/9/2013	1,692,981	2,525,276	15,850	17.5	
	1881	11/9/2013	1,692,985	2,525,277	16,322	18.0	
	1882	11/9/2013	1,692,989	2,525,277	16,796	18.6	
	1883	11/9/2013	1,692,994	2,525,277	16,132	17.8	
	1884	11/9/2013	1,692,999	2,525,277	17,246	19.1	
	1885	11/9/2013	1,693,003	2,525,277	16,844	18.6	
	1886	11/9/2013	1,693,008	2,525,278	17,595	19.4	
	1887	11/9/2013	1,693,013	2,525,279	16,355	18.1	
	1888	11/9/2013	1,693,018	2,525,279	17,676	19.5	
	1889	11/9/2013	1,693,023	2,525,280	16,896	18.7	
	1890	11/9/2013	1,693,023	2,525,276	16,545	18.3	
	1891	11/9/2013	1,693,018	2,525,275	16,802	18.6	
	1892	11/9/2013	1,693,014	2,525,272	16,268	18.0	
	1893	11/9/2013	1,693,009	2,525,271	17,449	19.3	
	1894	11/9/2013	1,693,005	2,525,269	17,157	19.0	
	1895	11/9/2013	1,693,001	2,525,267	17,001	18.8	
	1896	11/9/2013	1,692,997	2,525,265	17,202	19.0	
	1897	11/9/2013	1,692,993	2,525,263	17,292	19.1	
	1898	11/9/2013	1,692,987	2,525,261	16,070	17.8	
	1899	11/9/2013	1,692,985	2,525,259	16,433	18.2	
	1900	11/9/2013	1,692,989	2,525,259	16,666	18.4	
	1901	11/9/2013	1,692,994	2,525,260	16,247	18.0	
	1902	11/9/2013	1,692,999	2,525,261	15,821	17.5	
	1903	11/9/2013	1,693,004	2,525,262	16,390	18.1	
	1904	11/9/2013	1,693,009	2,525,264	17,205	19.0	
	1905	11/9/2013	1,693,014	2,525,266	17,459	19.3	
	1906	11/9/2013	1,693,018	2,525,267	18,067	20.0	
	1907	11/9/2013	1,693,023	2,525,269	18,031	19.9	
	1908	11/9/2013	1,693,024	2,525,266	17,035	18.8	
	1909	11/9/2013	1,693,022	2,525,263	16,596	18.3	
	1910	11/9/2013	1,693,017	2,525,260	16,221	17.9	
	1911	11/9/2013	1,693,013	2,525,258	17,042	18.8	
	1912	11/9/2013	1,693,008	2,525,254	16,581	18.3	
	1913	11/9/2013	1,693,003	2,525,251	17,076	18.9	
	1914	11/9/2013	1,692,999	2,525,248	17,753	19.6	
	1915	11/9/2013	1,692,994	2,525,245	16,624	18.4	
	1916	11/9/2013	1,692,995	2,525,241	16,507	18.2	
	1917	11/9/2013	1,692,999	2,525,243	16,647	18.4	
	1918	11/9/2013	1,693,003	2,525,246	16,913	18.7	
	1919	11/9/2013	1,693,007	2,525,249	17,503	19.3	
	1920	11/9/2013	1,693,011	2,525,253	17,950	19.8	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 29	1561	2/18/2014	1,692,988	2,525,287	16,737	18.5	18.4
	1562	2/18/2014	1,692,987	2,525,287	15,911	17.6	
	1563	2/18/2014	1,692,990	2,525,289	16,053	17.7	
	1564	2/18/2014	1,692,993	2,525,290	16,030	17.7	
	1565	2/18/2014	1,693,001	2,525,290	17,385	19.2	
	1566	2/18/2014	1,693,006	2,525,293	15,217	16.8	
	1567	2/18/2014	1,693,011	2,525,295	16,301	18.0	
	1568	2/18/2014	1,693,013	2,525,294	18,466	20.4	
	1569	2/18/2014	1,693,018	2,525,295	17,419	19.2	
	1570	2/18/2014	1,693,019	2,525,295	16,334	18.0	
	1571	2/18/2014	1,693,020	2,525,291	16,832	18.6	
	1572	2/18/2014	1,693,015	2,525,289	15,188	16.8	
	1573	2/18/2014	1,693,010	2,525,286	16,816	18.6	
	1574	2/18/2014	1,693,003	2,525,285	15,888	17.6	
	1575	2/18/2014	1,692,999	2,525,282	16,201	17.9	
	1576	2/18/2014	1,692,992	2,525,282	16,407	18.1	
	1577	2/18/2014	1,692,988	2,525,281	16,686	18.4	
	1578	2/18/2014	1,692,984	2,525,280	16,782	18.5	
	1579	2/18/2014	1,692,980	2,525,279	15,437	17.1	
	1580	2/18/2014	1,692,981	2,525,279	15,595	17.2	
	1581	2/18/2014	1,692,986	2,525,278	16,659	18.4	
	1582	2/18/2014	1,692,989	2,525,279	17,192	19.0	
	1583	2/18/2014	1,692,998	2,525,279	15,837	17.5	
	1584	2/18/2014	1,692,999	2,525,277	17,164	19.0	
	1585	2/18/2014	1,693,007	2,525,278	16,852	18.6	
	1586	2/18/2014	1,693,012	2,525,278	17,762	19.6	
	1587	2/18/2014	1,693,015	2,525,280	15,796	17.5	
	1588	2/18/2014	1,693,018	2,525,280	16,630	18.4	
	1589	2/18/2014	1,693,024	2,525,282	16,343	18.1	
	1590	2/18/2014	1,693,027	2,525,278	15,985	17.7	
	1591	2/18/2014	1,693,023	2,525,275	17,473	19.3	
	1592	2/18/2014	1,693,016	2,525,273	16,586	18.3	
	1593	2/18/2014	1,693,011	2,525,273	16,731	18.5	
	1594	2/18/2014	1,693,007	2,525,270	16,416	18.1	
	1595	2/18/2014	1,693,003	2,525,269	17,748	19.6	
	1596	2/18/2014	1,692,997	2,525,265	17,427	19.3	
	1597	2/18/2014	1,692,996	2,525,263	17,999	19.9	
	1598	2/18/2014	1,692,989	2,525,261	15,807	17.5	
	1599	2/18/2014	1,692,985	2,525,261	16,884	18.7	
	1600	2/18/2014	1,692,990	2,525,260	17,008	18.8	
	1601	2/18/2014	1,692,998	2,525,261	16,562	18.3	
	1602	2/18/2014	1,693,003	2,525,263	16,286	18.0	
	1603	2/18/2014	1,693,008	2,525,263	16,621	18.4	
	1604	2/18/2014	1,693,010	2,525,265	16,649	18.4	
	1605	2/18/2014	1,693,016	2,525,267	16,770	18.5	
	1606	2/18/2014	1,693,020	2,525,269	17,523	19.4	
	1607	2/18/2014	1,693,027	2,525,270	18,242	20.2	
	1608	2/18/2014	1,693,029	2,525,268	16,399	18.1	
	1609	2/18/2014	1,693,024	2,525,265	16,879	18.7	
	1610	2/18/2014	1,693,020	2,525,261	15,905	17.6	
	1611	2/18/2014	1,693,014	2,525,258	17,187	19.0	
	1612	2/18/2014	1,693,011	2,525,255	16,058	17.7	
	1613	2/18/2014	1,693,005	2,525,252	17,268	19.1	
	1614	2/18/2014	1,693,000	2,525,248	17,017	18.8	
	1615	2/18/2014	1,692,997	2,525,246	16,562	18.3	
	1616	2/18/2014	1,692,997	2,525,242	16,038	17.7	
	1617	2/18/2014	1,693,003	2,525,245	16,958	18.7	
	1618	2/18/2014	1,693,006	2,525,248	16,138	17.8	
	1619	2/18/2014	1,693,009	2,525,250	18,029	19.9	
	1620	2/18/2014	1,693,015	2,525,254	18,705	20.7	

NECR PDS Impoundment Location Pre-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM[1]	Exposure Rate	
			Y (ft)	X (ft)		uR/hr[2]	Average uR/hr
Location ID 27	1921	11/12/2013	1,691,696	2,526,095	16,298	18.0	17.4
	1922	11/12/2013	1,691,696	2,526,095	15,393	17.0	
	1923	11/12/2013	1,691,696	2,526,095	15,449	17.1	
	1924	11/12/2013	1,691,694	2,526,093	15,746	17.4	
	1925	11/12/2013	1,691,690	2,526,090	16,621	18.4	
	1926	11/12/2013	1,691,688	2,526,090	15,561	17.2	
	1927	11/12/2013	1,691,685	2,526,088	16,276	18.0	
	1928	11/12/2013	1,691,683	2,526,084	16,337	18.1	
	1929	11/12/2013	1,691,680	2,526,082	15,486	17.1	
	1930	11/12/2013	1,691,678	2,526,081	15,531	17.2	
	1931	11/12/2013	1,691,672	2,526,078	16,450	18.2	
	1932	11/12/2013	1,691,668	2,526,079	15,087	16.7	
	1933	11/12/2013	1,691,670	2,526,082	15,764	17.4	
	1934	11/12/2013	1,691,673	2,526,086	16,867	18.6	
	1935	11/12/2013	1,691,678	2,526,089	15,095	16.7	
	1936	11/12/2013	1,691,683	2,526,093	14,654	16.2	
	1937	11/12/2013	1,691,687	2,526,095	14,416	15.9	
	1938	11/12/2013	1,691,692	2,526,098	16,387	18.1	
	1939	11/12/2013	1,691,697	2,526,100	16,139	17.8	
	1940	11/12/2013	1,691,696	2,526,105	15,380	17.0	
	1941	11/12/2013	1,691,691	2,526,105	15,489	17.1	
	1942	11/12/2013	1,691,687	2,526,102	16,752	18.5	
	1943	11/12/2013	1,691,682	2,526,099	16,949	18.7	
	1944	11/12/2013	1,691,676	2,526,095	15,560	17.2	
	1945	11/12/2013	1,691,672	2,526,092	15,635	17.3	
	1946	11/12/2013	1,691,667	2,526,090	15,532	17.2	
	1947	11/12/2013	1,691,664	2,526,089	14,977	16.5	
	1948	11/12/2013	1,691,662	2,526,092	14,733	16.3	
	1949	11/12/2013	1,691,664	2,526,095	14,754	16.3	
	1950	11/12/2013	1,691,668	2,526,097	15,890	17.6	
	1951	11/12/2013	1,691,672	2,526,100	14,793	16.3	
	1952	11/12/2013	1,691,674	2,526,103	16,488	18.2	
	1953	11/12/2013	1,691,678	2,526,105	15,825	17.5	
	1954	11/12/2013	1,691,681	2,526,109	15,560	17.2	
	1955	11/12/2013	1,691,685	2,526,112	15,772	17.4	
	1956	11/12/2013	1,691,688	2,526,115	15,753	17.4	
	1957	11/12/2013	1,691,685	2,526,117	16,922	18.7	
	1958	11/12/2013	1,691,682	2,526,115	16,085	17.8	
	1959	11/12/2013	1,691,678	2,526,112	15,227	16.8	
	1960	11/12/2013	1,691,674	2,526,109	15,461	17.1	
	1961	11/12/2013	1,691,667	2,526,103	15,922	17.6	
	1962	11/12/2013	1,691,664	2,526,099	14,723	16.3	
	1963	11/12/2013	1,691,660	2,526,095	15,425	17.0	
	1964	11/12/2013	1,691,656	2,526,094	14,771	16.3	
	1965	11/12/2013	1,691,655	2,526,096	15,605	17.2	
	1966	11/12/2013	1,691,659	2,526,099	16,622	18.4	
	1967	11/12/2013	1,691,662	2,526,102	17,103	18.9	
	1968	11/12/2013	1,691,665	2,526,106	15,510	17.1	
	1969	11/12/2013	1,691,669	2,526,110	15,398	17.0	
	1970	11/12/2013	1,691,672	2,526,113	16,491	18.2	
	1971	11/12/2013	1,691,676	2,526,116	15,247	16.8	
	1972	11/12/2013	1,691,680	2,526,121	15,250	16.9	
	1973	11/12/2013	1,691,681	2,526,125	15,615	17.3	
	1974	11/12/2013	1,691,674	2,526,123	15,940	17.6	
	1975	11/12/2013	1,691,668	2,526,119	15,746	17.4	
	1976	11/12/2013	1,691,665	2,526,115	15,833	17.5	
	1977	11/12/2013	1,691,662	2,526,112	16,297	18.0	
	1978	11/12/2013	1,691,658	2,526,110	16,106	17.8	
	1979	11/12/2013	1,691,652	2,526,106	17,368	19.2	
	1980	11/12/2013	1,691,652	2,526,101	16,019	17.7	

NECR PDS Impoundment Location Post-Drilling Gamma Rad Scan							
Drilling Location N0.	Point Number	Date	NAD83, NMWest, Feet		CPM	Exposure Rate	
			Y (ft)	X (ft)		uR/hr	Average uR/hr
Location ID 27	961	2/18/2014	1,691,698	2,526,096	16,062	17.7	17.4
	962	2/18/2014	1,691,698	2,526,096	15,338	16.9	
	963	2/18/2014	1,691,697	2,526,097	14,795	16.3	
	964	2/18/2014	1,691,695	2,526,095	15,855	17.5	
	965	2/18/2014	1,691,691	2,526,091	15,923	17.6	
	966	2/18/2014	1,691,690	2,526,091	15,229	16.8	
	967	2/18/2014	1,691,687	2,526,089	16,241	17.9	
	968	2/18/2014	1,691,683	2,526,086	15,864	17.5	
	969	2/18/2014	1,691,682	2,526,085	15,723	17.4	
	970	2/18/2014	1,691,679	2,526,085	14,881	16.4	
	971	2/18/2014	1,691,673	2,526,081	16,116	17.8	
	972	2/18/2014	1,691,669	2,526,084	14,560	16.1	
	973	2/18/2014	1,691,672	2,526,083	16,421	18.1	
	974	2/18/2014	1,691,675	2,526,086	16,927	18.7	
	975	2/18/2014	1,691,679	2,526,092	14,359	15.9	
	976	2/18/2014	1,691,683	2,526,095	15,083	16.7	
	977	2/18/2014	1,691,688	2,526,099	14,134	15.6	
	978	2/18/2014	1,691,694	2,526,098	16,688	18.4	
	979	2/18/2014	1,691,699	2,526,101	15,670	17.3	
	980	2/18/2014	1,691,698	2,526,108	15,495	17.1	
	981	2/18/2014	1,691,692	2,526,107	14,912	16.5	
	982	2/18/2014	1,691,689	2,526,107	16,942	18.7	
	983	2/18/2014	1,691,682	2,526,099	16,333	18.0	
	984	2/18/2014	1,691,678	2,526,097	15,217	16.8	
	985	2/18/2014	1,691,673	2,526,097	15,645	17.3	
	986	2/18/2014	1,691,668	2,526,094	15,449	17.1	
	987	2/18/2014	1,691,665	2,526,093	15,010	16.6	
	988	2/18/2014	1,691,662	2,526,097	14,204	15.7	
	989	2/18/2014	1,691,665	2,526,099	14,438	16.0	
	990	2/18/2014	1,691,670	2,526,098	16,617	18.4	
	991	2/18/2014	1,691,674	2,526,101	15,233	16.8	
	992	2/18/2014	1,691,676	2,526,107	15,815	17.5	
	993	2/18/2014	1,691,678	2,526,107	15,280	16.9	
	994	2/18/2014	1,691,683	2,526,113	16,144	17.8	
	995	2/18/2014	1,691,686	2,526,116	15,397	17.0	
	996	2/18/2014	1,691,690	2,526,119	15,871	17.5	
	997	2/18/2014	1,691,685	2,526,119	17,599	19.4	
	998	2/18/2014	1,691,684	2,526,116	16,739	18.5	
	999	2/18/2014	1,691,680	2,526,113	14,846	16.4	
	1000	2/18/2014	1,691,676	2,526,109	16,047	17.7	
	1001	2/18/2014	1,691,668	2,526,106	15,544	17.2	
	1002	2/18/2014	1,691,665	2,526,100	14,231	15.7	
	1003	2/18/2014	1,691,661	2,526,100	14,693	16.2	
	1004	2/18/2014	1,691,656	2,526,097	14,326	15.8	
	1005	2/18/2014	1,691,657	2,526,099	16,256	18.0	
	1006	2/18/2014	1,691,659	2,526,103	16,348	18.1	
	1007	2/18/2014	1,691,663	2,526,105	17,774	19.6	
	1008	2/18/2014	1,691,666	2,526,111	15,779	17.4	
	1009	2/18/2014	1,691,670	2,526,112	15,680	17.3	
	1010	2/18/2014	1,691,674	2,526,116	16,666	18.4	
	1011	2/18/2014	1,691,677	2,526,118	15,898	17.6	
	1012	2/18/2014	1,691,681	2,526,126	15,519	17.1	
	1013	2/18/2014	1,691,682	2,526,129	15,086	16.7	
	1014	2/18/2014	1,691,675	2,526,128	15,396	17.0	
	1015	2/18/2014	1,691,670	2,526,121	15,183	16.8	
	1016	2/18/2014	1,691,665	2,526,118	16,081	17.8	
	1017	2/18/2014	1,691,664	2,526,114	16,897	18.7	
	1018	2/18/2014	1,691,658	2,526,113	15,841	17.5	
	1019	2/18/2014	1,691,653	2,526,110	17,585	19.4	
	1020	2/18/2014	1,691,653	2,526,104	16,413	18.1	

APPENDIX D

CEDAR CREEK ASSOCIATES, INC. REPORTS

APPENDIX D1

VEGETATION CHARACTERIZATION AND BIOINTRUSION SURVEY

CEDAR CREEK ASSOCIATES, INC.

United Nuclear Corporation

Vegetation Characterization and Biointrusion Surveys

CHURCH ROCK MILL SITE

JULY, 2014

CEDAR CREEK ASSOCIATES, INC.
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United Nuclear Corporation (UNC)

Church Rock Mill Site

VEGETATION CHARACTERIZATION AND BIOINTRUSION SURVEYS

1.0 INTRODUCTION

Cedar Creek Associates, Inc. (Cedar Creek) was contracted in 2013 to implement vegetation and bio-intrusion surveys in support of the proposed repository for United Nuclear Corporation's (UNC) Church Rock Mill Site (Mill Site). Analog sites were selected to provide an opportunity to quantitatively evaluate specific parameters of the successional communities expected to progressively inhabit the repository through the regulated 1,000 year timeline. For each projected community (ecological scenario), vegetation and biointrusion (both plant and animal) surveys were conducted October 19th-23rd 2013 by or under the direct supervision of Cedar Creek Ecologist (and Project Manager) Mr. Jesse H. Dillon.

Projected vegetative communities that are expected to inhabit the repository during the 1,000 year timeline were characterized by field sampling. Vegetation sampling procedures included metrics for (1) ground cover (canopy cover), (2) species richness or diversity, (3) vegetative production (biomass) and (4) woody plant density. Ground cover results were analyzed to present Leaf Area Index (LAI) for each projected community. Vegetative root density and depth were characterized through field sampling using excavated soil pits and were verified through literature research. Animal biointrusion evaluation determined the presence of burrowing animals and the potential for future colonization of the proposed repository, based on the local populations' existing habitat and the various scenarios for long-term vegetated cover and communities. Animal biointrusion sampling occurred as small mammal trapping and incidental wildlife observation transects.

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2.0 VEGETATION COMMUNITIES

Five vegetation communities exist in the vicinity of the Mill Site (Map 1).

Reclaimed	A previously disturbed ecosystem which has been revegetated through either natural or anthropogenic means.
Grassland	A native ecosystem which is characterized by deep soils and is physiognomically dominated by grasses.
Shrubland	A native ecosystem which is characterized by deep soils and is physiognomically dominated by shrubs.
Piñon Juniper	A native ecosystem which is characterized by thin soils and is physiognomically dominated by trees.
Disturbed Bottomland	A bottomland ecosystem which is characterized by deep soils and riparian vegetation. Riparian vegetation has elevated water requirements which are typically met with a water table close to the surface.

Through literature review, field investigation, and analysis, Cedar Creek has identified the following three vegetation communities that are projected to colonize the repository over the next 1,000 years: reclaimed (early-successional), grassland (mid-successional), and shrubland (late-successional or climax community). The Piñon Juniper community, which prefers thin soils, was eliminated as a potential ecological scenario on the repository because the soils profile (as currently proposed) can be considered a deep soil. The Disturbed Bottomland community was eliminated as a potential ecological scenario on the repository because of the elevated water requirement of the vegetation. The repository will be designed to shed any water that falls directly onto it, and with diversion channels to divert any water that flows toward it.

Though specific timeframes are very difficult to predict and are often affected by environmental conditions such as climate, and land management activities such as grazing, the projected communities are expected to inhabit the repository for the following timeframes:

- Reclaimed: 0 - 50 Years
- Grassland: 25 - 100 Years
- Shrubland: 50 - 1,000 Years

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Analog Area Selection

The grassland and shrubland analog area(s) to be used to characterize ecological scenarios for the repository cap will be selected from undisturbed areas in the vicinity of the project area. Preferred analog areas can be characterized as "ecologically and topographically similar" to the eventual rehabilitated landform and are based on three main considerations, as follows:

1. The analog area(s) is representative vegetation communities projected to inhabit the cap.
2. The analog area(s) occupy topography and aspects that are representative of the majority of reclaimed areas.
3. The analog area(s) exhibit similar physical soil conditions as reclaimed areas and therefore, should be an "approximate ecological equivalent".

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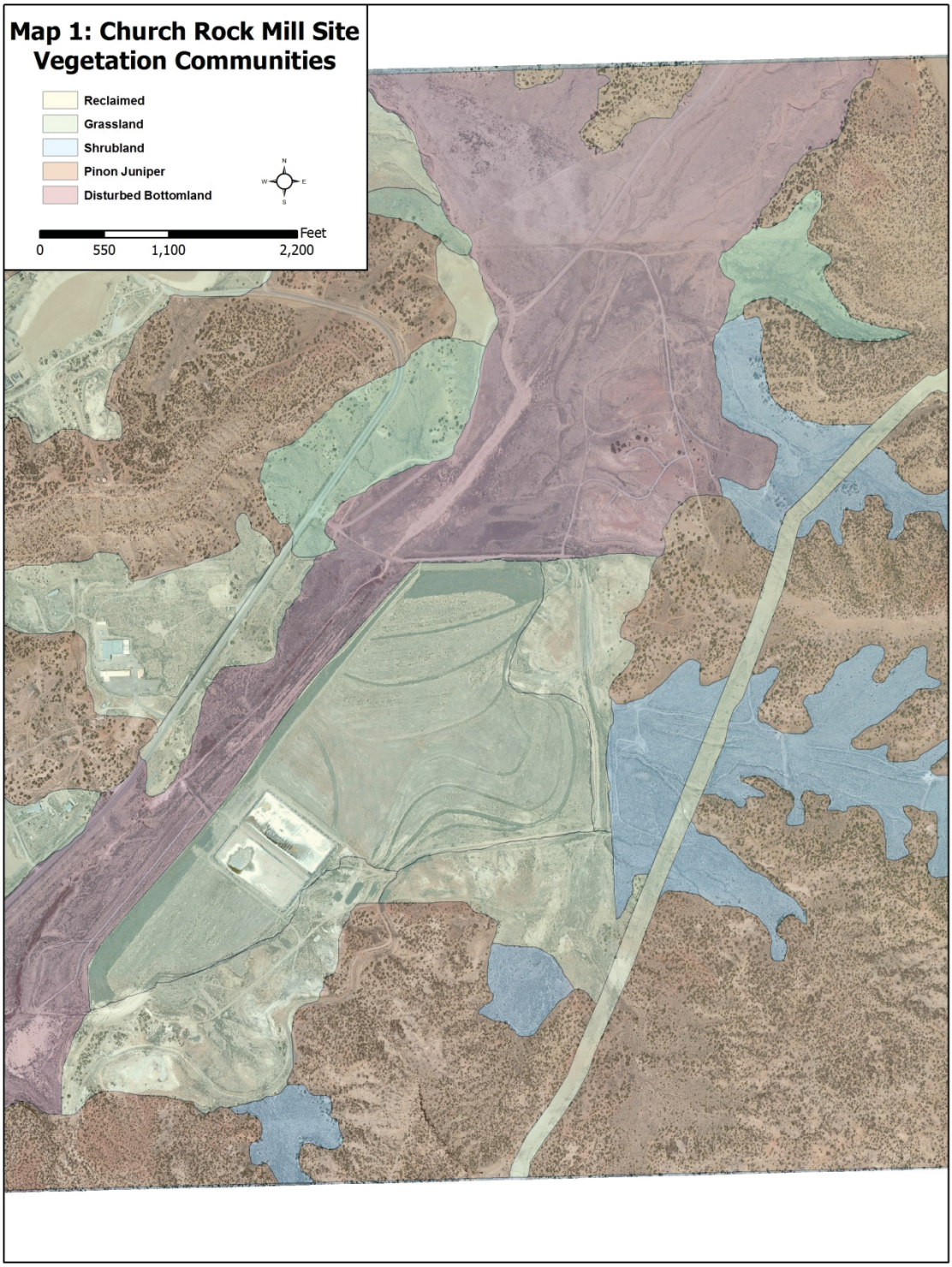

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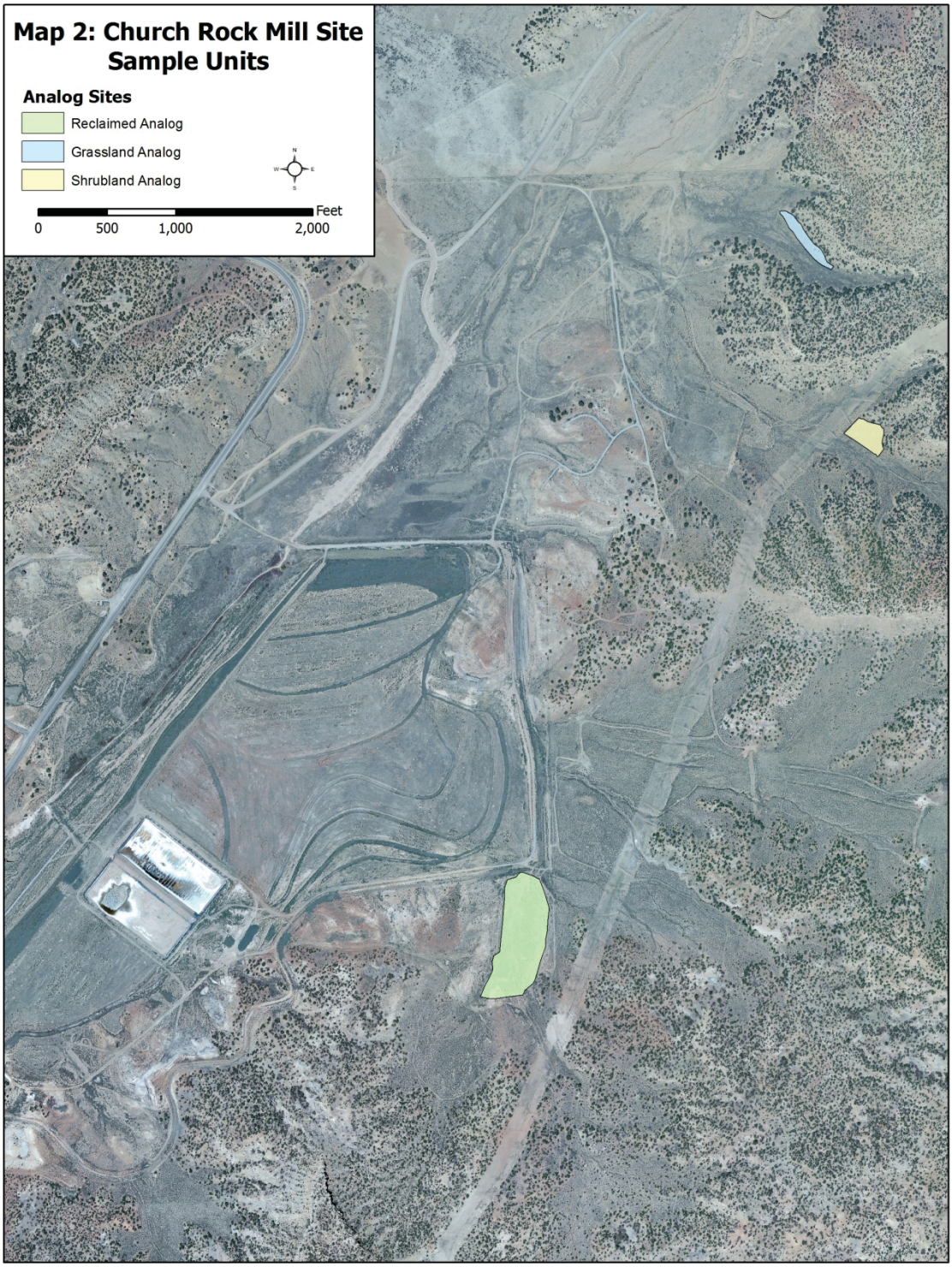

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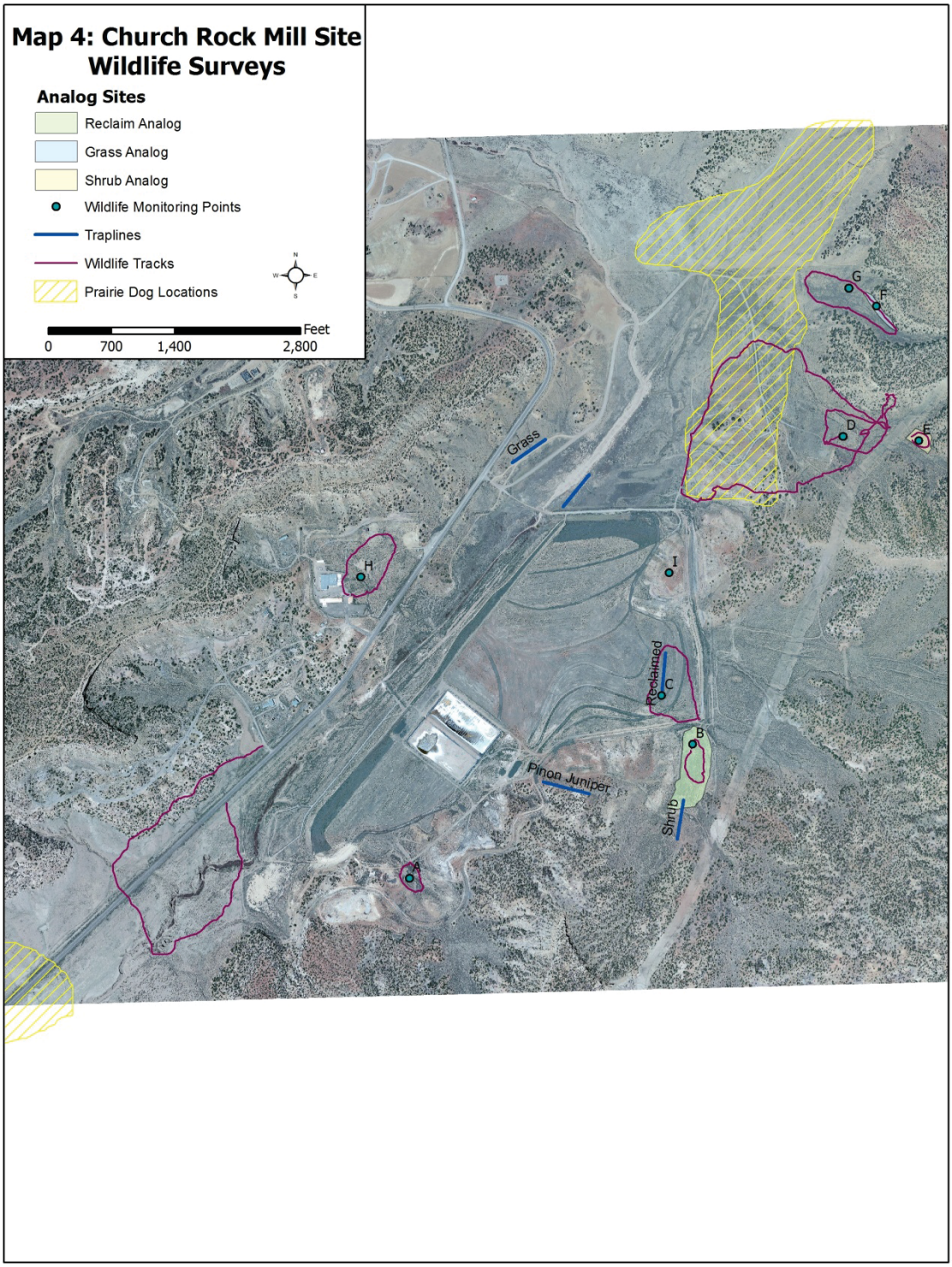

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2.1 Reclaimed Community

The reclaimed community was characterized by sampling the Reclaimed Analog site. This site is located in a previous borrow source, that has been disturbed and was reclaimed, either naturally or anthropogenically, approximately twenty years ago (Map 2). The vegetation and biointrusion survey results are presented below. Discussions on all results can be found in Section 3.

2.1.1 Vegetation Survey Results

Vegetation was evaluated in the Reclaimed Analog using 15 co-located ground cover, production (current annual biomass), and woody plant density belts. Vegetation sampling results are presented on Table 1 with the raw data presented in the Baseline report (Cedar Creek, 2014). In general, the reclaimed community is characterized by early/mid seral species. This community displays the highest cover, production, species diversity, and woody plant density of the three projected communities. Bareground exposure, litter, and rock cover were 27.9%, 25.1%, and 1.2%, respectively.

Table 1 - Vegetation Parameters

Reclaimed Community

Ground Cover by Lifeform			
Grass	Forb	Shrub/Tree	**Total**
17.8%	12.6%	17.3%	**47.7%**

Ground Cover by Habit			
Perennial	Annual	Noxious	**Total**
36.6%	11.1%	0.0%	**47.7%**

Species Diversity			
Perennial	Annual	Noxious	**Total**
9	6	0	**15**

Dominant Species	
Artriplex canescens	16.9%
Sporobolus cryptandrus	6.4%
Achnatherum hymenoides	5.7%
Symphyotrichum falcatum	4.2%

Production by Lifeform (lbs per acre)		
Grass	Forb	Shrub/Tree
422.8	38.8	186.2
Total = 647.7 lbs per acre		

Production by Habit (lbs per acre)		
Perennial	Annual	Noxious
422.8	38.8	186.2
Total = 647.7 lbs per acre		

Woody Plant Density (stems per acre)		
Shrub	Succulent	Tree
2,061	0	0
Total = 2,061 stems per acre		

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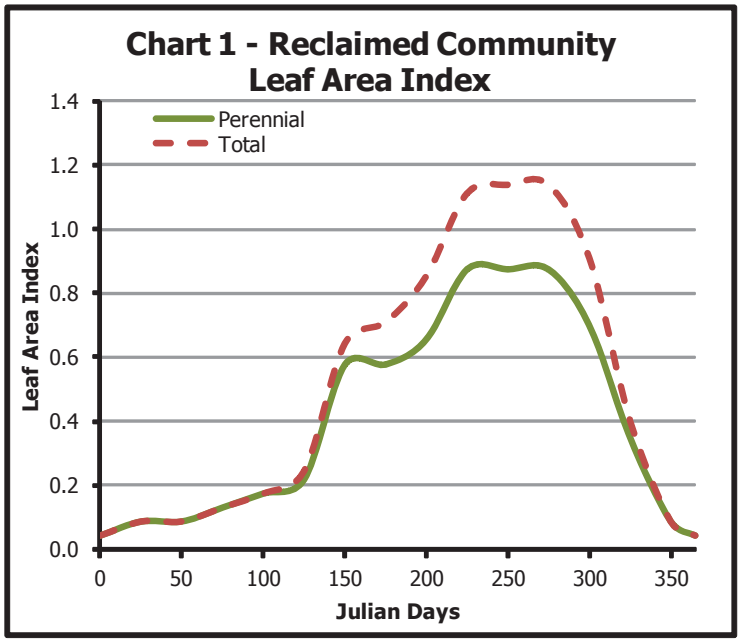
2.1.2 Leaf Area Index Results

Leaf area index was characterized with an indirect approach, using vegetative ground cover as a basis. Since surveys were conducted October 19th-23rd, leaf area index was quantified when approximately 80% of the peak potential. Results are presented on Table 2 and Chart 1. Data were extrapolated throughout the Julian calendar to account for plant dynamics.

Table 2 - Leaf Area Index

Reclaimed Community				Leaf Area Index
Grasses	Perennial	Native	Cool-Season	0.18
			Warm-Season	0.12
		Introduced		-
	Annual			0.13
Forbs	Perennial	Native		0.07
		Introduced		-
	Annual & Biennial Native & Introduced			0.08
Sub-shrubs				-
Shrubs				0.33
Total LAI				0.91
Perennial LAI				0.70



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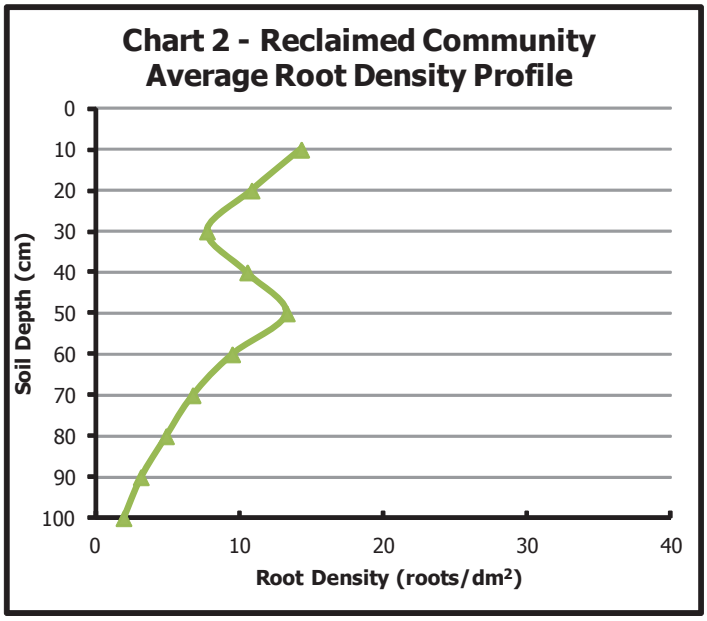
2.1.3 Biointrusion Results

Plant

Two soil pits were excavated to a depth of approximately 5 feet to evaluate root density in the reclaimed community (Map 3). Average results are presented on Table 1 and Chart 1. Root density was highest at the soil surface with a density of 14.3 roots/dm^2, and generally decreased with depth to 1.95 roots/dm^2 at 100cm depth, except for a slight increase between 30-50 cm depth. This increase is due to both physical restriction of the roots and perching of the water table on top of a carbonate accumulation horizon, stimulating opportunistic root growth. The upper 0.4 meters of the soil profile contained 50% of the roots. Roots were observed to 58 inches depth, but were very fine and few in number below a depth of 80 cm. No shrub taproots were observed to a depth greater than or near the bottom of the pit.

Table 3 Reclaimed Community Summary

Depth Interval (cm)	Average root density (roots/dm^2)	Average of Total Roots (%)	Cumulative Average Root Density (%)
0 - 10	14.3	18.91	18.91
10 - 20	10.85	12.22	31.13
20 - 30	7.75	7.99	39.12
30 - 40	10.55	12.62	51.75
40 - 50	13.3	16.06	67.80
50 - 60	9.5	11.44	79.24
60 - 70	6.75	8.50	87.74
70 - 80	4.9	6.23	93.98
80 - 90	3.15	3.67	97.65
90 - 100	1.95	2.35	100.00



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Animal

Trapping associated with the reclaimed community was conducted on the revegetated tailings facility to maximize the efficiency of the data (Map 4). Trapping located closer to the proposed location of the repository provides more accurate data for the small mammal potential on the repository while still representing the reclaimed community. As indicated on Table 4, trapping in the reclaimed community yielded 0 captures.

Table 4 - NECR - Wildlife Surveys

Small Mammal Trapping Results - Fall 2013

Surveys Occurred from 10/21/13 to 10/23/13

Sample Area (Plot No.)	Captures			
	DAY 1	DAY 2	DAY 3	TOTAL
Revegetated Tailings (Reclaimed)	0	0	0	0

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2.2 Grassland Community

The grassland community was characterized by sampling the Grassland Analog site. This site is located immediately adjacent to the North Drainage Borrow (Map 2). The vegetation and biointrusion survey results are presented below. Discussions on all results can be found in Section 3.

2.2.1 Vegetation Survey Results

Vegetation was evaluated in the Grassland Analog using 15 co-located ground cover, production (current annual biomass), and woody plant density belts. Vegetation sampling results are presented on Table 5 and the raw data is presented in the Baseline report (Cedar Creek, 2014). In general, the Grassland community is characterized by mid/late seral species. This community displays the middle cover, production, and species diversity, and the lowest woody plant density of the projected communities. Bareground exposure, litter, and rock cover were 32.9%, 25.3%, and 6.7%, respectively.

Table 5 - Vegetation Parameters

Grassland Community

Ground Cover by Lifeform			
Grass	Forb	Shrub/Tree	**Total**
25.7%	3.4%	6.1%	**35.1%**

Ground Cover by Habit			
Perennial	Annual	Noxious	**Total**
31.7%	3.4%	0.0%	**35.1%**

Species Diversity			
Perennial	Annual	Noxious	**Total**
10	4	0	**14**

Dominant Species	
Bouteloua gracilis	24.5%
Gutierrezia sarothrae	4.4%
Salsola tragus	2.9%
Chrysothamnus nauseosus	1.3%

Production by Lifeform (lbs per acre)		
Grass	Forb	Shrub/Tree
288.5	6.0	57.3
Total = 351.8 lbs per acre		

Production by Habit (lbs per acre)		
Perennial	Annual	Noxious
345.8	6.0	0.0
Total = 351.8 lbs per acre		

Woody Plant Density (stems per acre)		
Shrub	Succulent	Tree
120	0	2
Total = 122 stems per acre		

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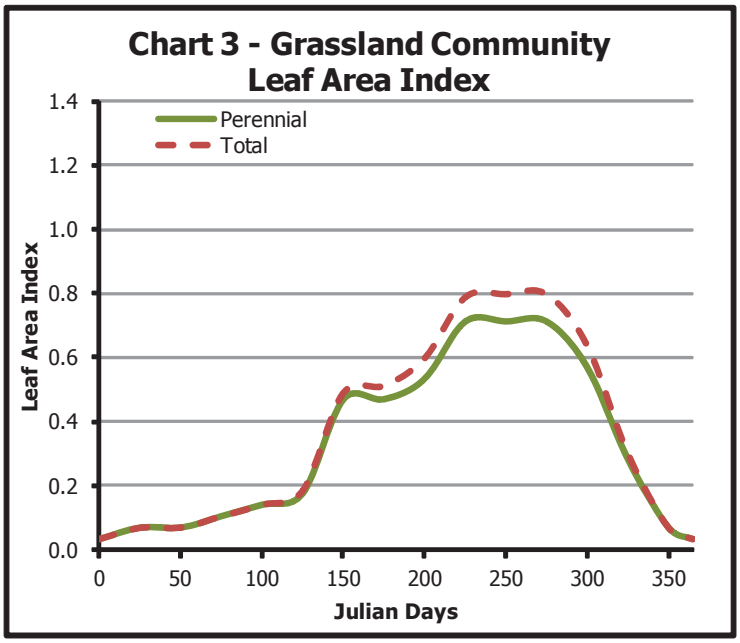
2.2.2 Leaf Area Index Results

Leaf area index was characterized with an indirect approach, using vegetative ground cover as a basis. Since surveys were conducted October 19th-23rd, leaf area index was quantified when approximately 80% of the peak potential. Results are presented on Table 6 and Chart 3. Data were extrapolated throughout the Julian calendar to account for plant dynamics.

Table 6 Leaf Area Index

Grassland Community				Leaf Area Index
Grasses	Perennial	Native	Cool-Season	0.00
			Warm-Season	0.44
		Introduced		-
	Annual			-
Forbs	Perennial	Native		-
		Introduced		-
	Annual & Biennial Native & Introduced			0.07
Sub-shrubs				0.10
Shrubs				0.03
Total LAI				0.64
Perennial LAI				0.57



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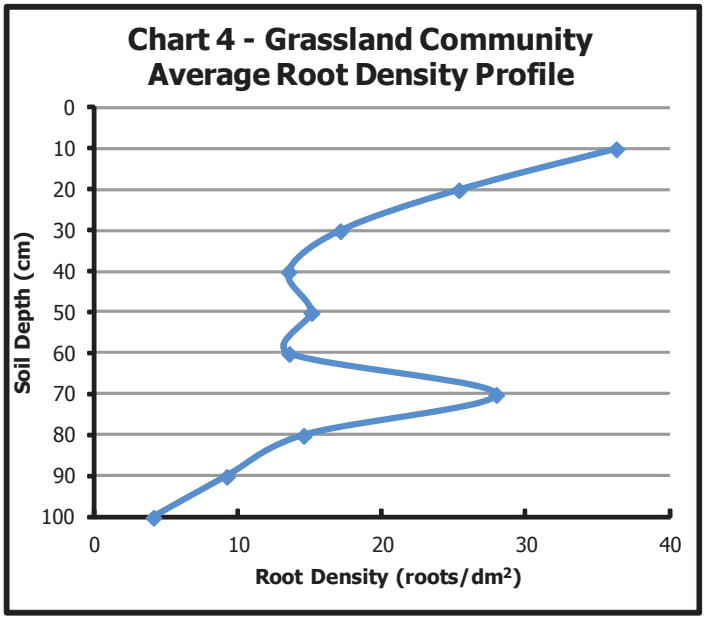
2.2.3 Biointrusion Results

Plant

Two soil pits were excavated to a depth of approximately 5 feet, to evaluate root density in the grassland community (Map 3). Average results are presented on Table 7 and Chart 4. Root density was highest at the soil surface with 36.25 roots/dm^2, and generally decreased with depth to 4.05 roots/dm^2 at 100cm depth, except for an increase between 60-80cm depth. This increase is due to both physical restriction of the roots and perching of the water table on top of a carbonate accumulation horizon at approximately 80 cm depth (see soil survey in Appendix D), stimulating opportunistic root growth. The upper 0.4 meters of the soil profile contained 50% of the roots. Roots were observed to 56 inches depth, but were very fine and few in number below a depth of 80 cm.

Table 7 Grassland Community Summary

Depth Interval (cm)	Average root density (roots/dm^2)	Average of Total Roots (%)	Cumulative Average Root Density (%)
0 - 10	36.25	20.02	20.02
10 - 20	25.3	14.04	34.06
20 - 30	17.05	9.60	43.66
30 - 40	13.45	7.62	51.28
40 - 50	15.05	8.68	59.96
50 - 60	13.5	7.65	67.61
60 - 70	27.9	16.07	83.68
70 - 80	14.5	8.53	92.21
80 - 90	9.15	5.37	97.59
90 - 100	4.05	2.41	100.00



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Animal

Trapping associated with the grassland community was conducted on a grassland closer to the tailings facility to maximize the efficiency of the data (Map 4). Trapping located closer to the proposed location of the repository provides more accurate data for the small mammal potential on the repository while still representing the grassland community. As indicated on Table 8, trapping in the grassland community yielded 1 captured deer mouse.

Table 8 - NECR - Wildlife Surveys

Small Mammal Trapping Results - Fall 2013

Surveys Occurred from 10/21/13 to 10/23/13

Sample Area (Plot No.)	Captures			
	DAY 1	DAY 2	DAY 3	TOTAL
Grassland	0	0	Deer Mouse (*Peromyscus maniculatus*) - (1)	1

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2.3 Shrubland Community

The shrubland community was characterized by sampling the Shrubland Analog site. This site is located across the buried pipeline to the east of the South Drainage Borrow (Map 2). The vegetation and biointrusion survey results are presented below. Discussions on all results can be found in Section 3.

2.3.1 Vegetation Survey Results

Vegetation was evaluated in the Shrubland Analog using 15 co-located ground cover, production (current annual biomass), and woody plant density belts. Vegetation sampling results are presented on the summary table and the raw data is presented in the Baseline report (Cedar Creek, 2014). In general, the Shrubland community is characterized by late seral species. This community displays the lowest cover, production, and species diversity, and the middle woody plant density of the projected communities. Bareground exposure, litter, and rock cover were 47.4%, 26.5%, and 1.3%, respectively.

Table 9 - Vegetation Parameters

Shrubland Community

Ground Cover by Lifeform			
Grass	Forb	Shrub/Tree	**Total**
8.9%	1.8%	14.1%	**24.8%**

Ground Cover by Habit			
Perennial	Annual	Noxious	**Total**
23.0%	1.8%	0.0%	**24.8%**

Species Diversity			
Perennial	Annual	Noxious	**Total**
7	2	0	**9**

Dominant Species	
Bouteloua gracilis	8.8%
Artemisia tridentata	6.9%
Gutierrezia sarothrae	6.7%
Chenopodium album	1.2%

Production by Lifeform (lbs per acre)		
Grass	Forb	Shrub/Tree
74.1	1.3	149.9
Total = 225.3 lbs per acre		

Production by Habit (lbs per acre)		
Perennial	Annual	Noxious
223.6	1.7	0.0
Total = 225.3 lbs per acre		

Woody Plant Density (stems per acre)		
Shrub	Succulent	Tree
1,022	0	27
Total = 1,049 stems per acre		

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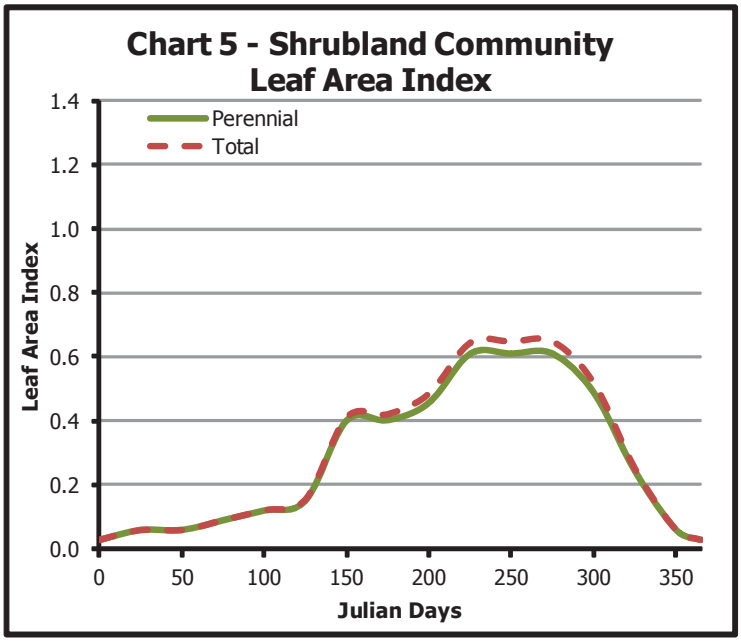
2.3.2 Leaf Area Index Results

Leaf area index was characterized with an indirect approach, using vegetative ground cover as a basis. Since surveys were conducted October 19th-23rd, leaf area index was quantified when approximately 80% of the peak potential. Results are presented on Table 10 and Chart 5. Data were extrapolated throughout the Julian calendar to account for plant dynamics.

Table 10 Leaf Area Index

Shrubland Community				Leaf Area Index
Grasses	Perennial	Native	Cool-Season	0.00
			Warm-Season	0.15
		Introduced		-
	Annual			-
Forbs	Perennial	Native		-
		Introduced		-
	Annual & Biennial Native & Introduced			0.04
Sub-shrubs				0.17
Shrubs				0.16
Total LAI				0.52
Perennial LAI				0.49



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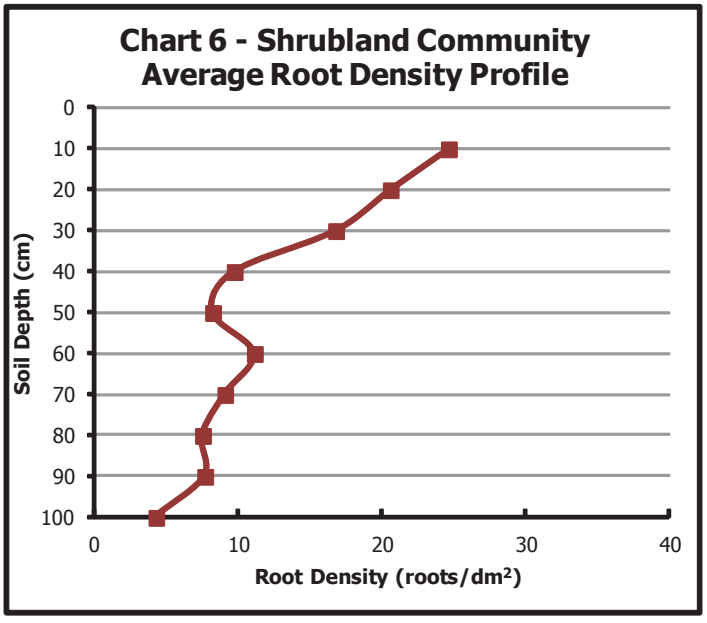
2.3.3 Biointrusion Results

Plant

Two soil pits were excavated to a depth of approximately 61 inches to evaluate root density in the shrubland community (Map 3). Average results are presented on Table 11 and Chart 6. Root density was highest at the soil surface with 24.6 roots/dm^2, and generally decreased with depth to 4.25 roots/dm^2 at 100cm depth, except for an increase between 50-70cm depth. This increase is due to both physical restriction of the roots and perching of the water table atop of a carbonate accumulation horizon, stimulating opportunistic root growth. The upper 0.3 meters of the soil profile contained 50% of the roots. Roots were observed to 61 inches depth, the bottom of the pit, but were very fine and few in number. No shrub taproots were observed to a depth greater than or near the bottom of the pit.

Table 11 Shrubland Community Summary

Depth Interval (cm)	Average root density (roots/dm^2)	Average of Total Roots (%)	Cumulative Average Root Density (%)
0 - 10	24.6	20.45	20.45
10 - 20	20.55	17.28	37.72
20 - 30	16.75	14.01	51.73
30 - 40	9.7	8.10	59.83
40 - 50	8.2	6.81	66.65
50 - 60	11.1	9.38	76.02
60 - 70	9.05	7.67	83.70
70 - 80	7.5	6.35	90.05
80 - 90	7.65	6.40	96.45
90 - 100	4.25	3.55	100.00



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Trapping associated with the shrubland community was conducted on a shrubland closer to the tailings facility to maximize the efficiency of the data (Map 4). Trapping located closer to the proposed location of the repository provides more accurate data for the small mammal potential on the repository while still representing the Shrubland community. As indicated on Table 12, trapping in the reclaimed community yielded 0 captures.

Table 12 - NECR - Wildlife Surveys

Small Mammal Trapping Results - Fall 2013

Surveys Occurred from 10/21/13 to 10/23/13

Sample Area (Plot No.)	Captures			
	DAY 1	DAY 2	DAY 3	TOTAL
Sagebrush Steppe (Shrubland)	0	0	0	0

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3.0 DISCUSSION

3.1 Vegetation Communities

The identified vegetation communities that are projected to colonize and occupy the repository over the next 1000 years are 1) anthropogenic (reclaimed) (early to mid-successional); 2) grassland (mid-successional); and 3) shrubland (late-successional or climax community). The Piñon-Juniper Woodland community was eliminated as a potential final community for the repository because the soils profile (as currently proposed) can be considered a deep soil that is nonconductive to the establishment and persistence of woodland species. The depth of soil profile is important in when describing the vegetation in proximity to the Mill Site because species replacement is the driving factor for ecological succession among these three projected communities.

Young reclaimed communities in western New Mexico are characterized by a diversity of perennial shrubs and grasses along with an elevated population of annual/biennial weedy species (invaders). Typically, the vast majority of seeded species are perennial and can be generally considered mid-seral, whereas annual/biennial species are invading volunteers (that are almost always classified as early-seral). Vegetation data collected from the Reclaimed Analog area support this characterization. At the time of evaluation, dominant perennial species on the Reclaimed Analog were a short-lived shrub; fourwing saltbush (*Atriplex canescens*) and a diversity of grasses including sand dropseed (*Sporobolus cryptandrus*) and indian ricegrass (*Achnatherum hymenoides*), comprising 16.9%, 6.4%, and 5.7%, respectively. While an annual species, white prairie aster (*Symphyotrichum falcatum*) exhibited 4.2% ground cover.

Grassland communities in New Mexico are characterized by a more significant dominance by a reduced diversity of grasses as well as diminished shrub and annual/biennial weedy populations. Typically, the early diversity of perennial grasses is replaced by a single taxon or two of mid- to late-seral species that are best suited for the site-specific environs. Similarly, early-to mid-seral shrubs, which are generally short-lived, diminish as the grassland community matures. However, replacement of these taxa occurs at a very slow pace. The annual/biennial taxa drop out of the community structure due to competition with the perennial plants that have a competitive advantage for limited resources such as water and nutrients. By example, the dominant taxon from the Grassland Analog was the grass species, blue grama (*Bouteloua gracilis*) that comprised 24.5% ground cover at the time of the evaluation.

Shrubland communities in New Mexico are characterized by co-dominance of late seral grasses and overstory shrubs. Typically, species diversity is elevated, but with only a relatively few late seral species exhibiting dominance. Shrub replacement over many years has occurred with better-suited, longer-lived

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species. The dominant taxa on the Shrubland Analog were an understory grass, blue grama, and two overstory shrubs, big sagebrush (*Artemisia tridentata*) and broom snakeweed, comprising 8.8%, 6.9%, and 6.7% ground cover, respectively.

3.2 Vegetation Succession

The ecological succession among the projected repository cover communities is expected to follow this same sequence of reclaimed, grassland and shrubland. The reclaimed community is expected to be dominated by fourwing saltbush, a diversity of early/mid seral grasses species, and annual/biennial weedy species. The grassland community is expected to replace all early/mid grass species with blue grama dominance. Likewise, the fourwing saltbush, a short lived species, and annual/biennial weedy species are expected to die back and be replaced by blue grama and broom snakeweed. Finally, big sagebrush is expected to invade to form the shrubland community.

The timescale of the transition between communities is difficult to predict. Typically, these communities develop and transition as a result of or in association with land management and climatic factors. While the repository will be subject to the same climatic factors found in natural landscapes, the land management activities will be controlled during the lifetime of the repository. Ecosystems in the arid west have developed and progressed through succession with grazing from native and/or domestic grazers. Grazing is expected to be precluded from the repository by way of institutional controls. Therefore the impact of restricted land use on the progression of ecological communities is difficult to predict, since no examples exist to use as a basis. Succession is expected to progress through the communities sampled and described in this report and the best prognostication for timeframe is presented in the following ranges:

- Reclaimed Community: 0 - 50 years
- Grassland Community: 25 - 100 Years
- Shrubland Community: 50 - 1,000 Years

3.3 Leaf Area Index

Published LAI values for semi-arid plant communities are generally lacking in the professional literature and where they are presented, exhibited precision is low. Scurlock et al. (2001) reviewed worldwide historical leaf area studies and reported mean LAI values for deserts (1.31 ± 0.85), grasslands (2.5 ± 2.98), and shrublands (2.08 ± 1.58), all indicative of low precision around mean values. Ground cover methods (indirect measurement approach) employed by Clark and Seyfried (2001) in Idaho sagebrush communities found LAI values ranging from 0.03 to 1.1. Romig et al. (2006) collected leaf area measurements in native and reclaimed shrub-grassland communities in southwestern New Mexico. In the Romig study, leaf area indices were determined using digital image analysis of harvested leaves at

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the end of the growing season, a direct measurement approach. These data were used to estimate peak LAI and develop an annual LAI distribution. The average LAI ranged from 0.29 in reclaimed plant communities to 0.42 in native shrub-grasslands.

At the project area, peak LAI collected from associated analogs for each of the projected communities ranged from 0.65 to 1.1. The reclaimed community exhibited the highest peak LAI with 1.14 where perennial species account for 0.88 of this total and annual species account for the remaining 0.26. The grassland community exhibited the middle LAI value with 0.80 where perennial species account for 0.71 of the total and annual species account for 0.09. The shrubland community exhibited the lowest peak LAI with 0.65 where perennial species account for 0.61 of the total and annual species account for 0.04. These values were extrapolated to an annual LAI distribution following the form in Romig (2006). These results show that as the vegetation communities continue through ecological succession, the LAI decreases. This decrease is directly related to the fact that late seral species are better adapted to local environs and more efficient at capturing limited resources when compared with early/mid seral species. The site-specific results obtained by Cedar Creek differ from Romig (2006), but Romig does not provide information about the status (or composition) of the sampled reclaimed community, which could be underperforming and/or ecologically different from the reclaimed community in the NECR study. In addition, the sampled native community in Romig's study is dominated by black grama, as opposed to blue grama which is the dominant grass in the vicinity of NECR.

Including the annual plant contribution into any LAI analysis must occur with caution. Annual species exhibit a much more dynamic response to varied precipitation than perennial species. Annual species are opportunistic and can be dominant with elevated precipitation or completely absent in drought conditions. Therefore, LAI contribution from annual species is inappropriate for use in modeling long-term vegetative conditions due to their inconsistency on an annual basis.

3.4 Plant Biointrusion

Knowledge of the distribution of roots in unsaturated soils is important for predicting soil-water relations, but quantitative data are generally absent in scientific literature. Jackson et al. (1996) indicated that 83 percent of rootmass occurred in the upper 30 cm of soil in temperate grasslands compared to 53 percent in deserts. In a study in central New Mexico, semi-arid grassland had 63 percent of the root mass in the upper 25 cm (Peace et al., 2004). Romig et al. (2006) calculated root length density on reclaimed and native grassland / shrubland (see Chart 7). In contrast, data collected as part of the study at NECR is presented on Chart 8. Chart 9 also summarizes normalized root length density curves developed from a study in southwestern New Mexico (Romig et al., 2006), a study at Sandia National Labs in Albuquerque (Peace et al., 2004), and a study for agricultural crops (Ayers and Westcot,

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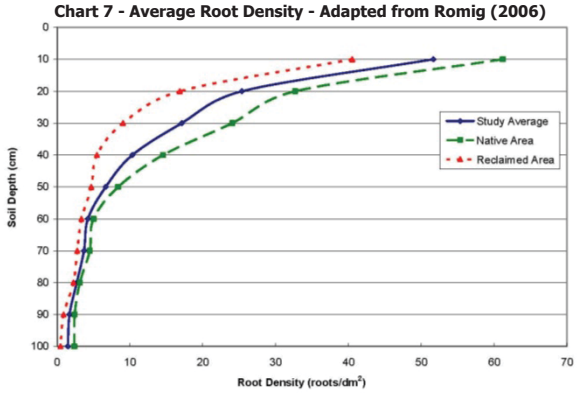
1989). Once again, normalized root length density curves from the study at the Mill Site are presented on Chart 10. Root length density is a measurement attempting to quantify the density of roots (cm roots / cm soil) within a cross section of the soil profile. The data must be normalized to be properly incorporated as an input parameter in soil-water models, where the normalized root density provides a fraction of the maximum potential plant water uptake at specific depths within the profile.

Chart 7 - Average Root Density - Adapted from Romig (2006)



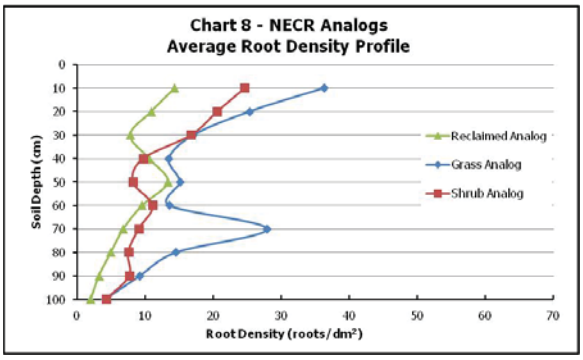
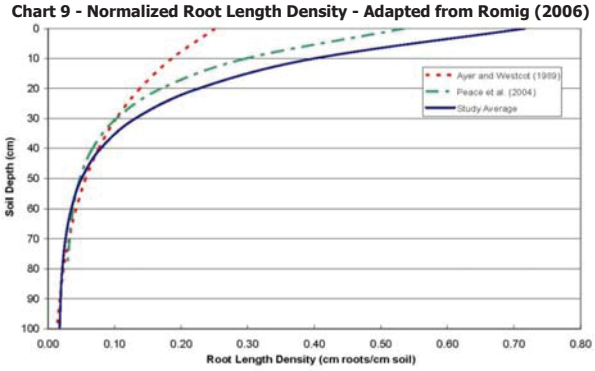
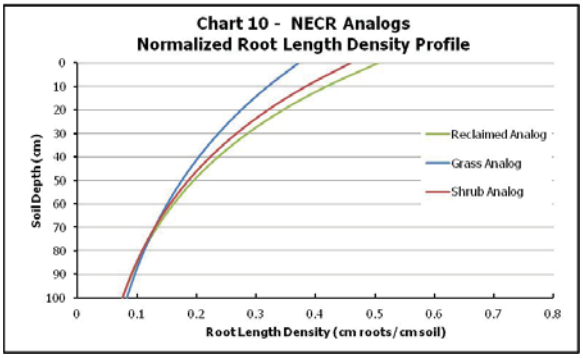


Chart 9 - Normalized Root Length Density - Adapted from Romig (2006)





The distinguishing characteristics of the Buckle soil (see soil Survey in Appendix D) are the increase of clay with depth, and the presence of a calcium carbonate accumulation forming a root restrictive layer at approximate depths of 60 cm, 80 cm, and 70 cm in the reclaimed, grassland, and shrubland communities evaluated. The presence of carbonates causes cementation of the soil, limiting the ability of plant roots and water to infiltrate deeper into the profile and causing roots to spread laterally, which explains the at-depth root increases observed in the field. This lateral spreading is due to both physical restriction of the roots and perching of the water table atop the carbonate-dominated horizon, stimulating opportunistic root growth. A soil survey is presented in Appendix D to support these observations.

An increase in root density at depth in the profile was observed in all three projected communities, but was very pronounced in the undisturbed native grass community. An increase in root density occurred in the Btk horizon, the transitional zone between clay and calcium carbonate dominating

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properties. The increase of roots at depth in the profile would not occur if the opportunity to harvest perched water did not exist, rather the plants' rooting energy would most likely be placed at or near the soil surface. The increased root density at depth in the native profiles has skewed root length density (RLD) for the sampled communities.

Site-specific root density data may not be initially appropriate for use with unsaturated flow modeling within the soil matrix of the repository cover because this "cemented" horizon restricting deep drainage will not exist, at least not for several decades/centuries. To accurately represent root distribution in freshly disturbed growth media, it may be appropriate to assume that total root biomass will remain similar, and that quantitatively distributing the root biomass measured in the Btk horizon throughout the upper 0.5-0.7m of the profile will represent more realistic plant biomass allocation in the absence of perched soil water overtop the calcium carbonate cemented hardpan.

The timeframe for formation of a carbonate horizon significant enough to affect subsurface flow (and subsequent root biomass allocations) in the repository cover will depend on climatic factors, the chemical and physical properties of harvest material resulting from the salvage depth and subsequent mixing of sourced surface and subsurface horizons, pedogenic processes such as loess deposition, and certain cap design features. The measured RLD, or a modified function that allocates slightly more root biomass in the upper 0.5m of the profile, will most likely be appropriate for the later successional periods of the repository when this carbonate layer becomes established. Other repository cover design features may have more immediate and significant impacts on soil water mechanics that will affect root growth and density.

In regard to root depth, literature tends to support the root depths detected in the NECR study (Romig et al. 2006, Lee and Lauenroth 1994). However, soil pits in the study at NECR did not detect shrub taproots at depth and both fourwing saltbush and big sagebrush have well-developed pronounced taproot and lateral root system with the greatest concentration of roots found within the uppermost 1.7 m of the soil profile. Based on studies of these taxa (Peace et al. 2004, Mozingo, 1987), the root system of fourwing saltbush may extend 2 to 6 m below the surface and the root system of big sagebrush may extend 1 to 4 m below the surface.

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3.5 Animal Biointrusion

Small mammal trapping was also implemented on Pinon Juniper and Disturbed Bottomland communities because of their close proximity to the proposed repository location. Table 13 exhibits the trapping results from the five small mammal traplines extended through project area habitats. As indicated in Table 13, trapping success was best within the Piñon-Juniper woodland type with 12 captures of piñon mice over 60 trap-nights of effort (20% success). Trapping was worst in the Sagebrush Steppe and Revegetated Tailings habitats with 0 captures, and was intermediate in the Disturbed Bottomland and Grassland habitats with 1 deer mouse capture in each (1.67% success). Overall trapping success was only 4.67% (14 captures over 300 trap-nights of effort). By comparison, similar habitats in the Southwestern U.S. typically yield between 30% and 60% trap success. Therefore, as with the avian observations, the relatively low trap success within the project area suggests area habitats can be classified as being of reduced quality (poor to fair).

Table 13 - NECR - Wildlife Surveys

Small Mammal Trapping Results - Fall 2013

Surveys Occurred from 10/21/13 to 10/23/13

Sample Area (Plot No.)	Captures			
	DAY 1	DAY 2	DAY 3	TOTAL
Piñon-Juniper Woodland	Piñon Mouse (*Peromyscus truei*) - (4)	Piñon Mouse (*Peromyscus truei*) - (3)	Piñon Mouse (*Peromyscus truei*) - (5)	12
Sagebrush Steppe (Shrubland)	0	0	0	0
Revegetated Tailings (Reclaimed)	0	0	0	0
Disturbed Bottomland	0	0	Deer Mouse (*Peromyscus maniculatus*) - (1)	1
Grassland	0	0	Deer Mouse (*Peromyscus maniculatus*) - (1)	1

Overall Trapping Success = (4+3+7)/300 = 4.67%

Of significant note regarding the results of the trapping effort was the distinct absence of small mammals that can be classified as burrowers. Taxa such as ground squirrels and kangaroo rats were anticipated, but were notably absent.

As indicated on Table 14 and Map 4, several species of wildlife, or their sign, that either excavate into or otherwise utilize subterranean habitats were observed within the project area or vicinity. These taxa are important given the potential for "bio-intrusions" of the eventual protective repository cover. Most notable among these taxa are: 1) cottontail rabbits, 2) pocket gophers, 3) Gunnison's prairie dogs, 4) coyotes, and 5) badgers. Other ground dwelling wildlife, or evidence of their existence in the area, were not noted during surveys or were noted as conspicuously absent given the results of small mammal trapping. As indicated above, these absent groups of wildlife largely include kangaroo rats and ground squirrels as well as certain smaller predators that prey upon them such as weasels.

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With regard to the short list of observed wildlife that exhibit subterranean habits, the only ones presenting concern for the integrity of the eventual protective repository cap are pocket gophers, Gunnison's prairie dogs, and badgers. Contrary to lay opinion, western cottontail rabbit species that could occur in the project area do not actively burrow. However, they will occupy the burrows created by other species such as prairie dogs. Unlike cottontails, coyotes are known to burrow (or to enlarge other animals' burrows) for denning purposes, but typically will not expend the energy necessary to excavate their prey except on rare occasion. Coyotes typically follow the strategy of capturing their prey above ground. Furthermore, coyotes occupy and defend large home ranges. Where the prey base is normal, coyote home ranges can average 10 square miles. Where the prey base is reduced such as the vicinity of the project area, home ranges can be significantly larger. As a result of these behaviors, it is very unlikely that burrowing by coyotes would ever be problematic for the repository cap.

Table 14 - NECR - Wildlife Surveys - Fall 2013

Miscellaneous Wildlife Observations at FRCPs and Qualitative Observation

Transects (Scat, Tracks, Direct Obs. etc.)

Surveys Occurred from 10/21/13 to 10/23/13

Sample Area (Plot No.)	Wildlife Observations
West Borrow Area (A)	Coyote Scat & Tracks (UC) / Cottontail Scat (VC) / Cottontail (2) / Mule Deer Tracks (UC)
East Borrow Area (B)	Coyote Scat (UC) / Cottontail Scat (VC) / Mule Deer Tracks & Pellets (UC)
Revegetated Tailings (C)	Cottontail Scat (VC) / Mule Deer Tracks & Pellets (C)
South Drainage Borrow Area (D)	Gunnison's Prairie Dogs in bottomland north of Tailings Facility / Coyote (1) / Rock Squirrel (1) / Cottontails (2) / Cottontail Scat (VC) / Mule Deer Tracks & Pellets (C) / Badger (R)
Shrubland Analog Area (E)	Cottontail Scat (VC) / Mule Deer Tracks & Pellets (C)
Grassland Analog Area (F)	Cottontail Scat (VC) / Pocket Gophers (Burrows)-(R)
North Drainage Borrow Area (G)	Gunnison's Prarie Dogs (C) / Cottontail Scat (VC) / Mexican Woodrat (UC) / Cliff Chipmunk (UC)
Millsite Area (H)	Cottontail (1) & Cottontail Scat (VC)
Dilco Hill Area (I)	Cottontail Scat (VC)

U = Ubiquitous / VC = Very Common / C = Common / UC = Uncommon / R = Rare

However, pocket gophers, prairie dogs, and badgers could create issues for the repository cap. Pocket gopher sign (tunnel excavations) were only noted in one location, the Grassland Analog area. Though this is somewhat remote from the eventual cap location, pocket gophers could easily extend their activity perimeter. Pocket gophers (most likely *Thomomys bottae*) typically excavate burrow systems 4 to 6 inches below and parallel to the surface, but occasionally up to 18 inches deep. These burrow systems can extend for tens of yards. Burrow extensions that serve as food caches and/or nests can be significantly deeper, as much as 5 to 6 feet. Burrow diameter is typically only in the 3-inch range excepting where it is enlarged for nesting or food storage. As such, the volume of material they typically move is much less than that indicated for prairie dogs. By necessity, burrowing is restricted to finer-textured soils given that gophers primarily utilize their teeth to loosen soil. Soils with a high coarse fragment content (rock) are not suitable as gopher habitat.

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As noted above, the more significant potential for bio-intrusion could come from prairie dogs. As indicated on Map 4, there is an active population of Gunnison's prairie dogs that occupies much of the valley bottom (Disturbed Bottomland community) on both the south and especially the north flanks of the tailings facility. The population to the south is more scattered and intermittent; however, the population to the north is more dense and active.

Typically, Gunnison's prairie dog populations range from 2 to 30 animals per acre, but based on site-specific observations, it is anticipated the project area population is closer to the lower end of this range. Gunnison's Prairie dogs typically excavate burrow systems that are 5.5 – 6 inches in diameter, 15 – 35 feet in length, 6 – 10 feet below the surface, and exhibit 15 – 20 entrances per acre with only a few of these exhibiting a large mound of excavated dirt. Some studies indicate an average of approximately 25 feet of tunnel per entrance. Furthermore, excavated material can average 0.2 to 0.4 tons per burrow system or between 7 and 10 tons of excavated material per acre. As with pocket gophers, burrowing is restricted to finer-textured soils given that elevated rock content precludes suitability as prairie dog habitat.

Finally, during site-specific surveys two prairie dog burrows were observed that had been enlarged by badger(s). Burrows re-excavated by badgers in pursuit of prey exhibit a characteristic oval-shape that is approximately 10-12 inches in width and 6-8 inches in height. This observation verified this predator's existence within the vicinity of the project area and is significant from the standpoint that badgers, when excavating their prey, double or triple the amount of excavated material brought to the surface. However, the primary effect of burrowing resides with prey animals; pursuit by badgers only exacerbates this effect. On the positive side, badgers reduce the populations of burrowing rodentia.

3.6 Soil Pedogenesis Considerations

In order to discuss the pedogenesis of the repository cover, the extent and degree of calcification for borrow materials must be quantified and observed in the field. Once these materials are relocated, the chemical and physical properties of the borrow soils will dictate water and gas transport, structural stability, and revegetation success. Over time, pedogenic processes such as leaching, illuviation, eluviation, salinization, calcification, and biogeochemical weathering drive soil development, potentially towards its original undisturbed state. These processes may occur much more rapidly than in natural systems due to the extent of calcification already present in the subsurface horizons of the borrow soils. Rates, timeframes, and unforeseen chemical constraints (such as salts) need to be addressed in the borrow sources by laboratory and field testing conducted by a soil scientist. Each soil horizon encountered up to the potential harvest depth should be individually characterized and tested in order to

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understand the pedogenic implications of using borrow soils as cover material, its nature once freshly disturbed, and how it will evolve over the lifespan of the repository.

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Appendix A

Sampling Methodologies

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SAMPLING METHODS

Cedar Creek's vegetation sampling protocols involve an emphasis upon ground cover* to facilitate repeatable future statistical comparisons among evaluation areas as well as a multitude of additional reasons. In brief, concentration on a single variable of plant ecology facilitates improved comprehension and comparability over time and among treatment scenarios. Second, ground cover data, especially when determined using a very precise method such as the point-intercept procedure, provides some of the most important information regarding community variability that ecologists can evaluate. Such data facilitate the determination of true species composition, relative health (condition), and successional status of the sampled area. Furthermore, the same data can be utilized to develop the "sister" variables of frequency and species composition if desired. Third, strong inferences can be developed with other reasonably correlated variables such as production when species composition is factored into the analysis. Fourth, ground cover is a preferred variable for revegetation monitoring because cover data can be readily obtained in a statistically adequate and cost-effective manner (using the proper procedures), has broad application for evaluation (including erosion control modeling), precisely reflects species' dominance of a given area, and when collected using bias-free techniques such as the point-intercept procedure is one of the most repeatable variables among independent observers.

In addition to ground cover evaluations, Cedar Creek recommends evaluation of woody plant density and current annual vegetative production to facilitate a broader analysis. In this regard, it was determined most appropriate to document woody plant populations (for wildlife habitat considerations) by utilizing long quadrats or belts as detailed below. The most appropriate method for measuring current annual herbaceous production is use of long rectangular quadrats. Since sampling adequacy is not required (nor recommended) for woody plant density or vegetative production samples, one density belt and one production quadrat will be co-located with each ground cover transect evaluated. Resulting data are then considered reasonable for the evaluation purposes intended.

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* To avoid confusion, the term "ground cover" is utilized to indicate the variable of non-overlapping foliar cover (the percent of the ground occupied by all above ground plant material) in addition to the ground surface covered by litter or rock. Non-overlapping means that only that cover which would be wetted by a light mist would be counted as opposed to that plant material which would not get wet due to overshadowing plant material. In this manner, total ground cover cannot exceed 100%. Other forms of "cover" would include: basal cover (the percent of the ground surface occupied by the living base of plants), crown or canopy cover (the percent of the ground occupied by the canopies of plants), or overlapping foliar cover (the percent of the ground occupied by all plant material allowing for overlapping vegetation - i.e., such cover can exceed 100%). Non-overlapping foliar cover is preferred because of its inherent repeatability among observers, resulting data are directly applicable to erosion control modeling efforts, and significant precedent has already been set in the mining industry. In contrast, the determination of the live portion of the base of a plant (as necessary for basal cover) becomes increasingly difficult and subjective given life forms such as certain bunch grasses and sod-formers.

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1.0 Sample Site Selection / Location

The primary field effort for vegetation calls for sampling of 5 potential borrow sources, the revegetated tailings facility, and suitable analog areas for reclaimed, grassland, and shrubland vegetation communities. The analog areas were selected and established during floral evaluations in fall. The systematic procedure for determination of sample locations will occur in the following stepwise manner. First, a fixed point of reference will be selected for the entire area to facilitate location of the systematic grid in the field. Second, a systematic grid of appropriate dimensions (i.e., 150' X 150') will be selected by Cedar Creek to provide a minimum number of coordinate intersections within the vegetative unit that could then be used for the initial set of sample sites. Third, a scaled representation of the grid will be overlain on field maps extending parallel to major compass points to facilitate field location. Fourth, unbiased placement of this grid will be controlled by selection of two random numbers between 0 and 150 (used as coordinates). Fifth, utilizing a GPS, all of the initial sample points will be located in the field. If the initial systematic samples are not sufficient to provide an adequate ground cover sample, an "intergrid" would be selected to provide additional systematically determined sample points.

2.0 Determination of Ground Cover

Ground cover at each sampling site will be determined utilizing the point-intercept methodology (Bonham 1989) as illustrated on Figure 1. This methodology has been utilized for range studies for over eighty (80) years, however, Cedar Creek utilizes state-of-the-art instrumentation that it has pioneered to facilitate much more rapid and accurate collection of data. Implementation of the technique for the sampling effort occurs as follows: First, a transect of 10 meters length will be extended from the starting point of each sample site toward the direction of the next site to be sampled. Then, at each one-meter interval along the transect, a "laser point bar" will be situated vertically above the ground surface, and a set of 10 readings recorded as to hits on vegetation (by species), litter, rock (>2mm), or bare soil. Hits are determined at each meter interval by activating a battery of 10 specialized lasers situated along the bar at 10 centimeter intervals and recording the variable intercepted by each of the narrow (0.02") focused beams (see Figure 1). In this manner, a total of 100 intercepts per transect are recorded resulting in 1 percent cover per intercept. This methodology and instrumentation facilitates the collection of the most unbiased, repeatable, precise, and cost-effective ground cover data possible. Furthermore, the point-intercept procedure has been widely accepted in the scientific community as the protocol of choice for vegetation monitoring and is used within the mining industry in connection with bond release determinations.

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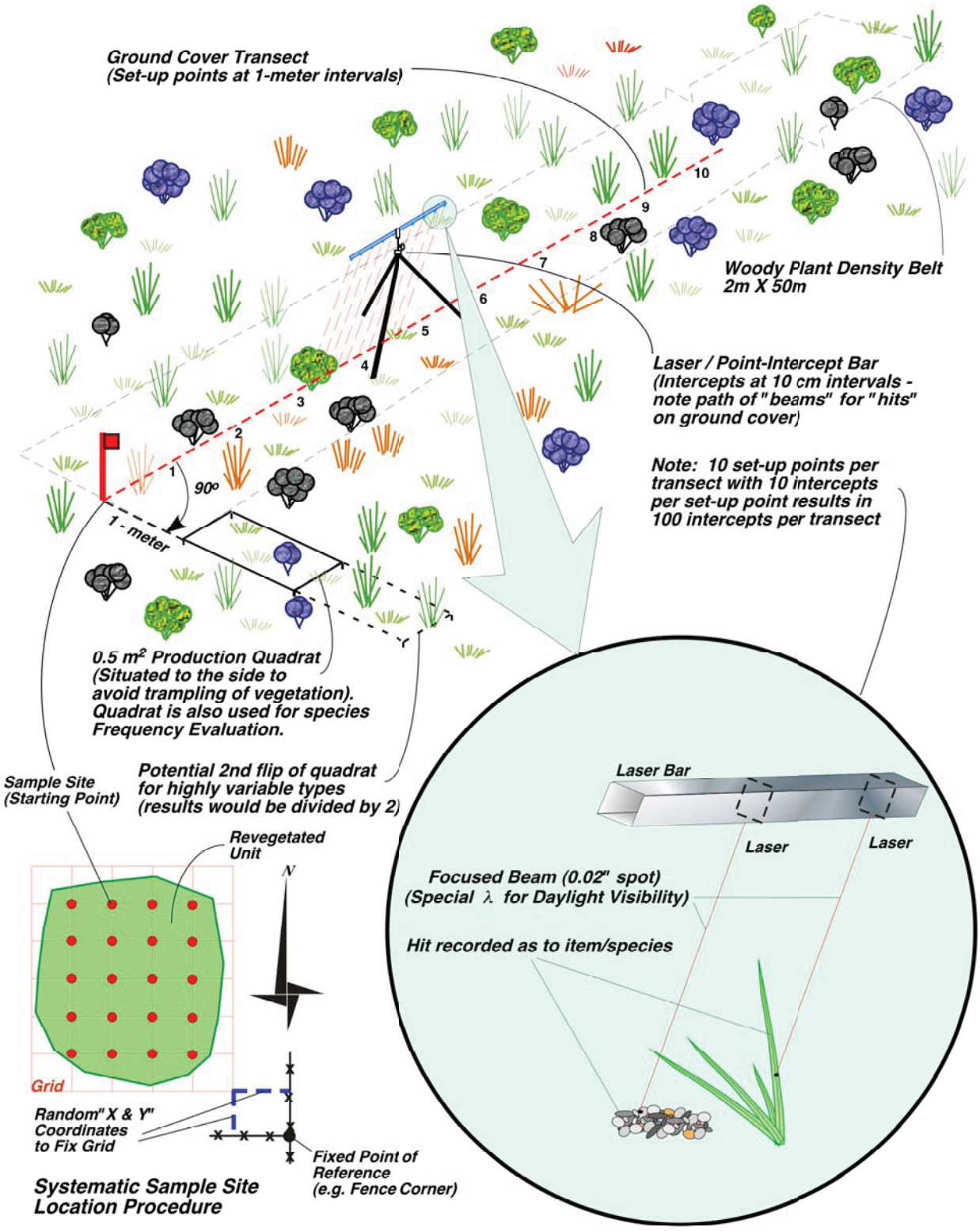

Figure - 1

Sampling Procedure at a Systematic Sample Site Location

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3.0 Determination of Leaf Area Index

Leaf area index was quantified by collecting multiple hits on the ground cover transect. In effect, overlapping foliar cover (the percent of the ground occupied by all plant material allowing for overlapping vegetation - i.e., such cover can exceed 100%) were recorded to provide a total estimation of one-sided photosynthetic potential or leaf area index. This sampling method would be considered an indirect approach to quantifying leaf area index.

4.0 Determination of Woody Plant Density

Woody plant density at each sampling site is determined using fixed length / width belt transects oriented parallel to, and co-located with, each ground cover transect. Each belt is 2 meters in width and extended from the beginning of the sample point for a distance of 50 meters (see Figure 1). All shrubs, succulents, and trees rooted within the boundaries of these belts are counted and classified according to species (sub-shrubs are not counted). Entire plants rather than stems are counted to provide a more accurate representation of actual woody plant density.

5.0 Determination of Vegetative Production

At each sample site, current annual production is collected from a $^1/_2$ m^2 quadrat frame flipped once (end to end – see Figure 1) to facilitate less variable data, therefore sampling a total of 1 m^2 at each sampling location. The quadrat is initially placed one meter and 90º to the right (clockwise) of the ground cover transect to avoid vegetation trampled by investigators during sample site location (see Figure 1). From within each quadrat, all above ground current annual vegetation within the vertical boundaries of the frame is clipped and bagged separately by life form as follows:

Native Perennial Grass
Introduced Perennial Grass
Annual Grass
Sub-Shrub
Shrub
Native Perennial Forb
Annual / Biennial Forb
Introduced Perennial Forb
Noxious Weed

All production samples are returned to the lab for drying and weighing. Drying will occur at 105º C until a stable weight is achieved (24 hours). Samples are then re-weighed to the nearest 0.1 gram.

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6.0 Sample Adequacy Determination

Ground cover sampling is conducted to a minimum of 15 initial ground cover transects for the baseline area and a minimum of 15 initial ground cover transects for the reference area. Production and woody plant density samples are co-located with each ground cover transect but are not subject to a determination of sampling adequacy. From these preliminary efforts for ground cover, a sample mean and standard deviation for total non-overlapping vegetation ground cover is calculated. These parameters are calculated in the field to insure collection of an adequate sample and once again by computer during final data analyses for each area. Sampling continues until an adequate ground cover sample, $\mathbf{n_{min}}$, has been collected in accordance with the Cochran formula (below) for determining sample adequacy, whereby the population would be estimated to within 10% of the true mean (μ) with 90% confidence. Sampling to these limits facilitates a very strong estimate of target populations.

When the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) is true, sampling is adequate and $\mathbf{n_{min}}$ is determined as follows:

$$\mathbf{n_{min}} = (t^2 s^2) / (0.1\ \bar{x}\ )^2$$

where: n = the number of actual samples collected (initial size = at least 15)

t = the value from the one-tailed t distribution for 90% confidence with n-1 degrees of freedom;

s^2 = the variance of the estimate as calculated from the initial samples;

$\bar{x}$ = the mean of the estimate as calculated from the initial samples.

If the initial at least 15 ground cover samples from each area does not provide a suitable estimate of the mean (i.e., the inequality is false), additional samples would be collected until the inequality ($\mathbf{n_{min}} \leq \mathbf{n}$) becomes true.

7.0 Threatened, Endangered, and Rare Plant Species

A list of threatened, endangered, and rare plant species that are known to occur within McKinley County and the ecotypes occurring within the project area, will be developed from several sources including New Mexico Natural Heritage Program and New Mexico Rare Plant Website before baseline evaluation.

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Prior to implementation of fieldwork, taxonomic descriptions and botanical drawings of these target species are to be compiled into a field guide. Fieldwork will involve search patterns in all portions of appropriate habitat within the project area. Search procedures involve slow implementation of qualitative pedestrian transects and careful visual scanning of the ground surface for any of the target plant species. The compiled field guide will be used to determine whether encountered plants are species of concern.

8.0 Weed Survey

A noxious weed list from McKinley County will be obtained prior to baseline evaluations. Fieldwork will involve search patterns in all portions the project area including potential sources of weed seed in the general vicinity. Search procedures involve slow implementation of qualitative pedestrian transects and careful visual scanning of the ground surface for any of the target plant species.

9.0 Root Density and Depth Survey

Root density and depth will be determined using the profile wall method, whereby the roots are counted on a freshly excavated soil profile. At least two trenches are to excavated in each suitable analog site which represent a potential ecological scenario for the ET cover. The vertical pit wall will be gently cleaned with a soft brush to expose the roots to a depth of approximately 1 to 1.5 m. A 1-m2 wire frame divided into a 10 cm2 grid will be attached to the pit face and the roots within each grid cell counted and mapped on field sheets. Roots will also described and classified by size (Soil Survey Staff, 1983). General field conditions will be logged and photographs will be taken, in accordance with MWH SOP-14.

10.0 Wildlife Survey Methodologies

Site-specific wildlife investigations were designed to address two overall needs or goals. First among these is the need to document baseline conditions of wildlife populations and their respective habitats extant within the NECR project area prior to any construction. Second, and more importantly, is the need to document the existence of "burrowing" faunal populations, or the lack thereof, with regard to "bio-intrusions" of the eventual protective repository cap.

Owing to the small size of disturbance footprints at the NECR project area, it was deemed most appropriate for the majority of site-specific wildlife evaluations to focus on qualitative techniques of direct observation, observation of sign, and/or evaluation of habitat. However, certain wildlife groups lend themselves to, or require, quantitative and semi-quantitative metrics. It was proposed that while Cedar Creek biologists were on site for vegetation and soils investigations, all observations of wildlife, either

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directly or by sign, would be recorded in a manner to facilitate an indication of abundance and/or use of project area habitats. In addition to site-specific "incidental" observations during vegetation evaluations, several pedestrian observation transects were extended within and external to the central disturbance area, some as far as practically allowable given land ownership, to provide a better indication of: 1) wildlife use of the overall vicinity and habitats, 2) any remaining mine-related impacts, and 3) any continuing hazards to wildlife. These transects were implemented during the early morning or late evening hours to maximize opportunity for observing indigenous wildlife. A GPS was utilized for spatial orientation, documentation (mapping) of transect alignment, and to facilitate documentation of pertinent observations. Furthermore, project area habitats were evaluated with regard to their capability to provide life requisites for anticipated indigenous wildlife, including sensitive or special status species.

In addition to the aforementioned qualitative techniques, a Cedar Creek wildlife biologist implemented two quantitative protocols designed to document population levels of two important groups of wildlife, 1) avifauna and 2) small members of the Rodentia Order. Avifauna were inventoried using fixed-radius circular plots (FRCP), and small mammals were inventoried using traplines of Sherman live-traps. The 3" x 3" x 10" Sherman live-traps were baited with a mixture of rolled oats and peanut oil and were placed in line-sets of 20 traps at 50-foot intervals (forming 1,000-foot long traplines) in each of five habitat types. Habitat types were: 1) Piñon-juniper woodland, 2) Sagebrush (Shrubland) steppe, 3) Grassland, 4) Disturbed bottomland, and 5) Revegetated tailings. Traps were checked each morning for captures (identified to species), reset as necessary, and run for three consecutive nights (October 21-23, 2013) for a total of 300 trap-nights of effort.

The FRCPs are a sampling metric whereby a biologist identifies all avian wildlife to species, either through direct visual or auditory observation within a circular plot of fixed dimensions (300-foot diameter - 150-foot radius for this effort) over a 10-minute period during the early morning hours when birds are most active. The sampling points were visited on two consecutive mornings and all birds detected through binocular observation or auditory identification were recorded. Multiple observations of the same bird were only recorded once. Occasionally, birds revealed themselves for only a moment or two (e.g., fly-overs), but repeated observations (typically following the 10-minute window) facilitated eventual identification. Data were then compiled to provide an indication of relative density and diversity for a given habitat or location. FRCPs were established at nine specific locations around the project area as follows: A] West Borrow (Ruderal/Revegetated Shrubland), B] East Borrow (Revegetated Shrubland), C] Tailings (Revegetated Shrubland), D] South Drainage Borrow (Sagebrush/Rabbitbrush Shrubland), E] Shrubland Analog (Sagebrush/Grassland), F] Grass Analog (Grassland), G] North Drainage Borrow

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(Rabbitbrush/Grassland), H] Millsite (Rabbitbrush Ruderal Shrubland), and I] Dilco Hill (Sagebrush/Grassland).

In addition to remaining vigilant for direct or indirect observations of wildlife, Cedar Creek biologists performed a literature review to determine if the NECR site offers habitat to sensitive, rare, threatened, or endangered fauna. Sources of such information included the Natural Diversity Data Base, New Mexico Department of Game and Fish, and the U. S. Fish & Wildlife Service, among others.

Because of the potential for compromise of protective caps or other designed barriers by members of the Order Rodentia (or those fauna that potentially prey upon them by means of excavation, e.g., badgers, foxes, coyotes), Cedar Creek biologists effected a determination of which species, and an estimate of their densities, that exist within reasonable proximity to the proposed repository location. Given these determinations analyses can be undertaken with regard to the risk for compromise of the designed cap. For example, it is known that pocket gophers, kangaroo rats, ground squirrels, and prairie dogs among other taxa, can directly impact isolated materials in either of two ways. The first is by burrowing whereby they excavate deep enough to penetrate into stored repository materials and then bring those materials to the surface where they can be transported off-site through erosional means. The second manner of compromise involves development of preferential pathways for water transport into the repository thereby facilitating dissolution and hydraulic transport of any contaminants.

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Appendix B

Raw Data

Table B1 Church Rock Mill - Vegetation Cover - 2013

Reclaimed Analog Area

Raw Data

Percent Ground Cover Based on Point-Intercept Sampling

			Transect No.—>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average Cover	Frequency
Grasses																				
P	*Achnatherum hymenoides*	Indian Ricegrass			2	8		11	2						18	10	12	22	**5.67**	**53**
P	*Agropyron smithii*	Western Wheatgrass	1						1	11	9								**1.47**	**27**
P	*Elymus elymoides*	Squirreltail			5										2				**0.47**	**13**
P	*Sporobolus cryptandrus*	Sand Dropseed	25	3	3	13	5	11	1	3	3	6	4			12	7		**6.40**	**87**
A		Unidentified Annual Grass	4	11	8	2			1	4	2	5	9	1	9	1			**3.80**	**80**
Forbs																				
P	*Asclepias subverticillata*	Horsetail Milkweed										3							**0.20**	**7**
P	*Aster sp.*	Aster sp.	2	2	9														**0.87**	**20**
A	*Bassia scoparia*	Burningbush	2																**0.13**	**7**
A	*Chamaesyce serpyllifolia*	Thymeleaf Sandmat	2		6	5	6					1	3					1	**1.60**	**47**
A	*Helianthus sp.*	Helianthus sp.			2						2								**0.27**	**13**
A	*Portulaca oleracea*	Little Hogweed										2	2						**0.27**	**13**
A	*Salsola tragus*	Russian Thistle		5	3	4	5	4	4		4	5		8	5	1			**3.20**	**73**
P	*Symphyotrichum falcatum*	White Prairie Aster				13			6		2	10	8	2	8	7	7		**4.20**	**60**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Atriplex canescens*	Fourwing Saltbush	33	46	1	5	15	11	31	31	26	1	33	9	4	7			**16.87**	**93**
P	*Chrysothamnus nauseosus*	Rubber Rabbitbrush														7			**0.47**	**7**
																			Mean	
			Total Plant Cover	**69**	**67**	**39**	**50**	**31**	**37**	**46**	**49**	**48**	**33**	**59**	**40**	**48**	**42**	**30**	**45.87**	
			Rock	0	0	0	0	0	0	4	0	2	0	0	2	0	0	10	**1.20**	
			Litter	21	9	30	22	25	24	26	34	44	40	29	12	30	22	8	**25.07**	
			Bare ground	10	24	31	28	44	39	24	17	6	27	12	46	22	36	52	**27.87**	
			Total Non-Noxious Vegetative Cover	**69**	**67**	**39**	**50**	**31**	**37**	**46**	**49**	**48**	**33**	**59**	**40**	**48**	**42**	**30**	**45.87**	
			Total Perennial Cover (noxious weeds excluded)	**61**	**51**	**20**	**39**	**20**	**33**	**41**	**45**	**40**	**20**	**45**	**31**	**34**	**40**	**29**	**36.60**	
Multiple Hits																			**Average Cover**	**Frequency**
Grasses																				
P	*Achnatherum hymenoides*	Indian Ricegrass				16	4	28	2						32	12	10	24	**8.53**	**53**
P	*Agropyron smithii*	Western Wheatgrass							2	10	20								**2.13**	**20**
P	*Elymus elymoides*	Squirreltail													2				**0.13**	**7**
P	*Sporobolus cryptandrus*	Sand Dropseed				14	10	19		5	15	10				11	2		**5.73**	**53**
A		Unknown Annual Grass				16	4		7	21	23	21	31			15	2		**9.33**	**60**
Forbs																				
A	*Amaranthus hybridus*	Slim Amaranth															2		**0.13**	**7**
P	*Asclepias subverticillata*	Horsetail Milkweed										2							**0.13**	**7**
P	*Aster sp.*	Aster spp.														3	2		**0.33**	**13**
A	*Salsola tragus*	Russian Thistle				2	6	3	3		3	1			4	11			**2.20**	**53**
P	*Symphyotrichum falcatum*	White Prairie Aster				10			1		2	2							**1.00**	**27**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Atriplex canescens*	Fourwing Saltbush				14	18	32		44	25	4	57	12	2	9			**14.47**	**67**
P	*Chrysothamnus nauseosus*	Rubber Rabbitbrush														15			**1.00**	**7**
																			Mean	
			Overall Total Hits (LAI)	**69**	**67**	**39**	**122**	**73**	**119**	**61**	**129**	**136**	**73**	**147**	**90**	**102**	**84**	**54**	**91.00**	

Sample Adequacy Calculations	**Plant Cover Mean = 45.87**	**t= 1.35**	**n = 15**
	Variance = 143.12		**n_{min} = 12.31**
Diversity	**Number of Species with ≥1% Average Cover = 8**		

P=Perennial A=Annual B=Biennial Nw=Noxious Weed

Table B2 Church Rock Mill - Vegetation Cover - 2013

Grassland Analog Area

Raw Data

Percent Ground Cover Based on Point-Intercept Sampling

			Transect No.——>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average Cover	Frequency
Grasses																				
P	*Achnatherum hymenoides*	Indian Ricegrass				1													**0.07**	**7**
P	*Bouteloua curtipendula*	Sideoats Grama														2	8		**0.67**	**13**
P	*Bouteloua gracilis*	Blue Grama	44	34	22	23	31	29	31	30	37	20	7	19	18	1	21		**24.47**	**100**
P	*Elymus elymoides*	Squirreltail										1							**0.07**	**7**
P	*Hilaria jamesii*	Galleta												4				2	**0.40**	**13**
Forbs																				
A	*Chamaesyce serpyllifolia*	Thymeleaf Sandmat												1			1		**0.13**	**13**
A	*Chenopodium album*	Lambsquarters	1							2	1								**0.27**	**20**
A	*Portulaca oleracea*	Little Hogweed	2																**0.13**	**7**
A	*Salsola tragus*	Russian Thistle	1				2	4	2	3	7	6	7	4	1	5	1		**2.87**	**80**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Atriplex canescens*	Fourwing Saltbush											3						**0.20**	**7**
P	*Ceratoides lanata*	Winterfat			2														**0.13**	**7**
P	*Chrysothamnus nauseosus*	Rubber Rabbitbrush						3								4	12		**1.27**	**20**
P	*Gutierrezia microcephala*	Threadleaf Snakeweed												1					**0.07**	**7**
P	*Gutierrezia sarothrae*	Broom Snakeweed	1	4	5	12	3	11		7	3	6	3	4		4	3		**4.40**	**87**
																			Mean	
			Total Plant Cover	**49**	**38**	**29**	**36**	**36**	**47**	**33**	**42**	**48**	**33**	**20**	**33**	**21**	**23**	**39**	**35.13**	
			Rock	1	1	1	1	6	0	0	4	1	21	5	7	12	35	6	**6.73**	
			Litter	27	33	27	26	22	31	27	29	26	25	21	16	34	24	11	**25.27**	
			Bare ground	23	28	43	37	36	22	40	25	25	21	54	44	33	18	44	**32.87**	
			Total Non-Noxious Vegetative Cover	**49**	**38**	**29**	**36**	**36**	**47**	**33**	**42**	**48**	**33**	**20**	**33**	**21**	**23**	**39**	**35.13**	
			Total Perennial Cover (noxious weeds excluded)	**45**	**38**	**29**	**36**	**34**	**43**	**31**	**37**	**40**	**27**	**13**	**28**	**20**	**17**	**38**	**31.73**	
	Multiple Hits																		**Average Cover**	**Frequency**
Grasses																				
P	*Bouteloua curtipendula*	Sideoats Grama														2	17		**1.27**	**13**
P	*Bouteloua gracilis*	Blue Grama	20	30	11	28	26	28	19	19	29	12	9	14	6			6	**17.13**	**93**
P	*Elymus elymoides*	Squirreltail										1							**0.07**	**7**
P	*Hilaria jamesii*	Galleta												4					**0.27**	**7**
Forbs																				
A	*Chenopodium album*	Lambsquarters		1															**0.07**	**7**
A	*Salsola tragus*	Russian Thistle					2	2		7	23	5	8	3	2	1			**3.53**	**60**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Atriplex canescens*	Fourwing Saltbush											2						**0.13**	**7**
P	*Chrysothamnus nauseosus*	Rubber Rabbitbrush						3								2	9		**0.93**	**20**
P	*Gutierrezia sarothrae*	Broom Snakeweed	7	1	10	14	5	11		8	8	7	2	6		5	3		**5.80**	**87**
																			Mean	
			Overall Total Hits (LAI)	**76**	**70**	**50**	**78**	**69**	**91**	**52**	**76**	**108**	**58**	**41**	**60**	**31**	**48**	**57**	**64.33**	

Sample Adequacy Calculations	**Plant Cover Mean = 35.13**	**t= 1.35**	**n = 15**
	Variance = 85.55		**n_{min} = 12.54**
Diversity	**Number of Species with ≥1% Average Cover = 4**		

P=Perennial A=Annual B=Biennial Nw=Noxious Weed

Table B3 Church Rock Mill - Vegetation Cover - 2013

Shrubland Analog Area

Raw Data

Percent Ground Cover Based on Point-Intercept Sampling

			Transect No.——>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average Cover	Frequency
Grasses																				
P	*Agropyron smithii*	Western Wheatgrass		1															**0.07**	**7**
P	*Bouteloua gracilis*	Blue Grama		14	14	6	10	15	3	6	7	4	13	1	10	6	10	13	**8.80**	**100**
Forbs																				
A	*Chenopodium album*	Lambsquarters		3							1	3	2		5		2	2	**1.20**	**47**
A	*Salsola tragus*	Russian Thistle											3	3			2	1	**0.60**	**27**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Artemisia tridentata*	Big Sagebrush		7	7	2	14	16	8	3	8	10	3	4	2	8	6	5	**6.87**	**100**
P	*Atriplex canescens*	Fourwing Saltbush		1															**0.07**	**7**
P	*Ceratoides lanata*	Winterfat										1					1		**0.13**	**13**
P	*Gutierrezia microcephala*	Threadleaf Snakeweed													4			2	**0.40**	**13**
P	*Gutierrezia sarothrae*	Broom Snakeweed		3	5	7	7	6	4	12	9	7	5	2	5	16	5	7	**6.67**	**100**
																			Mean	
			Total Plant Cover	**29**	**26**	**15**	**31**	**37**	**15**	**21**	**25**	**25**	**26**	**10**	**26**	**30**	**26**	**30**	**24.80**	
			Rock	0	6	1	2	0	3	4	0	1	0	1	0	0	0	2	**1.33**	
			Litter	25	34	25	28	27	35	28	27	14	42	30	23	14	26	19	**26.47**	
			Bare ground	46	34	59	39	36	47	47	48	60	32	59	51	56	48	49	**47.40**	
			Total Non-Noxious Vegetative Cover	**29**	**26**	**15**	**31**	**37**	**15**	**21**	**25**	**25**	**26**	**10**	**26**	**30**	**26**	**30**	**24.80**	
			Total Perennial Cover (noxious weeds excluded)	**26**	**26**	**15**	**31**	**37**	**15**	**21**	**24**	**22**	**21**	**7**	**21**	**30**	**22**	**27**	**23.00**	
	Multiple Hits																		**Average Cover**	**Frequency**
Grasses																				
P	*Bouteloua gracilis*	Blue Grama		12	23	5	8	10	3	2	6	4	10		6		4	7	**6.67**	**87**
Forbs																				
A	*Chenopodium album*	Lambsquarters		4								2					3		**0.60**	**20**
A	*Salsola tragus*	Russian Thistle											6	3		1	10		**1.33**	**27**
Shrubs, Sub-shrubs, Cacti & Trees																				
P	*Artemisia tridentata*	Big Sagebrush		13	11	1	26	7	9	5	15	18	3	7	5	4	8	7	**9.27**	**100**
P	*Atriplex canescens*	Fourwing Saltbush		3															**0.20**	**7**
P	*Ceratoides lanata*	Winterfat										1					2		**0.20**	**13**
P	*Gutierrezia microcephala*	Threadleaf Snakeweed													1			8	**0.60**	**13**
P	*Gutierrezia sarothrae*	Broom Snakeweed		4	4	7	11	2	10	21	9	10	9	4	4	14	12	8	**8.60**	**100**
																			Mean	
			Overall Total Hits (LAI)	**65**	**64**	**28**	**76**	**56**	**37**	**49**	**55**	**60**	**54**	**24**	**42**	**49**	**65**	**60**	**52.27**	

Sample Adequacy Calculations	**Plant Cover Mean = 24.80**	**t= 1.35**	**n = 15**
	Variance = 49.31		**n_{min} = 14.51**
Diversity	**Number of Species with ≥1% Average Cover = 4**		

P=Perennial A=Annual B=Biennial Nw=Noxious Weed

Table B4 Church Rock Mill Site - Root Density and Depth - 2013

Reclaimed Analog - Pit 1 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	10	19	18	20	23	14	15	15	13	21	168	16.8	14.58	14.58
20	8	24	30	17	13	8	13	19	13	21	166	16.6	14.41	28.99
30	21	20	24	12	4	10	14	13	8	6	132	13.2	11.46	40.45
40	21	20	18	13	18	7	22	11	12	6	148	14.8	12.85	53.30
50	14	15	24	15	21	11	39	24	14	7	184	18.4	15.97	69.27
60	10	19	19	13	17	8	26	14	3	3	132	13.2	11.46	80.73
70	15	8	12	10	7	8	13	6	4	4	87	8.7	7.55	88.28
80	6	7	4	6	7	5	5	12	9	1	62	6.2	5.38	93.66
90	3	2	3	5	6	8	7	4	6	2	46	4.6	3.99	97.66
100	1	3	3	3	3	4	4	1	4	1	27	2.7	2.34	100.00

Table B5 Church Rock Mill Site - Root Density and Depth - 2013

Reclaimed Analog - Pit 2 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	17	23	9	10	7	7	10	13	14	8	118	11.8	23.23	23.23
20	2	1	2	9	4	2	12	7	8	4	51	5.1	10.04	33.27
30	10	3	4	0	0	0	2	2	0	2	23	2.3	4.53	37.80
40	4	11	12	1	3	9	9	9	2	3	63	6.3	12.40	50.20
50	8	14	21	4	7	6	8	7	1	6	82	8.2	16.14	66.34
60	5	8	3	10	8	4	8	7	2	3	58	5.8	11.42	77.76
70	7	6	5	4	6	4	6	3	4	3	48	4.8	9.45	87.20
80	3	1	3	2	8	7	1	4	4	3	36	3.6	7.09	94.29
90	1	0	2	1	1	3	4	2	2	1	17	1.7	3.35	97.64
100	1	1	3	0	0	2	0	2	2	1	12	1.2	2.36	100.00

Table B6 Church Rock Mill Site - Root Density and Depth - 2013

Grassland Analog - Pit 1 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	12	30	40	51	62	65	27	96	63	43	489	48.9	24.99	24.99
20	49	38	44	22	35	35	26	21	27	34	331	33.1	16.91	41.90
30	20	19	19	13	13	13	19	22	25	39	202	20.2	10.32	52.22
40	9	27	16	18	14	14	16	11	11	16	152	15.2	7.77	59.99
50	13	18	17	14	8	8	26	14	14	13	145	14.5	7.41	67.40
60	14	8	12	11	15	15	16	16	23	22	152	15.2	7.77	75.17
70	18	16	21	35	23	23	33	39	37	28	273	27.3	13.95	89.12
80	7	7	4	9	7	7	24	22	12	14	113	11.3	5.77	94.89
90	2	2	6	7	12	12	10	2	15	5	73	7.3	3.73	98.62
100	1	2	0	4	2	2	2	5	4	5	27	2.7	1.38	100.00

Table B7 Church Rock Mill Site - Root Density and Depth - 2013

Grassland Analog - Pit 2 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	38	27	28	18	25	23	21	20	12	24	236	23.6	15.06	15.06
20	8	10	10	15	20	27	19	13	24	29	175	17.5	11.17	26.23
30	4	8	2	19	17	26	8	12	21	22	139	13.9	8.87	35.10
40	11	8	9	19	12	12	11	7	9	19	117	11.7	7.47	42.57
50	7	6	14	11	25	25	15	18	26	9	156	15.6	9.96	52.52
60	6	2	5	8	20	5	15	25	10	22	118	11.8	7.53	60.05
70	17	23	18	24	33	20	22	65	38	25	285	28.5	18.19	78.24
80	15	24	8	19	12	8	11	53	14	13	177	17.7	11.30	89.53
90	15	27	22	7	4	5	7	9	8	6	110	11	7.02	96.55
100	6	2	8	13	3	7	3	9	3	0	54	5.4	3.45	100.00

Table B8 Church Rock Mill Site - Root Density and Depth - 2013

Shrubland Analog - Pit 1 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	20	26	27	23	33	28	15	15	56	47	290	29	22.45	22.45
20	14	19	11	24	18	33	23	20	29	23	214	21.4	16.56	39.01
30	12	16	19	11	27	21	19	27	20	13	185	18.5	14.32	53.33
40	7	5	12	13	12	12	10	14	13	11	109	10.9	8.44	61.76
50	7	1	5	7	18	15	17	13	4	10	97	9.7	7.51	69.27
60	12	8	8	19	19	11	14	4	6	8	109	10.9	8.44	77.71
70	12	6	9	20	9	2	5	8	11	3	85	8.5	6.58	84.29
80	4	4	8	10	14	5	1	2	9	14	71	7.1	5.50	89.78
90	7	10	5	18	14	9	8	8	3	2	84	8.4	6.50	96.28
100	7	5	3	8	5	8	2	1	5	4	48	4.8	3.72	100.00

Table B9 Church Rock Mill Site - Root Density and Depth - 2013

Shrubland Analog - Pit 2 (Raw Data)

	Number of Roots per Decimeter										Row Total	Avgerage Density	Percent of Total	Cumulative Percent of Total
cm	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**				
10	19	24	14	20	24	12	8	16	27	38	202	20.2	18.45	18.45
20	9	19	18	8	27	15	19	14	37	31	197	19.7	17.99	36.44
30	8	15	11	12	10	21	18	14	22	19	150	15	13.70	50.14
40	12	11	7	4	4	6	5	6	12	18	85	8.5	7.76	57.90
50	1	8	5	3	4	4	2	11	8	21	67	6.7	6.12	64.02
60	13	9	4	11	12	10	10	8	17	19	113	11.3	10.32	74.34
70	7	11	8	7	16	8	10	6	9	14	96	9.6	8.77	83.11
80	9	12	10	5	6	3	5	7	13	9	79	7.9	7.21	90.32
90	2	5	8	4	15	13	6	5	10	1	69	6.9	6.30	96.62
100	2	3	1	3	6	7	2	3	4	6	37	3.7	3.38	100.00

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Appendix C

Photos

Plate 1 – Reclaimed Analog Area – 2013

Plate 2 – Grassland Analog Area – 2013

Plate 3 – Shrubland Analog Area – 2013

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Appendix D

Soil Survey

1.0 Soil Survey Methods

Standard soil survey methods were used throughout the study. Soils mapping, description, sampling, and classification were conducted in accordance with the standards and procedures of the National Cooperative Soil Survey (Soil Survey Staff, 1993, 1994, 1999; and Schoeneberger et.al., 2002) and the New Mexico Mining and Minerals Division Closeout Plan Guidelines for Existing Mines Attachment 1 - Soil and Topsoil suitability ratings (NM MMD, 1996), as well as the New Mexico Overburden and Soils Inventory and Handling Guidelines (EMNRD 2009).

Soil Sampling was conducted at the order 3 level by a Cedar Creek soil scientist. Soils were exposed with a backhoe, and examined on the pit wall. Soil samples from each major horizon and sub horizon were collected from each of the 6 pits.

2.0 RESULTS

2.1 Study Area Soil Characterization

The Natural Resource Conservation Service (NRCS) McKinley County Soil Survey (USDA SCS 2001) lists the soils located within proposed borrow sources, vegetation analog sites, and root density study areas as Buckle Silt Loams. The NRCS series designation was fairly accurate at describing the observed NECR sites, with few slight deviations from the general description in isolated instances. The Buckle taxonomic classification is listed as fine-loamy, mixed, superactive, mesic Ustic Haplargids. The Buckle series consists of very deep, well drained soils that formed in moderately fine textured alluvium, fan alluvium, and slope alluvium derived from shale and sandstone. Buckle soils are on dipslopes of cuestas, fan terraces and fan remnants on valley sides, drainage ways, hills and ridges and have slopes of 0-8 percent. The mean annual precipitation is about 11 inches, and the mean annual temperature is about 49 degrees F. The following is a general description of the Buckle series soil profile, followed by site specific observations made in the field.

A--0 to 2 inches; brown (10YR 5/3) silt loam, brown (10YR 4/3) moist; weak thin platy structure; soft, friable, slightly sticky and plastic; few fine roots; few fine pores; slightly alkaline (pH 7.6); abrupt smooth boundary. (2 to 4 inches thick)

BA--2 to 5 inches; brown (10YR 4/3) silt loam, dark brown (10YR 3/3) moist; weak medium and fine subangular blocky structure; slightly hard, friable, slightly sticky and plastic; few fine and medium roots; few fine pores; slightly alkaline (pH 7.6); clear smooth boundary. (0 to 5 inches thick)

Bt1--5 to 13 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; weak medium and coarse prismatic structure parting to weak medium and fine subangular blocky; hard, firm, sticky and

plastic; few fine roots; few fine pores; many moderately thick clay films on faces of peds; moderately alkaline (pH 8.1); clear smooth boundary. (6 to 10 inches thick)

Bt2--13 to 29 inches; brown (10YR 5/3) silty clay loam, dark brown (10YR 3/3) moist; weak medium prismatic structure parting to weak medium and fine subangular blocky; very hard, firm, sticky and plastic; few very fine roots; few very fine pores; common moderately thick clay films on faces of peds; moderately alkaline (pH 8.2); clear smooth boundary. (12 to 20 inches thick)

Btk--29 to 44 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; very hard, firm, sticky and plastic; few very fine roots; few very fine pores; strongly effervescent; few fine calcium carbonate accumulations; few thin clay films on faces of peds; moderately alkaline (pH 8.4); abrupt smooth boundary. (10 to 21 inches thick)

Bk1--44 to 50 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; massive; very hard, firm, sticky and plastic; strongly effervescent; few fine calcium carbonate accumulations; moderately alkaline (pH 8.4); clear smooth boundary.

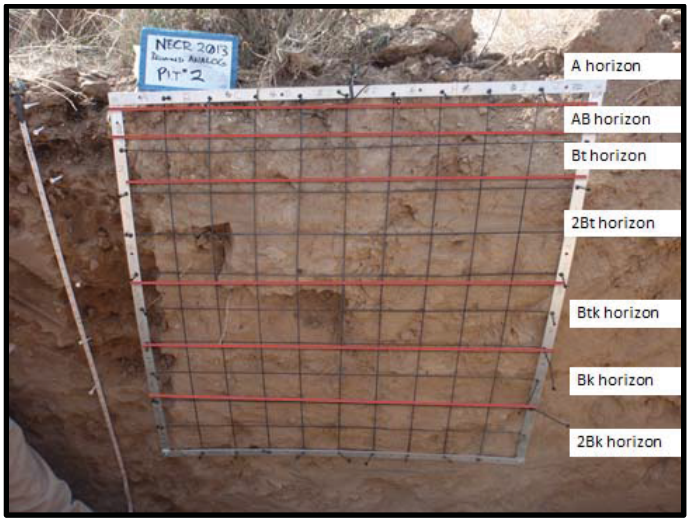
Bk2--50 to 60 inches; light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; massive; very hard, firm, sticky and plastic; strongly effervescent; few fine calcium carbonate accumulations; strongly alkaline (pH 8.6). (The combined thickness of the Bk horizons are 0 to 16 inches thick)

2.2 Reclaimed Analog

The Reclaimed Analog was located in a previous borrow source, that was last disturbed approximately ten to twenty years ago, and deviates significantly from the Buckle series due to the anthropogenic disturbance. The exact amount of material removed from this area and the type of disturbance in relative proximity to our specific sample locations is unknown. In the Reclaimed Analog, species adjacent to the excavation pit walls were predominantly alkali sacaton *(Sporobolus airoides)*, with one small rubber rabbitbrush (*Chrysothamnus nauseosus)* and a few distant fourwing saltbush *(Atriplex canescens)*. A photo of Pit 2 in the Reclaimed Analog site is presented below.

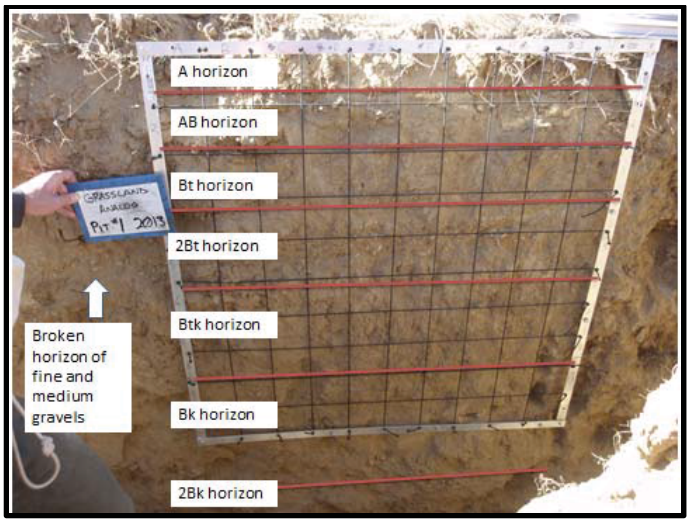
Pit 2 of the Reclaimed Analog had a very similar soil profile relative to the native areas in terms of horizon designation and order. Although, the thickness of the A, AB, and B_t horizons was much thinner than in the native, with wavy boundaries rather than smooth boundaries. Also, the reclaimed area was lacking a B_{tk} horizon, showing an abrupt change from clay dominated to calcium carbonate dominated horizonation at 27 inches depth, considerably shallower than the average native B_k horizon boundary of 35.5 inches. The thin horizonation, wavy horizon boundary, and lack of transition between the silica and carbonate dominated B horizons suggests that this reclaimed area may represent very well what the pedogenesis and root profile may look like several decades/centuries after vegetation establishment on the repository.

Pit 1 of the Reclaimed Analog did not have a similar soil profile to the native Analog sites, although Pit 1 did show a similar A horizon underlain by a B_t horizon, with the B_k horizon beginning at 15 in depth, again with no transitional layer between the dominant horizons.



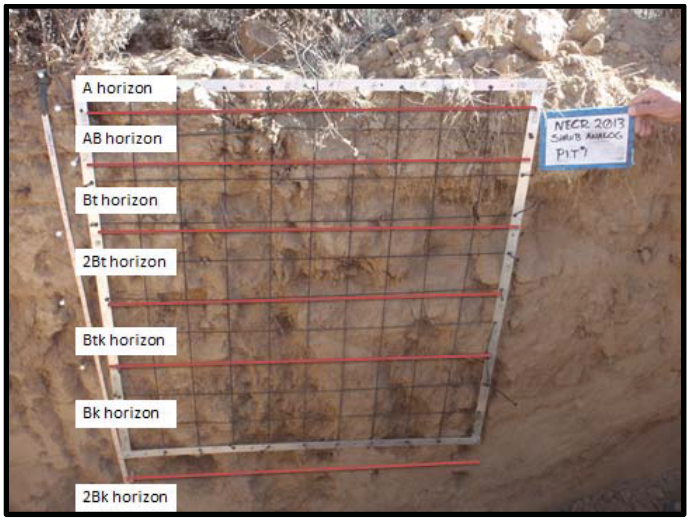
2.3 Grass Analog

The NRCS soil survey was fairly accurate at describing the soils located in the Grass Analog site. The overall order, nature, and physical and chemical properties of the horizons listed for the Buckle Series was accurate. The depth at which these horizons begin and end do vary, but the variability is mostly within the bounds of the NRCS descriptions. During field observations, the B_k horizons were found to be thicker, ranging from 19-31 inches thick. Also, thin and short broken horizons of poorly sorted fine and medium gravels were found at approximately twelve inches depth in both Grass Analog sites. Other than these two deviations, soils within the aforementioned study areas fit the general description of the Buckle series. In the Grass Analog, species adjacent to the pit wall were predominantly blue grama *(Bouteloua gracilis)* with a few scattered Russian thistle *(Salsola tragus)* and a lone fourwing saltbush. A photo of Pit 1 in the Grass Analog site is presented below.



2.4 Shrub Analog

The soil survey was fairly accurate at describing the soils located in the Shrub Analog site. The overall order, nature, and physical and chemical properties of the horizons listed for the Buckle Series was accurate. The depth at which these horizons begin and end do vary, but the variability is mostly within the bounds of the NRCS descriptions. During field observations, the B_k horizons were noted to be thicker, from 19-31 inches thick. Other than this one deviation, soils within the aforementioned study areas fit the general description of the Buckle series. In the Shrub Analog, species adjacent to the pit wall were predominantly big sagebrush *(Artemisia tridentata)* with some Russian thistle and sparse but patchy blue grama. A photo of Pit 1 in the Shrub Analog site is presented below.



3.0 LITERATURE CITED

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NM MMD 1996. Closeout Plan Guidelines for Existing Mines Attachment 1 – Soil and Topsoil Suitability Ratings

Zschetzsche, 2001. Soil Survey of McKinley Country Area of New Mexico, and parts of Cibola and San Juan Counties