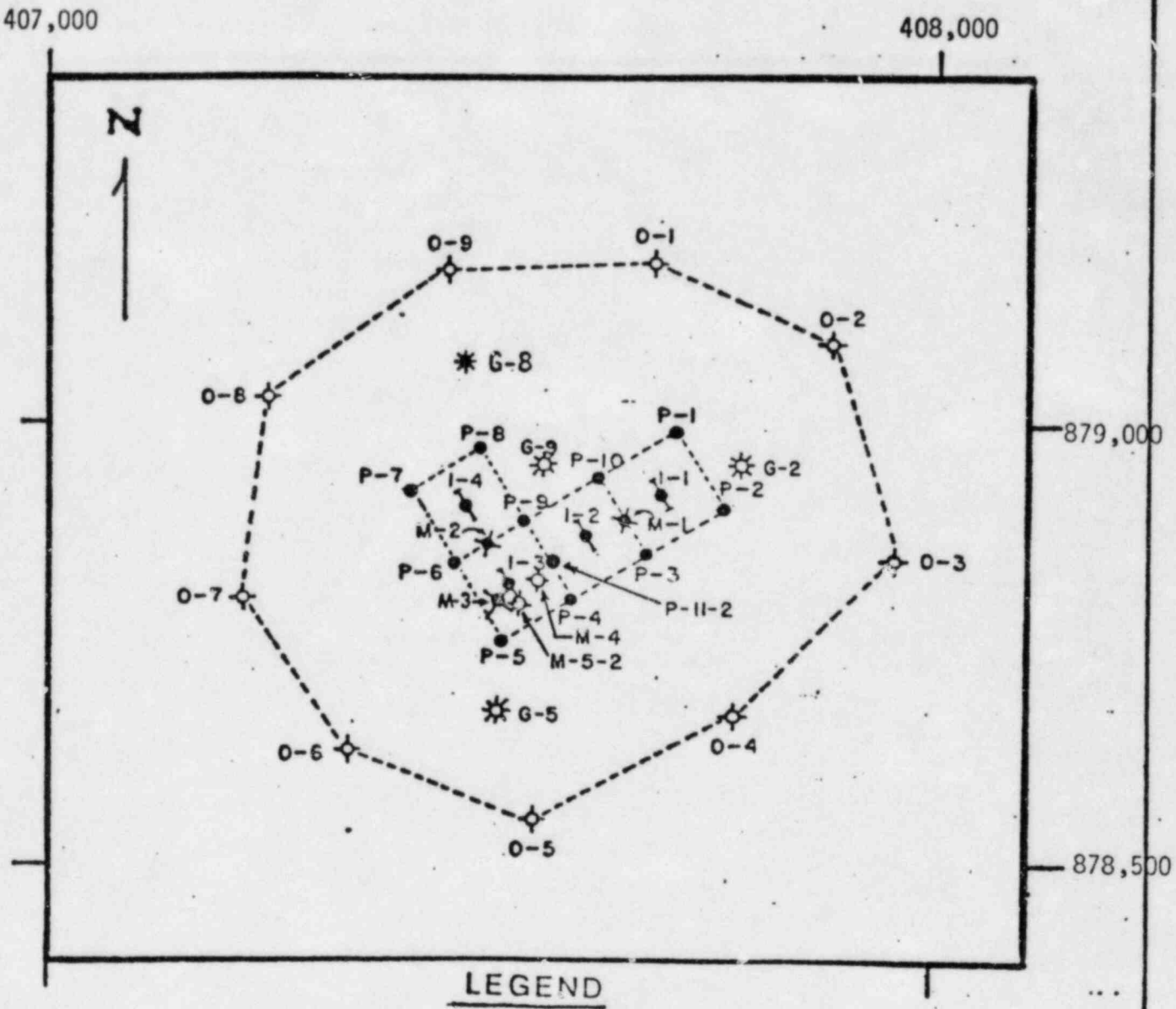
HIGHLAND URANIUM OPERATIONS

EXPANDED R&D PILOT
SOLUTION MINE WELL FIELD



LEGEND

GUARD WELL

PRODUCTION WELL

INJECTION WELL

MONITOR WELL

DEC/11/1/82

Scale: 1"=180'

8302160510 830128
PDR ADOCK 04008064
C PDR

ATTACHMENT I

EXPANDED PILOT MONITOR WELLS

Sample Date	Carbonate (mg/l)	Bicarbonate (mg/l)	Uranium (mg/l)	Chloride (mg/l)	Conductivity (umhos)	pH (Units)	SO_4 (mg/l)
			E-0-1				
UCL	44	221	5	24	-	-	139
10-5-82	<1	193	<1	5	360	8.0	122
10-19-82	<1	194	<1	6	370	7.8	97
11-4-82	<1	198	<1	4	400	7.4	94
11-15-82	<1	220	<1	12	390	7.5	108
12-13-82	<1	193	<1	8	350	7.7	97
12-21-82	<1	191	<1	10	360	7.9	113
			E-0-2				
UCL	32	240	5	40	-	-	256
10-5-82	<1	193	<1	6	400	7.8	125
10-19-82	<1	193	<1	9	370	7.9	106
11-4-82	<1	198	<1	7	400	7.5	97
11-16-82	<1	198	<1	5	400	7.9	118
12-13-82	<1	193	<1	8	360	8.0	101
12-22-82	<1	188	<1	6	380	7.8	117
			E-0-3				
UCL	44	224	5	26	-	-	258
10-4-82	<1	193	<1	6	340	8.1	119
10-20-82	<1	190	<1	8	400	7.8	95
11-4-82	<1	198	<1	7	400	7.6	90
11-16-82	<1	195	<1	16	400	8.0	108
12-13-82	<1	193	<1	9	350	7.9	89
12-22-82	<1	196	<1	8	420	7.9	110

ATTACHMENT I (continued)

EXPANDED PILOT MONITOR WELLS

Sample Date	Carbonate (mg/l)	Bicarbonate (mg/l)	Uranium (mg/l)	Chloride (mg/l)	Conductivity (umhos)	pH (Units)	SO_4 (mg/l)
				E-0-4			
UCL	38	221	5	18	-	-	127
10-4-82	<1	195	<1	6	330	8.3	122
10-20-82	<1	195	<1	8	390	7.8	96
11-4-82	<1	200	<1	10	400	7.9	83
11-17-82	<1	198	<1	5	410	8.1	109
12-13-82	<1	193	<1	7	350	7.9	95
12-29-82	<1	194	<1	6	300	7.9	104
				E-0-5			
UCL	56	191	5	30	-	-	252
10-4-82	<1	177	<1	8	390	8.2	203
10-18-82	<1	168	<1	10	340	7.8	173
11-3-82	<1	163	<1	9	490	7.7	193
11-15-82	<1	173	<1	11	430	8.0	172
12-8-82	<1	162	<1	8	400	7.7	198
12-21-82	<1	166	<1	10	400	7.9	188
				E-0-6			
UCL	44	227	5	28	-	-	200
10-4-82	<1	162	<1	9	460	8.1	205
10-18-82	<1	156	<1	14	310	7.8	224
11-3-82	<1	146	<1	14	510	7.6	216
11-15-82	<1	166	<1	17	500	7.9	203
12-10-82	<1	163	<1	10	500	7.8	200
12-21-82	<1	159	<1	10	420	8.0	216

ATTACHMENT I (continued)

EXPANDED PILOT MONITOR WELLS

Sample Date	Carbonate (mg/l)	Bicarbonate (mg/l)	Uranium (mg/l)	Chloride (mg/l)	Conductivity (umhos)	pH (Units)	SO_4 (mg/l)
			E-0-7				
UCL	44	240	5	90	-	-	122
10-5-82	6	21	<1	18	230	9.5	140
10-18-82	1	34	<1	19	260	8.6	130
11-3-82	7	27	<1	20	300	8.8	123
11-15-82	<1	46	<1	41	300	7.2	137
12-7-82	<1	39	<1	18	300	6.6	128
12-21-82	5	22	<1	17	250	8.8	124
			E-0-8				
UCL	44	252	5	20	-	-	101
10-5-82	<1	199	<1	13	350	8.3	118
10-19-82	<1	205	<1	13	410	7.9	100
11-3-82	<1	178	<1	18	420	7.5	96
11-15-82	<1	206	<1	12	350	8.1	109
12-12-82	<1	212	<1	13	300	7.8	101
12-21-82	<1	200	<1	10	350	7.9	108
			E-0-9				
UCL	68	238	5	128	-	-	115
10-5-82	<1	176	<1	9	310	7.6	118
10-19-82	<1	178	<1	9	380	7.5	100
11-3-82	<1	179	<1	11	400	7.3	97
11-15-82	<1	176	<1	19	410	7.7	105
12-12-82	<1	176	<1	9	500	7.8	83
12-21-82	<1	179	<1	8	340	7.8	109

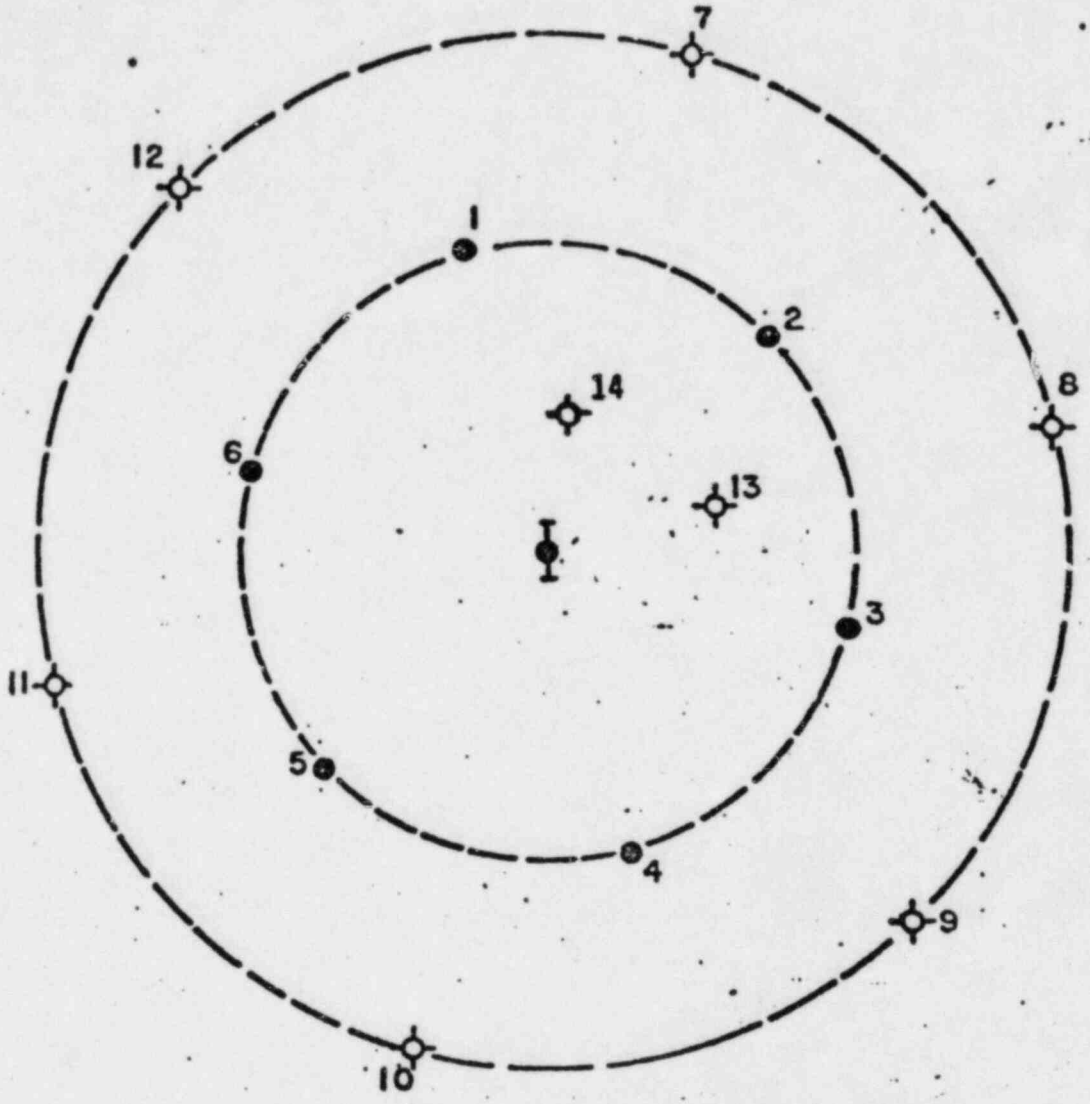
ATTACHMENT 1 (continued)

EXPANDED PILOT MONITOR WELLS

Sample Date	Carbonate (mg/l)	Bicarbonate (mg/l)	Uranium (mg/l)	Chloride (mg/l)	Conductivity (umhos)	pH (Units)	SO_4 (mg/l)
			E-M-1				
UCL	44	227	5	22	-	-	269
10-6-82	<1	174	<1	9	510	8.0	239
10-20-82	<1	173	<1	10	520	7.8	225
11-2-82	<1	178	<1	11	525	7.8	219
11-16-82	<1	178	<1	20	580	8.0	219
12-13-82	<1	178	<1	10	400	7.9	206
12-22-82	<1	173	<1	11	360	8.0	228
			E-M-2				
UCL	56	190	5	36	-	-	137
10-6-82	<1	183	<1	15	300	8.1	47
10-18-82	<1	181	<1	17	310	7.6	32
11-2-82	<1	174	<1	16	330	7.7	52
11-16-82	<1	172	<1	34	370	7.7	67
12-7-82	<1	110	<1	15	400	7.4	50
12-22-82	<1	159	<1	15	400	7.9	52

HIGHLAND URANIUM OPERATIONS

ORIGINAL PILOT SOLUTION MINE WELL FIELD



Original Designations

INJECTOR

PRODUCER

OBSERVATION WELL

-N-

DEC/11/1/82

Scale: 1"=60'

ATTACHMENT II

ORIGINAL PILOT MONITOR WELLS

Sample Date	Carbonate (mg/l)	Bicarbonate (mg/l)	Uranium (mg/l)	Chloride (mg/l)	Sulfate (mg/l)
			Well 0-0-7		
10-11-82	20	281	7	12	159
11-9-82	36	239	11	9	156
12-15-82	22	256	9	13	148
			Well 0-0-8		
10-11-82	<1	244	4	14	146
11-8-82	2	239	9	7	132
12-15-82	<1	230	6	7	136
			Well 0-0-9		
10-11-82	<1	195	<1	10	150
11-8-82	5	190	2	9	134
12-15-82	<1	184	<1	9	156
			Well 0-0-10		
10-11-82	<1	232	4	14	224
11-9-82	4	227	6	14	183
12-15-82	<1	232	5	12	202
			Well 0-0-11		
10-11-82	<1	165	2	10	160
11-8-82	<1	185	5	7	161
12-15-82	<1	188	3	10	166
			Well 0-0-12		
10-11-82	<1	188	<1	7	145
11-8-82	5	163	1	5	142
12-15-82	<1	171	<1	8	145

ATTACHENT III

AIRBORNE RADIONUCLIDES
THIRD QUARTER 1982

Location	Date	Uranium (mg/m^3)	% MPC	Radon (W.L.)	% MPC	Beta-Gamma (mr/hr)
Recovery Building	7-8-82	0.001	1	0.002	1	0.40
	8-3-82	0.001	1	0.007	2	0.19
	9-2-82	0.004	2	0.018	5	0.60
Reverse Osmosis Building	7-8-82	0.010	5	0.011	3	0.08
	8-3-82	0.001	1	0.006	2	0.14
	9-2-82	0.0002	<1	0.009	3	0.07
Header House	7-8-82	0.004	2	0.005	1	0.15
	8-3-82	0.003	2	0.003	1	0.13
	9-2-82	0.002	1	0.000	0	0.07

ATTACHENT III

AIRBORNE RADIONUCLIDES
FOURTH QUARTER 1982

Location	Date	Uranium (mg/m3)	% MPC	Radon (W.L.)	% MPC	Beta-Gamma (mr/hr)
Recovery Building	10-4-82	0.001	1	0.007	2	0.40
		0.0003	<1	0.009	3	0.35
		0.001	1	0.005	2	0.35
Reverse Osmosis Building	10-4-82	0.001	1	0.002	1	0.05
		0.0001	<1	0.004	1	0.08
		0.001	1	0.003	1	0.12
Header House	10-4-82	0.001	1	0.007	2	0.08
		0.0002	<1	0.002	1	0.07
		0.002	1	0.007	2	0.12