APPENDIX B

ANALYTICAL DATA FOR THE RILEY PASS SITE
Data Compiled by Denver, Knight, and Piésold (1990)

Radiological measurements - Denver Knight Piesold, April 1990

Easting Ft.	Northing Ft.	Measured radiological uR/HR.	Calculated radiological pCi/g
1111830	752216	13	-3.2
1112988	752442	15	-2.6
1113128	752476	15	-2.6
1112204	752800	30	2.5
1111992	752968	9	-4.6
1112546	752846	15	-2.6
1112758	752736	15	-2.6
1113124	752594	26	1.1
1113060	752792	25	0.80
1113210	752730	25	0.80
1112226	753098	15	-2.6
1112136	753172	15	-2.6
1112330	753210	17	-1.9
1112374	753280	14	-2.9
1113030	752946	80	19
1112964	753052	1400	461
1112890	753168	70	16
1112640	753252	15	-2.6
1112554	753360	80	19
1113420	752396	15	-2.6
1113700	752480	33	3.5
1113910	752256	15	-2.6
1114060	752336	15	-2.6
1113724	752550	18	-1.5
1113690	752716	26	1.1
1113760	752750	17	-1.9
1113730	752810	18	-1.5
1113654	752836	20	-0.88
1114110	752430	60	13
1114016	752818	25	0.8
1114324	752350	80	19
1114436	752352	120	33
1114564	752328	60	13
1114792	752438	100	26
1114304	752466	45	7.5
1114560	752510	55	11
1114770	752546	60	13
1114710	752718	400	126
1114148	753102	100	26
1114702	753140	500	160
1114078	753422	40	5.8
1113778	753676	200	59
1114206	753620	450	143
1113870	753756	50	9.2
1114040	753732	150	43
1113938	753882	200	59
1113824	754014	30	2.5
1113922	754002	200	59
1113800	754292	50	9.2
1113744	754330	300	93
1113936	754252	30	2.5
1113608	754410	200	59
1113770	754472	200	59
1113420	754500	100	26
1113590	754544	200	59
1113600	750760	17	-1.9

TABLE 2

SOIL CHEMICAL AND PHYSICAL TEST RESULTS

LSE SAMPLE No	DEPTH IN.	pH	EGe mmhos	EST. Na (mg/l)	Ca+Mg mg/l	SAR	GRAVE %	SAND %	SILT %	CLAY %	USDA TEXTURAL CLASSIFICATION
1	24-30	8	13.82	102.1	97.9	14.6	1	62	28	10	Sandy Loam
2	0-12	4.9	7.86	95.5	13.4	36.9	4	68	20	12	Sandy Loam
3	0-6	6.8	3.42	42.6	1.7	46.2	0	45	23	32	Sandy Clay Loam-Clay Loam
4	0-6	9.2	1.17	13.1	0.8	20.7	0	87	10	3	Sand-Loamy Clay
4R	0-6	9.3	1.24	13.9	0.9	20.7	0	88	9	3	Sand-Loamy Clay
5	0-8	6.8	0.86	8.2	1.8	8.6					
6	8-20	8	11.55	60.2	104.8	8.3					
7	20-50	8.7	6.6	76.9	13.3	29.8	0	71	21	8	Sandy Loam-Loamy Sand
8	50-72	9.2	1.94	23.1	0.9	34.4	1	79	17	4	Loamy Sand-Sandy Loam
9	0-4	9.6	1.57	18.3	0.8	28.9					
10	0-4	9.5	0.78	8.8	0.2	27.8					

LSE, Inc. provided analysis for Na, Ca, Mg and mechanical analysis.

HKM Associates, Engineers/Planners provided chemical testing for pH, EGe & SAR.

TABLE 3
SUMMARY OF LABORATORY TEST RESULTS*
(DENVER, KNIGHT, PIÈSOLD, 1991)

SAMPLE ID/LOCATION	MOISTURE CONTENT (%)		DRY DENSITY (PCF)	
	Natural	Optimum	Natural	Max Proctor
TP-3/1,114.550E, 753,500N	10.2	-	106.3	-
TP-4/1,114,700E, 753,100N	31.4	-	78.4	-
TP-5/1,114,235E, 752,900N	20.8	19.0	92.0	97.0
TP8/1,112,750E, 753,400N	10.5	16.5	84.2	110.0
Below Rim Rock	10.6	-	83.6	-

* Data are from Bluff B only.

TABLE 4

WATER QUALITY DATA

	WEST PIT	CABIN SPRING (1)	CABIN SPRI (2)	LONE TREE SPRING	#7 PADALOWER SPRING	#8 EAGLE NEST	PETE'S CREEK-UPPER SED PON	#5-3RD SED-BASIN - SCH
ATE SAMPLE COLLECTED	7/24/91	7/24/91	7/24/91	7/24/91	7/24/91	7/24/91	7/24/91	7/24/91
CARB ALKAN. (mg/l)	411	877	850	412	860	593	188	448
ARB. ALKAN. (mg/l)	18	21	24	0	0	0	0	6
JLFATE (mg/l)	5	257	247	21	484	96	352	157
DTAL ALKAN. (CaCO3) (mg	367	754	737	337	704	486	154	377
ARDNESS (CaCO3) (mg/l)	136	47	38	100	459	376	59	142
DTAL CN (mg/l)	*	*	*	*	*	*	*	*
DNDUCTIVITY (umhos/cm)	763	1850	1830	708	2030	1040	1010	905
I	8.8	8.6	8.6	7.7	7.3	7.4	8.0	8.7
ETTLEABLE SOLIDS (mg/l)	**	<0.1	<0.1	<0.1	<0.1	<0.1	**	**
DTAL DISSOLVED (mg/l)	748	1150	1170	408	1380	639	1390	825
DTAL SUSPENDED (mg/l)	248	<4	<4	<2	<2	<2	721	157
JRBIDITY (NTU)	>2000***	1.8	32	0.30	0.50	0.40	>2000***	>2000***
TRATE & NITRITE (mg/l)	1.4	0.15	0.14	0.45	0.06	<0.05	0.77	0.05
DTAL PHOSPHORUS (mg/l)	2.50	0.17	0.18	0.02	<0.02	<0.02	1.65	2.05
RSENIC (mg/l)	0.28	<0.005	<0.005	0.012	<0.005	<0.005	0.60	0.30
ARIUM (mg/l)	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.5
ADMIUM (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.002
ALCIUM (mg/l)	10	9	7	20	57	60	9	14
HLORIDE (mg/l)	5	4	4	4	5	2	3	12
HROMIUM (mg/l)	0.09	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	0.04
OPPER (mg/l)	0.13	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	0.08
UORIDE (mg/l)	0.59	0.72	0.72	0.19	0.40	0.27	0.24	0.62
ON (mg/l)	35.5	0.19	0.17	<0.02	0.25	<0.02	35.0	15.7
AD (mg/l)	0.28	0.004	0.001	<0.001	0.001	<0.001	0.14	0.17
AGNESIUM (mg/l)	27	6	5	12	77	55	9	26
ANGANESE (mg/l)	0.32	0.05	0.05	<0.01	0.11	0.01	0.29	0.18
ERCURY (mg/l)	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0010	0.0005
OLYBDENUM (mg/l)	0.006	0.007	0.10	<0.005	0.25	0.025	0.36	0.021
CKEL (mg/l)	0.10	<0.02	<0.02	<0.02	<0.02	<0.02	0.10	0.04
TASSIUM (mg/l)	18	2	3	2	4	3	28	5
LENIUM (mg/l)	0.002	0.002	<0.001	<0.001	<0.001	<0.001	0.002	0.009
LVER (mg/l)	0.0006	0.0007	0.0006	0.0005	0.0008	0.0008	0.0009	0.0008
DIUM (mg/l)	181	459	447	115	336	100	175	180
NC (mg/l)	0.25	0.007	<0.005	<0.005	<0.005	<0.005	0.41	0.16

Analysis ne ested ** settleable solids not measured due to high conc. of clay and silt *** fication of turbidity not practical due to high conc. of clay and silt

hen-Northern, Inc. performed water quality analysis.

APPENDIX

SPECIAL ANALYSIS

	Ore
Sample Number	1
Location	Composite #9 and #10
Calcium, meq/l	0.18
Magnesium, meq/l	0.20
Sodium, meq/l	7.50
SAR	17.20
Selenium, ug/g	0.26
Boron, ug/g	1.3
Molybdenum, ug/g (1)	0.2

(1) Extracted according to ASA Mono #9, 3-5.2; Run on ICAP

Analysis in Picocuries per Gram except where Noted Limits of Detection are Noted Following Less Than Mark (<).

Sample No.	1
Description	1400 UR
Radium^{226} +- Prec	461 +- 8.8
Sample No.	2
Description	33 UR
Radium^{226} +- Prec	2.5 +- 0.4
Sample No.	3
Description	26 UR
Radium^{226} +- Prec	2.1 +- 0.3

OJECT NO. 1099

RILEY PASS SOILS TESTING

H 9 .	LSE SAMPLE NO.	DEPTH IN.	pH	ECe mmhos	EST. Na Me/l	Ca + MG Me/l	SAR	GRAVEL %	SAND %	SILT %	CLAY %	USDA TEXTURAL CLASSIFICATION
16	1	24-30	8.0	13.82	102.1	97.9	14.6	1	62	28	10	Sandy Loam
17	2	0-12	4.9	7.86	95.5	13.4	38.9	4	60	20	12	Sandy Loam
18	3	0-6	6.8	3.42	42.6	1.7	46.2	0	45	23	32	Sandy Clay Loam Clay Loam
19	4	0-6	9.2	1.17	13.1	0.8	20.7	0	87	10	3	Sand-Loamy Sand
19R	4R	0-6	9.3	1.24	13.9	0.9	20.7	0	88	9	3	Sand-Loamy Sand
20	5	0-8	6.8	0.86	8.2	1.8	8.6					
21	6	8-20	8.0	11.55	60.2	104.8	8.3					
22	7	20-50	8.7	6.60	76.9	13.3	29.8	0	71	21	8	Sandy Loam-Loamy Sand
23	8	50-72	9.2	1.94	23.1	0.9	34.4	1	79	17	4	Loamy Sand-Sandy Loam
24	9	0-4	9.6	1.57	18.3	0.8	28.9					
25	10	0-4	9.5	0.78	8.8	0.2	27.8					