



PATHFINDER

August 30, 2005

Mr. Robert A. Nelson
Chief, Uranium Processing Section
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety and Safeguards
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland 20852-2738

Re: Docket No. 40-6622, License No. SUA-442

Dear Mr. Nelson:

Enclosed please find two copies of the semi-annual effluent monitoring report for the period January 1, 2005 through June 30, 2005, as required by 10 CFR 40.65 and SUA-442 license condition 22. There was no discharge from the Industrial Pond within the restricted area to mine area 2 during the reporting period. During the report period there were no urinalyses that exceeded the action level specified in condition 42A of the license.

Sincerely,

T. W. Hardgrove
Manager, Reclamation Operations

Enclosure

cc: J. Whitten, U.S. NRC – Region IV
D. L. Wichers

Pathfinder Mines Corporation

Shirley Basin Mine

SUA-442

Docket No. 40-6622

Effluent Monitoring Report

1st and 2nd Quarters, 2005

August 30, 2005

Shirley Basin Mine (SUA-442) Ground-Water Quality Data

Sample Point Name	Date	WL (feet)	WL_ELEV (ft-msl)	pH(f) (std. units)	Cond(f) (µmhos)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	NO3+NO2 (mg/l)	Unat (mg/l)
5A-1	2/8/2005	10.72	7035.09	7.20	806	535	180.0	35.0	1.00	—
	4/14/2005	19.70	7026.11	6.90	1276	881	279.0	133.0	0.40	0.27
MC06	2/3/2005	13.86	7032.15	7.20	826	631	238.0	11.0	< 0.10	—
	4/11/2005	15.16	7030.85	6.95	764	498	193.0	9.0	< 0.10	0.05
MC07	2/3/2005	12.71	7036.90	7.85	446	323	42.0	14.0	0.90	—
	4/11/2005	12.52	7037.09	7.35	419	262	38.0	13.0	0.40	0.01
MC09	2/3/2005	23.96	7032.85	7.30	2230	2040	482.0	417.0	3.60	—
	4/11/2005	24.34	7032.47	6.75	2220	2010	386.0	390.0	7.90	0.63
MC11	2/3/2005	13.91	7042.60	7.60	1049	675	32.0	226.0	0.20	—
	4/11/2005	13.63	7042.88	6.85	1023	581	26.0	216.0	< 0.10	0.05
MC14	2/14/2005	23.17	7061.54	7.10	530	364	25.0	13.0	< 0.10	0.09
	4/11/2005	23.35	7061.36	7.10	530	331	23.0	17.0	< 0.10	0.08
NP01	2/7/2005	14.45	7037.36	7.10	653	395	96.0	35.0	0.60	—
	4/14/2005	15.69	7036.12	7.20	575	379	85.0	28.0	0.50	0.08
RPI-19B	2/8/2005	11.84	7034.97	7.10	854	543	165.0	17.0	< 0.10	—
	4/14/2005	11.85	7034.96	7.10	800	538	162.0	15.0	< 0.10	0.07
RPI-20A	2/8/2005	5.89	7025.72	7.15	822	536	168.0	22.0	< 0.10	—
	4/20/2005	5.85	7025.76	6.85	674	425	100.0	19.0	< 0.10	0.01
RPI-21B	2/8/2005	9.85	7026.79	7.25	904	624	288.0	11.0	0.20	—
	4/20/2005	9.80	7026.84	7.25	910	608	280.0	12.0	0.10	0.07
RPI-42A	2/8/2005									
	4/12/2005									

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Shirley Basin Mine (SUA-442) Ground-Water Quality Data

Sample Point Name	Date	Th230 (pCi/l)	Th230(e) (pCi/l)	Ra226 (pCi/l)	Ra226(e) (pCi/l)	Ra228 (pCi/l)	Ra228(e) (pCi/l)	Ra226+228 (pCi/l)	Alpha (pCi/l)	Alpha(e) (pCi/l)
5A-1	4/14/2005	< 0.2	—	1.0	0.4	< 1.0	—	< 2.0	< 1.0	—
MC06	4/11/2005	< 0.2	—	1.8	0.5	1.5	1.4	3.3	1.9	1.0
MC07	4/11/2005	< 0.2	—	0.4	0.3	< 1.0	—	< 1.4	1.1	1.0
MC09	4/11/2005	< 0.2	—	2.2	0.5	1.9	1.4	4.1	2.5	1.0
MC11	4/11/2005	< 0.2	—	3.8	0.7	< 1.0	—	< 4.8	3.4	1.1
MC14	2/14/2005	—	—	0.9	0.2	—	—	—	—	—
	4/11/2005	< 0.2	—	1.2	0.4	< 1.0	—	< 2.2	1.9	1.0
NP01	4/14/2005	< 0.2	—	0.6	0.3	< 1.0	—	< 1.6	< 1.0	—
RPI-19B	4/14/2005	< 0.2	—	0.6	0.3	< 1.0	—	< 1.6	1.5	1.0
RPI-20A	4/20/2005	0.2	0.2	0.2	0.3	< 1.0	—	< 1.2	< 1.0	—
RPI-21B	4/20/2005	0.2	0.2	0.8	0.4	< 1.0	—	< 1.8	< 1.0	—

Shirley Basin Mine (SUA-442) Ground-Water Quality Data

Sample Point Name	Date	As (mg/l)	Ba (mg/l)	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Mo (mg/l)	Se (mg/l)
5A-1	4/14/2005	0.003	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.026
MC06	4/11/2005	0.010	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.004
MC07	4/11/2005	0.002	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.070
MC09	4/11/2005	< 0.002	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.104
MC11	4/11/2005	0.002	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.001
MC14	2/14/2005	0.004	< 0.10	—	< 0.005	< 0.050	< 0.050	< 0.050	< 0.100	0.001
	4/11/2005	0.004	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001
NP01	4/14/2005	0.005	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.039
RPI-19B	4/14/2005	0.002	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.001
RPI-20A	4/20/2005	0.023	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001
RPI-21B	4/20/2005	0.003	< 0.10	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.002

Shirley Basin Mine (SUA-442) Surface-Water Quality Data

Sample Point Name	Date	pH(f) (std. units)	Cond(f) (µmhos)	TDS (mg/l)	SO4 (mg/l)	Cl (mg/l)	NO3+NO2 (mg/l)	Unat (mg/l)	Th230 (pCi/l)	Th230(e) (pCi/l)
SW-1A	5/2/2005	6.80	265	205	13.0	2.0	< 0.10	0.02	< 0.2	--
SW-2	4/20/2005	7.15	400	264	27.0	20.0	< 0.10	0.02	< 0.2	--
SW-3	4/20/2005	7.25	404	262	28.0	20.0	< 0.10	0.02	< 0.2	--
SW-4	4/25/2005	6.90	148	109	2.0	1.0	< 0.10	0.01	< 0.2	--
SW-5	4/25/2005	6.80	163	122	2.0	< 1.0	< 0.10	0.01	< 0.2	--
SW-6	5/2/2005	6.95	358	281	17.0	4.0	< 0.10	0.03	< 0.2	--
SW-7	4/25/2005	6.85	170	122	5.0	< 1.0	< 0.10	0.01	< 0.2	--
SW-8	4/20/2005	7.40	691	443	147.0	22.0	< 0.10	0.04	< 0.2	--

Shirley Basin Mine (SUA-442) Surface-Water Quality Data

Sample Point Name	Date	Ra226 (pCi/l)	Ra226(e) (pCi/l)	Ra228 (pCi/l)	Ra228(e) (pCi/l)	Ra226+228 (pCi/l)	Alpha (pCi/l)	Alpha(e) (pCi/l)	As (mg/l)	Ba (mg/l)
SW-1A	5/2/2005	1.2	0.6	1.3	1.1	2.5	< 1.0	—	0.005	< 0.10
SW-2	4/20/2005	0.3	0.3	< 1.0	—	< 1.3	< 1.0	—	0.004	< 0.10
SW-3	4/20/2005	0.6	0.4	< 1.0	—	< 1.6	< 1.0	—	0.004	< 0.10
SW-4	4/25/2005	0.7	0.4	< 1.0	—	< 1.7	< 1.0	—	0.002	< 0.10
SW-5	4/25/2005	0.7	0.4	< 1.0	—	< 1.7	1.2	1.0	0.003	< 0.10
SW-6	5/2/2005	< 0.2	—	< 1.0	—	< 1.2	< 1.0	—	0.006	0.10
SW-7	4/25/2005	0.6	0.4	< 1.0	—	< 1.6	1.2	1.0	0.002	< 0.10
SW-8	4/20/2005	1.5	0.5	< 1.0	—	< 2.5	1.0	1.0	0.001	< 0.10

Shirley Basin Mine (SUA-442) Surface-Water Quality Data

Sample Point Name	Date	Be (mg/l)	Cd (mg/l)	Cr (mg/l)	Ni (mg/l)	Pb (mg/l)	Mo (mg/l)	Se (mg/l)	Pb210 (pCi/l)	Po210 (pCi/l)
SW-1A	5/2/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.001	< 1.00	< 1.0
SW-2	4/20/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-3	4/20/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-4	4/25/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-5	4/25/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-6	5/2/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-7	4/25/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	< 0.001	< 1.00	< 1.0
SW-8	4/20/2005	< 0.010	< 0.010	< 0.050	< 0.050	< 0.050	< 0.100	0.005	< 1.00	< 1.0