

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : January 11, 2012

LOCATION ID	LOCATION DESCRIPTION	1/11/2012 CURRENT WORKING LEVEL	12/7/2011 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.007	0.009	
2R	Between Precip Cells & Eluent Tanks	0.007	0.008	
3R	Between IX Columns & Injection Tanks	0.010	0.007	
4R	Between IX Columns & Resin Transfer Tank	0.007	0.013	
5R	Between IX Columns & Column Drain Tank	0.007	0.009	
6R	Between IX Column Trains	0.009	0.007	
7R	Between Precip Cells & Raw Water Tank	0.008	0.010	
8R	Motor Control Room	0.001	0.001	
9R	Lab	0.002	0.002	
10R	Lunchroom	0.001	0.001	
11R	R. O. Building	0.001	0.006	
12R	Down Flow Column Area	0.004	0.002	
13R-E	Pond Treatment Room-East Bay	0.010	0.008	
13R-M	Pond Treatment Room-Middle Bay	0.010	0.008	
13R-W	Pond Treatment Room-West Bay	0.007	0.006	
	Plant Average:	0.007	0.007	

Barometric Pressure: 31.51

Wind: N@13mph

Weather Conditions: Blowing Snow

Plant Operations: Belt Running

Acid to ppt-B

All prisms were green throughout the entirety of sampling

Other: The door to the Resin bead storage area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : February 8, 2012

LOCATION ID	LOCATION DESCRIPTION	2/8/2012 CURRENT WORKING LEVEL	1/11/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.012	0.007	
2R	Between Precip Cells & Eluent Tanks	0.010	0.007	
3R	Between IX Columns & Injection Tanks	0.010	0.010	
4R	Between IX Columns & Resin Transfer Tank	0.015	0.007	
5R	Between IX Columns & Column Drain Tank	0.028	0.007	
6R	Between IX Column Trains	0.052	0.009	
7R	Between Precip Cells & Raw Water Tank	0.008	0.008	
8R	Motor Control Room	0.005	0.001	
9R	Lab	0.003	0.002	
10R	Lunchroom	0.003	0.001	
11R	R. O. Building	0.005	0.001	
12R	Down Flow Column Area	0.007	0.004	
13R-E	Pond Treatment Room-East Bay	0.011	0.010	
13R-M	Pond Treatment Room-Middle Bay	0.007	0.010	
13R-W	Pond Treatment Room-West Bay	0.009	0.007	
	Plant Average:	0.015	0.007	

Barometric Pressure: 30.01

Wind: S@6mph

Weather Conditions: Clear

Plant Operations: Belt Running

decant #1 to ppt-b

All prisms were green throughout the entirety of sampling

Other: The door to the Resin bead storage area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : March 7, 2012

LOCATION ID	LOCATION DESCRIPTION	3/7/2012 CURRENT WORKING LEVEL	2/8/2012 CURRENT WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.011	0.012	
2R	Between Precip Cells & Eluent Tanks	0.018	0.010	
3R	Between IX Columns & Injection Tanks	0.117	0.010	
4R	Between IX Columns & Resin Transfer Tank	0.085	0.015	
5R	Between IX Columns & Column Drain Tank	0.060	0.028	
6R	Between IX Column Trains	0.051	0.052	
7R	Between Precip Cells & Raw Water Tank	0.007	0.008	
8R	Motor Control Room	0.001	0.005	
9R	Lab	0.004	0.003	
10R	Lunchroom	0.003	0.003	
11R	R. O. Building	0.002	0.005	
12R	Down Flow Column Area	0.009	0.007	
13R-E	Pond Treatment Room-East Bay	0.084	0.011	
13R-M	Pond Treatment Room-Middle Bay	0.089	0.007	
13R-W	Pond Treatment Room-West Bay	0.099	0.009	
	Plant Average:	0.053	0.015	

Barometric Pressure: 29.94

Wind: Light Variable

Weather Conditions: Light Flurries

Plant Operations: Belt Running

PWT Preg to B, Fresh Barren in IX-5

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : March 14, 2012

LOCATION ID	LOCATION DESCRIPTION	3/14/2012 CURRENT WORKING LEVEL	3/7/2012 Previous WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.027	0.011	
2R	Between Precip Cells & Eluent Tanks	0.020	0.018	
3R	Between IX Columns & Injection Tanks	0.020	0.117	
4R	Between IX Columns & Resin Transfer Tank	0.019	0.085	
5R	Between IX Columns & Column Drain Tank	0.014	0.060	
6R	Between IX Column Trains	0.012	0.051	
7R	Between Precip Cells & Raw Water Tank	0.006	0.007	
8R	Motor Control Room	0.004	0.001	
9R	Lab		0.004	
10R	Lunchroom		0.003	
11R	R. O. Building		0.002	
12R	Down Flow Column Area	0.004	0.009	
13R-E	Pond Treatment Room-East Bay	0.062	0.084	
13R-M	Pond Treatment Room-Middle Bay	0.061	0.089	
13R-W	Pond Treatment Room-West Bay	0.039	0.099	
	Plant Average:	0.024	0.053	

Barometric Pressure: 29.97

Wind: calm

Weather Conditions: none

Plant Operations: PPT A to Thickner

Resin Beads Back to DF 6, PWT on

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : March 21, 2012

LOCATION ID	LOCATION DESCRIPTION	3/21/2012 CURRENT WORKING LEVEL	3/14/2012 Previous WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.012	0.027	
2R	Between Precip Cells & Eluent Tanks	0.005	0.020	
3R	Between IX Columns & Injection Tanks	0.013	0.020	
4R	Between IX Columns & Resin Transfer Tank	0.014	0.019	
5R	Between IX Columns & Column Drain Tank	0.008	0.014	
6R	Between IX Column Trains	0.013	0.012	
7R	Between Precip Cells & Raw Water Tank	0.007	0.006	
8R	Motor Control Room	0.002	0.004	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.003	0.004	
13R-E	Pond Treatment Room-East Bay	0.013	0.062	
13R-M	Pond Treatment Room-Middle Bay	0.013	0.061	
13R-W	Pond Treatment Room-West Bay	0.008	0.039	
	Plant Average:	0.009	0.024	

Barometric Pressure: 30.01

Wind: SE@6mph

Weather Conditions: clear

Plant Operations: PPT C to Thickner

PPT B empty

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : March 28, 2012

LOCATION ID	LOCATION DESCRIPTION	3/28/2012 CURRENT WORKING LEVEL	3/21/2012 Previous WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.031	0.012	
2R	Between Precip Cells & Eluent Tanks	0.020	0.005	
3R	Between IX Columns & Injection Tanks	0.014	0.013	
4R	Between IX Columns & Resin Transfer Tank	0.005	0.014	
5R	Between IX Columns & Column Drain Tank	0.014	0.008	
6R	Between IX Column Trains	0.012	0.013	
7R	Between Precip Cells & Raw Water Tank	0.039	0.007	
8R	Motor Control Room	0.005	0.002	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.006	0.003	
13R-E	Pond Treatment Room-East Bay	0.018	0.013	
13R-M	Pond Treatment Room-Middle Bay	0.019	0.013	
13R-W	Pond Treatment Room-West Bay	0.016	0.008	
	Plant Average:	0.017	0.009	

Barometric Pressure: 30.00

Wind: SW@3mph

Weather Conditions: clear

Plant Operations: H2O2 Cycle to PPT-C

Transferring Beads from DF-5 to Elution

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : April 4, 2012

LOCATION ID	LOCATION DESCRIPTION	4/4/2012 CURRENT WORKING LEVEL	3/28/2012 Previous WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.003	0.031	
2R	Between Precip Cells & Eluent Tanks	0.003	0.020	
3R	Between IX Columns & Injection Tanks	0.006	0.014	
4R	Between IX Columns & Resin Transfer Tank	0.007	0.005	
5R	Between IX Columns & Column Drain Tank	0.009	0.014	
6R	Between IX Column Trains	0.007	0.012	
7R	Between Precip Cells & Raw Water Tank	0.002	0.039	
8R	Motor Control Room	0.001	0.005	
9R	Lab	0.006		
10R	Lunchroom	0.001		
11R	R. O. Building	0.001		
12R	Down Flow Column Area	0.001	0.006	
13R-E	Pond Treatment Room-East Bay	0.006	0.018	
13R-M	Pond Treatment Room-Middle Bay	0.006	0.019	
13R-W	Pond Treatment Room-West Bay	0.007	0.016	
	Plant Average:	0.005	0.017	

Barometric Pressure: 30.00

Wind: Light

Weather Conditions: clear

Plant Operations: Strip IX-1

Decant TVW #2

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : May 9, 2012

LOCATION ID	LOCATION DESCRIPTION	5/9/2012 CURRENT WORKING LEVEL	4/4/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.003	0.003	
2R	Between Precip Cells & Eluent Tanks	0.001	0.003	
3R	Between IX Columns & Injection Tanks	0.110	0.006	
4R	Between IX Columns & Resin Transfer Tank	0.064	0.007	
5R	Between IX Columns & Column Drain Tank	0.056	0.009	
6R	Between IX Column Trains	0.041	0.007	
7R	Between Precip Cells & Raw Water Tank	0.005	0.002	
8R	Motor Control Room	0.001	0.001	
9R	Lab	0.008	0.006	
10R	Lunchroom	0.001	0.001	
11R	R. O. Building	0.001	0.001	
12R	Down Flow Column Area	0.001	0.001	
13R-E	Pond Treatment Room-East Bay	0.005	0.006	
13R-M	Pond Treatment Room-Middle Bay	0.006	0.006	
13R-W	Pond Treatment Room-West Bay	0.068	0.007	
	Plant Average:	0.030	0.005	

Barometric Pressure: 30.05

Wind: E @ 11mph

Weather Conditions: clear

Plant Operations: Acid to PPT C, Belt Filter is Running, Transferring

DF-5 Beads from Elution

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : May 16, 2012

LOCATION ID	LOCATION DESCRIPTION	5/16/2012 CURRENT WORKING LEVEL	5/9/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.018	0.003	
2R	Between Precip Cells & Eluent Tanks	0.024	0.001	
3R	Between IX Columns & Injection Tanks	0.011	0.110	
4R	Between IX Columns & Resin Transfer Tank	0.009	0.064	
5R	Between IX Columns & Column Drain Tank	0.010	0.056	
6R	Between IX Column Trains	0.010	0.041	
7R	Between Precip Cells & Raw Water Tank	0.011	0.005	
8R	Motor Control Room	0.001	0.001	
9R	Lab		0.008	
10R	Lunchroom		0.001	
11R	R. O. Building		0.001	
12R	Down Flow Column Area	0.008	0.001	
13R-E	Pond Treatment Room-East Bay	0.016	0.005	
13R-M	Pond Treatment Room-Middle Bay	0.012	0.006	
13R-W	Pond Treatment Room-West Bay	0.009	0.068	
	Plant Average:	0.012	0.030	

Barometric Pressure: 31.10

Wind: SE@18mph

Weather Conditions: windy

Plant Operations: Strip DF-6

PPT-B thickner

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : May 23, 2012

LOCATION ID	LOCATION DESCRIPTION	5/23/2012 CURRENT WORKING LEVEL	5/16/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.055	0.018	
2R	Between Precip Cells & Eluent Tanks	0.077	0.024	
3R	Between IX Columns & Injection Tanks	0.051	0.011	
4R	Between IX Columns & Resin Transfer Tank	0.033	0.009	
5R	Between IX Columns & Column Drain Tank	0.027	0.010	
6R	Between IX Column Trains	0.028	0.010	
7R	Between Precip Cells & Raw Water Tank	0.058	0.011	
8R	Motor Control Room	0.002	0.001	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.021	0.008	
13R-E	Pond Treatment Room-East Bay	0.077	0.016	
13R-M	Pond Treatment Room-Middle Bay	0.064	0.012	
13R-W	Pond Treatment Room-West Bay	0.057	0.009	
	Plant Average:	0.046	0.012	

Barometric Pressure: 29.67

Wind: W@8mph

Weather Conditions: Overcast

Plant Operations: Acid Cycle to Ppt-C

PPT-B thickner

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : May 30, 2012

LOCATION ID	LOCATION DESCRIPTION	5/30/2012 CURRENT WORKING LEVEL	5/23/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.014	0.055	
2R	Between Precip Cells & Eluent Tanks	0.008	0.077	
3R	Between IX Columns & Injection Tanks	0.067	0.051	
4R	Between IX Columns & Resin Transfer Tank	0.035	0.033	
5R	Between IX Columns & Column Drain Tank	0.055	0.027	
6R	Between IX Column Trains	0.056	0.028	
7R	Between Precip Cells & Raw Water Tank	0.006	0.058	
8R	Motor Control Room	0.003	0.002	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.004	0.021	
13R-E	Pond Treatment Room-East Bay	0.016	0.077	
13R-M	Pond Treatment Room-Middle Bay	0.013	0.064	
13R-W	Pond Treatment Room-West Bay	0.015	0.057	
	Plant Average:	0.024	0.046	

Barometric Pressure: 29.87

Wind: SW@4mph

Weather Conditions: Clear

Plant Operations: Bicarb to storage

Strip IX-7

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : June 6, 2012

LOCATION ID	LOCATION DESCRIPTION	6/6/2012 CURRENT WORKING LEVEL	5/30/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.011	0.014	
2R	Between Precip Cells & Eluent Tanks	0.004	0.008	
3R	Between IX Columns & Injection Tanks	0.011	0.067	
4R	Between IX Columns & Resin Transfer Tank	0.011	0.035	
5R	Between IX Columns & Column Drain Tank	0.006	0.055	
6R	Between IX Column Trains	0.010	0.056	
7R	Between Precip Cells & Raw Water Tank	0.014	0.006	
8R	Motor Control Room	0.001	0.003	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.001	0.004	
13R-E	Pond Treatment Room-East Bay	0.012	0.016	
13R-M	Pond Treatment Room-Middle Bay	0.011	0.013	
13R-W	Pond Treatment Room-West Bay	0.010	0.015	
	Plant Average:	0.009	0.024	

Barometric Pressure: 29.86

Wind: SW @ 11mph

Weather Conditions: Partly Cloudy

Plant Operations: Precip B to the Thickner

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : June 13, 2012

LOCATION ID	LOCATION DESCRIPTION	6/13/2012 CURRENT WORKING LEVEL	6/6/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.066	0.011	
2R	Between Precip Cells & Eluent Tanks	0.010	0.004	
3R	Between IX Columns & Injection Tanks	0.041	0.011	
4R	Between IX Columns & Resin Transfer Tank	0.031	0.011	
5R	Between IX Columns & Column Drain Tank	0.026	0.006	
6R	Between IX Column Trains	0.028	0.010	
7R	Between Precip Cells & Raw Water Tank	0.008	0.014	
8R	Motor Control Room	0.003	0.001	
9R	Lab	0.003		
10R	Lunchroom	0.005		
11R	R. O. Building	0.004		
12R	Down Flow Column Area	0.001	0.001	
13R-E	Pond Treatment Room-East Bay	0.080	0.012	
13R-M	Pond Treatment Room-Middle Bay	0.062	0.011	
13R-W	Pond Treatment Room-West Bay	0.043	0.010	
	Plant Average:	0.033	0.009	

Barometric Pressure: 29.89

Wind: SE @ 4mph

Weather Conditions: Partly Cloudy

Plant Operations: Acid to PPT-B, Stripping DF-4, PPT-C

to the thickner.

All prisms were green throughout the entirety of sampling the door to the resin trailer area was partially open. All other doors were closed.

Other: The discharge of the wilden pump in PWT that moves process water from IX-001 to IX-002 had come lose. As a result water was being discharged to the floor and subsequently the sump. Operations were notified and the system was shut down for repair.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : June 20, 2012

LOCATION ID	LOCATION DESCRIPTION	6/20/2012 CURRENT WORKING LEVEL	6/13/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.032	0.066	
2R	Between Precip Cells & Eluent Tanks	0.019	0.010	
3R	Between IX Columns & Injection Tanks	0.025	0.041	
4R	Between IX Columns & Resin Transfer Tank	0.021	0.031	
5R	Between IX Columns & Column Drain Tank	0.017	0.026	
6R	Between IX Column Trains	0.016	0.028	
7R	Between Precip Cells & Raw Water Tank	0.009	0.008	
8R	Motor Control Room	0.001	0.003	
9R	Lab		0.003	
10R	Lunchroom		0.005	
11R	R. O. Building		0.004	
12R	Down Flow Column Area	0.009	0.001	
13R-E	Pond Treatment Room-East Bay	0.088	0.080	
13R-M	Pond Treatment Room-Middle Bay	0.062	0.062	
13R-W	Pond Treatment Room-West Bay	0.058	0.043	
	Plant Average:	0.030	0.033	

Barometric Pressure: 29.94

Wind: NW@ 8 mph

Weather Conditions: Cloudy

Plant Operations: PPT-C to the Thickner, stripping the Downflow
making a new batch of bicarb

All prisms were green throughout the entirety of sampling the door to the resin trailer area was partially open. All other doors were closed.

Other:

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : June 27, 2012

LOCATION ID	LOCATION DESCRIPTION	6/27/2012 CURRENT WORKING LEVEL	6/20/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.025	0.032	
2R	Between Precip Cells & Eluent Tanks	0.035	0.019	
3R	Between IX Columns & Injection Tanks	0.109	0.025	
4R	Between IX Columns & Resin Transfer Tank	0.068	0.021	
5R	Between IX Columns & Column Drain Tank	0.048	0.017	
6R	Between IX Column Trains	0.049	0.016	
7R	Between Precip Cells & Raw Water Tank	0.022	0.009	
8R	Motor Control Room	0.001	0.001	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.008	0.009	
13R-E	Pond Treatment Room-East Bay	0.054	0.088	
13R-M	Pond Treatment Room-Middle Bay	0.109	0.062	
13R-W	Pond Treatment Room-West Bay	0.123	0.058	
	Plant Average:	0.054	0.030	

Barometric Pressure: 29.86

Wind: SW @ 11 mph

Weather Conditions: Partly Cloudy

Plant Operations: Stripping DF-2 & PWT, Acid

is going to ppt-A

During the course of sampling the PWT Prism turned yellow at 06:16 and remained yellow through out the rest of sampling.
All other prisms remained green. The door to the bead trailer area was partially opened at 05:45, all others were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : July 3, 2012

LOCATION ID	LOCATION DESCRIPTION	7/3/2012 CURRENT WORKING LEVEL	6/27/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.010	0.025	
2R	Between Precip Cells & Eluent Tanks	0.023	0.035	
3R	Between IX Columns & Injection Tanks	0.011	0.109	
4R	Between IX Columns & Resin Transfer Tank	0.007	0.068	
5R	Between IX Columns & Column Drain Tank	0.008	0.048	
6R	Between IX Column Trains	0.006	0.049	
7R	Between Precip Cells & Raw Water Tank	0.023	0.022	
8R	Motor Control Room	0.001	0.001	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.005	0.008	
13R-E	Pond Treatment Room-East Bay	0.015	0.054	
13R-M	Pond Treatment Room-Middle Bay	0.014	0.109	
13R-W	Pond Treatment Room-West Bay	0.010	0.123	
	Plant Average:	0.011	0.054	

Barometric Pressure: 29.83

Wind: SE @ 3 mph

Weather Conditions: Partly Cloudy

Plant Operations: PPT-C to the Thickner, stripping the Downflow
making a new batch of bicarb, PWT was shut down.

All prisms were green throughout the sampling.

The door to the bead trailer area was partially open all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : July 11, 2012

LOCATION ID	LOCATION DESCRIPTION	7/11/2012 CURRENT WORKING LEVEL	7/3/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.012	0.010	
2R	Between Precip Cells & Eluent Tanks	0.038	0.023	
3R	Between IX Columns & Injection Tanks	0.009	0.011	
4R	Between IX Columns & Resin Transfer Tank	0.006	0.007	
5R	Between IX Columns & Column Drain Tank	0.006	0.008	
6R	Between IX Column Trains	0.007	0.006	
7R	Between Precip Cells & Raw Water Tank	0.022	0.023	
8R	Motor Control Room	0.001	0.001	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.002	0.005	
13R-E	Pond Treatment Room-East Bay	0.026	0.015	
13R-M	Pond Treatment Room-Middle Bay	0.013	0.014	
13R-W	Pond Treatment Room-West Bay	0.011	0.010	
	Plant Average:	0.013	0.011	

Barometric Pressure: 31.51

Wind: S@14mph

Weather Conditions: Partly Cloudy

Plant Operations: Stripping DF-3, Acid-Pre C

Pre A-Thickner

All prisms were green throughout the entirety of sampling

Other: The door to the Resin trailer area was
partially open the rest were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : July 18, 2012

LOCATION ID	LOCATION DESCRIPTION	7/18/2012 CURRENT WORKING LEVEL	6/13/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.007	0.066	
2R	Between Precip Cells & Eluent Tanks	0.044	0.010	
3R	Between IX Columns & Injection Tanks	0.047	0.041	
4R	Between IX Columns & Resin Transfer Tank	0.037	0.031	
5R	Between IX Columns & Column Drain Tank	0.024	0.026	
6R	Between IX Column Trains	0.030	0.028	
7R	Between Precip Cells & Raw Water Tank	0.012	0.008	
8R	Motor Control Room	0.003	0.003	
9R	Lab	0.007	0.003	
10R	Lunchroom	0.002	0.005	
11R	R. O. Building	0.008	0.004	
12R	Down Flow Column Area	0.006	0.001	
13R-E	Pond Treatment Room-East Bay	0.093	0.080	
13R-M	Pond Treatment Room-Middle Bay	0.083	0.062	
13R-W	Pond Treatment Room-West Bay	0.059	0.043	
	Plant Average:	0.037	0.033	

Barometric Pressure: 30.01

Wind: S@5mph

Weather Conditions: Clear

Plant Operations: Precip-B to thickner

All prisms were green throughout the sampling.

The door to the head trailer area was partially open all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : July 25, 2012

LOCATION ID	LOCATION DESCRIPTION	7/25/2012 CURRENT WORKING LEVEL	7/18/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.011	0.007	
2R	Between Precip Cells & Eluent Tanks	0.007	0.044	
3R	Between IX Columns & Injection Tanks	0.012	0.047	
4R	Between IX Columns & Resin Transfer Tank	0.011	0.037	
5R	Between IX Columns & Column Drain Tank	0.008	0.024	
6R	Between IX Column Trains	0.009	0.030	
7R	Between Precip Cells & Raw Water Tank	0.010	0.012	
8R	Motor Control Room	0.001	0.003	
9R	Lab		0.007	
10R	Lunchroom		0.002	
11R	R. O. Building		0.008	
12R	Down Flow Column Area	0.006	0.006	
13R-E	Pond Treatment Room-East Bay	0.017	0.093	
13R-M	Pond Treatment Room-Middle Bay	0.015	0.083	
13R-W	Pond Treatment Room-West Bay	0.008	0.059	
	Plant Average:	0.010	0.037	

Barometric Pressure: 31.36

Wind: NW@8mph

Weather Conditions: Partly Cloudy

Plant Operations: Bicarb to storage, Acid to precip

Belt Filter Running

All prisms were green throughout the sampling.

The door to the bead trailer area was partially open all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 1, 2012

LOCATION ID	LOCATION DESCRIPTION	8/1/2012 CURRENT WORKING LEVEL	7/25/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.202	0.011	
2R	Between Precip Cells & Eluent Tanks	0.559	0.007	
3R	Between IX Columns & Injection Tanks	0.048	0.012	
4R	Between IX Columns & Resin Transfer Tank	0.030	0.011	
5R	Between IX Columns & Column Drain Tank	0.027	0.008	
6R	Between IX Column Trains	0.023	0.009	
7R	Between Precip Cells & Raw Water Tank	0.019	0.010	
8R	Motor Control Room	0.002	0.001	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area	0.010	0.006	
13R-E	Pond Treatment Room-East Bay	0.148	0.017	
13R-M	Pond Treatment Room-Middle Bay	0.091	0.015	
13R-W	Pond Treatment Room-West Bay	0.077	0.008	
	Plant Average:	0.103	0.010	

Barometric Pressure: 30.09

Wind: S@8mph

Weather Conditions: Clear

Plant Operations: Precip B to thickner, Strip IX-2

Acid to precip C

Precip Prism turned yellow @ 5:45, green/yellow 5:56. Doors were opened after last sample was taken prism turned green.

The door to the bead trailer area was partially open all other doors were closed.

Fan by bicarb storage was off, due to electrical issues, round fan on floor underneath was on.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 1, 2012

LOCATION ID	LOCATION DESCRIPTION	8/1/2012 CURRENT WORKING LEVEL	8/1/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.037	0.202	
2R	Between Precip Cells & Eluent Tanks	0.012	0.559	
3R	Between IX Columns & Injection Tanks		0.048	
4R	Between IX Columns & Resin Transfer Tank		0.030	
5R	Between IX Columns & Column Drain Tank		0.027	
6R	Between IX Column Trains		0.023	
7R	Between Precip Cells & Raw Water Tank		0.019	
8R	Motor Control Room		0.002	
9R	Lab			
10R	Lunchroom			
11R	R. O. Building			
12R	Down Flow Column Area		0.010	
13R-E	Pond Treatment Room-East Bay		0.148	
13R-M	Pond Treatment Room-Middle Bay		0.091	
13R-W	Pond Treatment Room-West Bay		0.077	
	Plant Average:	0.025	0.103	

Barometric Pressure: 30.09

Wind: S@8mph

Weather Conditions: Clear

Plant Operations: Precip B to thickner, Strip IX-2

Acid to precip C

Doors were opened and R1 and R2 were resampled to verify radon was down

Fan by bicarb storage was off, due to electrical issues, round fan on floor underneath was on.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 8, 2012

LOCATION ID	LOCATION DESCRIPTION	8/8/2012 CURRENT WORKING LEVEL	8/1/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.008	0.202	
2R	Between Precip Cells & Eluent Tanks	0.007	0.559	
3R	Between IX Columns & Injection Tanks	0.012	0.048	
4R	Between IX Columns & Resin Transfer Tank	0.013	0.030	
5R	Between IX Columns & Column Drain Tank	0.012	0.027	
6R	Between IX Column Trains	0.011	0.023	
7R	Between Precip Cells & Raw Water Tank	0.015	0.019	
8R	Motor Control Room	0.002	0.002	
9R	Lab	0.006		
10R	Lunchroom	0.004		
11R	R. O. Building	0.004		
12R	Down Flow Column Area	0.001	0.010	
13R-E	Pond Treatment Room-East Bay	0.019	0.148	
13R-M	Pond Treatment Room-Middle Bay	0.021	0.091	
13R-W	Pond Treatment Room-West Bay	0.019	0.077	
	Plant Average:	0.012	0.103	

Barometric Pressure: 31.57

Wind: S @ 5mph

Weather Conditions: Partly Cloudy

Plant Operations: Precip B to thickner

Plant Operations were minimalized from 3:00am through the duration of sampling per operation department's instructions.

The door to the bead trailer area was partially open all other doors were closed.

Fan by bicarb storage was off, due to electrical issues, round fan on floor underneath was on.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 15, 2012

LOCATION ID	LOCATION DESCRIPTION	8/15/2012 CURRENT WORKING LEVEL	8/8/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.010	0.008	
2R	Between Precip Cells & Eluent Tanks	0.008	0.007	
3R	Between IX Columns & Injection Tanks	0.009	0.012	
4R	Between IX Columns & Resin Transfer Tank	0.006	0.013	
5R	Between IX Columns & Column Drain Tank	0.011	0.012	
6R	Between IX Column Trains	0.012	0.011	
7R	Between Precip Cells & Raw Water Tank	0.006	0.015	
8R	Motor Control Room	0.008	0.002	
9R	Lab	#N/A	0.006	
10R	Lunchroom	#N/A	0.004	
11R	R. O. Building	#N/A	0.004	
12R	Down Flow Column Area	0.005	0.001	
13R-E	Pond Treatment Room-East Bay	0.012	0.019	
13R-M	Pond Treatment Room-Middle Bay	0.008	0.021	
13R-W	Pond Treatment Room-West Bay	0.011	0.019	
	Plant Average:	0.009	0.012	

Barometric Pressure: 31.27

Wind: SE @ 6mph

Weather Conditions: Hazy

Plant Operations: Stripping IX-7, Bicarb Mixing

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

Fan by bicarb storage was off, due to electrical issues, round fan on floor underneath was on.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 22, 2012

LOCATION ID	LOCATION DESCRIPTION	8/22/2012 CURRENT WORKING LEVEL	8/15/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.008	0.010	
2R	Between Precip Cells & Eluent Tanks	0.009	0.008	
3R	Between IX Columns & Injection Tanks	0.007	0.009	
4R	Between IX Columns & Resin Transfer Tank	0.010	0.006	
5R	Between IX Columns & Column Drain Tank	0.008	0.011	
6R	Between IX Column Trains	0.006	0.012	
7R	Between Precip Cells & Raw Water Tank	0.011	0.006	
8R	Motor Control Room	0.001	0.008	
9R	Lab	#N/A	#N/A	
10R	Lunchroom	#N/A	#N/A	
11R	R. O. Building	#N/A	#N/A	
12R	Down Flow Column Area	0.004	0.005	
13R-E	Pond Treatment Room-East Bay	0.010	0.012	
13R-M	Pond Treatment Room-Middle Bay	0.008	0.008	
13R-W	Pond Treatment Room-West Bay	0.006	0.011	
	Plant Average:	0.007	0.009	

Barometric Pressure: 29.83

Wind: S @ 8mph

Weather Conditions: Partly Cloudy

Plant Operations: Pushing Flow to IX-2, Stripping

DF-1, PPT-A to the Thickner

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : August 29, 2012

LOCATION ID	LOCATION DESCRIPTION	8/29/2012 CURRENT WORKING LEVEL	8/22/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.003	0.008	
2R	Between Precip Cells & Eluent Tanks	0.005	0.009	
3R	Between IX Columns & Injection Tanks	0.005	0.007	
4R	Between IX Columns & Resin Transfer Tank	0.007	0.010	
5R	Between IX Columns & Column Drain Tank	0.007	0.008	
6R	Between IX Column Trains	0.005	0.006	
7R	Between Precip Cells & Raw Water Tank	0.008	0.011	
8R	Motor Control Room	0.002	0.001	
9R	Lab	#N/A	#N/A	
10R	Lunchroom	#N/A	#N/A	
11R	R. O. Building	#N/A	#N/A	
12R	Down Flow Column Area	0.002	0.004	
13R-E	Pond Treatment Room-East Bay	0.004	0.010	
13R-M	Pond Treatment Room-Middle Bay	0.006	0.008	
13R-W	Pond Treatment Room-West Bay	0.004	0.006	
	Plant Average:	0.005	0.007	

Barometric Pressure: 30.01

Wind: S@6mph

Weather Conditions: Clear

Plant Operations: Making Bicarb

The door to the head trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : September 5, 2012

LOCATION ID	LOCATION DESCRIPTION	9/5/2012 CURRENT WORKING LEVEL	8/29/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.010	0.003	
2R	Between Precip Cells & Eluent Tanks	0.009	0.005	
3R	Between IX Columns & Injection Tanks	0.008	0.005	
4R	Between IX Columns & Resin Transfer Tank	0.009	0.007	
5R	Between IX Columns & Column Drain Tank	0.012	0.007	
6R	Between IX Column Trains	0.011	0.005	
7R	Between Precip Cells & Raw Water Tank	0.008	0.008	
8R	Motor Control Room	0.001	0.002	
9R	Lab	0.001	#N/A	
10R	Lunchroom	0.003	#N/A	
11R	R. O. Building	0.005	#N/A	
12R	Down Flow Column Area	0.004	0.002	
13R-E	Pond Treatment Room-East Bay	0.009	0.004	
13R-M	Pond Treatment Room-Middle Bay	0.006	0.006	
13R-W	Pond Treatment Room-West Bay	0.008	0.004	
	Plant Average:	0.008	0.005	

Barometric Pressure: 31.57

Wind: NW@1

Weather Conditions: Partly Cloudy

Plant Operations: Changing Bicarb Filters

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : September 19, 2012

LOCATION ID	LOCATION DESCRIPTION	9/19/2012 CURRENT WORKING LEVEL	9/5/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.011	0.010	
2R	Between Precip Cells & Eluent Tanks	0.008	0.009	
3R	Between IX Columns & Injection Tanks	0.010	0.008	
4R	Between IX Columns & Resin Transfer Tank	0.013	0.009	
5R	Between IX Columns & Column Drain Tank	0.012	0.012	
6R	Between IX Column Trains	0.024	0.011	
7R	Between Precip Cells & Raw Water Tank	0.007	0.008	
8R	Motor Control Room	0.001	0.001	
9R	Lab		0.001	
10R	Lunchroom		0.003	
11R	R. O. Building		0.005	
12R	Down Flow Column Area	0.002	0.004	
13R-E	Pond Treatment Room-East Bay	0.009	0.009	
13R-M	Pond Treatment Room-Middle Bay	0.009	0.006	
13R-W	Pond Treatment Room-West Bay	0.008	0.008	
	Plant Average:	0.010	0.008	

Barometric Pressure: 30.01

Wind: NW@16mph

Weather Conditions: Clear

Plant Operations: Strip IX-5, peroxide precip A

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : October 18, 2012

LOCATION ID	LOCATION DESCRIPTION	10/18/2012 CURRENT WORKING LEVEL	9/5/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.008	0.010	
2R	Between Precip Cells & Eluent Tanks	0.006	0.009	
3R	Between IX Columns & Injection Tanks	0.008	0.008	
4R	Between IX Columns & Resin Transfer Tank	0.007	0.009	
5R	Between IX Columns & Column Drain Tank	0.007	0.012	
6R	Between IX Column Trains	0.007	0.011	
7R	Between Precip Cells & Raw Water Tank	0.004	0.008	
8R	Motor Control Room	0.001	0.001	
9R	Lab	0.002	0.001	
10R	Lunchroom	0.002	0.003	
11R	R. O. Building	0.002	0.005	
12R	Down Flow Column Area	0.006	0.004	
13R-E	Pond Treatment Room-East Bay	0.009	0.009	
13R-M	Pond Treatment Room-Middle Bay	0.008	0.006	
13R-W	Pond Treatment Room-West Bay	0.008	0.008	
	Plant Average:	0.007	0.008	

Barometric Pressure: 29.90

Wind: NW @ 32 mph

Weather Conditions: Clear

Plant Operations: Precip C to the Thickner

Acid to Precip A

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : November 14, 2012

LOCATION ID	LOCATION DESCRIPTION	11/14/2012 CURRENT WORKING LEVEL	10/18/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.036	0.008	
2R	Between Precip Cells & Eluent Tanks	0.025	0.006	
3R	Between IX Columns & Injection Tanks	0.025	0.008	
4R	Between IX Columns & Resin Transfer Tank	0.029	0.007	
5R	Between IX Columns & Column Drain Tank	0.024	0.007	
6R	Between IX Column Trains	0.019	0.007	
7R	Between Precip Cells & Raw Water Tank	0.029	0.004	
8R	Motor Control Room	0.001	0.001	
9R	Lab	0.008	0.002	
10R	Lunchroom	0.002	0.002	
11R	R. O. Building	0.001	0.002	
12R	Down Flow Column Area	0.004	0.006	
13R-E	Pond Treatment Room-East Bay	0.024	0.009	
13R-M	Pond Treatment Room-Middle Bay	0.024	0.008	
13R-W	Pond Treatment Room-West Bay	0.019	0.008	
	Plant Average:	0.022	0.007	

Barometric Pressure: 30.01

Wind: W@5mph

Weather Conditions: Clear

Plant Operations: Acid to Precip C, Decant Slurry, Strip IX-7

Bicarb Settling

The door to the bead trailer area and drum storage were partially open, all other doors were closed.

CROW BUTTE PROJECT
SUMMARY OF RADON DAUGHTER SURVEYS

Survey Period : December 5, 2012

LOCATION ID	LOCATION DESCRIPTION	12/5/2012 CURRENT WORKING LEVEL	11/14/2012 PREVIOUS WORKING LEVEL	COMMENTS
1R	Between IX Columns & Precip Cells	0.002	0.036	
2R	Between Precip Cells & Eluent Tanks	0.002	0.025	
3R	Between IX Columns & Injection Tanks	0.001	0.025	
4R	Between IX Columns & Resin Transfer Tank	0.004	0.029	
5R	Between IX Columns & Column Drain Tank	0.003	0.024	
6R	Between IX Column Trains	0.003	0.019	
7R	Between Precip Cells & Raw Water Tank	0.001	0.029	
8R	Motor Control Room	0.001	0.001	
9R	Lab	0.004	0.008	
10R	Lunchroom	0.000	0.002	
11R	R. O. Building	0.003	0.001	
12R	Down Flow Column Area	0.002	0.004	
13R-E	Pond Treatment Room-East Bay	0.002	0.024	
13R-M	Pond Treatment Room-Middle Bay	0.001	0.024	
13R-W	Pond Treatment Room-West Bay	0.004	0.019	
	Plant Average:	0.002	0.022	

Barometric Pressure: 31.33

Wind: S@10

Weather Conditions: Partly Cloudy

Plant Operations: Pre C-thickner Acid-b

The door to the head trailer area and drum storage were partially open, all other doors were closed.