

wm-64

DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE
CONTRACT NO. DE-AC04-83AL18796

Radiological and Engineering Assessment

Vicinity Property No. LK 009 S

Vicinity Property No. LK 009

Remedial Actions
Contractor
for the
Uranium Mill Tailings
Remedial Actions
Project



MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

NOTE:
SUPPLEMENTAL
STANDARDS

NRC FILE CENTER COPY

URFO-10

87-806

9707100255 870615
PDR WASTE
WM-64 PDR



MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

REVIEW COMMENTS

UMTRA Project No. DE-AC04 83AL18796

Date June 15, 1987

1 of 1

Page _____ of _____

Site Name

Lakeview

Document Reviewed

Radiological and Engineering Assessment

Site No.

LK-009S

Reference
(Drwg. No., Spec. Sec., Etc.)

Reviewer

Comment

Resolution

LK-009S

DOE

RAC is to obtain owner comments.

Owner comments on the implementation of EPA Supplemental Standards on LK-009S have been requested and received (attached). Please note that Owner concurrence in the application of Supplemental Standards is not required. In this case, the Owner is concerned about future liabilities should the material require excavation during track maintenance. The Owner has agreed, via negotiations with the US DOE, Oregon DOE, and the RAC, to the use of Supplemental Standards upon the concurrence of the US DOE, Oregon DOE, and the NRC. He asked that the RAA be amended to so indicate. His signature on Pg. 7 of the RAA (attached) indicates his agreement with Statement H of revised Appendix B of the RAA.



RADIOLOGICAL AND ENGINEERING ASSESSMENT (REA) Review Form



DOE Location No. LK-009 Rev. No. _____

RAC	PRIORITY: <input type="checkbox"/> ROUTINE <input checked="" type="checkbox"/> URGENT REQUESTED RESPONSE BY <u>2/2/87</u> COMMENTS: DATE <u>1/27/87</u>	DATE <u>1/27/87</u>
TAC	DATE RECEIVED <u>2/2/87</u> <input checked="" type="checkbox"/> RECOMMEND APPROVAL <input type="checkbox"/> RECOMMEND APPROVAL AS NOTED BELOW <input type="checkbox"/> DO NOT RECOMMEND APPROVAL AS NOTED BELOW COMMENTS: TAC <u>[Signature]</u> DATE <u>2/2/87</u>	CONT. ON ATTACHED SHEET NO. _____
STATE	DATE TRANSMITTED _____ <input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> NOT APPROVED AS NOTED RESPONSE DATE _____ ATTACHED RESPONSE ON SHEET NO. _____	
NRC	DATE TRANSMITTED _____ <input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> NOT APPROVED AS NOTED RESPONSE DATE _____ ATTACHED RESPONSE ON SHEET NO. _____	
TRIBE	DATE TRANSMITTED _____ <input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> NOT APPROVED AS NOTED RESPONSE DATE _____ ATTACHED RESPONSE ON SHEET NO. _____	
DOE-UMTRA	DATE RECEIVED <u>1/27/87</u> <input type="checkbox"/> APPROVED <input checked="" type="checkbox"/> APPROVED AS NOTED <input type="checkbox"/> NOT APPROVED AS NOTED COMMENTS: <u>RAC to obtain owner comments.</u> DOE VP MANAGER <u>[Signature]</u> DATE <u>2/17/87</u>	SHEET NO. 1 OF <u>1</u>

Radiological and Engineering Assessment: Property LK-009

ADDRESS: Missouri Ave., Adj. OWNER'S NAME: Ostrander Construction Co.

Louisiana Pacific Property OWNER'S ADDRESS: (IF DIFFERENT)

Along RR Tracks - E. of

Tracks, Lakeview, Oregon

TENANTS NAME: Fremont Sawmill Company Box 1340, Lakeview, Oregon

TELEPHONE NUMBER 503-947-2018 TELEPHONE NUMBER _____
(if available) (if available)

PROPERTY DATA:

Structures and utilities are shown on Drawing LK-009-010.

Property Use: Single Residence _____; Commercial X; School _____
Multiple Residence _____; Vacant Lot _____; Church _____; Open Land _____

Age of structures: Less than 50 years old X;
Greater than 50 years old _____ (attach form _____).

Adjacent included/spillover vicinity properties:

North - V.P. # LK-003
South - V.P. # N/A
East - V.P. # N/A
West - V.P. # N/A

Interior Involvement: Yes _____; No X

Major Structural N/A; Minor Structural N/A; Dislocation N/A

RADIOLOGICAL DATA:

Gamma Exposure Rate Survey

Survey Method

Outdoor and indoor gamma surveys were conducted in accordance with the RAC Procedure 011. These surveys were conducted over the entire property, with particular attention to the areas identified in the inclusion survey (Results of the Radiological Survey at LK-009, ORNL, January 1986), and in other areas as described in this document.

Survey Results

Surface gamma readings on the property range from 11 to 515 micro R/hr (Table 3.1). This may be compared with the background for the Lakeview site of 11 micro R/hr.

The only structures on this property were typical lumber storage roofs to keep rain off of the lumber. Because these structures are not closed, we did not consider them to be habitable buildings.

Borehole Survey

Survey Method

A gasoline-powered hand auger was used to drill 4-inch diameter holes in and around the regions identified as contaminated during the gamma survey. The holes were surveyed in compliance with the RAC UMTRA Procedure 010.

Survey Results

Contamination was found in 111 of the 208 outdoor holes augered. The location and depth of the contamination is described in Table 3.1 and is shown on Drawings LK-009-016 and LK-009-017.

Radon/Radon Daughter Survey

No radon/radon daughter surveys were performed inside buildings at the property, since the only structures were lumber storage sheds (roof and supports only).

Estimated Extent of Contamination

Two areas of contamination in excess of EPA standards were found on the property. The smaller area is located in the southeastern portion and may be seen on Drawing LK-009-017. The larger area is located in the northeastern portion of the property and may be seen on Drawing LK-009-016.

A portion of the railroad spur line running through LK-009 is located within the northern contaminated area. The application of Supplemental Standards to the contaminated portion of the railroad tracks is recommended.

Engineering Assessment

Work to be done is shown on Drawings LK-009-020, LK-009-021 and LK-009-022. Estimated quantities are shown in Table 4.1.

Occupant relocation: Required _____; Not Required X .

Remedial Action Options (Complex Properties Only)

N/A

Application of Supplemental Standards

The railroad tracks on the property are used about once a week by numerous saw mills in the vicinity. Because of the economic impact upon the saw mills that shutting down the railroad would cause, coupled with the costs of removing contamination from under the tracks and the very low health hazards, Supplemental Standards shall apply as per 40 CFR 102.21 (c). ← 40 CFR 21(c)
192.

A cost estimate for removal of the material to remain under Supplemental Standards are shown in Table 4.2.

JUSTIFICATION CHECKLIST FOR APPLICATION
OF SUPPLEMENTAL STANDARDS

Application of Supplemental Standards (SS) is in accordance with 40 CFR 192.22, Subpart (x) (check appropriate Subpart):

- a) Risk injury to worker/public
- b) Environmental harm
- c) High cost relative to long-term benefits
- d) High cost of cleaning up building relative to benefits
- e) No known remedial action
- f) Radionuclides other than Ra-226 exist

Brief Condition Description and Justification:

Supplemental Standards are applied to Property LK-009 under Criteria (c) of the NRC guidelines for the use of Supplemental Standards in 40 CFR 192.

The tailings to be left in place are about 355 cubic yards in volume with an estimated concentration of Ra-226 of 16 to 83 pCi/g. The tailings are located in a portion of the railroad spur line running through LK-009 to varying depths of 0 to 24 inches. The general area gamma readings of 20 to 83 micro R/hr are caused, in part, by lateral gamma flux from the adjacent and more highly contaminated portions of LK-009.

The spur line serves several lumber companies in Lakeview. The loss of service for the three weeks estimated to be necessary to perform remedial action on the tracks may cost these companies a significant amount of money in lost revenues. That, coupled with the expense of performing remedial action on the tracks, when compared to the low hazard to the general public, justifies implementation of Supplemental Standards.

JUSTIFICATION CHECKLIST FOR APPLICATION
OF SUPPLEMENTAL STANDARDS - Cont'd.

Additional cost without application of Supplemental Standards = \$73,600
(further breakdown provided in Table 4.2 of this REA).

This is a 48 percent increase over the estimated remedial action cost for the preferred option.

Yes	No	If Supplemental Standards are Applied:
X		1. Open Land?
	X	2. Occupied Building?
N/A		3. If yes to No. 2, is contaminated area beneath or within 10 feet of a building?
	X	4. Anticipated change of land use within the next 5 years?
N/A		5. If yes to No. 4, then will land use produce health risk?
	X	6. Is contamination in a habitable area?
X		7. Have owners comments been solicited? (Attach comments or record of teleconference). (See Appendix A _B).

Estimated volume of contaminated material to remain = 355 (cy).

Contaminated area to remain = 532 (sy).

Range for contaminated areas = 20 to 83 (micro R/hr) [at 3 feet above surface].

Range of estimated gamma concentration in soil in contaminated area = 16 to 83 (pCi/g).

If tailings are below or within 10 feet of the structure, radon daughter concentration = N/A.

Radiological and Engineering Assessment: Property LK-009

Table 3.1
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
1	1+00,1260R	26	0-18"
2	1+40,1260R	12	--
3	1+30,1250R	17	--
4	1+50,1240R	13	--
5	1+30,1240R	110	0-24"
6	1+20,1240R	51	0-26"
7	1+10,1240R	18	0-21"+
8	1+20,1230R	18	0-27"+
9	0+90,1260R	14	6-24"
10	1+00,1270R	11	--
11	1+03,1250R	15	6-24"
12	1+00,1240R	15	0-36"
13	0+80,1260R	12	12-24"
14	0+90,1270R	11	--
15	1+10,1260R	16	--
16	0+90,1240R	13	18-24"
17	1+10,1230R	18	0-24"+
18	0+70,1260R	12	--
19	0+80,1240R	15	0-42"
20	0+70,1220R	20	0-48"

+Depth of contamination not reached.

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
21	0+90,1220R	17	0-36"
22	0+70,1240R	12	18-30"
23	0+60,1220R	18	0-36"
24	0+80,1200R	20	0-30"
25	0+70,1200R	15	0-30"
26	1+10,1200R	16	0-24"
27	1+40,1200R	17	0-6"
28	1+40,1210R	35	0-18"
29	1+20,1210R	20	0-24"+
30	1+00,1220R	32	0-27"+
31	1+10,1220R	19	0-27"+
32	1+30,1220R	26	0-24"+
33	1+50,1220R	14	--
34	1+10,1180R	16	0-18"
35	1+30,1180R	38	0-21"
36	1+40,1170R	26	0-24"
37	1+50,1170R	24	0-18"
38	1+60,1170R	14	--
39	1+50,1150R	39	0-18"
40	1+40,1150R	12	--

+Depth of contamination not reached.

Radiological and Engineering Assessment: Property LK-009

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
41	1+30,1160R	48	0-12"
42	1+20,1160R	12	--
43	1+10,1170R	39	0-6"
44	0+70,1190R	17	--
45	1+50,1190R	20	0-12"
46	1+60,1190R	13	--
47	1+70,1150R	14	--
48	1+60,1140R	11	--
49	0+90,1190R	16	0-18"
50	1+00,1190R	17	0-27"
51	1+00,1170R	12	--
52	0+80,1180R	10	--
53	0+60,1200R	10	--
54	0+50,1220R	12	--
55	0+60,1240R	12	--
56	0+40,1220R	11	--
57	4+30,1080R	17	--
58	4+40,1080R	21	0-18"
59	4+40,1090R	11	--
60	4+70,1090R	14	--
61	4+60,1070R	14	--

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
62	4+80,1080R	29	0-6"
63	5+00,1090R	12	--
64	5+30,1090R	18	--
65	5+60,1090R	15	--
66	5+10,1070R	35	0-6"
67	4+80,1060R	13	--
68	5+10,1080R	29	0-6"
69	5+00,1070R	33	0-6"
70	5+10,1060R	15	--
71	5+40,1060R	15	--
72	5+50,1070R	48	0-18"
73	5+50,1080R	28	--
74	5+70,1060R	18	--
75	5+70,1070R	22	0-18"
76	5+90,1090R	17	0-18"
78*	6+00,1100R	14	--
79	6+20,1100R	13	--
80	6+50,1100R	15	--
81	6+60,1090R	31	0-24"
82	6+80,1100R	22	0-18"

*Borehole #77 not augered.
+Depth of contamination not reached.

Radiological and Engineering Assessment: Property LK-009

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
83	7+00,1100R	16	--
84	7+10,1090R	55	0-12"
85	6+70,1070F	116	0-24"+
86	7+00,1060R	239	0-28"+
87	6+40,1060R	35	0-24"
88	6+30,1090R	17	0-18"
89	6+10,1070R	25	0-16"+
90	6+10,1030R	18	--
91	5+90,1010R	12	--
92	6+00,990F	14	--
93	5+90,980R	10	--
94	6+00,950R	12	--
95	6+10,920R	13	--
96	6+20,930R	18	0-6"
97	6+30,910R	13	--
98	6+50,910R	30	0-6"
99	6+60,900R	13	--
100	6+70,890R	14	--
101	6+80,880R	12	--
102	6+90,910R	22	--

+Depth of contamination not reached.

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
103	7+00,930R	51	0-6"
104	6+70,920R	33	--
105	6+60,940R	57	0-18"
106	6+70,960R	126	0-18"+
107	6+70,990R	58	0-12"
108	6+30,1000R	33	--
109	6+40,1030R	41	0-6"
110	6+30,1040R	141	0-18"
111	7+00,1010R	127	0-18"
112	6+80,1030R	137	0-12"
113	6+50,980R	35	0-6"
114	6+20,960R	55	0-18"
115	5+90,1100R	18	--
116	6+00,1110R	18	--
117	5+90,1040R	17	--
118	6+80,1110R	18	--
119	6+80,1120R	17	--
120	7+10,880R	17	--
121	7+30,910R	50	0-6"
122	7+30,940R	60	0-18"
123	7+20,890R	21	--

+Depth of contamination not reached.

Radiological and Engineering Assessment: Property LK-009

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
124	7+40-,880R	19	--
125	7+50,890R	24	--
126	7+50,1120R	17	--
127	7+40,1100R	36	0-6"
128	7+30,1110R	17	--
129	7+40,1080R	180	0-24"+
130	7+70,1070R	118	0-24"
131	7+80,1040R	270	0-24"+
132	7+60,1040R	280	0-6"+
133	7+70,1010R	175	0-24"+
134	7+50,1000R	135	0-18"
135	7+60,980R	45	0-6"
136	7+60,970R	92	0-18"
137	7+60,950R	48	0-18"
138	7+60,930R	35	0-6"
139	7+50,920R	35	0-6"
140	7+20,960R	165	0-42"+
141	7+10,980R	70	0-12"
142	7+30,1010R	155	0-18"+
143	7+40,1030R	230	0-30"

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
144	7+70,1100R	36	0-6"
145	7+70,1110R	19	--
146	8+00,1110R	22	--
147	8+00,1100R	35	0-30"
148	8+00,1070R	95	0-24"
149	8+00,1000R	52	0-6"
150	8+00,970R	22	--
151	7+90,940R	78	0-12"+
152	7+90,890R	15	--
153	7+70,880R	20	--
154	7+70,870R	15	--
155	7+60,900R	34	0-6"
156	8+10,1030R	200	0-24"
157	8+20,1120R	12	--
158	8+40,1110R	19	--
159	8+50,1080R	30	0-12"
160	8+20,1090R	35	0-18"
161	8+20,1060R	180	0-28"
162	8+30,1010R	130	0-22"
163	8+30,980R	21	--

+Depth of contamination not reached.

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
164	8+70,1120R	16	--
165	8+80,1110R	32	0-22"
166	9+00,1120R	15	--
167	8+90,1080R	27	0-6"
168	9+00,1050R	45	0-6"
169	8+60,1040R	65	0-12"
170	8+90,1020R	37	0-6"
171	8+50,1000R	290	0-15"+
172	8+90,990R	24	0-6"
173	8+10,920R	18	--
174	8+30,950R	20	--
175	8+40,920R	16	--
176	8+50,940R	18	--
177	8+50,920R	17	--
178	8+70,930R	19	--
179	8+70,910R	15	--
180	9+00,940R	18	--
181	8+90,930R	18	--
182	9+20,950R	17	--
183	9+20,960R	18	--

+Depth of contamination not reached.

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
184	9+10,1020R	17	---
185	9+20,1080R	24	6-22"+
186	9+30,1120R	15	---
187	9+50,1110R	60	0-18"+
188	9+50,1130R	16	---
189	9+60,1140R	19	---
190	9+60,1150R	15	---
191	9+70,1090R	40	0-12"
192	9+80,1100R	22	0-6"
193	9+50,1140R	14	--
194	10+00,1110R	13	--
195	9+80,1130R	29	0-6"
196	9+90,1120R	18	0-24"
197	10+00,1150R	22	0-24"+
198	9+90,1170R	51	0-12"
199	9+90,1180R	14	--
200	9+90,1200R	42	0-6"
201	9+90,1210R	13	--
202	10+10,1190R	13	--
203	9+90,1150R	38	0-18"+

+Depth of contamination not reached.

Table 3.1 - Cont'd.
BOREHOLE SAMPLE SURVEY
Property LK-009

BOREHOLE	LOCATION	MICRO R/hr	CONTAMINATION DEPTH
204	11+30,1200R	16	--
205	11+00,1200R	24	0-24"
206	11+00,1210R	17	--
207	10+80,1200R	42	0-26"+
208	10+70,1200R	12	--

+Depth of contamination not reached.

Table 4.1
Remedial Action Option Cost Estimates

RECOMMENDED OPTION

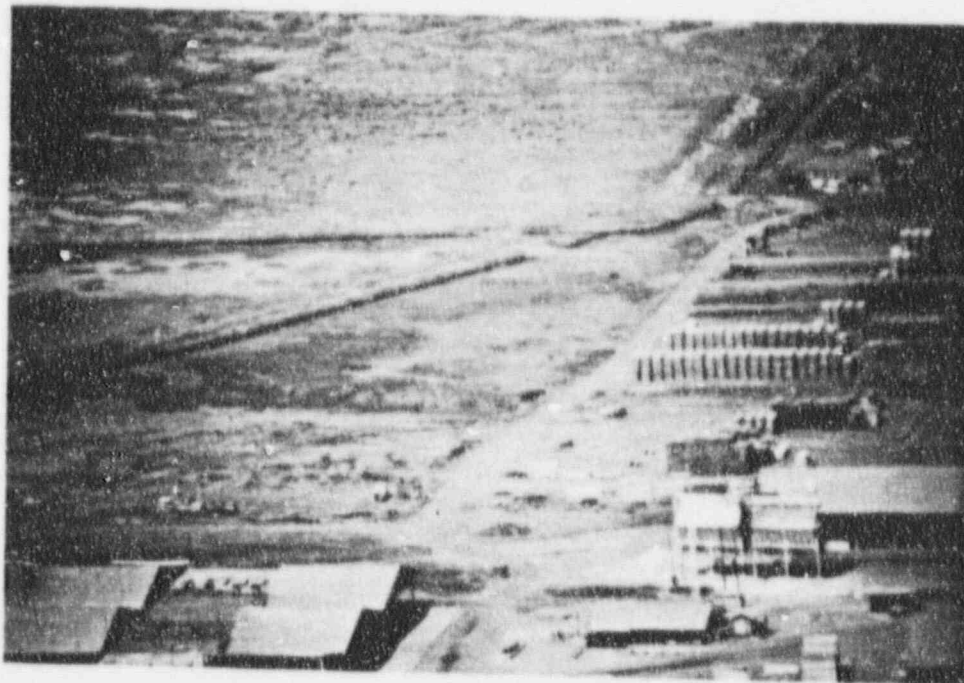
Activity No.	Activity	Unit Price	Quantity	Estimated Cost
1.0	Excavation (Mass)	4.24	4995 cy	21,179.00
2.0	Common Backfill (Machine)	18.55	4778 cy	88,632.00
6.0	Seed, Mulch and Fertilize	0.96	8443 sy	8,105.00
7.0	Aggregate Base Course	21.71	144 cy	3,126.00
8.0	Crushed Stone	21.71	72 cy	1,563.00
009.1	Move Material in Product Storage Area	283.00	LS	283.00

Subtotal	\$122,888.00
5% Subcontractor's Contingency	6,144.00
20% Overhead & Profit	<u>24,578.00</u>
Total (Rounded)	\$153,600.00

Table 4.2
Cost for Not Applying Supplemental Standards

<u>Activity</u>	<u>Unit Price</u>	<u>Quantity</u>	<u>Estimated Cost</u>
Excavation (Mass)	4.24	505 cy	2,141.00
Subballast	21.72	505 cy	10,969.00
Ballast	41.99	264 cy	11,085.00
Remove and Salvage Railroad Tracks	21.92	455 lf	9,974.00
Replace Railroad Tracks	54.26	455 lf	24,688.00

Subtotal	\$58,857.00
5% Subcontractor's Contingency	2,943.00
20% Overhead & Profit	<u>11,771.00</u>
Total (Rounded)	\$73,600.00

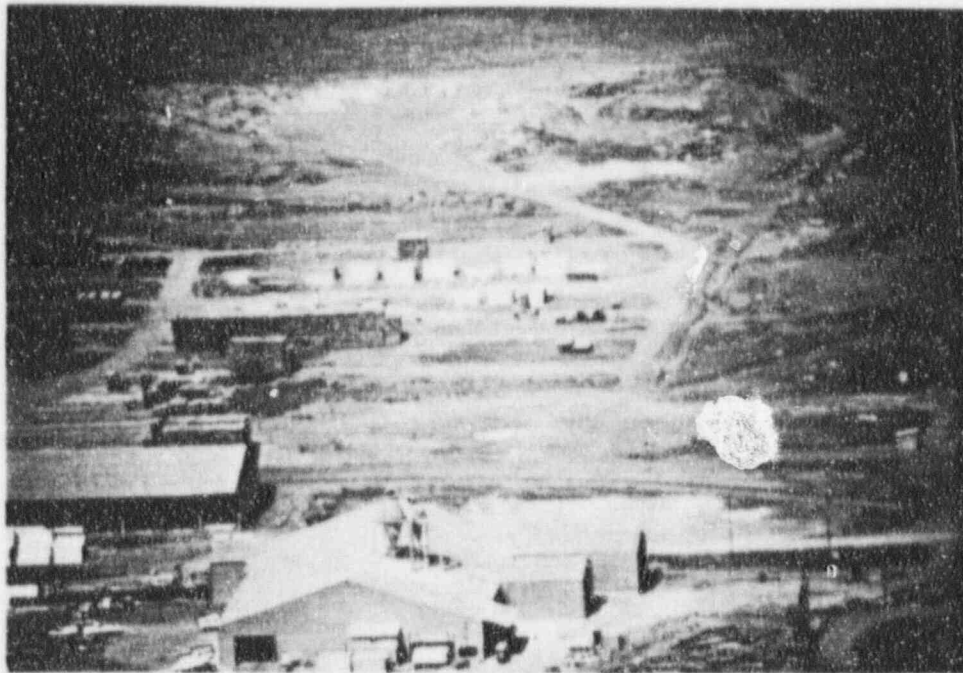


Overview of Southern Area Looking Northwest

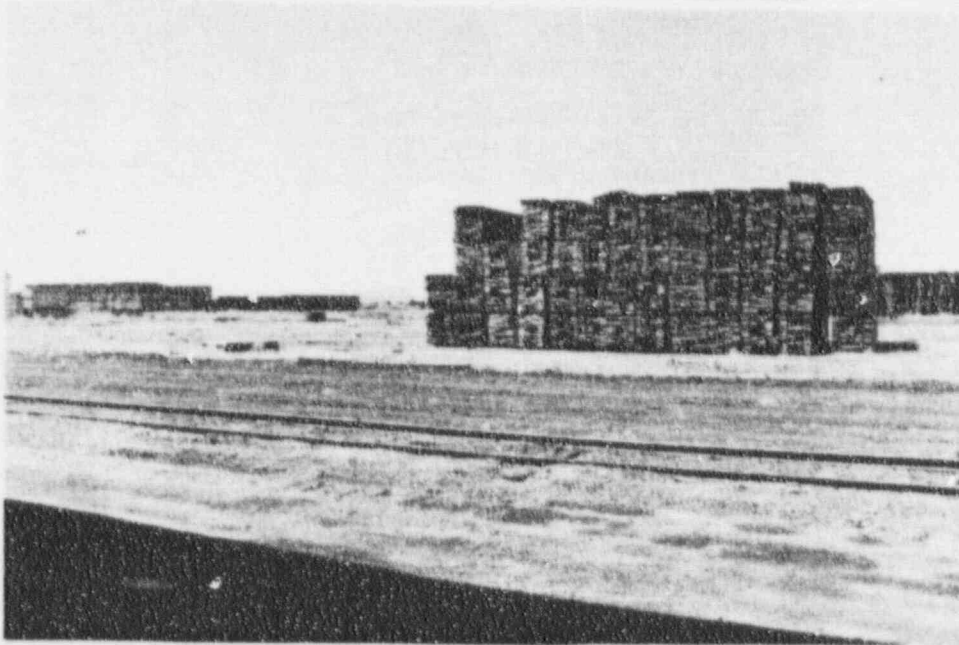


Overview of Outdoor Storage Area Within Northern Area
Looking West

Figure 1 Property Photos

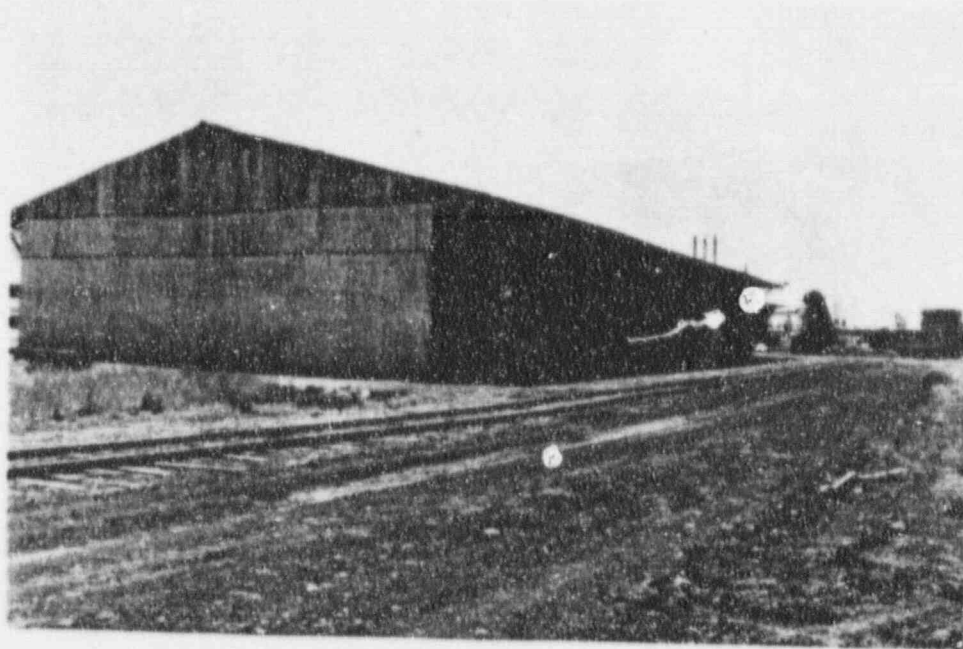


Overview of Northern Area Looking West

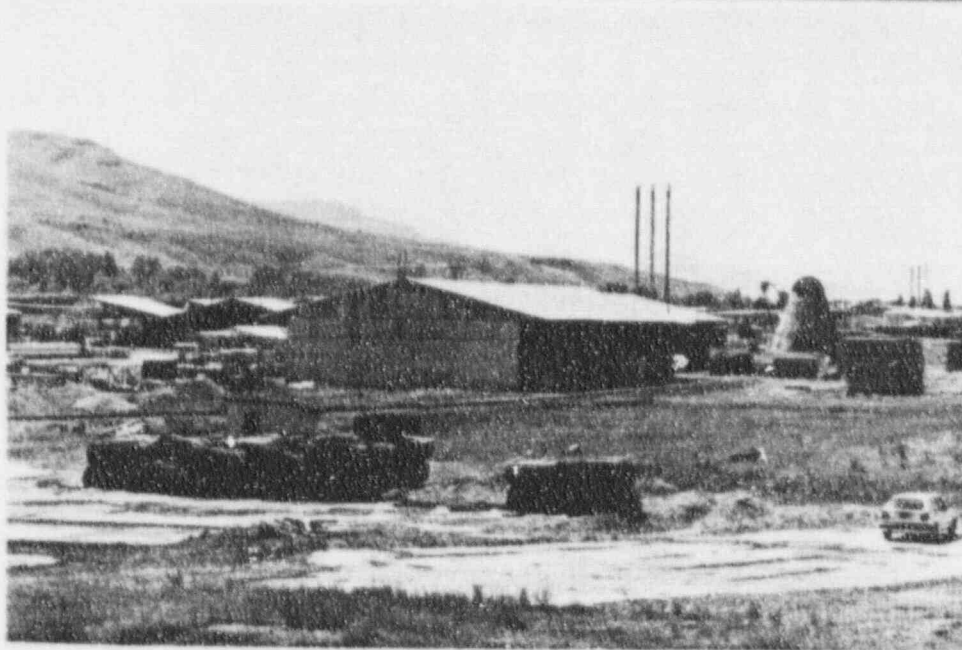


Looking West over Railroad Tracks into Northern Area
From Storage Barn Looking West

Figure 2 Property Photos



Storage Barn and Looking into Southern Area Looking Southeast



Overlooking Southern Area Looking Southeast

Figure 3 Property Photos



Main Mill Building to East of Northern Area
Looking Southeast

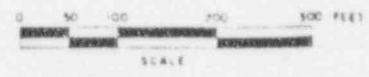
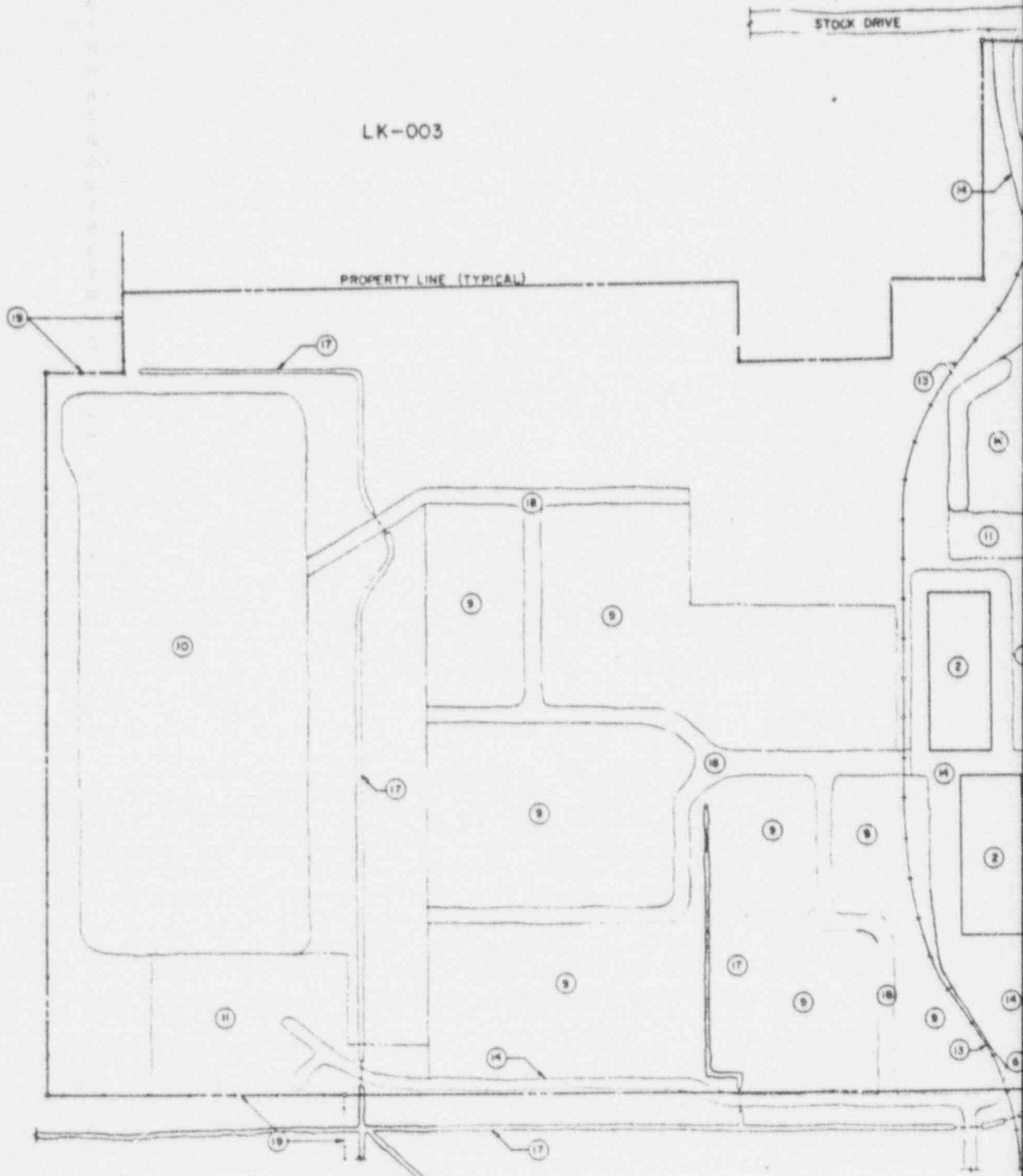
Figure 4 Property Photos



LK-003

STOCK DRIVE

PROPERTY LINE (TYPICAL)



LEGEND

1. SAW MILL BUILDING
2. STORAGE BARN
3. DUST COLLECTOR
4. MILLING BUILDING
5. SUBSTATION
6. FIRE SHEDS
7. STORAGE SHEDS
8. STORAGE SHED (PARTIALLY COLLAPSED)
9. PRODUCT STORAGE AREAS
10. SAW DUST STORAGE PILE
11. JUNK STORAGE AREAS
12. SECURITY FENCING
13. RAILROAD TRACKS
14. GRAVEL ROADWAY OR PARKING AREA
15. ASPHALT ROADWAY OR PARKING AREA
16. CONCRETE SLAB
17. DRAINAGE DITCH OR CANAL
18. DIRT ROADWAY
19. PROPERTY FENCING
20. TOWER

- | | |
|---------------|-----------------|
| — W — | WATER LINE |
| — G — | GAS LINE |
| — GM — | GAS MAIN |
| — S — | SEWER LINE |
| — SM — | SEWER MAIN |
| — STW — | STORM SEWER |
| — E — | ELECTRICAL LINE |
| — T — | TELEPHONE LINE |
| — TV — | CABLE TV |
| — — — | PROPERTY LINE |
| — X — X — X — | FENCE LINE |
| ⊙ | METER |
| ⊙ | VALVE |
| ○ | PROPERTY PIN |
| ● | POWER POLE |

NOTE OVERHEAD SERVICE DENOTED BY SOLID LINE.
UNDERGROUND SERVICE DENOTED BY DASHED LINE.

**ANSTEC
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Aperture Card

9707100255-01

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

SITE PLAN LK-009

LAKEVIEW, OREGON

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

DESIGNED BY
2/85 CRW

CHECKED
J. H. Johnson

REVIEWED
L. J. V. Jones

RECOMMENDED
L. J. V. Jones

APPROVED

DATE	DGE PROJECT MANAGER	DATE	DGE PROJECT ENGINEER	DATE
NR	NR	NR	NR	

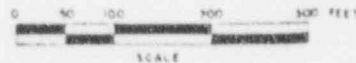
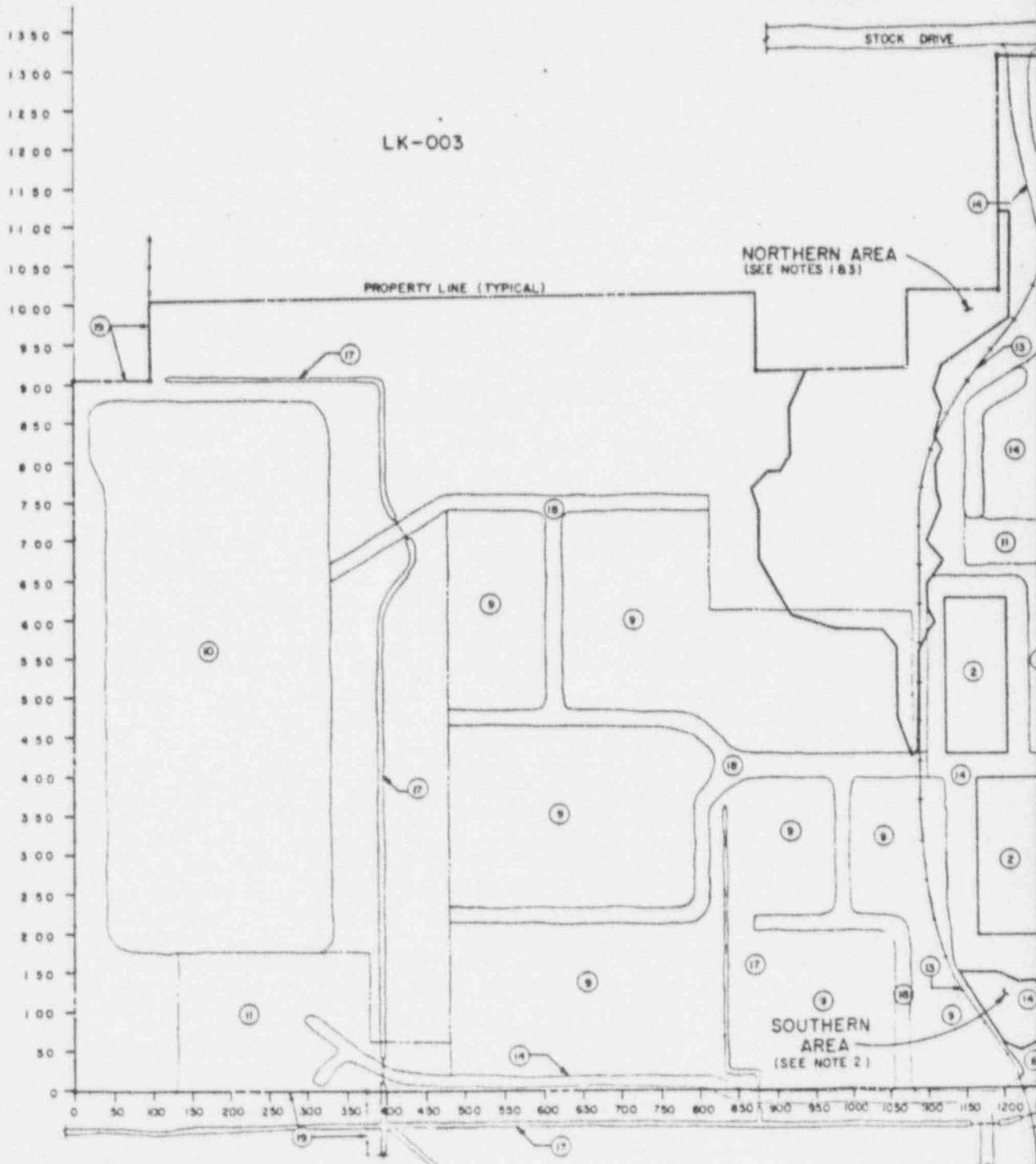


PROJECT NO
DE-AC04-83AL18796

DRAWING NO LK-009-010 REV A

NO	DATE	REVISIONS
A	11-87	FINAL REA SUBMITTAL

CRW	J. H. Johnson	L. J. V. Jones	2/85	—
DR	CHK	APP	DATE	DATE
BT	BT	—	—	—



LEGEND

1. SAW MILL BUILDING
2. STORAGE BARN
3. DUST COLLECTOR
4. MILLING BUILDING
5. SUBSTATION
6. FIRE SHEDS
7. STORAGE SHEDS
8. STORAGE SHED (PARTIALLY COLLAPSED)
9. PRODUCT STORAGE AREAS
10. SAW DUST STORAGE PILE
11. JUNK STORAGE AREAS
12. SECURITY FENCING
13. RAILROAD TRACKS
14. GRAVEL ROADWAY OR PARKING AREA
15. ASPHALT ROADWAY OR PARKING AREA
16. CONCRETE SLAB
17. DRAINAGE DITCH OR CANAL
18. DIRT ROADWAY
19. PROPERTY FENCING
20. TOWER

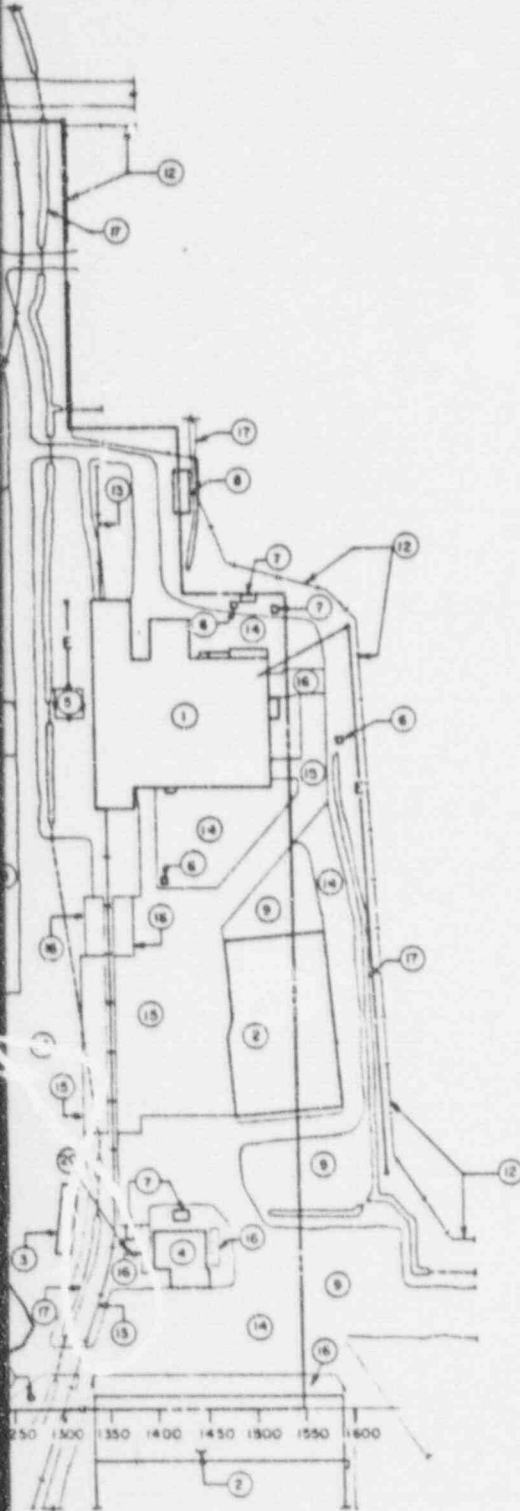
NOTES:

1. FOR AUGER HOLE AND SOIL SAMPLE LOCATIONS WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-016.
2. FOR AUGER HOLE AND SOIL SAMPLE LOCATIONS WITHIN SOUTHERN AREA, SEE DRAWING NUMBER LK-009-018.
3. FOR ESTIMATED DEPTH OF CONTAMINATION WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-017.
4. FOR ESTIMATED DEPTH OF CONTAMINATION WITHIN SOUTHERN AREA, SEE DRAWING NUMBER LK-009-018.

**ANSTEC
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CARD**

Also Available on
Aperture Card

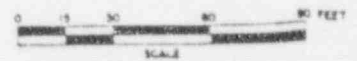
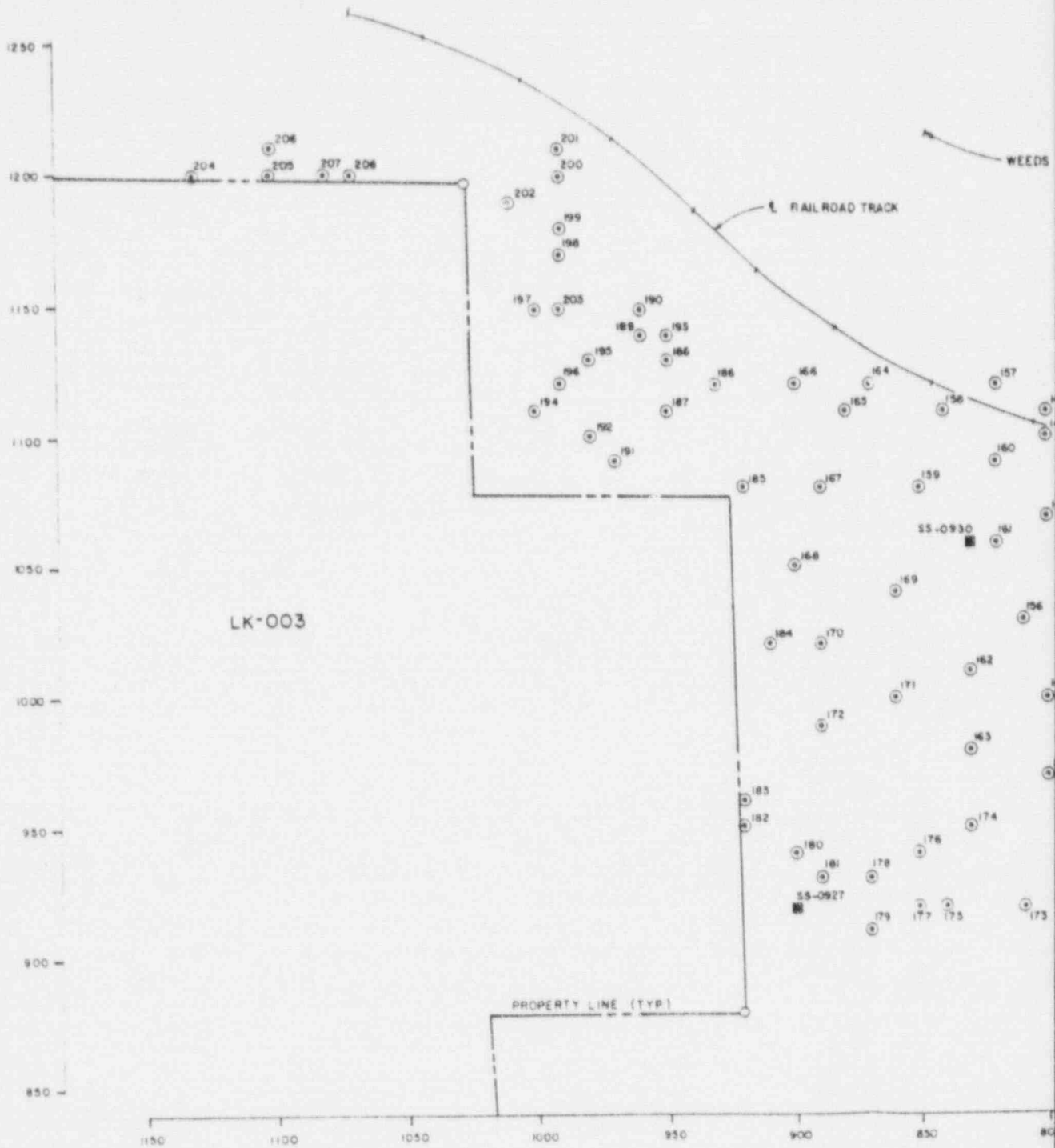
9707100255 - 02



U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

DESIGNED/DRAWN CRW	RADIOLOGICAL SURVEY DATA			
CHECKED	KEY PLAN LK-009			
REVIEWED	LAKEVIEW, OREGON			
RECOMMENDED	URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT			
APPROVED NR	DATE	DOE PROJECT MANAGER NR	DATE	DOE PROJECT ENGINEER NR
PROJECT NO. DE-AC04-83AL18796		DRAWING NO. LK-009-015		
MORRISON KNUDSEN		REV. A		

NO.	DATE	REVISIONS	DRAWN BT	CHECKED BT	APPROVAL LSE	APPROVAL DH	PROJ. ENR	APPROVAL DOE
A	1/87	FINAL REA SUBMITTAL		CRW				



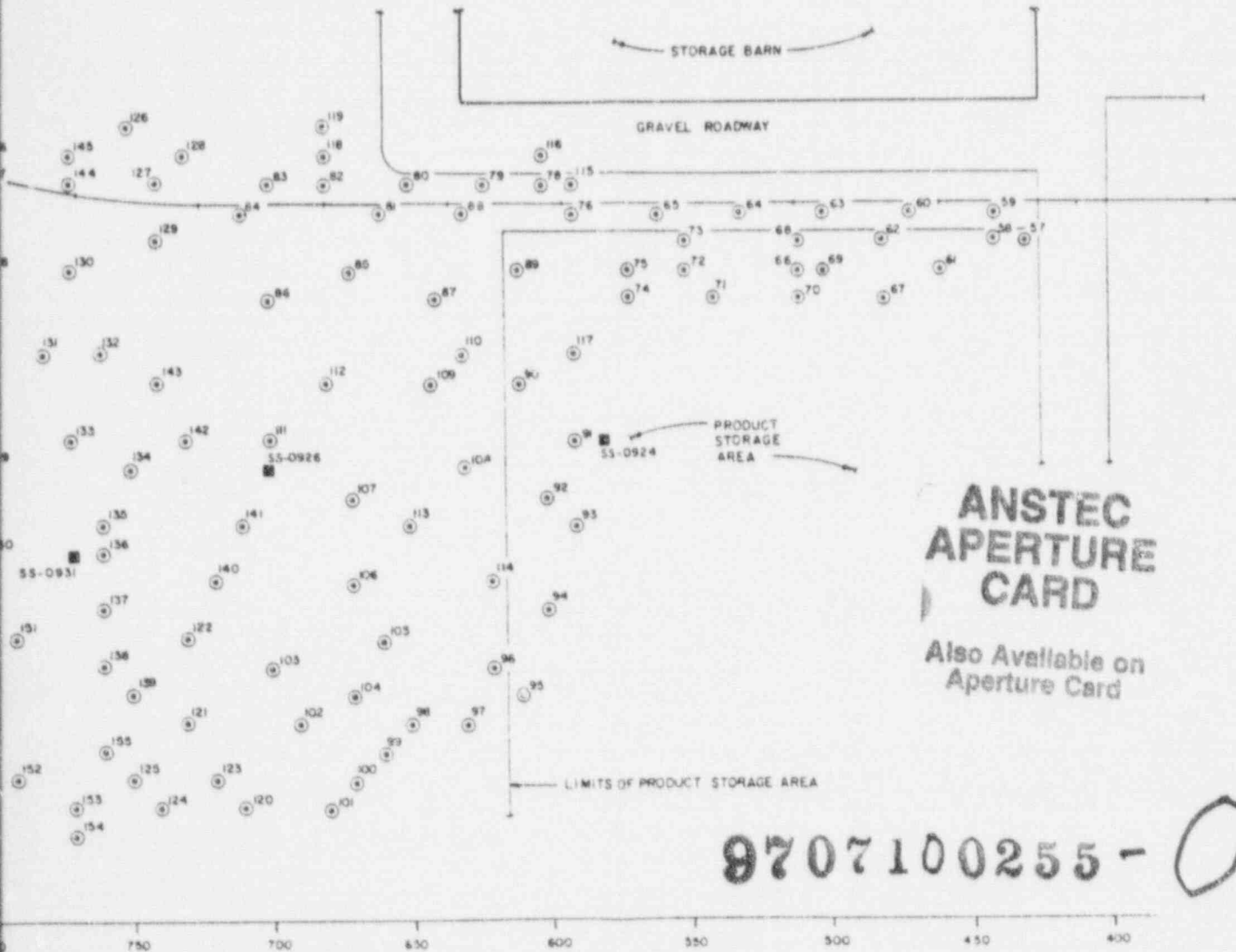
LEGEND

- ⊙¹⁴⁹ AUGER HOLE DESIGNATION
- ⁵⁵⁻⁰⁹²⁴ SOIL SAMPLE DESIGNATION

- NOTES:
1. THIS DRAWING INDICATES AUGER HOLE AND SOIL SAMPLE LOCATIONS IN NORTHERN AREA OF PROPERTY LK-009.
 2. FOR ESTIMATED DEPTHS OF CONTAMINATION WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-017.
 3. FOR RADIOLOGICAL SURVEY DATA KEY PLAN, SEE DRAWING NUMBER LK-009-015.

NO BRUSH

LK-009



**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

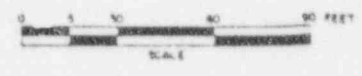
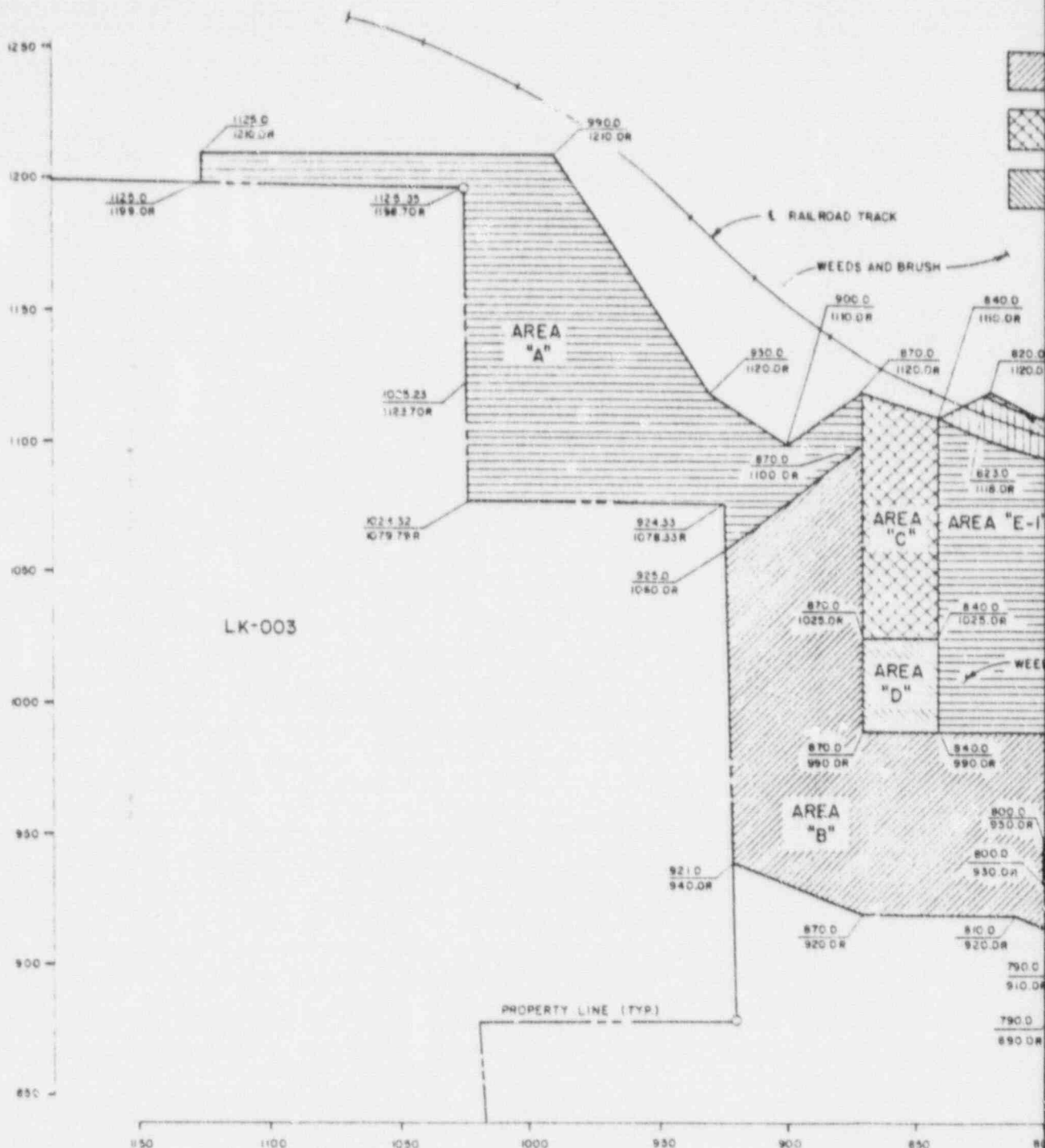
9707100255-03

**U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO**

DESIGNED/DRAWN CRW	PARTIAL RADIOLOGICAL PLAN NORTHERN AREA SHEET I LK-009			
CHECKED	LAKEVIEW, OREGON			
REVIEWED	URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT			
RECOMMENDED	DATE	DOE PROJECT MANAGER	DATE	DOE PROJECT NUMBER
APPROVED	NR	NR	NR	NR
PROJECT NO		DE-AC04-83AL18796		
DRAWING NO.		LK-009-016		REV Δ



NO.	DATE	REVISIONS	DRAWN	CHECKED	APPROVED	DATE	APPROVED	DATE
A	11-27	FINAL REA SUBMITTAL	CRW					



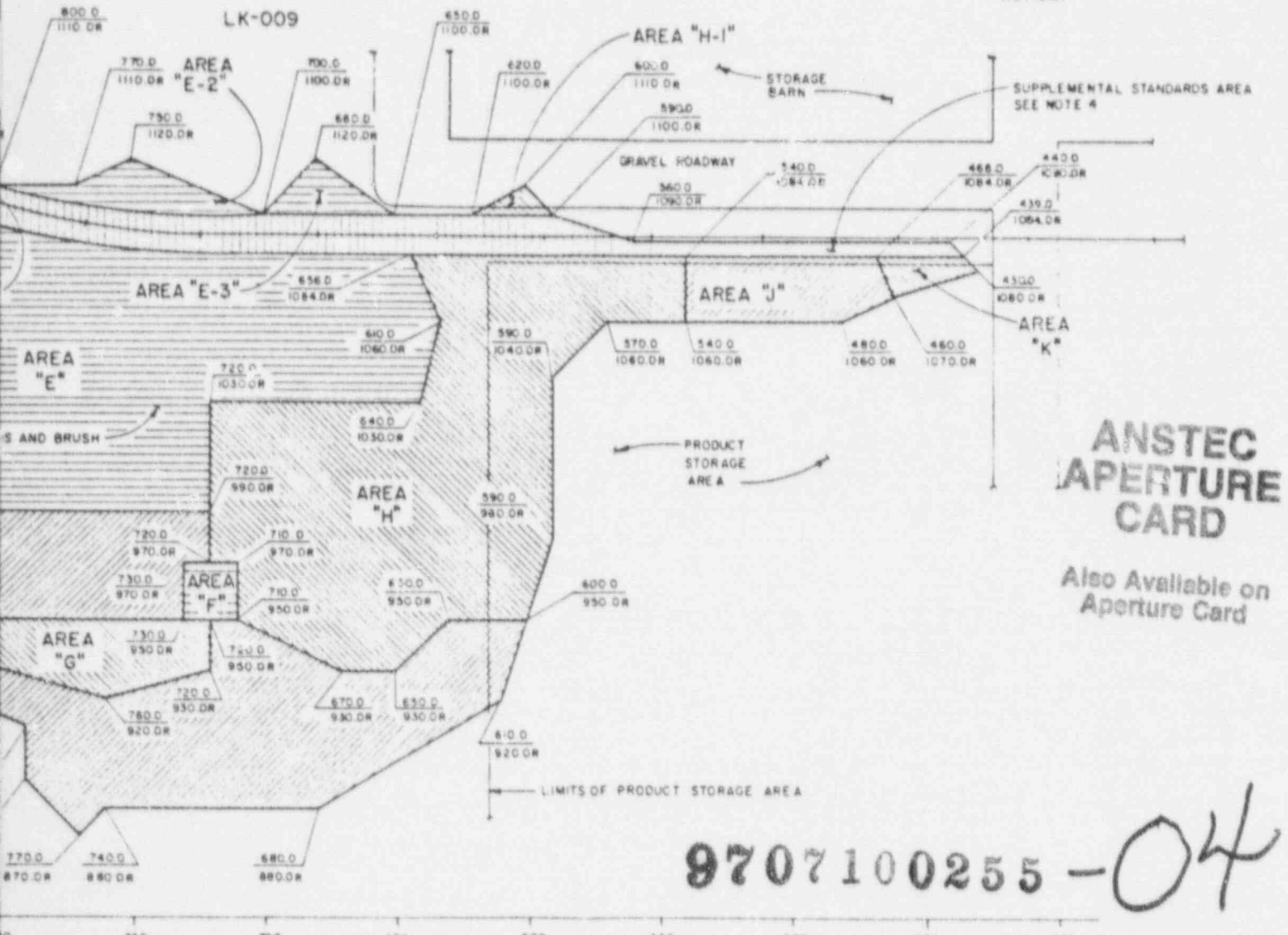
LEGEND

ESTIMATED DEPTH OF CONTAMINATION

	0'-6"		2'-0"
	1'-0"		4'-0"
	1'-6"		SUPPLEMENTAL STANDARDS

NOTES:

1. THIS DRAWING INDICATES ESTIMATED DEPTHS OF CONTAMINATION WITHIN NORTHERN AREA OF PROPERTY LX-009.
2. FOR AUGER HOLE AND SOIL SAMPLES LOCATIONS WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-016
3. FOR RADIOLOGICAL SURVEY DATA KEY PLAN, SEE DRAWING NUMBER LK-009-015.
4. SUPPLEMENTAL STANDARDS IN ACCORDANCE WITH 40 CFR SECTION 192.21 (c) SHALL APPLY TO THE AREA OF CONTAMINATION UNDER THE RAILROAD TRACKS WITHIN NORTHERN AREA DURING REMEDIAL ACTION.



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U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

PARTIAL RADIOLOGICAL PLAN
NORTHERN AREA SHEET 2
LK-009

LAKEVIEW, OREGON
URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

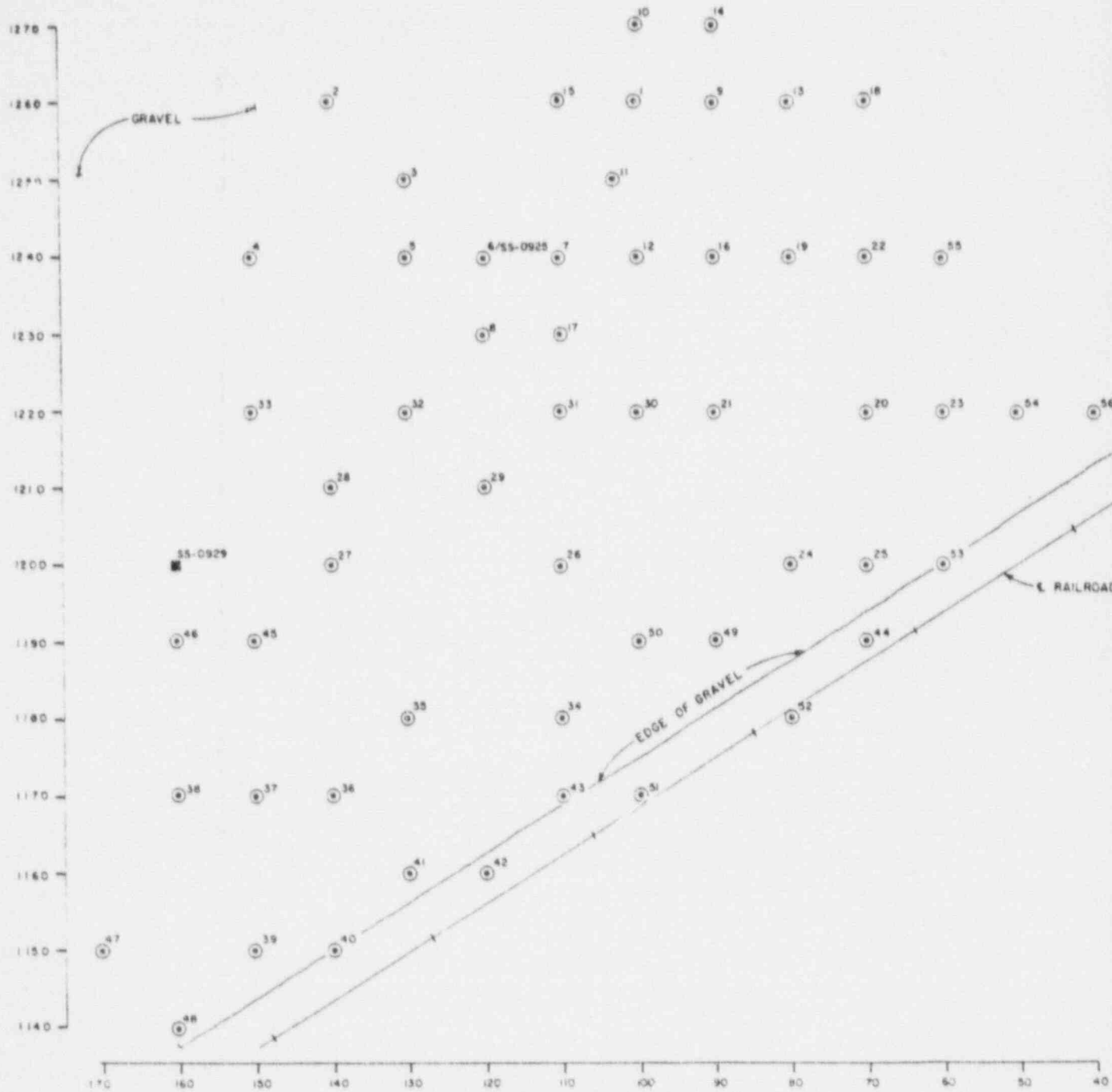
DESIGNED/DRAWN	CRW
CHECKED	
REVIEWED	
RECOMMENDED	
APPROVED	

NR	DATE	DOE PROJECT MANAGER	NR	DATE	DOE PROJECT ENGINEER	NR	DATE
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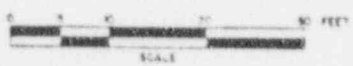


PROJECT NO.
DE-AC04-83AL18796
DRAWING NO. LK-009-017
REV. A

NO.	DATE	REVISIONS	DRAWN	CHECKED	APPROV. 1	APPROV. 2	PROJ. ENG.	APPROV. 3
A	1-16-87	FINAL REA SUBMITTAL		CRW				



AUGER HOLE AND SOIL SAMPLE PLAN



NOTE

- 1. FOR RADIOLOGICAL SURVEY DATA
KEY PLAN, SEE DRAWING
NUMBER LK-009-015.

LEGEND

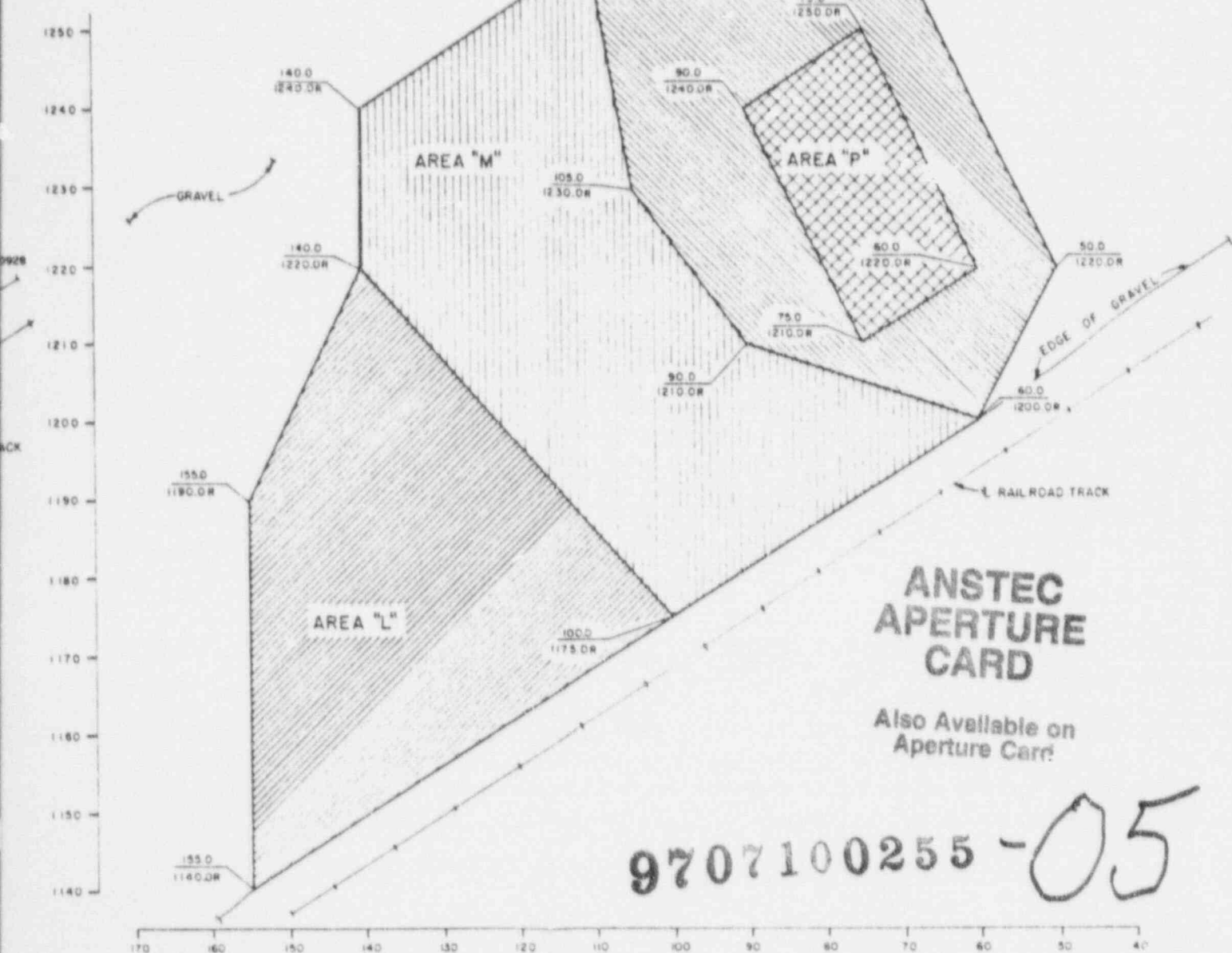
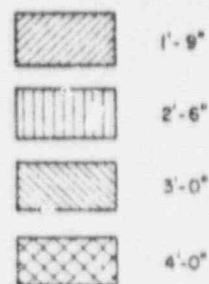
AUGER HOLE DESIGNATION

AUGER HOLE AND SOIL
SAMPLE DESIGNATION

SOIL SAMPLE DESIGNATION



ESTIMATED DEPTH OF CONTAMINATION



9707100255-05

ESTIMATED DEPTH OF CONTAMINATION PLAN



U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

DESIGNED BY CRW	PARTIAL RADIOLOGICAL PLAN SOUTHERN AREA LK-009 LAKEVIEW, OREGON		
CHECKED	URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT		
REVIEWED	DATE	FOR PROJECT MANAGER	DATE
RECOMMENDED	NR	NR	NR
APPROVED	DATE	FOR PROJECT MANAGER	DATE

NO.	DATE	REVISIONS	DESIGN	CHECKED	APPROVED	DATE	NO.	DATE
A	11/87	FINAL REA SUBMITTAL	CRW					



PROJECT NO. DE-AC04-83AL18796
DRAWING NO. LK-009-018
REV A



1350
1300
1250
1200
1150
1100
1050
1000
950
900
850
800
750
700
650
600
550
500
450
400
350
300
250
200
150
100
50
0

LK-003

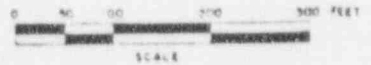
PROPERTY LINE (TYPICAL)

NORTHERN AREA
(SEE NOTE 4)

SOUTHERN AREA
(SEE NOTE 5)

STOCK DRIVE

0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200



SCALE

LEGEND

1. SAW MILL BUILDING
2. STORAGE BARN
3. DUST COLLECTOR
4. MILLING BUILDING
5. SUBSTATION
6. FIRE SHEDS
7. STORAGE SHEDS
8. STORAGE SHED (PARTIALLY COLLAPSED)
9. PRODUCT STORAGE AREAS
10. SAW DUST STORAGE PILE
11. JUNK STORAGE AREAS
12. SECURITY FENCING
13. RAILROAD TRACKS
14. GRAVEL ROADWAY OR PARKING AREA
15. ASPHALT ROADWAY OR PARKING AREA
16. CONCRETE SLAB
17. DRAINAGE DITCH OR CANAL
18. DIRT ROADWAY
19. PROPERTY FENCING
20. TOWER

- W — WATER LINE
- G — GAS LINE
- GM — GAS MAIN
- S — SEWER LINE
- SM — SEWER MAIN
- STM — STORM SEWER
- E — ELECTRICAL LINE
- T — TELEPHONE LINE
- TV — CABLE TV
- — — — — PROPERTY LINE
- x — x — x — FENCE LINE
- ⊕ G, W or E METER
- ⊗ G or W VALVE
- PROPERTY PIN
- POWER POLE

NOTE: OVERHEAD SERVICE DENOTED BY SOLID LINE.
UNDERGROUND SERVICE DENOTED BY DASHED LINE.

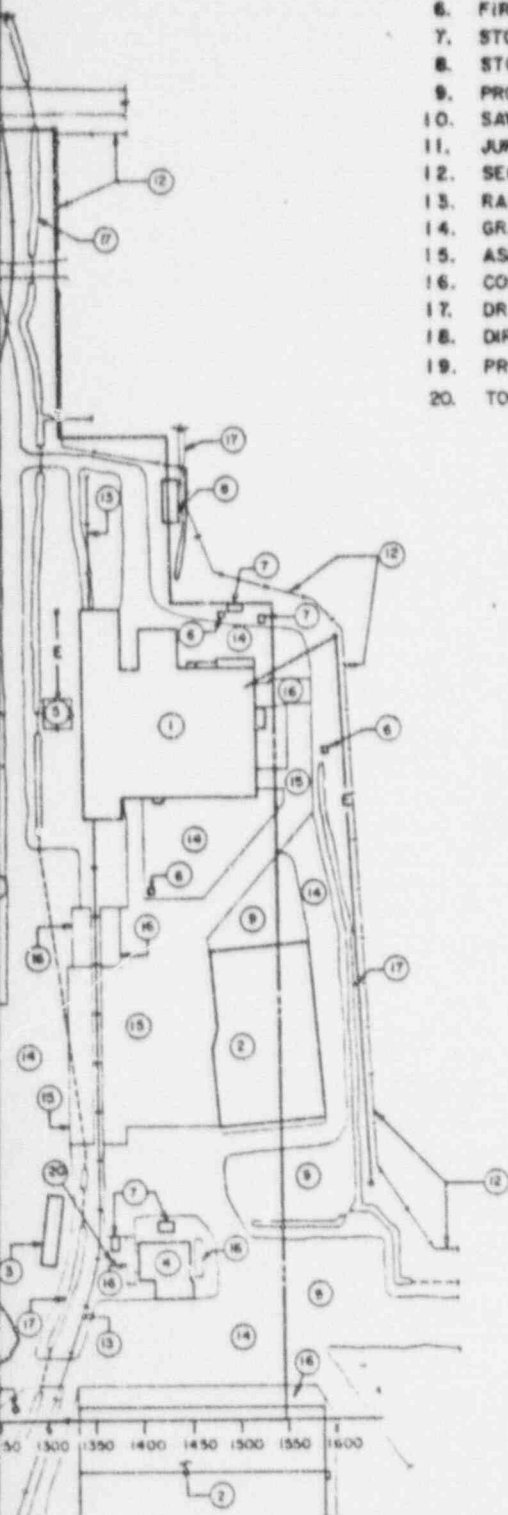
NOTES:

1. THE LATEST REVISION OF THE FOLLOWING TECHNICAL SPECIFICATIONS APPLY TO THE REMEDIAL ACTION WORK REQUIRED FOR PROPERTY NO. LK-009.
 - SECTION 0110
CLEANING AND GRUBBING
 - SECTION 0110
CONTAMINATED MATERIAL REMOVAL
 - SECTION 0200
EXCAVATION AND BACKFILL
 - SECTION 0240
LANDSCAPING
 - SECTION 0250
PAVING AND SURFACING
2. UTILITY LOCATIONS ARE FOR REFERENCE ONLY. SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACTUAL LOCATIONS OF UTILITIES PRIOR TO START OF CONSTRUCTION.
3. THE EXCAVATION LIMITS AND DEPTHS ARE BASED ON A LIMITED NUMBER OF BORINGS TAKEN DURING THE RADIOLOGICAL SURVEY OF THIS PROPERTY. ADDITIONAL RADIOLOGICAL SURVEYS PERFORMED DURING REMEDIAL ACTION MAY REVEAL HOLE OR LENS EXCAVATION TO BE TAKEN FROM THE DESIGNATED AREAS. ALL CHANGES TO THE LIMITS AND DEPTHS OF EXCAVATION AS SHOWN ON THE DESIGN DRAWINGS SHALL BE AS DIRECTED BY THE CONTRACTOR'S REPRESENTATIVE.
4. FOR PARTIAL SITE PLAN OF NORTHERN AREA, SEE DRAWING NUMBER LK-009-011.
5. FOR PARTIAL SITE PLAN OF SOUTHERN AREA, SEE DRAWING NUMBER LK-009-012.
6. RELOCATE PRODUCT STORAGE LOCATED WITHIN NORTHERN AREA OF REMEDIAL ACTION.
7. EXCAVATE AREA "A", "E", "B-1", "B-2" AND "B-3" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 2'-0".
8. EXCAVATE AREA "B", "C", "D", "B-1" AND "E" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 1'-6".
9. EXCAVATE AREA "B" AND "J" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 4 INCHES.
10. EXCAVATE AREA "C" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 1'-0".
11. EXCAVATE AREA "D" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 4'-0".
12. EXCAVATE AREA "E" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 4'-0".
13. EXCAVATE AREA "L" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 1'-9".
14. EXCAVATE AREA "M" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 1'-4".
15. EXCAVATE AREA "N" TO THE LIMITS INDICATED ON DRAWING LK-009-011 TO A DEPTH OF 3'-6".
16. WEED AND BRUSH AREAS SHALL BE BACKFILLED WITH COMPACTED CORNER FILL AND TOPPED WITH SEED, MULCH AND FERTILIZER. STORAGE AREAS SHALL BE BACKFILLED WITH COMPACTED CORNER FILL. GRAVEL AREAS SHALL BE BACKFILLED WITH COMPACTED CORNER FILL, 6 INCHES AGGREGATE BASE COURSE AND TOPPED WITH 3 INCHES OF 1/4 INCH CRUSHED STONE.

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U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

EXCAVATION AND RESTORATION
KEY PLAN LK-009
LAKEVIEW, OREGON

URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

DESIGNED/DRAWN
2/85 CRW
CHECKED
3/85 Johnson
RECEIVED
3/85
RECOMMENDED
3/85
APPROVED

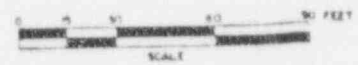
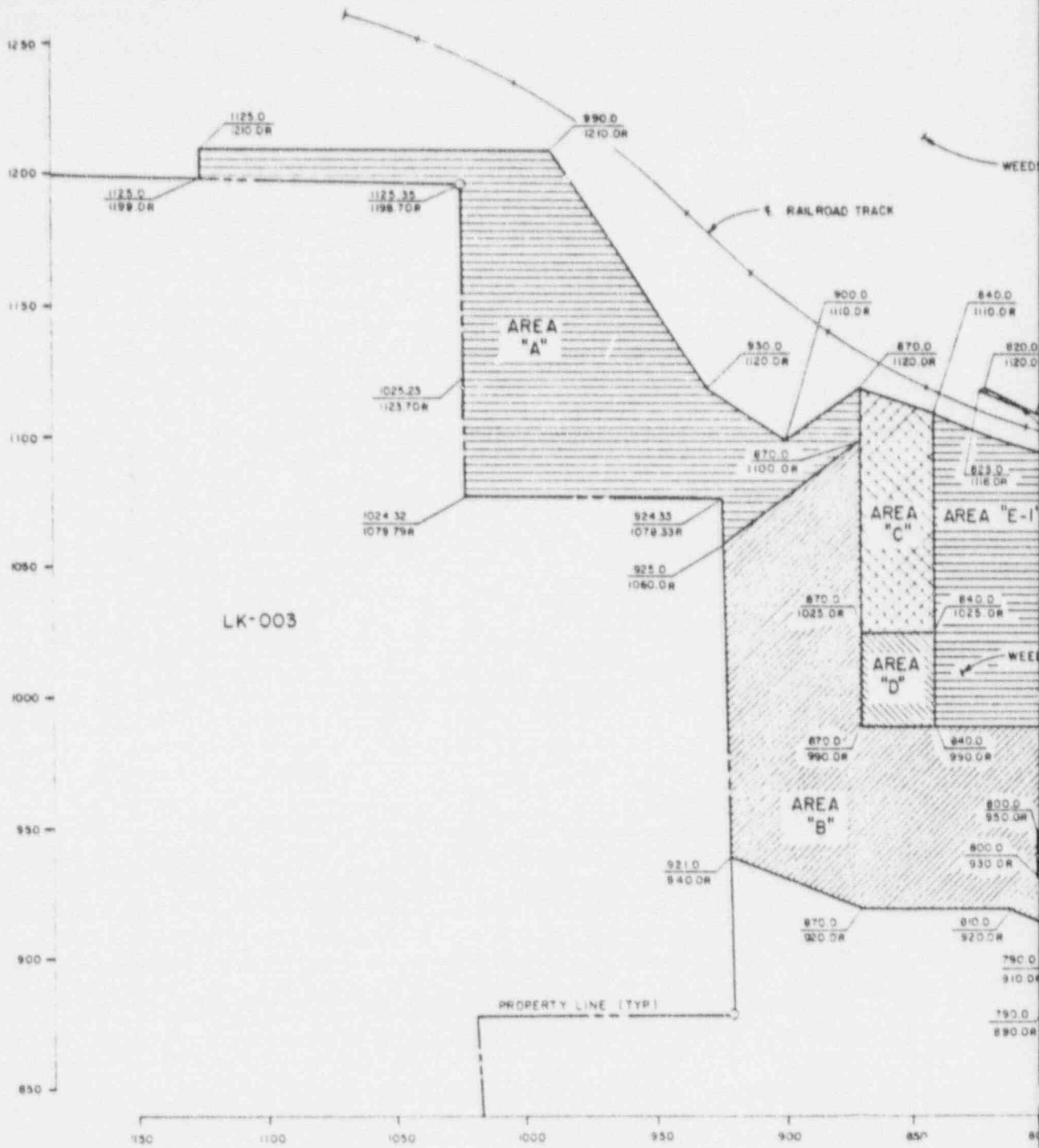
ISSUED	DATE	BY PROJECT MANAGER	DATE	BY PROJECT ENGINEER	DATE
NR		NR		NR	



PROJECT NO.
DE-AC04-83AL18796
DRAWING NO.
LK-009-020

NO.	DATE	REVISIONS	CRW	APR	SSA	VED	ASB	

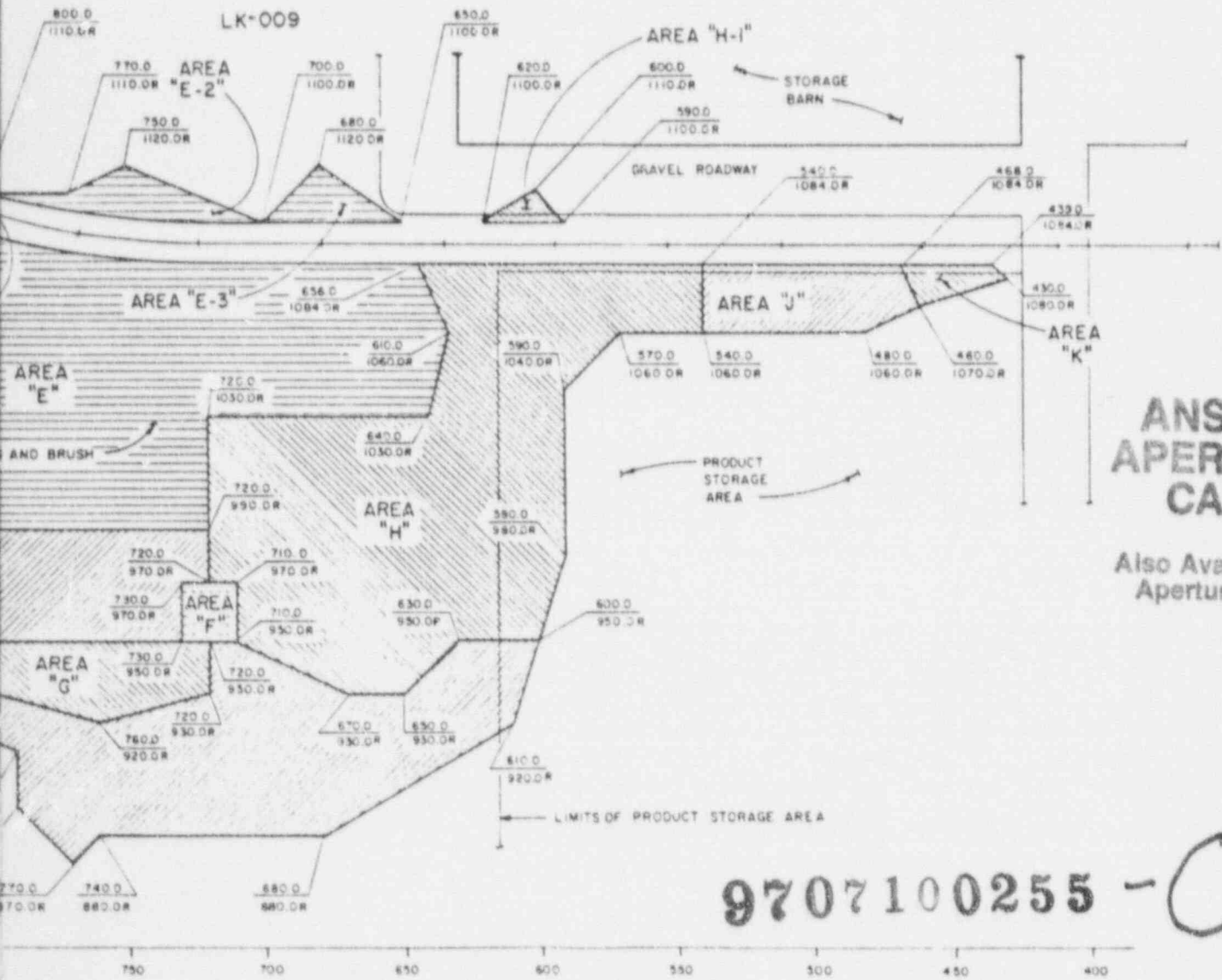
A 3-7-87 FINAL REA SUBMITTAL



NOTES:

1. THIS DRAWING INDICATES LIMITS OF EXCAVATION WITHIN NORTHERN AREA OF PROPERTY LK-009.
2. FOR GENERAL NOTES SEE DRAWING NUMBER LK-009-020.

AND BRUSH



**ANSTEC
APERTURE
CARD**

Also Available on
Aperture Card

9707100255 - 07

U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

EXCAVATION AND RESTORATION PLAN
NORTHERN AREA
LK-009

LAKEVIEW, OREGON
URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT

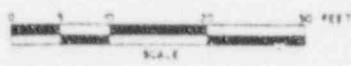
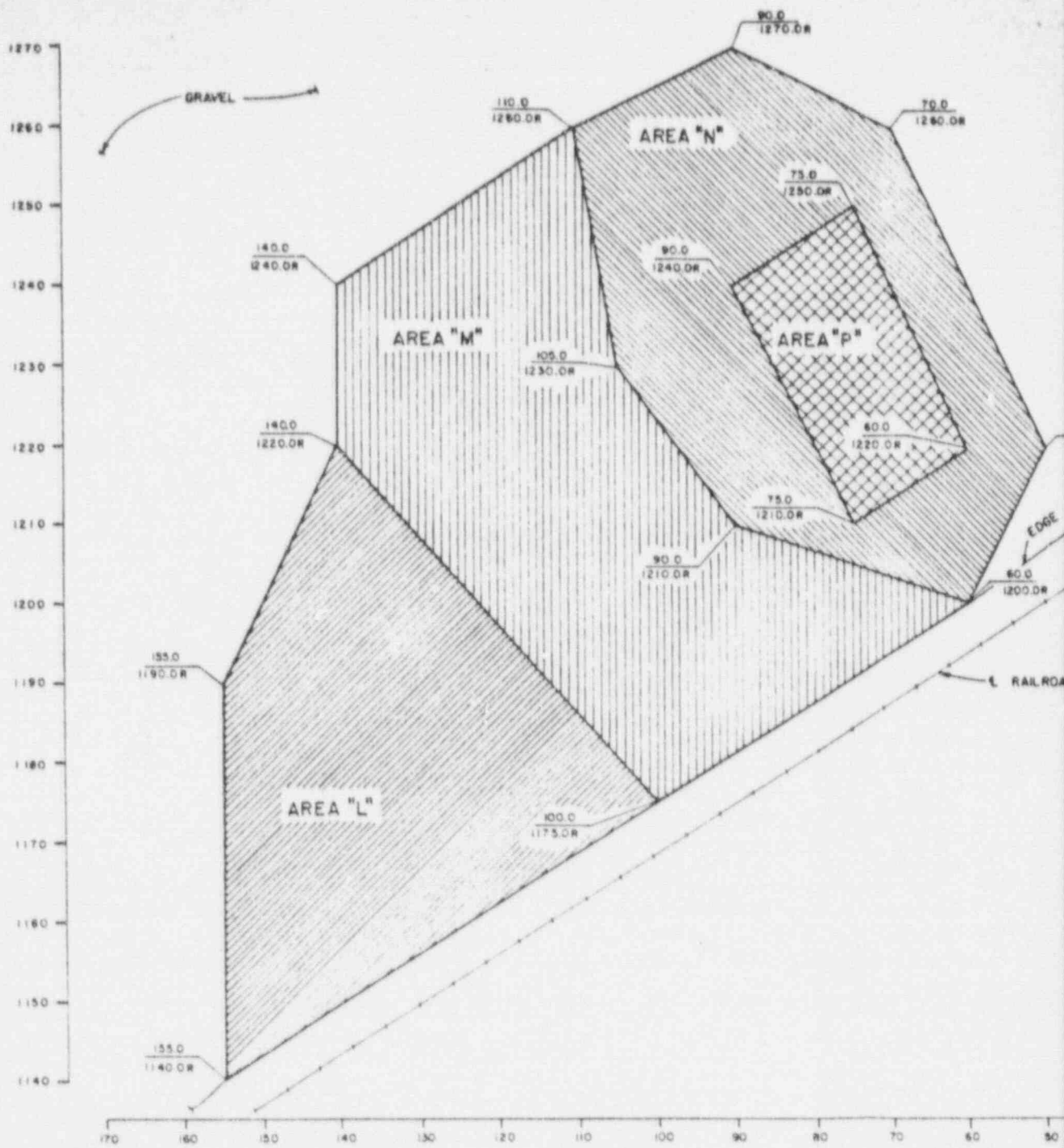
DESIGNED/DRAWN	CRW
CHECKED	
REVIEWED	
RECOMMENDED	
APPROVED	

DATE	BY	DATE	BY	DATE	BY
	NR		NR		NR



PROJECT NO.
DE-AC04-83AL18796
DRAWING NO. LK-009-021

NO.	DATE	REVISIONS	BY	CHKD	APP'D	DATE
A	1-7-87	FINAL REA SUBMITTAL	CRW			



SCALE

NOTES:

1. THIS DRAWING INDICATES LIMITS OF EXCAVATION WITHIN SOUTHERN AREA OF PROPERTY LK-009.
2. FOR GENERAL NOTES SEE DRAWING NUMBER LK-009-020.



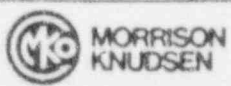
ANSTEC APERTURE CARD

Also Available on
Aperture Card

9707100255 - 08

NO.	DATE	REVISIONS	BY	CHK	APP	DATE
1	1-7-87	FINAL REA SUBMITTAL	CRW	CRW		
2						

U. S. DEPARTMENT OF ENERGY ALBUQUERQUE, NEW MEXICO					
DESIGNED/DRAWN CRW		EXCAVATION AND RESTORATION PLAN SOUTHERN AREA LK-009 LAKEVIEW, OREGON			
CHECKED <i>[Signature]</i>		URANIUM MILL TAILINGS REMEDIAL ACTION PROJECT			
REVIEWED <i>[Signature]</i>		APPROVED <i>[Signature]</i>	DATE	DOE PROJECT MANAGER NR	DATE
				EGE PROJECT ENGINEER NR	DATE
		PROJECT NO DE-AC04-83AL18796			
		DRAWING NO LK-009-022			
		REV A			



APPENDIX A
RADIOLOGICAL SURVEY DATA

MS-FEFGUSSO/CHEM-NUCLEAR
OPPOSED CRYSTAL SYSTEM: RECORD

OCE SERIAL NO. 484319

SITE NO. 25
SITE AREA
Lokewen-LK-009
LK-009

DATE INITIAL 20 DAY	SAMPLE NUMBER	SAMPLE LOCATION	DATE SAMPLED	DATE SEALED	TAG NO.		FUNCTION NO.		PASS		OC SAMPLE	LAC. NO. OF 1 UNIT		DEPTH (15 CM) (15 CM)	TECH INITIAL 20 DAY	REMARKS
					20 DAY	20 DAY	INITIAL	20 DAY	NET	DPN		Pa 226	Th 230			
1-5-86	LK-SS-0924	LK-009 5180, 1010R	12-4-86		101	4.8 E 2			534							surface sample 0.76"
2-5-86	LK-SS-0925	LK-009	12-4-86		102	1.25 E 2			541							
2-5-86	LK-SS-0926	LK-009	12-4-86		103	1.7 E 4			397							
2-5-86	LK-SS-0927	LK-009	12-4-86		104	9.8 E 2			636	1.5						
2-5-86	LK-SS-0928	LK-009	12-4-86		105	6.0 E 1			496							
2-5-86	LK-SS-0929	LK-009	12-4-86		106	1.4 E 2			637							
2-5-86	LK-SS-0930	LK-009	12-4-86		107	2.2 E 4			546							
2-5-86	LK-SS-0931	LK-009	12-4-86		108	2.0 E 4			436	46.2						surface sample 0.76"

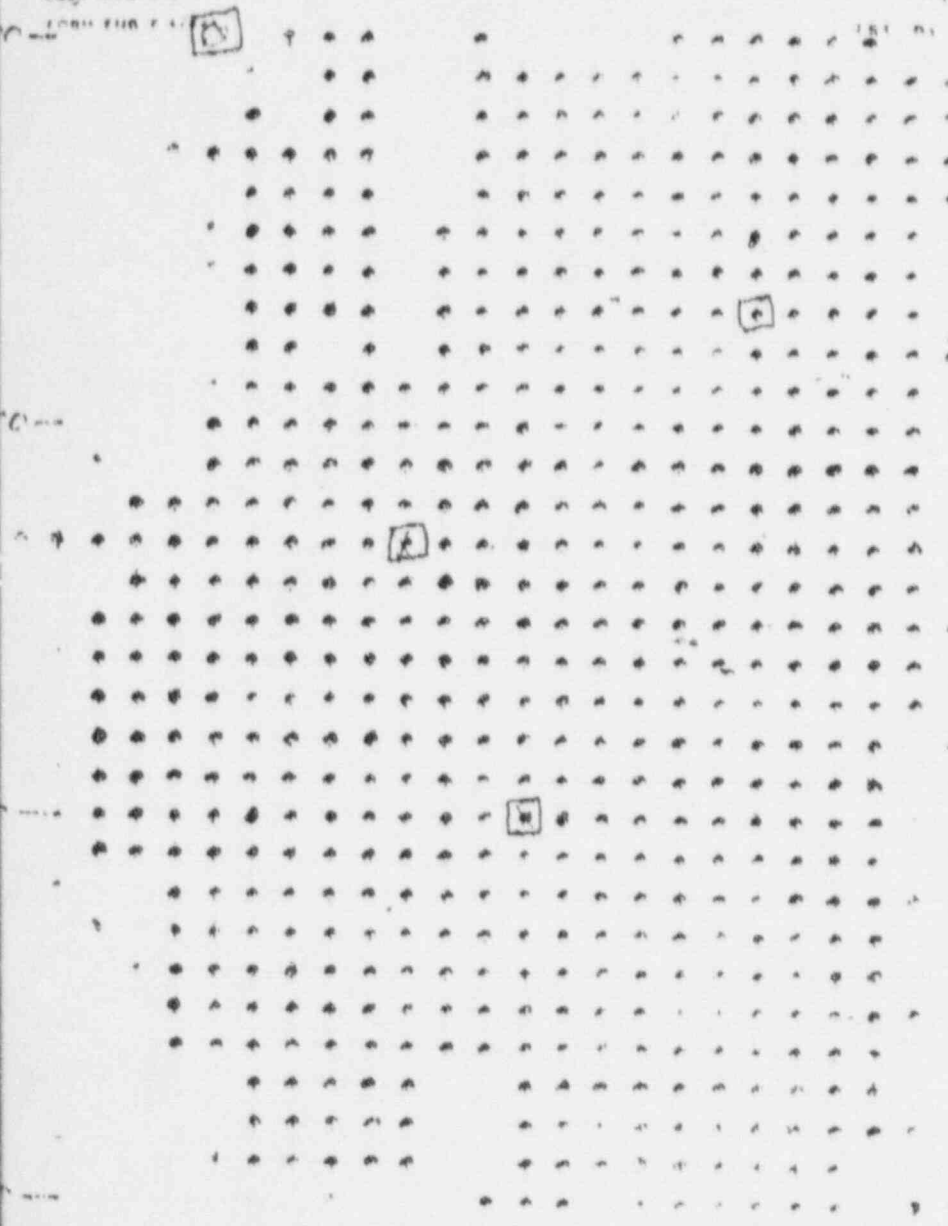
REVIEWED BY: *AD Smith*

NOTE: All soil sample results are in FC/oz
NOTE: All samples counted for 500 seconds unless noted otherwise in the remarks column.

DATE 7-11-86

LR-009
 AB. Kelly

OPERATION
 1000 2100 2.4



LR-009

- -- Contaminated Spiller
- -- Contaminated Spiller & Borehole
- -- Uncontaminated Borehole
- X -- Uncontaminated Spiller & Contaminated Borehole

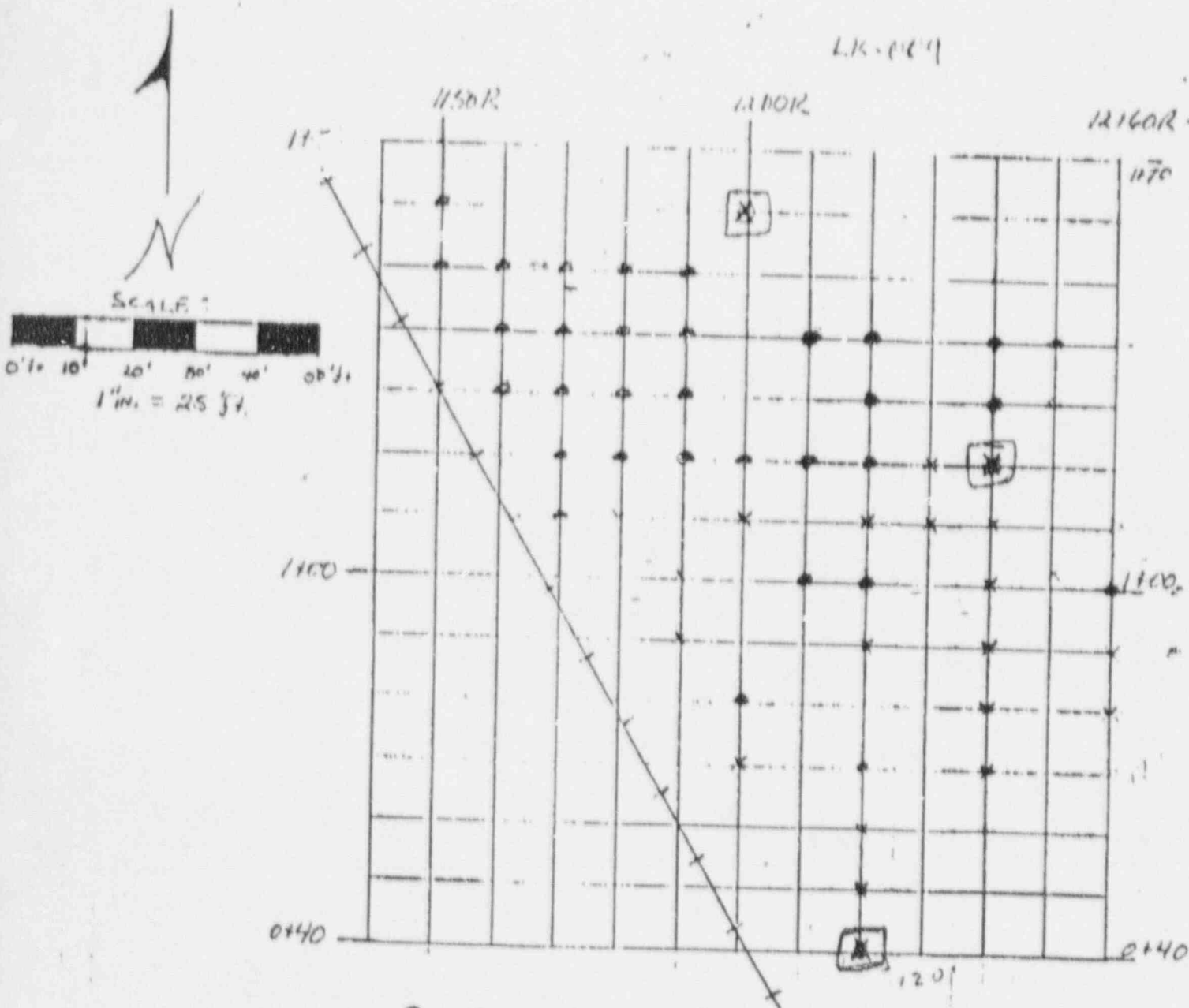
LR-009

Note

[] - soil samples taken
 AUG 10-17-86



□ soil samples taken
ADP



- - CONTAMINATED SURFACE
- - CONTAMINATED SURFACE & BOREHOLE
- - UNCONTAMINATED BOREHOLE
- X - UNCONTAMINATED SURFACE, CONTAMINATED BOREHOLE

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Butally
Art Diamond

SHEET 1 OF 72 PAGE 1

DATE: August 08, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: Lvo. 2220 #35641 744-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
5+70, 880R	13240 12040	8+10, 880R	13050 13100	5+80, 890R	13040 12970	5+20, 890R	13940 15190
5+80, 880R	13040 13240	8+20, 880R	13540 13510	5+90, 890R	12940 13720	8+30, 890R	13560 15310
5+90, 880R	14180 13230	8+30, 880R	12770 14840	6+00, 890R	15290 15360	8+40, 890R	14010 14380
6+00, 880R	16230 15010	8+40, 880R	12700 14460	6+10, 890R	18360 17290	8+50, 890R	12210 14710
6+10, 880R	15510 16230	8+50, 880R	12430 13920	6+20, 890R	17230 17970	8+60, 890R	11730 13460
6+20, 880R	15830 17280	8+60, 880R	12520 13550	6+30, 890R	17450 17660	8+70, 890R	11720 13690
6+30, 880R	17100 17160	8+70, 880R	14980 15030	6+40, 890R	18530 18550	8+80, 890R	11980 13450
6+40, 880R	17060 17800	8+80, 880R	14730 15920	6+50, 890R	17620 19480	8+90, 890R	12580 14300
6+50, 880R	18090 17840	8+90, 880R	15700 15160	6+60, 890R	18890 19210	9+00, 890R	15820 15060
6+60, 880R	17000 18070	9+00, 880R	14110 15260	6+70, 890R	20210 21800	9+10, 890R	14550 16160
6+70, 880R	17910 18320	9+10, 880R	13300 13470	6+80, 890R	19080 21600	9+20, 890R	14650 13780
6+80, 880R	17480 18020	9+20, 880R	11970 13930	6+90, 890R	21460 22050		
6+90, 880R	17840 19010	9+30, 880R	11660 11150	7+00, 890R	20760 22380	5+70, 900R	12080 11100
7+00, 880R	18610 20240	9+40, 880R	12740 12680	7+10, 890R	21840 23070	5+80, 900R	12220 12230
7+10, 880R	16810 19690	9+50, 880R	12150 12570	7+20, 890R	22440 23470	5+90, 900R	12920 12990
7+20, 880R	18150 20540	9+60, 880R	12140 12770	7+30, 890R	22340 24310	6+00, 900R	15380 15030
7+30, 880R	19040 19410	9+70, 880R	13150 13170	7+40, 890R	21540 25740	6+10, 900R	17570 18010
7+40, 880R	19730 22020	9+80, 880R	12380 13120	7+50, 890R	27690 31260	6+20, 900R	17810 17850
7+50, 880R	19630 21090	9+90, 880R	12400 13200	7+60, 890R	19030 26020	6+30, 900R	18790 19200
7+60, 880R	18830 18970	10+00, 880R	13300 13760	7+70, 890R	21310 24560	6+40, 900R	19700 18210
7+70, 880R	22210 22680	10+10, 880R	11620 13290	7+80, 890R	16820 21500	6+50, 900R	15320 20490
7+80, 880R	16480 17110	10+20, 880R	13010 12580	7+90, 890R	14990 17680	6+60, 900R	18800 21280
7+90, 880R	14660 17000			8+00, 890R	15380 17170	6+70, 900R	19870 21560
8+00, 880R	14720 16050	5+70, 890R	11310 12890	8+10, 890R	14700 17460	6+80, 900R	20910 23150

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CP/M. (counts per minute)

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Butally
Art Demond

SHEET 2 OF 72 PAGE 2

DATE: August 08, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: LVO. 2220 * 35641 * 44-10 * 22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
6+90, 900R	23140 24260			8+00, 910R	19540 21540	6+70, 920R	40590 44470
7+00, 900R	22170 23270	5+70, 910R	11680 10380	8+10, 910R	16950 22370	6+80, 920R	39580 35990
7+10, 900R	21470 23570	5+80, 910R	12230 13990	8+20, 910R	15520 16940	6+90, 920R	33540 31760
7+20, 900R	23920 24970	5+90, 910R	14130 14480	8+30, 910R	15160 18350	7+00, 920R	33230 25750
7+30, 900R	25560 28500	6+00, 910R	16140 17030	8+40, 910R	14560 17010	7+10, 920R	36240 40150
7+40, 900R	28210 31920	6+10, 910R	18160 18750	8+50, 910R	14460 15930	7+20, 920R	47210 48500
7+50, 900R	113990 57780	6+20, 910R	19700 21350	8+60, 910R	16000 15790	7+30, 920R	58760 47950
7+60, 900R	42670 33940	6+30, 910R	19870 21000	8+70, 910R	15120 15730	7+40, 920R	97150 62530
7+70, 900R	23180 24080	6+40, 910R	26330 29700	8+80, 910R	16380 17390	7+50, 920R	43270 53610
7+80, 900R	22660 20710	6+50, 910R	43800 39430	8+90, 910R	17470 19210	7+60, 920R	40050 37880
8+00, 900R	17100 19650	6+60, 910R	31390 36610	9+00, 910R	15910 16820	7+70, 920R	29760 30460
8+10, 900R	15990 17230	6+70, 910R	24760 31310	9+10, 910R	15710 17320	7+80, 920R	29590 3180
8+20, 900R	13770 15350	6+80, 910R	36540 35990	9+20, 910R	13800 16630	7+90, 920R	24790 26090
8+30, 900R	14320 15750	6+90, 910R	32800 33720			8+00, 920R	24230 22820
8+40, 900R	14020 15100	7+00, 910R	24960 32600	5+70, 920R	10280 9440	8+10, 920R	20130 21620
8+50, 900R	13510 14580	7+10, 910R	30060 38600	5+80, 920R	11890 12410	8+20, 920R	18810 18840
8+60, 900R	13110 14190	7+20, 910R	61760 48540	5+90, 920R	14730 16160	8+30, 920R	17410 18240
8+70, 900R	12670 13400	7+30, 910R	66500 51670	6+00, 920R	17490 15440	8+40, 920R	18350 18200
8+80, 900R	13700 13580	7+40, 910R	83550 68800	6+10, 920R	18910 17530	8+50, 920R	19120 18190
8+90, 900R	12700 14400	7+50, 910R	88540 66050	6+20, 920R	17730 20180	8+60, 920R	18350 17680
9+00, 900R	12740 14120	7+60, 910R	51960 42440	6+30, 920R	20040 21400	8+70, 920R	20410 18540
9+10, 900R	13420 14570	7+70, 910R	26190 31000	6+40, 920R	41300 33820	8+80, 920R	18890 19240
9+20, 900R	14600 14580	7+80, 910R	24170 26980	6+50, 920R	41640 33980	8+90, 920R	19390 18940
	13930 14340	7+90, 910R	21120 23540	6+60, 920R	52420 43140	9+00, 920R	18900 19180

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all units in CPM.

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Butally
Art Clemons

SHEET 3 OF 72 PAGE 3

DATE: August 08, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: LVO. 2220 #35641 #44-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
7+10, 9.30R	19380 18230	7+80, 9.30R	46490 52690	6+50, 9.40R	68550 68090	8+90, 9.40R	19910 21480
7+20, 9.20R	19330 17550	7+40, 9.30R	36060 52040	6+60, 9.40R	75400 74620	9+00, 9.40R	20360 20760
		8+00, 9.30R	26390 31950	6+70, 9.40R	74690 70390	9+10, 9.40R	20710 19750
5+70, 9.30R	11390 12940	8+10, 9.30R	23580 24940	6+80, 9.40R	74830 71730	9+20, 9.40R	20330 20180
5+50, 9.30R	13840 14800	8+30, 9.30R	24090 25410	6+90, 9.40R	98200 84330	11+30R	
5+40, 9.30R	17070 18830	8+30, 9.30R	22980 23490	7+00, 9.40R	96100 88050	5+70, 9.50R	11770 15460
6+00, 9.30R	20680 21830	8+40, 9.30R	22750 23010	7+10, 9.40R	115510 83650	5+80, 9.50R	13920 16360
6+10, 9.30R	24520 25090	8+50, 9.30R	23930 24830	7+20, 9.40R	103150 85830	5+90, 9.50R	18290 19070
6+20, 9.30R	26070 32290	8+60, 9.30R	22690 23280	7+30, 9.40R	80850 90670	6+00, 9.50R	17850 22260
6+30, 9.30R	49990 42520	8+70, 9.30R	21750 22490	7+40, 9.40R	159670 123650	6+10, 9.50R	28750 36110
6+40, 9.30R	45500 50760	8+80, 9.30R	3320 23420	7+50, 9.40R	59890 76160	6+20, 9.50R	52170 56360
6+50, 9.30R	84050 62490	8+90, 9.30R	20890 21180	7+60, 9.40R	66360 58730	6+30, 9.50R	59170 66020
6+60, 9.30R	77320 66990	9+00, 9.30R	22170 22640	7+70, 9.40R	105880 73060	6+40, 9.50R	89210 92320
6+70, 9.30R	54780 57230	9+10, 9.30R	20630 21990	7+80, 9.40R	95590 80230	6+50, 9.50R	124910 109630
6+80, 9.30R	63950 56860	9+20, 9.30R	20110 19720	7+90, 9.40R	106920 79570	6+60, 9.50R	150160 114590
6+90, 9.30R	61820 59450			8+00, 9.40R	25980 37830	6+70, 9.50R	94480 104580
7+00, 9.30R	67200 65850	5+70, 9.40R	10750 11930	8+10, 9.40R	24750 28830	6+80, 9.50R	113100 111300
7+10, 9.30R	64940 74410	5+80, 9.40R	12980 12190	8+20, 9.40R	22130 25660	6+90, 9.50R	121640 114400
7+20, 9.30R	69970 77910	5+90, 9.40R	14200 16340	8+30, 9.40R	23420 24790	7+00, 9.50R	114660 109390
7+30, 9.30R	91860 78580	6+00, 9.40R	17320 20960	8+40, 9.40R	21790 23420	7+10, 9.50R	70110 95110
7+40, 9.30R	109620 91730	6+10, 9.40R	28390 24860	8+50, 9.40R	21670 23460	7+20, 9.50R	149160 142610
7+50, 9.30R	55980 63900	6+20, 9.40R	35460 34290	8+60, 9.40R	21460 21250	7+30, 9.50R	238920 182670
7+60, 9.30R	43680 51170	6+30, 9.40R	45550 47510	8+70, 9.40R	21260 21250	7+40, 9.50R	313830 204250
7+70, 9.30R	38990 52310	6+40, 9.40R	65630 56280	8+80, 9.40R	20310 22340	7+50, 9.50R	76780 97960

REMARKS: Top readings are contact lower readings taken @ 1 meter distance, all counts in CPM.

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Bettrich
Art Clemons

SHEET 4 OF 72 PAGE 4

DATE: August 11, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO: LD-2220 #35641/4440 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
7+60 950R	62630 96300	6+30 960R	120940 72640	5+70 960R	22710 22790	7+40 970R	77560 109870
7+70 950R	110460 110520	6+40 960R	150000 89280	5+80 960R	23300 24210	7+50 970R	155010 103510
7+80 950R	156450 136450	6+50 960R	108090 95110	5+90 960R	21100 22790	7+60 970R	127570 118980
7+90 950R	8130 67480	6+60 960R	92820 86990	6+00 960R	21270 22150	7+70 970R	154340 120800
8+00 950R	27560 32400	6+70 960R	178280 115380	6+10 960R	21130 21520	7+80 970R	86020 97490
8+10 950R	26470 31940	6+80 960R	113410 116370	6+20 960R	26300 20120	7+90 970R	112870 56640
8+20 950R	20290 29350	6+90 960R	200030 141940	6+30 960R		8+00 970R	24860 41790
8+30 950R	24540 28140	7+00 960R	150530 124050	5+70 970R	12730 14190	8+10 970R	27310 55150
8+40 950R	24490 26620	7+10 960R	111820 122070	5+80 970R	15080 16460	8+20 970R	21680 30150
8+50 950R	22280 25770	7+20 960R	235240 17880	5+90 970R	15190 18240	8+30 970R	18860 29170
8+60 950R	22150 24410	7+30 960R	290180 225270	6+00 970R	18380 24620	8+40 970R	19730 25940
8+70 950R	23050 23390	7+40 960R	233060 182890	6+10 970R	43480 37490	8+50 970R	19060 23230
8+80 950R	22460 22020	7+50 960R	192400 132930	6+20 970R	35730 34680	8+60 970R	18680 25840
8+90 950R	22450 21760	7+60 960R	165030 134450	6+30 970R	30880 34130	8+70 970R	16640 21150
9+00 950R	21060 21210	7+70 960R	110700 108390	6+40 970R	37290 41790	8+80 970R	15670 20770
9+10 950R	20540 22290	7+80 960R	82490 92020	6+50 970R	32180 41620	8+90 970R	16700 19940
9+20 950R	19910 20480	7+90 960R	39200 54740	6+60 970R	36330 45710	9+00 970R	14330 19450
		8+00 960R	26900 35080	6+70 970R	36800 55060	9+10 970R	15810 18800
5+70 960R	12370 14570	8+10 960R	26080 34080	6+80 970R	48450 57900	9+20 970R	16400 19350
5+80 960R	14510 16900	8+20 960R	25750 29690	6+90 970R	75850 76590		
5+90 960R	16840 19010	8+30 960R	25180 28350	7+00 970R	81490 105230	5+70 950R	11230 12530
6+00 960R	17900 24880	8+40 960R	23030 26290	7+10 970R	56870 106560	5+80 950R	11620 14650
6+10 960R	67160 53890	8+50 960R	22720 23020	7+20 970R	121040 152770	5+90 950R	15330 18290
6+20 960R	72880 64470	8+60 960R	22770 24190	7+30 970R	249890 186040	6+00 950R	19280 20200

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW: Julius Butchley
Art Clemons

SHEET 5 OF 72 PAGE 5

DATE: August 11, 1986.

PROPERTY ID: LK-009

INSTRUMENT ID NO: LUD 2220 #35641 W/440 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ -3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
6+10, 980R	18330 23610	5+50, 980R	25080 33950	7+20, 990R	106400 110200	5+90, 1000R	15660 20130
6+20, 980R	19570 24530	5+60, 980R	20820 28980	7+30, 990R	99740 104960	6+00, 1000R	24760 26190
6+30, 980R	21790 26860	5+70, 980R	23080 28880	7+40, 990R	90780 108200	6+10, 1000R	24950 27570
6+40, 980R	27060 33180	5+80, 980R	21330 27490	7+50, 990R	185220 147670	6+20, 1000R	33460 35500
6+50, 980R	43860 39980	5+90, 980R	18050 24670	7+60, 990R	88970 12510	6+30, 1000R	40830 47330
6+60, 980R	30510 41590	5+00, 980R	16550 17680	7+70, 990R	216980 160620	6+40, 1000R	60220 60060
6+70, 980R	41820 46910	5+10, 980R	13730 17130	7+80, 990R	138860 147050	6+50, 1000R	60800 66570
6+80, 980R	42380 52170	5+20, 980R	17060 20920	7+90, 990R	119260 125370	6+60, 1000R	43550 81590
6+90, 980R	30640 68860	5+30, 980R		8+00, 990R	60530 77280	6+70, 1000R	90120 85130
7+00, 980R	205560 124850	5+70, 990R	Lumber Lumber	8+10, 990R	32280 53720	6+80, 1000R	71040 79980
7+10, 980R	96340 107140	5+80, 990R	Lumber Lumber	8+20, 990R	32810 48370	6+90, 1000R	107880 105920
7+20, 980R	181720 135280	5+90, 990R	14300 16760	8+30, 990R	32200 49540	7+00, 1000R	120980 122350
7+30, 980R	94540 107870	6+00, 990R	20450 20410	8+40, 990R	39240 67190	7+10, 1000R	156240 133180
7+40, 980R	62490 82350	6+10, 990R	18560 24700	8+50, 990R	59490 82410	7+20, 1000R	118730 121530
7+50, 980R	62130 54630	6+20, 990R	22100 27070	8+60, 990R	32770 74220	7+30, 1000R	106910 119340
7+60, 980R	58270 89770	6+30, 990R	24150 35800	8+70, 990R	30620 66290	7+40, 1000R	122330 132370
7+70, 980R	168240 117410	6+40, 990R	47540 48670	8+80, 990R	22530 43050	7+50, 1000R	190710 176630
7+80, 980R	88750 108840	6+50, 990R	46960 49480	8+90, 990R	24950 32540	7+60, 1000R	173930 169200
7+90, 980R	248370 129710	6+60, 990R	59870 52550	9+00, 990R	22220 25150	7+70, 1000R	168880 180190
8+00, 980R	56910 67150	6+70, 990R	77190 66200	9+10, 990R	23870 25370	7+80, 1000R	228240 179710
8+10, 980R	36610 60460	6+80, 990R	49250 61680	9+20, 990R	19650 26740	7+90, 1000R	221680 177720
8+20, 980R	27230 40450	6+90, 990R	88370 92760			8+00, 1000R	64410 77000
8+30, 980R	25250 31260	7+00, 990R	131140 113490	5+70, 1000R	Lumber Lumber	8+10, 1000R	93610 74150
8+40, 980R	25940 31070	7+10, 990R	112550 121340	5+80, 1000R	Lumber Lumber	8+20, 1000R	46230 57580

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 6 OF 72 PAGE 6

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: L40.2220 #35641 1/4-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
8+30, 1000R	64680	7+00, 1010R	179510	5+70, 1020R	Lumber	8+10, 1020R	74040
8+40, 1000R	113340	7+10, 1010R	179610	5+80, 1020R	Lumber	8+20, 1020R	121630
8+50, 1000R	113940	7+20, 1010R	194910	5+90, 1020R	Lumber	8+30, 1020R	133540
8+60, 1000R	266460	7+30, 1010R	200970	6+00, 1020R	Lumber	8+40, 1020R	134370
8+70, 1000R	181530	7+40, 1010R	164260	6+10, 1020R	16120	8+50, 1020R	167710
8+80, 1000R	464870	7+50, 1010R	181800	6+20, 1020R	20570	8+60, 1020R	162100
8+90, 1000R	206000	7+60, 1010R	216620	6+30, 1020R	21940	8+70, 1020R	201400
9+00, 1000R	70040	7+70, 1010R	184340	6+40, 1020R	24120	8+80, 1020R	173340
9+10, 1000R	144910	7+80, 1010R	196680	6+50, 1020R	29360	8+90, 1020R	77760
9+20, 1000R	41160	7+90, 1010R	184840	6+60, 1020R	33420	9+00, 1020R	115940
9+30, 1000R	71960	8+00, 1010R	239110	6+70, 1020R	44760	9+10, 1020R	100040
9+40, 1000R	32920	8+10, 1010R	210510	6+80, 1020R	48170	9+20, 1020R	109190
9+50, 1000R	43790	8+20, 1010R	134930	6+90, 1020R	112530	9+30, 1020R	64410
9+60, 1000R	22300	8+30, 1010R	190050	7+00, 1020R	88570	9+40, 1020R	90550
9+70, 1000R	29700	8+40, 1010R	251020	7+10, 1020R	190130	9+50, 1020R	335080
9+80, 1000R	23180	8+50, 1010R	226670	7+20, 1020R	133250	9+60, 1020R	109960
9+90, 1000R	27160	8+60, 1010R	241080	7+30, 1020R	139020	9+70, 1020R	51590
10+00, 1000R	105560	8+70, 1010R	243030	7+40, 1020R	179200	9+80, 1020R	53090
	54680	8+80, 1010R	260220	7+50, 1020R	140210	9+90, 1020R	20710
		8+90, 1010R	232830	7+60, 1020R	140210	10+00, 1020R	27970
		9+00, 1010R	91370	7+70, 1020R	239700	10+10, 1020R	19720
		9+10, 1010R	140820	7+80, 1020R	147190	10+20, 1020R	24020
5+70, 1010R	Lumber	9+20, 1010R	73500	7+90, 1020R	136210	10+30, 1020R	21140
5+80, 1010R	Lumber	9+30, 1010R	103200	7+00, 1020R	148330	10+40, 1020R	25200
5+90, 1010R	Lumber	9+40, 1010R	98020	7+10, 1020R	304100		
6+00, 1010R	Lumber	9+50, 1010R	121620	7+20, 1020R	224990		
6+10, 1010R	Lumber	9+60, 1010R	207040	7+30, 1020R	245960	5+70, 1030R	Lumber
6+20, 1010R	Lumber	9+70, 1010R	160090	7+40, 1020R	229170	5+80, 1030R	Lumber
6+30, 1010R	Lumber	9+80, 1010R	281100	7+50, 1020R	268390	5+90, 1030R	Lumber
6+40, 1010R	Lumber	9+90, 1010R	183150	7+60, 1020R	235370	6+00, 1030R	Lumber
6+50, 1010R	Lumber	10+00, 1010R	221880	7+70, 1020R	256410	6+10, 1030R	Lumber
6+60, 1010R	Lumber	10+10, 1010R	174170	7+80, 1020R	233360	6+20, 1030R	16650
6+70, 1010R	Lumber	10+20, 1010R	152310	7+90, 1020R	201930	6+30, 1030R	21290
6+80, 1010R	Lumber	10+30, 1010R	156780	8+00, 1020R	202820	6+40, 1030R	27190
6+90, 1010R	Lumber	10+40, 1010R	86040	8+10, 1020R	227120	6+50, 1030R	30090
7+00, 1010R	Lumber	10+50, 1010R	99120	8+20, 1020R	236490	6+60, 1030R	27270
7+10, 1010R	Lumber	10+60, 1010R	67960	8+30, 1020R	246100	6+70, 1030R	35460
7+20, 1010R	Lumber	10+70, 1010R	90270	8+40, 1020R	243520	6+80, 1030R	61320
7+30, 1010R	Lumber	10+80, 1010R	42970	8+50, 1020R	273630	6+90, 1030R	57550
7+40, 1010R	Lumber	10+90, 1010R	59440	8+60, 1020R	237400	7+00, 1030R	88370
7+50, 1010R	Lumber	11+00, 1010R	23050	8+70, 1020R	246780	7+10, 1030R	78290
7+60, 1010R	Lumber	11+10, 1010R	21650	8+80, 1020R	357720	7+20, 1030R	52570
7+70, 1010R	Lumber	11+20, 1010R	18180	8+90, 1020R	246780	7+30, 1030R	73520
7+80, 1010R	Lumber	11+30, 1010R	24150	9+00, 1020R	248530	7+40, 1030R	56470
7+90, 1010R	Lumber	11+40, 1010R	21720	9+10, 1020R	279050	7+50, 1030R	82110
8+00, 1010R	Lumber	11+50, 1010R	25480	9+20, 1020R	321430	7+60, 1030R	110070
8+10, 1010R	Lumber	11+60, 1010R	21720	9+30, 1020R	273000	7+70, 1030R	124180
8+20, 1010R	Lumber	11+70, 1010R	154390	9+40, 1020R	128440	7+80, 1030R	110540
		11+80, 1010R		9+50, 1020R	170110	7+90, 1030R	141090

REMARKS: Top readings are contact lower readings are taken @ 1 meter distance, all counts in cPM.

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Bibully
Art Clemons

SHEET 7 OF 72 PAGE 7

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO: LD 2220 #32641 w/44-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
6+50, 1030R	194370	4+20, 1030R	19670	7+90, 1040R	386200	6+60, 1050R	178220
6+90, 1030R	341930	5+20, 1040R	Lumber	8+10, 1040R	301420	6+70, 1050R	145320
7+00, 1030R	317200	5+40, 1040R	Lumber	8+20, 1040R	834070	6+80, 1050R	147260
7+10, 1030R	314250	5+40, 1040R	Lumber	8+30, 1040R	456010	6+90, 1050R	543260
7+20, 1030R	339120	5+90, 1040R	17080	8+40, 1040R	31820	7+00, 1050R	241590
7+30, 1030R	275230	6+00, 1040R	26770	8+50, 1040R	402260	7+10, 1050R	333560
7+40, 1030R	326140	6+00, 1040R	47740	8+60, 1040R	277770	7+20, 1050R	295770
7+50, 1030R	459280	6+10, 1040R	33110	8+70, 1040R	251230	7+30, 1050R	354430
7+60, 1030R	347290	6+20, 1040R	65760	8+80, 1040R	211070	7+40, 1050R	390110
7+70, 1030R	487930	6+30, 1040R	41760	8+90, 1040R	208650	7+50, 1050R	52110
7+80, 1030R	707420	6+40, 1040R	102460	8+00, 1040R	98840	7+60, 1050R	406160
7+90, 1030R	380960	6+50, 1040R	81080	8+10, 1040R	116700	7+70, 1050R	628500
8+00, 1030R	283350	6+60, 1040R	200030	8+20, 1040R	90910	7+80, 1050R	458990
8+10, 1030R	284140	6+70, 1040R	123160	8+30, 1040R	102730	7+90, 1050R	390770
8+20, 1030R	336600	6+80, 1040R	90530	8+40, 1040R	77310	8+00, 1050R	405180
8+30, 1030R	235820	6+90, 1040R	91440	8+50, 1040R	50850	8+10, 1050R	460930
8+40, 1030R	26590	7+00, 1040R	79880	8+60, 1040R	49550	8+20, 1050R	389800
8+50, 1030R	143910	7+10, 1040R	88710	8+70, 1040R	34220	8+30, 1050R	35670
8+60, 1030R	110020	7+20, 1040R	79760	8+80, 1040R	37970	8+40, 1050R	449740
8+70, 1030R	48350	7+30, 1040R	106600	8+90, 1040R	22220	8+50, 1050R	420650
8+80, 1030R	28780	7+40, 1040R	124830	9+00, 1040R	28620	8+60, 1050R	289910
8+90, 1030R	72740	7+50, 1040R	166460	9+10, 1040R	29850	8+70, 1050R	31590
9+00, 1030R	21880	7+60, 1040R	448410	9+20, 1040R	365250	8+80, 1050R	284310
9+10, 1030R	18450	7+70, 1040R	207080	9+30, 1040R	325450	8+90, 1050R	391850
		7+80, 1040R	279460	9+40, 1040R	13520	9+00, 1050R	470560
		7+90, 1040R	262450	9+50, 1040R	14290	9+10, 1050R	344530
		8+00, 1040R	376820	9+60, 1040R	13850	9+20, 1050R	388270
		8+10, 1040R	277370	9+70, 1040R	13230	9+30, 1050R	234300
		8+20, 1040R	407540	9+80, 1040R	20530	9+40, 1050R	295270
		8+30, 1040R	341200	9+90, 1040R	21760	9+50, 1050R	482210
		8+40, 1040R	415220	10+00, 1040R	30610	9+60, 1050R	413200
		8+50, 1040R	368810	10+10, 1040R	26780	9+70, 1050R	237890
		8+60, 1040R	556260	10+20, 1040R	43560	9+80, 1050R	212500
		8+70, 1040R	410980	10+30, 1040R	36830	9+90, 1050R	153290
		8+80, 1040R	279160	10+40, 1040R	69870	10+00, 1050R	115760
		8+90, 1040R	339770	10+50, 1040R	61230	10+10, 1050R	101030
		9+00, 1040R	405310	10+60, 1040R	137180	10+20, 1050R	96740
		9+10, 1040R	366910	10+70, 1040R	101390	10+30, 1050R	71040
		9+20, 1040R	541050	10+80, 1040R	227120	10+40, 1050R	73870
		9+30, 1040R	477910	10+90, 1040R	141490	10+50, 1050R	
		9+40, 1040R	389510	11+00, 1040R	326530		
		9+50, 1040R	490230		215340		

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW: Julius Bissell
Art Clemens

SHEET 8 OF 72 PAGE 8

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: LID. 2220 #35641 #44-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
4+00, 1060R	65460 61320	6+40, 1060R	51310 77230	8+20, 1060R	114580 109150	6+20, 1070R	32750 43970
4+10, 1050R	30060 38420	4+50, 1060R	76420 91980	8+30, 1060R	102440 98320	6+30, 1070R	68630 71570
4+20, 1050R	20760 32880	6+60, 1060R	76570 117800	9+00, 1060R	92720 91780	6+40, 1070R	144430 119770
		6+70, 1060R	119040 161170	4+10, 1060R	68910 63080	6+50, 1070R	149180 119380
4+40, 1060R	11080 10790	6+80, 1060R	51750 34280	9+20, 1060R	56960 58410	6+60, 1070R	157390 139630
4+50, 1060R	9780 10360	6+90, 1060R	675830 451640			6+70, 1070R	172830 153090
4+60, 1060R	10540 11220	7+00, 1060R	356200 344430	4+40, 1070R	11510 11130	6+80, 1070R	220200 203650
4+70, 1060R	10780 11660	7+10, 1060R	461620 339500	4+50, 1070R	11540 11590	6+90, 1070R	233130 256120
4+80, 1060R	10780 11890	7+20, 1060R	293790 330270	4+60, 1070R	11560 11590	7+00, 1070R	207230 233730
4+90, 1060R	12080 12140	7+30, 1060R	227520 281130	4+70, 1070R	10610 12480	7+10, 1070R	343520 245370
5+00, 1060R	11530 13570	7+40, 1060R	235560 320530	4+80, 1070R	11710 13090	7+20, 1070R	235150 218920
5+10, 1060R	12800 13660	7+50, 1060R	253030 319200	4+90, 1070R	13080 15060	7+30, 1070R	394770 289910
5+20, 1060R	12850 13940	7+60, 1060R	161400 227300	5+00, 1070R	40280 19600	7+40, 1070R	693570 416140
5+30, 1060R	13000 14160	7+70, 1060R	242980 142120	5+10, 1070R	42720 21590	7+50, 1070R	345890 299540
5+40, 1060R	13100 14730	7+80, 1060R	182240 209830	5+20, 1070R	21270 19390	7+60, 1070R	301390 223100
5+50, 1060R	13830 15730	7+90, 1060R	207060 195890	5+30, 1070R	17920 18130	7+70, 1070R	166450 166450
5+60, 1060R	14130 17010	8+00, 1060R	222280 235110	5+40, 1070R	20280 19620	7+80, 1070R	231380 200220
5+70, 1060R	17370 18390	8+10, 1060R	279950 262460	5+50, 1070R	63030 28520	7+90, 1070R	175770 173250
5+80, 1060R	19150 20170	8+20, 1060R	283000 265680	5+60, 1070R	45800 26690	8+00, 1070R	132740 172290
5+90, 1060R	22950 24560	8+30, 1060R	300330 227700	5+70, 1070R	24310 23260	8+10, 1070R	110040 136450
6+00, 1060R	35340 31900	8+40, 1060R	246730 230050	5+80, 1070R	20180 26800	8+20, 1070R	123930 144080
6+10, 1060R	50010 41360	8+50, 1060R	333320 260490	5+90, 1070R	56540 34910	8+30, 1070R	330350 170000
6+20, 1060R	50380 53180	8+60, 1060R	170210 162400	6+00, 1070R	44450 35740	8+40, 1070R	65940 92600
6+30, 1060R	45000 57160	8+70, 1060R	144590 125800	6+10, 1070R	36810 38830	8+50, 1070R	159470 128760

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW: Julius Bittely
Art Clemons

SHEET 9 OF 72 PAGE 9

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD.2220#35641#4-10#22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/1MIN

AREA:		AREA:		AREA:		AREA:	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
8+60, 1070R	238080 164690	6+00, 1080R	27180 31150	5+40, 1080R	51180 50050	4+80, 1090R	10020 19360
8+70, 1070R	103600 90320	6+10, 1080R	43880 38530	5+50, 1080R	39780 46870	4+90, 1090R	9690 13550
8+80, 1070R	55170 61580	6+20, 1080R	42680 69530	5+60, 1090R	35150 42740	5+00, 1090R	9520 14810
8+90, 1070R	7240 66960	6+30, 1080R	165050 125700	5+70, 1080R	34360 45410	5+10, 1090R	9950 13640
9+00, 1070R	82920 89050	6+40, 1080R	108300 104460	5+80, 1080R	33400 37590	5+20, 1090R	9710 13840
9+10, 1070R	54620 58460	6+50, 1080R	241810 126320	5+90, 1080R	35610 38770	5+30, 1090R	17210 15200
9+20, 1070R	51710 59500	6+00, 1080R	115870 104520	9+00, 1080R	32220 37900	5+40, 1090R	14840 15450
		6+70, 1080R	113410 131720	9+10, 1080R	26140 35400	5+50, 1090R	13400 16120
4+40, 1080R	22090 14470	6+80, 1080R	191770 186790	9+20, 1080R	29400 30910	5+60, 1090R	13010 17520
4+50, 1080R	10130 2110	6+90, 1080R	137960 231680	9+30, 1080R	23120 25410	5+70, 1090R	12700 21150
4+60, 1080R	15250 16630	7+00, 1080R	203620 263330	9+40, 1080R	21510 23650	5+80, 1090R	14970 2520
4+70, 1080R	21210 20220	7+10, 1080R	137910 150760	9+50, 1080R	19880 22660	5+90, 1090R	15510 22220
4+80, 1080R	34490 24980	7+20, 1080R	225570 167270	9+60, 1080R	19980 21570	6+00, 1090R	18430 28990
4+90, 1080R	16150 19090	7+30, 1080R	192840 207220	9+70, 1080R	18800 21380	6+10, 1090R	20760 29350
5+00, 1080R	19930 17890	7+40, 1080R	256200 233450	9+80, 1080R	17490 19950	6+20, 1090R	26460 42070
5+10, 1080R	33670 25770	7+50, 1080R	287800 191450	9+90, 1080R	15540 16820	6+30, 1090R	24810 35700
5+20, 1080R	30150 24490	7+60, 1080R	153510 161170	10+00, 1080R	16320 16190	6+40, 1090R	31660 51770
5+30, 1080R	12220 18620	7+70, 1080R	154980 151850	10+10, 1080R	13220 14550	6+50, 1090R	44310 67630
5+40, 1080R	13520 18820	7+80, 1080R	208930 221690	10+20, 1080R	13770 14220	6+60, 1090R	45700 80550
5+50, 1080R	33020 27210	7+90, 1080R	211400 248660			6+70, 1090R	50050 70860
5+60, 1080R	21470 22780	8+00, 1080R	193760 160740	4+40, 1090R	7880 9780	6+80, 1090R	44580 95470
5+70, 1080R	18630 19980	8+10, 1080R	200340 136600	4+50, 1090R	8940 10840	6+90, 1090R	46910 121790
5+80, 1080R	24500 24960	8+20, 1080R	105980 108530	4+60, 1090R	11350 11650	7+00, 1090R	71920 139470
5+90, 1080R	31620 27520	8+30, 1080R	69570 69800	4+70, 1090R	12370 13850	7+10, 1090R	82150 116930

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Babilly
Art Clemons

SHEET 10 OF 72 PAGE 10

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: Lot. 2220 #35641 w/44-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
7+20, 1090R	62660 126630	9+60, 1090R	26510 26510	7+30, 1100R	28490 43460	9+70, 1100R	25490 27230
7+30, 1090R	100770 125780	9+70, 1090R	54230 35740	7+40, 1100R	44450 45570	9+80, 1100R	27810 26810
7+40, 1090R	105630 139640	9+80, 1090R	13740 46700	7+50, 1100R	26550 45000	9+90, 1100R	19850 17160
7+50, 1090R	68170 88060	9+90, 1090R	22080 23610	7+60, 1100R	32060 44690	10+00, 1100R	11560 14350
7+60, 1090R	67820 89110	10+00, 1090R	13940 16170	7+70, 1100R	44420 61580	10+10, 1100R	13370 12320
7+70, 1090R	51930 88070	10+10, 1090R	13980 14180	7+80, 1100R	81580 73380	10+20, 1100R	11160 10960
7+80, 1090R	61400 104970	10+20, 1090R	14070 14760	7+90, 1100R	42410 61520		
7+90, 1090R	62460 114110			8+00, 1100R	43840 47950	7+40, 1110R	RAIL ROAD
8+00, 1090R	65650 86730	5+70, 1100R	15180 16380	8+10, 1100R	38190 42940	7+50, 1110R	28800 32130
8+10, 1090R	46150 65570	5+80, 1100R	16480 16630	8+20, 1100R	34440 37000	7+60, 1110R	21710 31260
8+20, 1090R	48930 57920	5+90, 1100R	18490 18350	8+30, 1100R	24350 20660	7+70, 1110R	20100 33290
8+30, 1090R	31050 47030	6+00, 1100R	20530 19570	8+40, 1100R	25640 32290	7+80, 1110R	24700 31320
8+40, 1090R	28950 38180	6+10, 1100R	18630 19580	8+50, 1100R	26760 33570	7+90, 1110R	21500 28580
8+50, 1090R	34240 39960	6+20, 1100R	19700 22810	8+60, 1100R	39740 45380	8+00, 1110R	24600 30430
8+60, 1090R	30180 39810	6+30, 1100R	18440 23560	8+70, 1100R	72710 56180	8+10, 1110R	23740 29930
8+70, 1090R	27000 34610	6+40, 1100R	21290 26280	8+80, 1100R	88760 63950	8+20, 1110R	24230 27230
8+80, 1090R	27390 27390	6+50, 1100R	22510 29200	8+90, 1100R	30470 44480	8+30, 1110R	22640 26940
8+90, 1090R	23560 31990	6+60, 1100R	23130 31330	9+00, 1100R	23230 38130	8+40, 1110R	21890 27400
9+00, 1090R	26930 31730	6+70, 1100R	21910 28410	9+10, 1100R	28540 36550	8+50, 1110R	21400 26030
9+10, 1090R	25260 32980	6+80, 1100R	33320 34430	9+20, 1100R	53440 48740	8+60, 1110R	25040 27860
9+20, 1090R	22620 27620	6+90, 1100R	17810 36950	9+30, 1100R	38250 39080	8+70, 1110R	31040 35130
9+30, 1090R	25460 27280	7+00, 1100R	24240 38350	9+40, 1100R	21350 26270	8+80, 1110R	43190 31850
9+40, 1090R	22850 24790	7+10, 1100R	23740 39820	9+50, 1100R	19130 22240	8+90, 1110R	24630 28560
9+50, 1090R	25840 24740	7+20, 1100R	20720 38180	9+60, 1100R	20650 22210	9+00, 1110R	19660 28510

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all counts in CPM.

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Bitulky
Art Clemons

SHEET 11 OF 72 PAGE 11
DATE: August 12, 1986
PROPERTY ID: LK-009

INSTRUMENT ID NO.: LD. 2220 #35641 / 4-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
8+10, 1110R	14710	8+80, 1120R	17100	8+90, 1130R	16350	9+50, 1140R	13560
9+20, 1110R	28780	8+90, 1120R	16530	9+00, 1130R	15930	9+60, 1140R	22670
9+30, 1110R	30910	9+00, 1120R	16050	9+10, 1130R	15440	9+70, 1140R	22560
9+40, 1110R	76540	9+10, 1120R	16190	9+20, 1130R	15980	9+80, 1140R	20490
9+50, 1110R	90940	9+20, 1120R	16900	9+30, 1130R	16930	9+90, 1140R	31030
9+60, 1110R	24780	9+30, 1120R	16170	9+40, 1130R	15460	9+00, 1140R	35040
9+70, 1110R	37120	9+40, 1120R	15650	9+50, 1130R	18200	10+00, 1140R	16770
9+80, 1110R	27310	9+50, 1120R	19230	9+60, 1130R	19480	10+10, 1140R	11130
9+90, 1110R	15490	9+60, 1120R	24780	9+70, 1130R	19090	10+20, 1140R	9780
10+00, 1110R	13050	9+70, 1120R	27850	9+80, 1130R	27080		
10+10, 1110R	11660	9+80, 1120R	20830	9+90, 1130R	38510	8+70, 1150R	RAIL ROAD
10+20, 1110R	10430	9+90, 1120R	21540	10+00, 1130R	37340	8+80, 1150R	12550
		10+00, 1120R	13600	10+10, 1130R	27180	8+90, 1150R	15060
		10+10, 1120R	13600	10+20, 1130R	13300	9+00, 1150R	13540
7+70, 1120R	RAIL ROAD	10+20, 1120R	14520	11+00, 1130R	15120	9+10, 1150R	14850
7+80, 1120R	17890	10+30, 1120R	10940	11+10, 1130R	11520	9+20, 1150R	15030
7+90, 1120R	18760	11+00, 1120R	9900	11+20, 1130R	12820	9+30, 1150R	14010
8+00, 1120R	18760	11+10, 1120R	10940	11+30, 1130R	10840	9+40, 1150R	15720
8+10, 1120R	18760	11+20, 1120R	13300	8+60, 1140R	RAIL ROAD	9+50, 1150R	14890
8+20, 1120R	18760	11+30, 1120R	10940	8+70, 1140R	14600	9+60, 1150R	15560
8+30, 1120R	18760	11+40, 1120R	13300	8+80, 1140R	15970	9+70, 1150R	14410
8+40, 1120R	18760	11+50, 1120R	13300	8+90, 1140R	13680	9+80, 1150R	15660
8+50, 1120R	18760	12+00, 1120R	13300	9+00, 1140R	16320	9+90, 1150R	14880
8+60, 1120R	18760	12+10, 1120R	13300	9+10, 1140R	14920	10+00, 1150R	14510
8+70, 1120R	18760	12+20, 1120R	13300	9+20, 1140R	15760	10+10, 1150R	15170
8+80, 1120R	18760	12+30, 1120R	13300	9+30, 1140R	14700	10+20, 1150R	16330
8+90, 1120R	18760	12+40, 1120R	13300	9+40, 1140R	16550	10+30, 1150R	16630
9+00, 1120R	18760	12+50, 1120R	13300	9+50, 1140R	14720	10+40, 1150R	16410
9+10, 1120R	18760	13+00, 1120R	13300	9+60, 1140R	16070	10+50, 1150R	17290
9+20, 1120R	18760	13+10, 1120R	13300	9+70, 1140R	18130	10+60, 1150R	22900
9+30, 1120R	18760	13+20, 1120R	13300	9+80, 1140R	18170	10+70, 1150R	22500
9+40, 1120R	18760	13+30, 1120R	13300	9+90, 1140R	14560	10+80, 1150R	53550
9+50, 1120R	18760	13+40, 1120R	13300	10+00, 1140R	14850	10+90, 1150R	41080
9+60, 1120R	18760	13+50, 1120R	13300	10+10, 1140R	14280	11+00, 1150R	26690
9+70, 1120R	18760	14+00, 1120R	13300	10+20, 1140R	14000	11+10, 1150R	26600
9+80, 1120R	18760	14+10, 1120R	13300				
9+90, 1120R	18760	14+20, 1120R	13300				
10+00, 1120R	18760	14+30, 1120R	13300				
10+10, 1120R	18760	14+40, 1120R	13300				
10+20, 1120R	18760	14+50, 1120R	13300				
10+30, 1120R	18760	15+00, 1120R	13300				
10+40, 1120R	18760	15+10, 1120R	13300				
10+50, 1120R	18760	15+20, 1120R	13300				
10+60, 1120R	18760	15+30, 1120R	13300				
10+70, 1120R	18760	15+40, 1120R	13300				
10+80, 1120R	18760	15+50, 1120R	13300				
10+90, 1120R	18760	16+00, 1120R	13300				
11+00, 1120R	18760	16+10, 1120R	13300				
11+10, 1120R	18760	16+20, 1120R	13300				
11+20, 1120R	18760	16+30, 1120R	13300				
11+30, 1120R	18760	16+40, 1120R	13300				
11+40, 1120R	18760	16+50, 1120R	13300				
11+50, 1120R	18760	17+00, 1120R	13300				
11+60, 1120R	18760	17+10, 1120R	13300				
11+70, 1120R	18760	17+20, 1120R	13300				
11+80, 1120R	18760	17+30, 1120R	13300				
11+90, 1120R	18760	17+40, 1120R	13300				
12+00, 1120R	18760	17+50, 1120R	13300				
12+10, 1120R	18760	18+00, 1120R	13300				
12+20, 1120R	18760	18+10, 1120R	13300				
12+30, 1120R	18760	18+20, 1120R	13300				
12+40, 1120R	18760	18+30, 1120R	13300				
12+50, 1120R	18760	18+40, 1120R	13300				
13+00, 1120R	18760	18+50, 1120R	13300				
13+10, 1120R	18760	19+00, 1120R	13300				
13+20, 1120R	18760	19+10, 1120R	13300				
13+30, 1120R	18760	19+20, 1120R	13300				
13+40, 1120R	18760	19+30, 1120R	13300				
13+50, 1120R	18760	19+40, 1120R	13300				
14+00, 1120R	18760	19+50, 1120R	13300				
14+10, 1120R	18760	20+00, 1120R	13300				
14+20, 1120R	18760	20+10, 1120R	13300				
14+30, 1120R	18760	20+20, 1120R	13300				
14+40, 1120R	18760	20+30, 1120R	13300				
14+50, 1120R	18760	20+40, 1120R	13300				
15+00, 1120R	18760	20+50, 1120R	13300				
15+10, 1120R	18760	21+00, 1120R	13300				
15+20, 1120R	18760	21+10, 1120R	13300				
15+30, 1120R	18760	21+20, 1120R	13300				
15+40, 1120R	18760	21+30, 1120R	13300				
15+50, 1120R	18760	21+40, 1120R	13300				
16+00, 1120R	18760	21+50, 1120R	13300				
16+10, 1120R	18760	22+00, 1120R	13300				
16+20, 1120R	18760	22+10, 1120R	13300				
16+30, 1120R	18760	22+20, 1120R	13300				
16+40, 1120R	18760	22+30, 1120R	13300				
16+50, 1120R	18760	22+40, 1120R	13300				
17+00, 1120R	18760	22+50, 1120R	13300				
17+10, 1120R	18760	23+00, 1120R	13300				
17+20, 1120R	18760	23+10, 1120R	13300				
17+30, 1120R	18760	23+20, 1120R	13300				
17+40, 1120R	18760	23+30, 1120R	13300				
17+50, 1120R	18760	23+40, 1120R	13300				
18+00, 1120R	18760	23+50, 1120R	13300				
18+10, 1120R	18760	24+00, 1120R	13300				
18+20, 1120R	18760	24+10, 1120R	13300				
18+30, 1120R	18760	24+20, 1120R	13300				
18+40, 1120R	18760	24+30, 1120R	13300				
18+50, 1120R	18760	24+40, 1120R	13300				
19+00, 1120R	18760	24+50, 1120R	13300				
19+10, 1120R	18760	25+00, 1120R	13300				
19+20, 1120R	18760	25+10, 1120R	13300				
19+30, 1120R	18760	25+20, 1120R	13300				
19+40, 1120R	18760	25+30, 1120R	13300				
19+50, 1120R	18760	25+40, 1120R	13300				
20+00, 1120R	18760	25+50, 1120R	13300				
20+10, 1120R	18760	26+00, 1120R	13300				
20+20, 1120R	18760	26+10, 1120R	13300				
20+30, 1120R	18760	26+20, 1120R	13300				
20+40, 1120R	18760	26+30, 1120R	13300				
20+50, 1120R	18760	26+40, 1120R	13300				
21+00, 1120R	18760	26+50, 1120R	13300				
21+10, 1120R	18760	27+00, 1120R	13300				
21+20, 1120R	18760	27+10, 1120R	13300				
21+30, 1120R	18760	27+20, 1120R	13300				
21+40, 1120R	18760	27+30, 1120R	13300				
21+50, 1120R	18760	27+40, 1120R	13300				
22+00, 1120R	18760	27+50, 1120R	13300				
22+10, 1120R	18760	28+00, 1120R	13300				
22+20, 1120R	18760	28+10, 1120R	13300				
22+30, 1120R	18760	28+20, 1120R	13300				
22+40, 1120R	18760	28+30, 1120R	13300				
22+50, 1120R	18760	28+40, 1120R	13300				
23+00, 1120R	18760	28+50, 1120R	13300				
23+10, 1120R	187						

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Butuly
Art Clemons

SHEET 12 OF 72 PAGE 12
DATE: August 12, 1986
PROPERTY ID: LK-009

INSTRUMENT ID NO.: LVO. 2220 #35641 74-10 #2183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
10+20, 1150R	9920 10790	9+80, 1170R	13250 17820	10+10, 1190R	13180 15350	11+70, 1200R	11130 11640
		9+90, 1170R	24970 51230	10+20, 1190R	12200 12960	11+80, 1200R	12760 12330
8+90, 1160R	Rail ROAD	10+00, 1170R	62270 43850			11+90, 1200R	13030 12840
9+00, 1160R	11980 13830	10+10, 1170R	12240 15690	9+60, 1200R	Rail ROAD	12+00, 1200R	12220 8970
9+10, 1160R	12450 11910	10+20, 1170R	8880 11160	9+70, 1200R	12340 12360	12+10, 1200R	10620 10260
9+20, 1160R	12200 11920			9+80, 1200R	11410 12230	12+20, 1200R	8590 9790
9+30, 1160R	13240 13580	9+30, 1180R	Rail ROAD	9+90, 1200R	59900 19390	12+30, 1200R	10260 1090.
9+40, 1160R	12800 12670	9+40, 1180R	11980 11520	10+00, 1200R	14480 14450	12+40, 1200R	9790 10480
9+50, 1160R	13660 12880	9+50, 1180R	11430 12370	10+10, 1200R	12090 15300	12+50, 1200R	10920 10420
9+60, 1160R	13000 13870	9+60, 1180R	13250 13390	10+20, 1200R	12820 17510	12+60, 1200R	10940 11060
9+70, 1160R	13300 14120	9+70, 1180R	16270 15630	10+30, 1200R	16840 12830	12+70, 1200R	11350 10360
9+80, 1160R	13960 18800	9+80, 1180R	13800 14850	10+40, 1200R	11470 12350	12+80, 1200R	11010 11130
9+90, 1160R	135690 52040	9+90, 1180R	14830 19650	10+50, 1200R	11630 12460	12+90, 1200R	8990 9650
10+00, 1160R	88690 40770	10+00, 1180R	30300 26250	10+60, 1200R	12450 12720	13+00, 1200R	10400 10120
10+10, 1160R	12190 13230	10+10, 1180R	10560 16060	10+70, 1200R	11810 14060	13+10, 1200R	13220 12430
10+20, 1160R	9600 9650	10+20, 1180R	10260 11840	10+80, 1200R	60900 24640	13+20, 1200R	Property Sunday
				10+90, 1200R	20840 27500		
9+10, 1170R	Rail ROAD	9+10, 1190R	Rail ROAD	11+00, 1200R	30450 24140	9+90, 1210R	Rail ROAD
9+20, 1170R	11790 14650	9+50, 1190R	10450 1680	11+10, 1200R	15960 18210	10+00, 1210R	9760 13410
9+30, 1170R	12690 13240	9+60, 1190R	11440 13490	11+20, 1200R	26350 24270	10+10, 1210R	12060 12940
9+40, 1170R	12430 14030	9+70, 1190R	11970 14140	11+30, 1200R	17640 19390	10+20, 1210R	13320 14240
9+50, 1170R	13390 13870	9+80, 1190R	13350 14580	11+40, 1200R	14590 13830	10+30, 1210R	18570 15290
9+60, 1170R	12640 14010	9+90, 1190R	15180 15960	11+50, 1200R	10620 11460	10+40, 1210R	11310 12660
9+70, 1170R	13600 15280	10+00, 1190R	16170 17860	11+60, 1200R	11620 10920	10+50, 1210R	12040 12320

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all readings in counts per minute (CPM).

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW: Julius B. Bulby
Art Clemons

SHEET 13 OF 72 PAGE 13

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: LVO. 2220 #35641 744-10 #2283

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
10+60, 1210R	12750 13050	13+00, 1210R	11330 11030	12+10, 1220R	10920 10660	11+50, 1230R	13900 12150
10+70, 1210R	11670 13050	13+10, 1210R	12670 12410	12+20, 1220R	11370 10960	11+60, 1230R	13610 12780
10+80, 1210R	12260 13980	13+20, 1210R	PROPERTY BOUNDARY	12+30, 1220R	10970 11110	11+70, 1230R	12480 12050
10+90, 1210R	13750 15050	10+10, 1220R	Rail Road	12+40, 1220R	11600 10330	11+80, 1230R	13150 12760
11+00, 1210R	19240 16270	10+20, 1220R	8060 10640	12+50, 1220R	10580 10330	11+90, 1230R	13170 11950
11+10, 1210R	16310 16500	10+30, 1220R	10930 11020	12+60, 1220R	10700 10670	12+00, 1230R	12120 11530
11+20, 1210R	14820 15520	10+40, 1220R	12050 12430	12+70, 1220R	10590 9990	12+10, 1230R	11680 10590
11+30, 1210R	12190 13660	10+50, 1220R	13150 12200	12+80, 1220R	11260 10730	12+20, 1230R	11900 11330
11+40, 1210R	13550 12620	10+60, 1220R	13180 13930	12+90, 1220R	10540 10630	12+30, 1230R	11590 10990
11+50, 1210R	12050 11790	10+70, 1220R	12390 11800	13+00, 1220R	11140 10870	12+40, 1230R	10260 10840
11+60, 1210R	10200 10950	10+80, 1220R	11430 12630	13+10, 1220R	11630 10540	12+50, 1230R	10560 10630
11+70, 1210R	10250 11740	10+90, 1220R	12620 12450	13+20, 1220R	PROPERTY BOUNDARY	12+60, 1230R	10830 10180
11+80, 1210R	13480 12870	11+00, 1220R	12890 12420	10+40, 1230R	Rail Road	12+70, 1230R	10070 10690
11+90, 1210R	13940 13100	11+10, 1220R	11580 12380	10+50, 1230R	12990 12270	12+80, 1230R	9770 10120
12+00, 1210R	11120 11720	11+20, 1220R	12200 12140	10+60, 1230R	14440 14060	13+30, 1230R	9620 10470
12+10, 1210R	10800 10550	11+30, 1220R	11840 12230	10+70, 1230R	15960 14200	13+40, 1230R	10760 10750
12+20, 1210R	9690 10110	11+40, 1220R	10700 11630	10+80, 1230R	15140 14420	13+50, 1230R	11420 11530
12+30, 1210R	10550 10400	11+50, 1220R	12840 12250	10+90, 1230R	13800 14050	13+60, 1230R	PROPERTY BOUNDARY
12+40, 1210R	9650 10310	11+60, 1220R	11120 11430	11+00, 1230R	17130 14000	10+60, 1240R	Rail Road
12+50, 1210R	9910 10410	11+70, 1220R	11410 12070	11+10, 1230R	13950 12900	10+70, 1240R	13650 12740
12+60, 1210R	10680 11030	11+80, 1220R	14700 13100	11+20, 1230R	11230 12160	10+80, 1240R	13970 12840
12+70, 1210R	12440 11380	11+90, 1220R	12750 12660	11+30, 1230R	11850 12280	10+90, 1240R	14770 13840
12+80, 1210R	12400 10810	12+00, 1220R	10720 11440	11+40, 1230R	12060 12540	11+00, 1240R	12720 12250

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all readings in counts per minute (CPM).

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW: Julius Butuly
Art Clemons

SHEET 14 OF 72 PAGE 14

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: L40.2220 #35641 744-10 #2283

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/.1MIN

AREA:		AREA:		AREA:		AREA:	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
11+10, 1240R	12660 13380	11+00, 1250R	11710 11390	11+00, 1260R	RAIL ROAD		
11+20, 1240R	12440 11810	11+10, 1250R	11970 12370	11+70, 1260R	11290 10180		
11+30, 1240R	11150 11700	11+20, 1250R	12020 12170	11+80, 1260R	9620 10830		
11+40, 1240R	10940 12060	11+30, 1250R	12160 11620	11+90, 1260R	10410 10670		
11+50, 1240R	10230 11790	11+40, 1250R	11470 9320	12+00, 1260R	9890 9790		
11+60, 1240R	12720 11270	11+50, 1250R	10640 10860	12+10, 1260R	9280 10020		
11+70, 1240R	11450 12170	11+60, 1250R	9300 10410	12+20, 1260R	8350 9640		
11+80, 1240R	12660 11840	11+70, 1250R	9170 9860	12+30, 1260R	9650 9620		
11+90, 1240R	11660 11750	11+80, 1250R	10300 11420	12+40, 1260R	9680 10280		
12+00, 1240R	11770 10910	11+90, 1250R	9930 10790	12+50, 1260R	9050 8740		
12+10, 1240R	12320 10250	12+00, 1250R	8710 9840	12+60, 1260R	8960 9520		
12+20, 1240R	11900 10890	12+10, 1250R	8750 9950	12+70, 1260R	8640 9600		
12+30, 1240R	12480 11520	12+20, 1250R	8760 9190	12+80, 1260R	10350 9410		
12+40, 1240R	9510 9410	12+30, 1250R	9210 9650	12+90, 1260R	10830 9600		
12+50, 1240R	8500 9650	12+40, 1250R	10050 9410	13+00, 1260R	13200 10390		
12+60, 1240R	8560 9660	12+50, 1250R	10790 10000	13+10, 1260R	11550 10860		
12+70, 1240R	9720 9700	12+60, 1250R	9500 9400	13+20, 1260R	PROPERTY BOUNDARY		
12+80, 1240R	9360 9240	12+70, 1250R	9250 9880				
12+90, 1240R	9370 8850	12+80, 1250R	10890 10250				
13+00, 1240R	9890 9950	12+90, 1250R	11630 9970				
13+10, 1240R	9500 10050	13+00, 1250R	10820 10040				
13+20, 1240R	PROPERTY BOUNDARY	13+10, 1250R	12110 10590				
		13+20, 1250R	PROPERTY BOUNDARY				
10+90, 1250R	RAIL ROAD						

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all readings in counts per minute (CPM).

OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET

LOGGING CREW:

Julius Butuly
Art Cimons

SHEET 15 OF 72 PAGE 15

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: LV0.2220 #3564: 7/4-10 #22183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ - 3 = 8431 COUNTS/.1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN	POINT ID	READING COUNTS/.1MIN
1+40 1140R	RAIL ROAD	1+20 1170R	42260 27730	1+10 1190R	15850 15890	1+00 1210R	51520 29310
1+50 1140R	7610 9560	1+30 1170R	37100 32770	1+20 1190R	25450 24680	1+10 1210R	18570 21200
1+40 1140R	6890 70320	1+40 1170R	29100 28440	1+30 1190R	37130 33000	1+20 1210R	20440 19930
1+70 1140R	10310 9940	1+50 1170R	26710 22540	1+40 1190R	27580 24710	1+30 1210R	19250 26300
		1+60 1170R	12320 13010	1+50 1190R	20080 20320	1+40 1210R	42730 38450
1+20 1150R	RAIL ROAD	1+70 1170R	9790 10220	1+60 1190R	10110 10970	1+50 1210R	10720 13890
1+30 1150R	8180 11450			1+70 1190R	11730 9360	1+60 1210R	9470 10470
1+40 1150R	8170 16140	0+70 1180R	RAIL ROAD			1+70 1210R	9090 9100
1+50 1150R	49020 23840	0+80 1180R	5380 8450	0+60 1200R	RAIL ROAD		
1+60 1150R	29340 18140	0+90 1180R	11300 13810	0+70 1200R	13320 14210	0+60 1220R	18470 19290
1+70 1150R	11100 11520	1+00 1180R	19900 20670	0+80 1200R	20990 15280	0+70 1220R	21150 16320
		1+10 1180R	15430 19560	0+90 1200R	15410 18810	0+80 1220R	17720 15060
1+00 1160R	RAIL ROAD	1+20 1180R	27830 28990	1+00 1200R	15150 16620	0+90 1220R	16240 15430
1+10 1160R	7590 9440	1+30 1180R	47200 45560	1+10 1200R	15140 15230	1+00 1220R	38990 23420
1+20 1160R	9000 14690	1+40 1180R	29730 30920	1+20 1200R	36130 20870	1+10 1220R	19650 15970
1+30 1160R	62180 35230	1+50 1180R	21770 21670	1+30 1200R	15800 19500	1+20 1220R	21080 19440
1+40 1160R	25350 23790	1+60 1180R	10230 11380	1+40 1200R	15760 24680	1+30 1220R	29590 23380
1+50 1160R	22370 21050	1+70 1180R	11020 10220	1+50 1200R	19250 15710	1+40 1220R	21570 21460
1+60 1160R	13130 14120			1+60 1200R	4780 11400	1+50 1220R	12480 13890
1+70 1160R	10420 11310	0+60 1190R	RAIL ROAD	1+70 1200R	9810 9020	1+60 1220R	9300 5640
		0+70 1190R	16890 9130			1+70 1220R	8760 9370
0+90 1170R	RAIL ROAD	0+80 1190R	16690 12260	0+70 1210R	16290 16700		
1+00 1170R	8080 13090	0+90 1190R	15370 17280	0+80 1210R	14020 15110	0+70 1230R	13940 14360
1+10 1170R	48507 27860	1+00 1190R	16720 18950	0+90 1210R	16270 15840	0+80 1230R	16940 13620

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all readings in counts per minute (CPM).

**OUTDOOR GAMMA SCREENING
SURVEY DATA SHEET**

LOGGING CREW:

Julius Butuly
Art Clemons

SHEET 16 OF 72 PAGE 16

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO.: 140.2220 #35641 14-10 #2183

BACKGROUND CALCULATION:

#1 _____ + #2 _____ + #3 _____ = _____ + 3 = 8431 COUNTS/1MIN

AREA: _____		AREA: _____		AREA: _____		AREA: _____	
POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN	POINT ID	READING COUNTS/1MIN
0140, 1230R	13990 14500	0140, 1250R	9740 11250				
1100, 1230R	10700 11490	1100, 1250R	12700 13750				
1110, 1230R	17190 14550	1110, 1250R	11320 12580				
1120, 1230R	18410 14930	1120, 1250R	18730 23280				
1130, 1230R	17740 16220	1130, 1250R	16760 28940				
1140, 1230R	19140 17470	1140, 1250R	21140 21760				
1150, 1230R	10000 12120	1150, 1250R	10720 11820				
1160, 1230R	9380 9650	1160, 1250R	10670 9960				
1170, 1230R	9020 9130	1170, 1250R	8990 8420				
0170, 1240R	9470 9640	0170, 1260R	9480 9410	N	A	N	A
0180, 1240R	13750 10960	0180, 1260R	9090 8960				
0190, 1240R	10750 13260	0190, 1260R	12010 11710				
1100, 1240R	12920 12750	1100, 1260R	29250 18250				
1110, 1240R	18070 15630	1110, 1260R	15130 12650				
1120, 1240R	67040 27490	1120, 1260R	13840 12750				
1130, 1240R	154640 89940	1130, 1260R	11490 13650				
1140, 1240R	27280 20700	1140, 1260R	8860 9840				
1150, 1240R	10030 8930	1150, 1260R	WATER WATER				
1160, 1240R	9730 10440	1160, 1260R	9730 9380				
1170, 1240R	9230 8850	1170, 1260R	7930 8440				
0170, 1250R	9890 9130		N				
0180, 1250R	8500 10080		A				

REMARKS: Top readings are contact, lower readings taken @ 1 meter distance, all readings in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 17 OF 72 PAGE 17

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD. 7220 #31982 W/4-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#1		#2		#3		#4	
HOLE ID: <u>140, 1240R</u>	HOLE ID: <u>140, 1260R</u>	HOLE ID: <u>1430, 1250R</u>	HOLE ID: <u>1450, 1240R</u>				
TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____				
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____				
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____				
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	<u>29250</u>	SURFACE	<u>8860</u>	SURFACE	<u>16760</u>	SURFACE	<u>10030</u>
0"	<u>33970</u>	0"	<u>8150</u>	0"	<u>16060</u>	0"	<u>9870</u>
6"	<u>86520</u>	6"	<u>10820</u>	6"	<u>18920</u>	6"	<u>12990</u>
12"	<u>120710</u>	12"	<u>8670</u>	12"	<u>11400</u>	12" 9"	<u>18890</u>
18"	<u>35720</u>	18"	<u>8010</u>	18"	<u>7620</u>	18" 12"	<u>20610</u>
24"	<u>13480</u>	24"	<u>6900</u>	24"	<u>5970</u>	24" 18"	<u>19340</u>
30" 26"	<u>10810</u>	30"		30" 26"	<u>5500</u>	30" 21"	<u>14920</u>
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts in counts per minute (CPM). Shallow borehole, due to rocky soil encountered.

BOREHOLE LOG

 LOGGING CREW: Julius Bitilly
Art Clemons

 SHEET 18 OF 72 PAGE 18

 DATE: August 12, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. L40.7220 #31982 W44-10 #25142

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#5		#6		#7		#8	
HOLE ID: <u>1430, 1240R</u>	HOLE ID: <u>1420, 1240R</u>	HOLE ID: <u>1410, 1240R</u>	HOLE ID: <u>1420, 1230R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	154640	SURFACE	67040	SURFACE	18070	SURFACE	18410
0"	236030	0"	156370	0"	30490	0"	36830
6"	452820	6"	444100	6"	71310	6"	96230
12"	302220	12"	472380	12"	194040	12"	304280
18"	97710	18"	187570	18"	144790	18"	416940
24"	33860	24"	47940	24" 21"	98320	24"	146650
30"		26" 26"	31930	30"		28" 27"	79010
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bibilly
Art Clemons

SHEET 19 OF 72 PAGE 19

DATE: August 12, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L-2721 #31982 W-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD NUMBERS, CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND
DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS,
CONSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#9		#10		#11		#12	
HOLE ID:	1490, 1260R	HOLE ID:	1400, 1270R	HOLE ID:	1403, 1250R	HOLE ID:	1400, 1240R
TIME DRILLED:		TIME DRILLED:		TIME DRILLED:		TIME DRILLED:	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	12010	SURFACE	7210	SURFACE	13500	SURFACE	12920
0"	17510	0"	7800	0"	19760	0"	36480
6"	31810	6"	8610	6"	49670	6"	83760
12"	75490	12" 9"	10870	12"	127800	12"	238360
18"	111660	18" 12"	16630	18"	49050	18"	532660
24"	30280	24" 18"	24500	24"	17990	24"	183350
30" 27"	26300	30"		30" 26"	13780	30"	62910
36"		36"		36"		36"	25620
42"		42"		42"		42"	12810
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts
in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 20 OF 72 PAGE 20

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.1220 #31982 W44-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

*13		*14		*15		*16	
HOLE ID: <u>0480, 1260R</u>	HOLE ID: <u>0490, 1270R</u>	HOLE ID: <u>1410, 1260R</u>	HOLE ID: <u>0490, 1240R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	9090	SURFACE	7990	SURFACE	15130	SURFACE	10750
0"	10270	0"	8350	0"	12750	0"	11540
6"	14160	6"	9360	6"	19330	6"	17350
12"	27690	12"	13650	12"	18370	12"	31220
18"	54410	28" 14"	14570	18" 14"	16690	18"	75520
24"	35820	24" 18"	19990	24"		24"	31940
28" 27"	17350	30"	Rock	30"		28" 27"	23410
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 21 OF 72 PAGE 21

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Lv0.1220 #31982 W/4-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

*17		*18		*19		*20	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:
SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:
1+10,1230R		0+70,1260R		0+80,1240R		0+70,1220R	
SURFACE	17190	SURFACE	9480	SURFACE	13750	SURFACE	21150
0"	73320	0"	8910	0"	39560	0"	71250
6"	177380	6"	12160	6"	84030	6"	195360
12"	515070	12"	16570	12"	183590	12"	509550
18"	598420	18"	29120	18"	502930	18"	928390
24"	251720	24"	20500	24"	572560	24"	925930
30"		28" 26"	15680	28" 26"	438500	30"	398700
36"		36"		28" 30"	245190	36"	117920
42"		42"		32" 36"	88480	42"	41810
48"		48"		38" 42"	27020	48"	21540
54"		54"		54" 48"	13160	54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 22 OF 72 PAGE 22

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO Lv0.7220 #31982 W/4-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#21		#22		#23		#24	
HOLE ID: 0170, 1220R	HOLE ID: 0170, 1240R	HOLE ID: 0160, 1220R	HOLE ID: 0180, 1200R	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	16240	SURFACE	9470	SURFACE	18470	SURFACE	20990
0"	54000	0"	11360	0"	36430	0"	49610
6"	138200	6"	17040	6"	94010	6"	137290
12"	386320	12"	27190	12"	281320	12"	366870
18"	649910	18"	44590	18"	563800	18"	193360
24"	194700	24"	65910	24"	254900	24"	91590
28" 27"	132280	30"	25980	30"	80610	30"	32130
30" 30"	80560	36"	10120	36"	30660	36"	12800
42" 36"	33050	42"		42"	13110	42"	
48" 42"	13490	48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitilly
Art Clemons

SHEET 23 OF 72 PAGE 23

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD. 1220 #31982 w/4-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#25		#26		#27		#28	
HOLE ID: <u>0470, 1200R</u>		HOLE ID: <u>1110, 1200R</u>		HOLE ID: <u>1140, 1200R</u>		HOLE ID: <u>1140, 1210R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	13320	SURFACE	15140	SURFACE	15760	SURFACE	42730
0"	24380	0"	34460	0"	16260	0"	77520
6"	56020	6"	82660	6"	34830	6"	158040
12"	121100	12"	282530	12"	28770	12"	85880
18"	115830	18"	197120	18"	13730	18"	33300.
24"	43700	24"	65300	24"	9150	24"	
30"	14910	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. all counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 24 OF 72 PAGE 24

DATE: August 13, 1986

PROPERTY ID: LK-005

INSTRUMENT ID NO. LWD. 2220 #3198244-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

29		30		31		32	
HOLE ID: <u>128, 1210R</u>		HOLE ID: <u>1400, 1220R</u>		HOLE ID: <u>1410, 1220R</u>		HOLE ID: <u>1430, 1220R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	20440	SURFACE	38990	SURFACE	19650	SURFACE	29590
0"	33030	0"	123640	0"	55260	0"	56300
6"	106200	6"	437910	6"	158860	6"	162400
12"	278040	12"	894780	12"	423340	12"	357350
18"	141180	18"	731320	18"	853910	18"	162000
24"	53920	24"	237130	24"	272210	24"	58740
30"		30" 27"	142220	30" 27"	150520	30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW:

*Julius Bitally
Art Clemons*

 SHEET 25 OF 72 PAGE 25

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. Luo. 2220 #31982/44-10 #2542

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#33		#34		#35		#36	
HOLE ID: <u>1+50, 1220R</u>	HOLE ID: <u>1+10, 1180R</u>	HOLE ID: <u>1+30, 1180R</u>	HOLE ID: <u>1+40, 1170R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	12480	SURFACE	15430	SURFACE	47200	SURFACE	29100
0"	13370	0"	15700	0"	68370	0"	41490
6"	20220	6"	27190	6"	159980	6"	103380
12"	24650	12"	47310	12"	261630	12"	134560
18"	18850	18"	38790	18"	75280	18"	40470
24" 2"	15420	24"	18940	24" 21"	35220	24"	16490
30"		30" 27"	15620	30"		30" 27"	14640
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS:

Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemens

SHEET 26 OF 72 PAGE 26

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Luo. 2220 #31982 44-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

*37		*38		*39		*40	
HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN
1450, 11701K		1460, 1170R		1450, 1150R		1440, 1150R	
TIME DRILLED:		TIME DRILLED:		TIME DRILLED:		TIME DRILLED:	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	26710	SURFACE	12320	SURFACE	49020	SURFACE	2170
0"	35490	0"	11520	0"	60100	0"	9190
6"	78600	6"	14990	6"	90580	6"	11130
12"	99980	12"	12590	12"	71500	12"	8540
18"	24840	18"	8360	18"	39320	18"	8850
24"	12120	24"	7360	24" 23"	24340	24" 20"	9270
30" 27"	11180	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemens

 SHEET 27 OF 72 PAGE 27

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LVO. 2220 #31982 44-10 #25142

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	62180	SURFACE	9000	SURFACE	48500	SURFACE	16890
0"	26530	0"	7020	0"	31960	0"	9090
6"	40310	6"	7670	6"	42340	6"	10490
12"	39250	12"	7140	12"	32430	12"	11310
18"	18540	18"	7480	20" 16"	19740	18"	9800
24"	10450	24" 21"	5870	24" 18"	13960	24"	8500
30"		30"		30" 24"	9310	30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 28 OF 72 PAGE 28

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LW. 2220 #3198244-10 #25142

 AREA: LAKEVIEW, OREGON

 NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#75		#46		#47		#48	
HOLE ID: <u>1750, 1190R</u>	HOLE ID: <u>1460, 1190R</u>	HOLE ID: <u>1770, 1150R</u>	HOLE ID: <u>1460, 1140R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____				
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>20080</u>	SURFACE	<u>10110</u>	SURFACE	<u>11100</u>	SURFACE	<u>6890</u>
0"	<u>23800</u>	0"	<u>9710</u>	0"	<u>10980</u>	0"	<u>6330</u>
6"	<u>42560</u>	6"	<u>14750</u>	6"	<u>18060</u>	6"	<u>6820</u>
12"	<u>32080</u>	12"	<u>11980</u>	12"	<u>14830</u>	12"	<u>8740</u>
18"	<u>18450</u>	18"	<u>8880</u>	18"	<u>8850</u>	18"	<u>10660</u>
24"	<u>11400</u>	24"	<u>7300</u>	24"	<u>7930</u>	24"	<u>10560</u>
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 29 OF 72 PAGE 29

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LUD.2220 #31982744-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

#49		#50		#51		#52	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
0190, 1190R		1400, 1190R		1400, 1170R		0480, 1180R	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	15370	SURFACE	16720	SURFACE	8080	SURFACE	5380
0"	24180	0"	32060	0"	8350	0"	6970
6"	55770	6"	73380	6"	9840	6"	8840
12"	86860	12"	178560	12"	13630	12"	12570
18"	33350	18"	163740	18"	13570	18"	16160
24"	13080	24"	61400	24"		24"	
30"		30" 27"	36350	30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 30 OF 72 PAGE 30

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LWD. 2220 #31982 44-10 #25142

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

53		54		55		56	
HOLE ID: <u>0460, 1200R</u>	HOLE ID: <u>0450, 1220R</u>	HOLE ID: <u>0460, 1240R</u>	HOLE ID: <u>0440, 1220R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	5960	SURFACE	8630	SURFACE	9240	SURFACE	7980
0"	7580	0"	8970	0"	9850	0"	8620
6"	8630	6"	11950	6"	13840	6"	11590
12"	8140	12"	21530	12"	17050	12"	17780
18"	7750	18"	35000	18"	23750	18"	14500
24" 21"	8150	24" 20"	39340	24"	32890	24"	7660
30"		30"		30" 27"	26870	30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 31 OF 72 PAGE 31

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Luo. 2220 #31982 #4410 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

57		58		59		60	
HOLE ID: <u>4+30, 1080R</u>	HOLE ID: <u>4+40, 1080R</u>	HOLE ID: <u>4+40, 1090R</u>	HOLE ID: <u>4+70, 1090R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	16500	SURFACE	22090	SURFACE	7880	SURFACE	12370
0"	17720	0"	32580	0"	8100	0"	14230
6"	25920	6"	54830	6"	7970	6"	13390
12"	20100	12"	45380	12"	9030	12"	10820
18"	12000	18"	17490	18"	9990	18"	11560
24" 21"	11430	24" 21"	12610	24"	8560	24"	8970
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Demons

 SHEET 32 OF 72 PAGE 32

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LW.2220 #31982 #44-10 #2542

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

61		62		63		64	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>4460, 1070R</u>	_____	<u>4480, 1080R</u>	_____	<u>5400, 1090R</u>	_____	<u>5430, 1090R</u>	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>11560</u>	SURFACE	<u>34490</u>	SURFACE	<u>9520</u>	SI. FACE	<u>17210</u>
0"	<u>9990</u>	0"	<u>27960</u>	0"	<u>17490</u>	0"	<u>13020</u>
6"	<u>9030</u>	6"	<u>40740</u>	6"	<u>18480</u>	6"	<u>14010</u>
12"	<u>8750</u>	12"	<u>18110</u>	12"	<u>14490</u>	12"	<u>12070</u>
18"	<u>9700</u>	18"	<u>10340</u>	18"	<u>12850</u>	18"	<u>12490</u>
<u>24" 20"</u>	<u>9530</u>	24"	<u>ROCK</u>	24"	<u>8700</u>	<u>24" 22"</u>	<u>8650</u>
30"	<u>ROCK</u>	30"		30"	<u>7740</u>	30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 33 OF 72 PAGE 33

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.2220 #31982 #44-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

65		66		67		68	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>5+60, 1090R</u>	_____	<u>5+10, 1070R</u>	_____	<u>4+80, 1060R</u>	_____	<u>5+10, 1080R</u>	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>13010</u>	SURFACE	<u>42720</u>	SURFACE	<u>10780</u>	SURFACE	<u>33670</u>
0"	<u>16060</u>	0"	<u>25690</u>	0"	<u>9680</u>	0"	<u>29110</u>
6"	<u>19880</u>	6"	<u>36870</u>	6"	<u>8870</u>	6"	<u>26850</u>
12"	<u>26350</u>	12"	<u>21090</u>	12"	<u>8420</u>	12"	<u>20550</u>
18"	<u>18150</u>	18"	<u>11390</u>	18"	<u>7890</u>	18" 15"	<u>16870</u>
24"	<u>11450</u>	24"	<u>ROCK</u>	24"	<u>ROCK</u>	24"	
30" 28"	<u>8720</u>	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemens

SHEET 34 OF 72 PAGE 34

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD. 2220 #31982 44-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

69		70		71		72	
HOLE ID: <u>5100, 1070R</u>	HOLE ID: <u>510, 1060R</u>	HOLE ID: <u>5140, 1060R</u>	HOLE ID: <u>5150, 1070R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	40280	SURFACE	12800	SURFACE	13100	SURFACE	63030
0"	22810	0"	10280	0"	10480	0"	97270
6"	23150	6"	9900	6"	10000	6"	215690
12"	13430	12"	9020	12"	10270	12"	191070
18"	9790	18"	9860	18"	18840	18"	33030
24"		24" 21"	9490	24"		24"	
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 35 OF 72 PAGE 35

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LW. 2220 #31982/44-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

# 23		# 24		# 25		# 26	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>5+50, 1080R</u>	_____	<u>5+70, 1060R</u>	_____	<u>5+70, 1070R</u>	_____	<u>5+90, 1090R</u>	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>33020</u>	SURFACE	<u>17370</u>	SURFACE	<u>24310</u>	SURFACE	<u>15510</u>
0"	<u>31370</u>	0"	<u>12660</u>	0"	<u>29650</u>	0"	<u>24930</u>
6"	<u>32050</u>	6"	<u>10770</u>	6"	<u>47510</u>	6"	<u>43690</u>
12"	<u>17670</u>	12"	<u>ROCK</u>	12"	<u>52290</u>	12"	<u>51350</u>
18"	<u>13590</u>	18"		18"	<u>23160</u>	18"	<u>24160</u>
24"	<u>ROCK</u>	24"		24"		24"	<u>13480</u>
30"		30"		30"		<u>30" 26"</u>	<u>128.30</u>
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 36 OF 72 PAGE 36

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LVD. 2220 #31982 44-10 #25142

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

28		29		80		81	
HOLE ID:	6+00, 1100R	HOLE ID:	6+20, 1100R	HOLE ID:	6+50, 1100R	HOLE ID:	6+60, 1090R
TIME DRILLED:	_____	TIME DRILLED:	_____	TIME DRILLED:	_____	TIME DRILLED:	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	20530	SURFACE	19700	SURFACE	22510	SURFACE	45700
0"	16570	0"	16150	0"	21900	0"	51490
6"	14140	6"	13960	6"	21800	6"	89310
12"	20020	12"	14560	12"	22220	12"	199220
18"	15500	18"	12700	18"	17490	18"	68110
24"	9540	24"	10330	24"	14630	24"	23810
30"	8430	30"		30"		30"	16110
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 37 OF 72 PAGE 37

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LUD. 2220 #31982 44-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

82		83		84		85	
HOLE ID: <u>6+80, 1100R</u>	HOLE ID: <u>7+00, 1100R</u>	HOLE ID: <u>7+10, 1090R</u>	HOLE ID: <u>6+10, 1070R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	33320	SURFACE	24240	SURFACE	82150	SURFACE	172830
0"	3412	0"	21600	0"	65180	0"	223410
6"	46210	6"	14720	6"	57810	6"	513370
12"	47190	12"	11410	12"	36330	12"	595190
18"	34370	18"	11500	18"	14960	18"	146510
24"	27100	24"	9270	24" 22"	12420	24"	59140
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 38 OF 72 PAGE 38

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LUD. 2220 #3198244-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

86		87		88		89	
HOLE ID: <u>7+00, 1060R</u>	HOLE ID: <u>6+40, 1060R</u>	HOLE ID: <u>6+30, 1090R</u>	HOLE ID: <u>6+10, 1070R</u>				
TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____				
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____				
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____				
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>356200</u>	SURFACE	<u>51310</u>	SURFACE	<u>24810</u>	SURFACE	<u>36810</u>
0"	<u>388980</u>	0"	<u>58830</u>	0"	<u>32080</u>	0"	<u>41770</u>
6"	<u>726460</u>	6"	<u>102710</u>	6"	<u>41860</u>	6"	<u>83440</u>
12"	<u>991170</u>	12"	<u>119540</u>	12"	<u>77870</u>	12"	<u>126950</u>
18"	<u>425850</u>	18"	<u>48880</u>	18"	<u>33970</u>	18" 16"	<u>50710</u>
24"	<u>150990</u>	24"	<u>27010</u>	24"	<u>ROCK</u>	24"	<u>ROCK</u>
30" 28"	<u>93740</u>	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 39 OF 72 PAGE 39

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD. 2220 #31982 #44-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

90		91		92		93	
HOLE ID: <u>6+10, 1030R</u>		HOLE ID: <u>5+90, 1010R</u>		HOLE ID: <u>6+00, 990R</u>		HOLE ID: <u>5+90, 980R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	27270	SURFACE	17500	SURFACE	20450	SURFACE	15330
0"	24110	0"	14330	0"	17610	0"	12520
6"	13940	6"	10460	6"	15190	6"	9800
12"	8890	12"	7990	12"	11800	12"	9440
18"	9350	18"	7410	18"	8940	18"	11240
24"	9120	24"		24"	8700	24"	
30"	8880	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 40 OF 72 PAGE 40

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LW.2220 #31982/44-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

94		95		96		97	
HOLE ID: <u>6+00, 950R</u>	HOLE ID: <u>6+10, 920R</u>	HOLE ID: <u>6+20, 930R</u>	HOLE ID: <u>6+30, 910R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	17850	SURFACE	18910	SURFACE	26070	SURFACE	19870
0"	14390	0"	16630	0"	20810	0"	18540
6"	13240	6"	18210	6"	20600	6"	18790
12"	13020	12"	17660	12"	15610	12"	13960
18"	12380	18"	10330	18"	8270	18"	8470
24" 20"	11800	24"	8500	24" 22"	7860	24"	8110
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 41 OF 72 PAGE 41

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD. 2220 #31982744-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

98		99		100		101	
HOLE ID: 6+50, 910R	HOLE ID: 6+60, 900R	HOLE ID: 6+70, 890R	HOLE ID: 6+80, 880R	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	43800	SURFACE	18800	SURFACE	20210	SURFACE	17480
0"	35710	0"	18810	0"	16980	0"	12890
6"	33730	6"	16890	6"	16700	6"	10780
12"	22780	12"	12880	12"	13250	12"	8780
18" 15"	17290	18" 16"	9100	18" 17"	10080	18"	7860
24"	ROCK	24"	ROCK	24"	ROCK	24" 20"	7870
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 42 OF 72 PAGE 42

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD.2220 #3198244-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

102		103		104		105	
HOLE ID: <u>670, 910K</u>	HOLE ID: <u>700, 930R</u>	HOLE ID: <u>670, 920R</u>	HOLE ID: <u>660, 940R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	22800	SURFACE	67200	SURFACE	40590	SURFACE	75400
0"	27110	0"	43860	0"	30360	0"	64500
6"	23280	6"	38550	6"	26530	6"	78060
12"	18000	12"	25380	12"	19320	12"	68720
18"	9480	18" 15"	23940	18" 16"	15370	18"	38120
24" 22"	9160	24"	SLUFFED IN	24"		24"	
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 43 OF 72 PAGE 43

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LVD.2220 #31982 44-10 #2542

 AREA: LAKEVIEW, OREGON

 NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

106		107		108		109	
HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN
6+70, 960R	178280	6+70, 990R	77190	6+30, 1000R	40830	6+40, 1030R	52570
0"	184230	0"	56370	0"	33390	0"	40740
6"	285590	6"	60950	6"	27920	6"	33280
12"	341960	12"	32560	12"	17630	12"	18740
18" 1/4"	316210	18"	15650	18" 1/4"	15160	18"	12340
24" 1/8"	154730	24"		24"	Rock	24" 21"	11220
30"	Rock	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 44 OF 72 PAGE 44

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.2220 #31982 #44.10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

110		111		112		113	
HOLE ID: <u>6+30, 1040R</u>		HOLE ID: <u>7+00, 1010R</u>		HOLE ID: <u>6+80, 1030R</u>		HOLE ID: <u>6+50, 980R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>200030</u>	SURFACE	<u>179510</u>	SURFACE	<u>194370</u>	SURFACE	<u>43860</u>
0"	<u>168080</u>	0"	<u>147450</u>	0"	<u>132360</u>	0"	<u>34710</u>
6"	<u>240220</u>	6"	<u>163440</u>	6"	<u>96700</u>	6"	<u>28540</u>
12"	<u>103120</u>	12"	<u>71800</u>	12"	<u>39860</u>	12"	<u>15830</u>
18"	<u>35960</u>	18"	<u>39930</u>	18"	<u>23570</u>	18"	<u>11280</u>
24"	<u>25320</u>	24"		24" 22"	<u>24860</u>	24" 22"	<u>10580</u>
30" 27"	<u>25040</u>	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 45 OF 72 PAGE 45

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVO.2220 #3198244-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

114		115		116		117	
HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN	HOLE ID:	COUNTS/1MIN
6+20, 960R		5+90, 1100R		6+00, 1110R		5+90, 1040R	
TIME DRILLED:		TIME DRILLED:		TIME DRILLED:		TIME DRILLED:	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	72880	SURFACE	18490	SURFACE	13080	SURFACE	17080
0"	67820	0"	16450	0"	14990	0"	13180
6"	82750	6"	20780	6"	16290	6"	9630
12"	58880	12"	17910	12"	14820	12"	7980
18"	33380	18"	12720	18"	12080	18"	7660
24"	27980	24"	8990	24"		24"	
30"		30" 28"	8070	30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 46 OF 72 PAGE 46

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Luo. 2220 #3198244-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

118		119		120		121	
HOLE ID: <u>6+50, 1110R</u>	HOLE ID: <u>6+50, 1120R</u>	HOLE ID: <u>7+10, 8801R</u>	HOLE ID: <u>7+30, 9101R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	18500	SURFACE	16500	SURFACE	16810	SURFACE	66500
0"	19950	0"	18710	0"	13630	0"	43530
6"	16540	6"	14250	6"	11420	6"	33590
12"	23520	12"	9810	12"	9570	12"	15780
18"	51750	18"	7970	18"	8300	18"	9300
24"	36490	24"	6860	24"		24" 22"	10060
30"	21440	30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemans

SHEET 47 OF 72 PAGE 47

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD. 2220 #31982 #4410 #3542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION

122		123		124		125	
HOLE ID: <u>730, 940R</u>		HOLE ID: <u>720, 890R</u>		HOLE ID: <u>740, 880R</u>		HOLE ID: <u>750, 890R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	<u>80850</u>	SURFACE	<u>22440</u>	SURFACE	<u>19730</u>	SURFACE	<u>27690</u>
0"	<u>80860</u>	0"	<u>18860</u>	0"	<u>14650</u>	0"	<u>21070</u>
6"	<u>83040</u>	6"	<u>19460</u>	6"	<u>11250</u>	6"	<u>17610</u>
12"	<u>47270</u>	12"	<u>16510</u>	12"	<u>8640</u>	12"	<u>13300</u>
18"	<u>28030</u>	18"	<u>10180</u>	18"	<u>8260</u>	18"	<u>8780</u>
24"		<u>24"22"</u>	<u>8750</u>	<u>24"22"</u>	<u>8460</u>	24"	<u>8110</u>
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 48 OF 72 PAGE 48

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD.2220 #31982 4" 10" 25.42

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

126		127		128		129	
HOLE ID: <u>7450, 1120R</u>	HOLE ID: <u>7440, 1100R</u>	HOLE ID: <u>7430, 1110R</u>	HOLE ID: <u>7440, 1080R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	16820	SURFACE	44450	SURFACE	17000	SURFACE	256200
0"	16040	0"	36120	0"	16710	0"	358030
6"	11220	6"	23450	6"	10610	6"	691270
12"	9970	12"	16510	12"	10210	12"	540620
18"	10130	18"	10660	18"	10870	18"	214950
24"		24"		24" 21"	10360	24"	75170
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 49 OF 72 PAGE 49

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD. 2220 #31982 44-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

130		131		132		133	
HOLE ID: <u>7+70, 1070R</u>	HOLE ID: <u>7+80, 1040R</u>	HOLE ID: <u>7+60, 1040R</u>	HOLE ID: <u>7+70, 1010R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	166450	SURFACE	389510	SURFACE	405510	SURFACE	251020
0"	142830	0"	292260	0"	329780	0"	215620
6"	159320	6"	217410	6"	232010	6"	199450
12"	91010	12"	94990	12"	100550	12"	95890
18"	41200	18"	46940	18" ^{16"}	68680	18"	48460
24"	Rock	24"	Rock	24"	Rock	24"	Rock
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 50 OF 72 PAGE 50

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LUD. 2220 #31982 #44-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

134		135		136		137	
HOLE ID: <u>7450, 1000R</u>	HOLE ID: <u>7460, 980R</u>	HOLE ID: <u>7460, 970R</u>	HOLE ID: <u>7460, 950R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	190710	SURFACE	58270	SURFACE	127570	SURFACE	62630
0"	157960	0"	44430	0"	111010	0"	77300
6"	150070	6"	33580	6"	104710	6"	84610
12"	61140	12"	17300	12"	53310	12"	60130
18"	33800	18"	15820	18"	22140	18"	31230
24"	Rock	24"	Rock	24"		24"	Rock
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 51 OF 72 PAGE 51

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.2220 #31982 #44-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

138		139		140		141	
HOLE ID: <u>7+60, 930R</u>	HOLE ID: <u>7+50, 920R</u>	HOLE ID: <u>7+20, 960R</u>	HOLE ID: <u>7+10, 980R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	43680	SURFACE	43270	SURFACE	235240	SURFACE	76340
0"	30820	0"	37180	0"	212750	0"	77280
6"	28660	6"	35340	6"	320160	6"	71290
12"	22370	12"	22330	12"	368100	12"	35590
18"	14760	18"	13070	18"	398490	18"	18640
24"	Rock	24" 20"	12320	24" 20"	425730	24"	
30"		30"		30" 24"	534560	30"	
36"		36"		38" 30"	473350	36"	
42"		42"		42" 36"	272250	42"	
48"		48"		48" 42"	196870	48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 52 OF 72 PAGE 52

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L10.2220 #31982 #4410 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

172		173		174		175	
HOLE ID: <u>7+30, 1010R</u>	HOLE ID: <u>7+40, 1030R</u>	HOLE ID: <u>7+70, 1100R</u>	HOLE ID: <u>7+70, 1110R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>216620</u>	SURFACE	<u>326140</u>	SURFACE	<u>44920</u>	SURFACE	<u>20100</u>
0"	<u>168130</u>	0"	<u>268630</u>	0"	<u>44340</u>	0"	<u>17830</u>
6"	<u>184680</u>	6"	<u>264230</u>	6"	<u>59820</u>	6"	<u>11780</u>
12"	<u>103990</u>	12"	<u>133520</u>	12"	<u>38740</u>	12"	<u>9990</u>
18"	<u>50640</u>	18"	<u>50980</u>	18"	<u>28540</u>	18"14"	<u>9070</u>
24"	<u>Rock</u>	24"	<u>42470</u>	24"21"	<u>22170</u>	24"	<u>Rock</u>
30"		30"	<u>Rock</u>	30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts
in counts per minute (CPM). Shallow boreholes
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 53 OF 72 PAGE 53

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVO.2220 #31982/44-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

146		147		148		149	
HOLE ID:	8700, 1100R	HOLE ID:	8700, 1100R	HOLE ID:	8700, 1070R	HOLE ID:	8700, 1000R
TIME DRILLED:	_____	TIME DRILLED:	_____	TIME DRILLED:	_____	TIME DRILLED:	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	24600	SURFACE	43840	SURFACE	132740	SURFACE	69410
0"	21970	0"	53820	0"	144770	0"	55470
6"	16730	6"	104700	6"	264530	6"	35620
12"	16170	12"	244080	12"	170500	12"	22410
18"	9820	18"	26460	18"	63330	18"	16570
24"	6840	24"20"	200860	24"	17470	24"20"	16590
30"		28"24"	92240	30"26"	13200	30"	
36"		36"30"	29460	36"		36"	
42"		42"36"	14230	42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 54 OF 72 PAGE 54

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LD.2220 #31982 #44-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

150		151		152		153	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>8700, 970R</u>		<u>7790, 940R</u>		<u>7790, 890R</u>		<u>7770, 880R</u>	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	<u>24860</u>	SURFACE	<u>106920</u>	SURFACE	<u>14990</u>	SURFACE	<u>22210</u>
0"	<u>19990</u>	0"	<u>91200</u>	0"	<u>12430</u>	0"	<u>17890</u>
6"	<u>13740</u>	6"	<u>86050</u>	6"	<u>9430</u>	6"	<u>19900</u>
12"	<u>8720</u>	12"	<u>55720</u>	12"	<u>8090</u>	12"	<u>19380</u>
18" 1/6"	<u>6550</u>	18"	<u>Rock</u>	18"	<u>7970</u>	18" 1/5"	<u>18630</u>
24"		24"		24"	<u>8540</u>	24"	<u>Rock</u>
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemens

SHEET 55 OF 72 PAGE 55

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVD. 2220 #3198244-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

157		155		156		157	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>770, 870R</u>		<u>760, 900R</u>		<u>840, 1030R</u>		<u>820, 1120R</u>	
TIME LOGGED:		TIME LOGGED:		TIME LOGGED:		TIME LOGGED:	
SOIL TYPE:		SOIL TYPE:		SOIL TYPE:		SOIL TYPE:	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	14710	SURFACE	42670	SURFACE	284180	SURFACE	18260
0"	16170	0"	23350	0"	223210	0"	15630
6"	19230	6"	21270	6"	194270	6"	10440
12"	19060	12"	16080	12"	125870	12"	7070
18" 15"	18000	18"	9850	18"	52820	18"	6950
24"	Rock	24"	8290	24"	35030	24"	6560
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 56 OF 72 PAGE 56

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Lv0.2220 #31982744-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

105		159		160		161	
HOLE ID: <u>8+40, 111012</u>	HOLE ID: <u>8+50, 1080R</u>	HOLE ID: <u>8+20, 1090R</u>	HOLE ID: <u>8+20, 1060R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	21890	SURFACE	39780	SURFACE	48930	SURFACE	283000
0"	19130	0"	35990	0"	52790	0"	330820
6"	15040	6"	39280	6"	75510	6"	463890
12"	16110	12" 8"	42190	12"	55830	12"	287560
18"	21060	18" 12"	35950	18"	29270	18"	92760
24"	19170	24" 15"	28500	24"		24"	45590
30"	11730	30"	Rock	30"		28" 26"	41220
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 57 OF 72 PAGE 57

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.2220 #31982744-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

162		163		164		165	
HOLE ID: <u>8+30, 1010R</u>	HOLE ID: <u>8+30, 980R</u>	HOLE ID: <u>8+70, 1120R</u>	HOLE ID: <u>8+80, 1110R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	207040	SURFACE	25750	SURFACE	17740	SURFACE	43190
0"	182360	0"	20960	0"	15020	0"	27860
6"	230280	6"	15760	6"	12050	6"	40340
12"	129620	12"	10270	12"	11150	12"	59950
18"	51060	18"	8770	18"	11570	18"	50980
24" 22"	28040	24" 21"	7610	24"	11830	24" 22"	37630
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 58 OF 72 PAGE 58

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LD.2220 #3198244-10 #2542

 AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

166		167		168		169	
HOLE ID: <u>7400, 1120R</u>		HOLE ID: <u>8490, 1080R</u>		HOLE ID: <u>9400, 1050R</u>		HOLE ID: <u>8460, 1040R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	16050	SURFACE	35610	SURFACE	65460	SURFACE	98840
0"	12380	0"	29770	0"	35660	0"	67130
6"	10630	6"	30230	6"	20780	6"	46110
12"	9590	12"	25010	12"	14500	12"	25110
18"	8950	18"	19400	18"	ROCK	18" 16"	21760
24"		24"		24"		24"	
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts
in counts per minute (CPM). Shallow bore holes,
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 59 OF 72 PAGE 59

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. Lv0.2220 #31982 #4410 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

170		171		172		173	
HOLE ID: <u>8490, 1000R</u>		HOLE ID: <u>8460, 1000R</u>		HOLE ID: <u>8490, 990R</u>		HOLE ID: <u>8410, 920R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	51590	SURFACE	464870	SURFACE	29950	SURFACE	20130
0"	43320	0"	383200	0"	24760	0"	16970
6"	39500	6"	422900	6"	20520	6"	13370
12"	21270	12"	193340	12"	12390	12"	8170
18"	10310	18" ^{15"}	138370	18"	8340	18"	7590
24" ^{22"}	8510	24"	ROCK	24"	7280	24"	6690
30"		30"		30"	6510	30" ^{27"}	7790
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW:

Julius Bitally
Art Clemons

SHEET 60 OF 72 PAGE 60

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVO. 2220 #31982 744-10 #25142

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

177		175		176		177	
HOLE ID: <u>8450, 950R</u>		HOLE ID: <u>8440, 920R</u>		HOLE ID: <u>8450, 940R</u>		HOLE ID: <u>8450, 920R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	24540	SURFACE	18350	SURFACE	21670	SURFACE	19120
0"	21050	0"	17540	0"	19800	0"	15690
6"	20870	6"	16570	6"	17850	6"	16340
12"	21640	12"	13540	12"	14660	12"	13020
18" 1/6"	20700	18"	8200	18" 5/8"	11980	18"	7800
24"	ROCK	24" 22"	7540	24"		24"	7740
30"		30"		30"		30" 27"	7840
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts
in counts per minute (CPM). Shallow bore holes,
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW:

Julius Bitally
Art Clemons

 SHEET 61 OF 72 PAGE 61

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LD. 2220 #31982 #44-10 #2542

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION

178		179		180		181	
HOLE ID: <u>8470, 930R</u>	HOLE ID: <u>8470, 910R</u>	HOLE ID: <u>9100, 940R</u>	HOLE ID: <u>8490, 930R</u>	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	21750	SURFACE	15120	SURFACE	20360	SURFACE	20890
0"	18440	0"	13170	0"	18660	0"	17750
6"	17720	6"	10610	6"	19160	6"	18470
12"	15340	12"	8210	12"	19980	12"	Rock
18"	10960	18"	7680	18"	Rock	18"	
24"		24"		24"		24"	
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts
in counts per minute (CPM). Shallow bore holes,
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 62 OF 72 PAGE 62

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT: ID NO. Luo. 2220 #31982 744-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	19910	SURFACE	20300	SURFACE	19720	SURFACE	29900
0"	17380	0"	18510	0"	15600	0"	21250
6"	18600	6"	19760	6"	10990	6"	25410
12"	20680	12"	20300	12"	9770	12"	56190
18"	Rock	18" 16"	18920	18"	9760	18"	78100
24"		24"	Rock	24"	7760	24" 22"	61450
30"		30"		30" 27"	7520	30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow boreholes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 63 OF 72 PAGE 63

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. LVO.2220 #3198244-10 #2542

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

186		187		188		189	
HOLE ID: <u>9150, 1120R</u>	HOLE ID: <u>9150, 1110R</u>	HOLE ID: <u>9150, 1130R</u>	HOLE ID: <u>9160, 1140R</u>	HOLE ID: <u>9150, 1130R</u>	HOLE ID: <u>9160, 1140R</u>	HOLE ID: <u>9150, 1130R</u>	HOLE ID: <u>9160, 1140R</u>
TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	16170	SURFACE	90940	SURFACE	18200	SURFACE	22670
0"	12300	0"	106490	0"	15430	0"	17560
6"	11110	6"	317630	6"	16500	6"	16800
12"	10740	12"	213720	12"	23420	12"	15590
18"	10690	18" 15"	128800	18"	ROCK	18"	ROCK
24"	ROCK	24" 18"	78080	24"		24"	
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemons

SHEET 64 OF 72 PAGE 64

DATE: August 13, 1986

PROPERTY ID: LK-009

INSTRUMENT ID NO. L40.2220 #31982 44-10 #2542

AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

190		191		192		193	
HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:	HOLE ID:	TIME DRILLED:
<u>7460, 1150R</u>	_____	<u>9470, 1090R</u>	_____	<u>9480, 1100R</u>	_____	<u>9450, 1140R</u>	_____
TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____	TIME LOGGED:	_____
SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____	SOIL TYPE:	_____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	<u>16530</u>	SURFACE	<u>56730</u>	SURFACE	<u>27810</u>	SURFACE	<u>13560</u>
0"	<u>13800</u>	0"	<u>44680</u>	0"	<u>25220</u>	0"	<u>11950</u>
6"	<u>12930</u>	6"	<u>57530</u>	6"	<u>27520</u>	6"	<u>10180</u>
12"	<u>13720</u>	12"	<u>35440</u>	12"	<u>26320</u>	12"	<u>9750</u>
<u>18 1/4"</u>	<u>16510</u>	18"	<u>25680</u>	18"	<u>21940</u>	18"	<u>12310</u>
24"		<u>24 20"</u>	<u>25520</u>	24"		<u>24 20"</u>	<u>11830</u>
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background bore hole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

 LOGGING CREW: Julius Bitally
Art Clemons

 SHEET 65 OF 72 PAGE 65

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LD.2220 #31982/44-10 #2542

 AREA: LAKEVIEW, OREGON

- NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

194		195		196		197	
HOLE ID: <u>10100, 1110R</u>		HOLE ID: <u>9480, 1130R</u>		HOLE ID: <u>9490, 1120R</u>		HOLE ID: <u>10100, 1150R</u>	
TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____		TIME DRILLED: _____	
TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____		TIME LOGGED: _____	
SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____		SOIL TYPE: _____	
DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN	DEPTH	COUNTS/.1MIN
SURFACE	13050	SURFACE	38510	SURFACE	21540	SURFACE	26690
0"	10650	0"	29520	0"	23460	0"	28230
6"	9830	6"	26620	6"	57570	6"	35320
12"	11670	12"	18350	12"	102220	12"	58170
18"	22840	18"	19830	18"	42320	18"	60240
24"	26590	24"	27810	24"	17610	24"	48950
30"		30"	22000	28" 27"	14860	30"	
36"		26" 33"	18890	36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM).

BOREHOLE LOG

LOGGING CREW:

Julius Bitally
Art Demons

 SHEET 66 OF 72 PAGE 66

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. Luo. 2220 #31952 7/4 10 #25142

 AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

198		199		200		201	
HOLE ID: 9+90, 1120R	HOLE ID: 9+90, 1180R	HOLE ID: 9+90, 1200R	HOLE ID: 9+90, 1210R	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	74970	SURFACE	14830	SURFACE	59900	SURFACE	13340
0"	55100	0"	11250	0"	29240	0"	11460
6"	45650	6"	10230	6"	23170	6"	12460
12"	32590	12"	10440	12"	16660	12"	11350
18"	Rock	18"	10340	18"	13450	18"	10000
24"		24" 20"	12480	24"		24"	Rock
30"		30"		30"		30"	
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts
in counts per minute (CPM). Shallow boreholes,
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW:

Julius Bitally
Art Clemens

 SHEET 67 OF 72 PAGE 67

 DATE: August 13, 1986

 PROPERTY ID: LK-009

 INSTRUMENT ID NO. LD.2220 #3198274410 #25142

 AREA: LAKEVIEW, OREGON

 NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
 2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC. IN THE REMARKS SECTION.

202		203		204		205	
HOLE ID: <u>10+10, 1190R</u>	HOLE ID: <u>9+90, 1150R</u>	HOLE ID: <u>11+30, 1200R</u>	HOLE ID: <u>11+00, 1200R</u>				
TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____	TIME DRILLED: _____				
TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____	TIME LOGGED: _____				
SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____	SOIL TYPE: _____				
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	13180	SURFACE	53550	SURFACE	17690	SURFACE	30450
0"	11700	0"	57070	0"	16620	0"	30430
6"	13140	6"	80520	6"	17470	6"	38410
12"	15850	12"	121100	12"	18910	12"	65220
18"	18790	18"	51050	18"	17080	18"	41740
24" 20"	19770	24"	ROCK	24"	15320	24"	24810
30"		30"		28" 26"	12580	30"	16350
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

 REMARKS: Background bore hole is 18224 cpm. All counts
in counts per minute (CPM). Shallow bore holes,
due to rocky soil encountered.

BOREHOLE LOG

LOGGING CREW: Julius Bitally
Art Clemens

SHEET 68 OF 72 PAGE 68

DATE: August 13, 1986

PROPERTY ID: LK-009

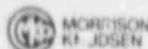
INSTRUMENT ID NO. L40.2220 #31952744-10 #25142

AREA: LAKEVIEW, OREGON

NOTES: 1. ALL HOLES ARE 4" DIA. UNLESS OTHERWISE NOTED.
2. RECORD UNUSUAL CONDITIONS, SUCH AS THE PRESENCE OF WATER IN BOREHOLES AND DEPTH, CASING TYPE AND THICKNESS IF USED, CONCRETE CORES AND THICKNESS, OBSTRUCTIONS, UTILITIES, ETC., IN THE REMARKS SECTION.

206		207		208			
HOLE ID: 11400, 12101R	HOLE ID: 10480, 1200R	HOLE ID: 10470, 1200R	HOLE ID:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:
TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:	TIME DRILLED:
TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:	TIME LOGGED:
SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:	SOIL TYPE:
DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN	DEPTH	COUNTS/1MIN
SURFACE	19240	SURFACE	60900	SURFACE	11810	SURFACE	
0"	19090	0"	74500	0"	10060	0"	
6"	22510	6"	144420	6"	8690	6"	
12"	29090	12"	155100	12"	6860	12"	
18"	27310	18"	97490	18"	8290	18"	
24"	21020	24"	57760	24"	9030	24"	
28" 29"	17170	28" 26"	47310	30"	8990	30"	N/A
36"		36"		36"		36"	
42"		42"		42"		42"	
48"		48"		48"		48"	
54"		54"		54"		54"	
60"		60"		60"		60"	
66"		66"		66"		66"	
72"		72"		72"		72"	
78"		78"		78"		78"	
84"		84"		84"		84"	
90"		90"		90"		90"	
96"		96"		96"		96"	

REMARKS: Background borehole is 18224 cpm. All counts in counts per minute (CPM). Shallow bore holes, due to rocky soil encountered.



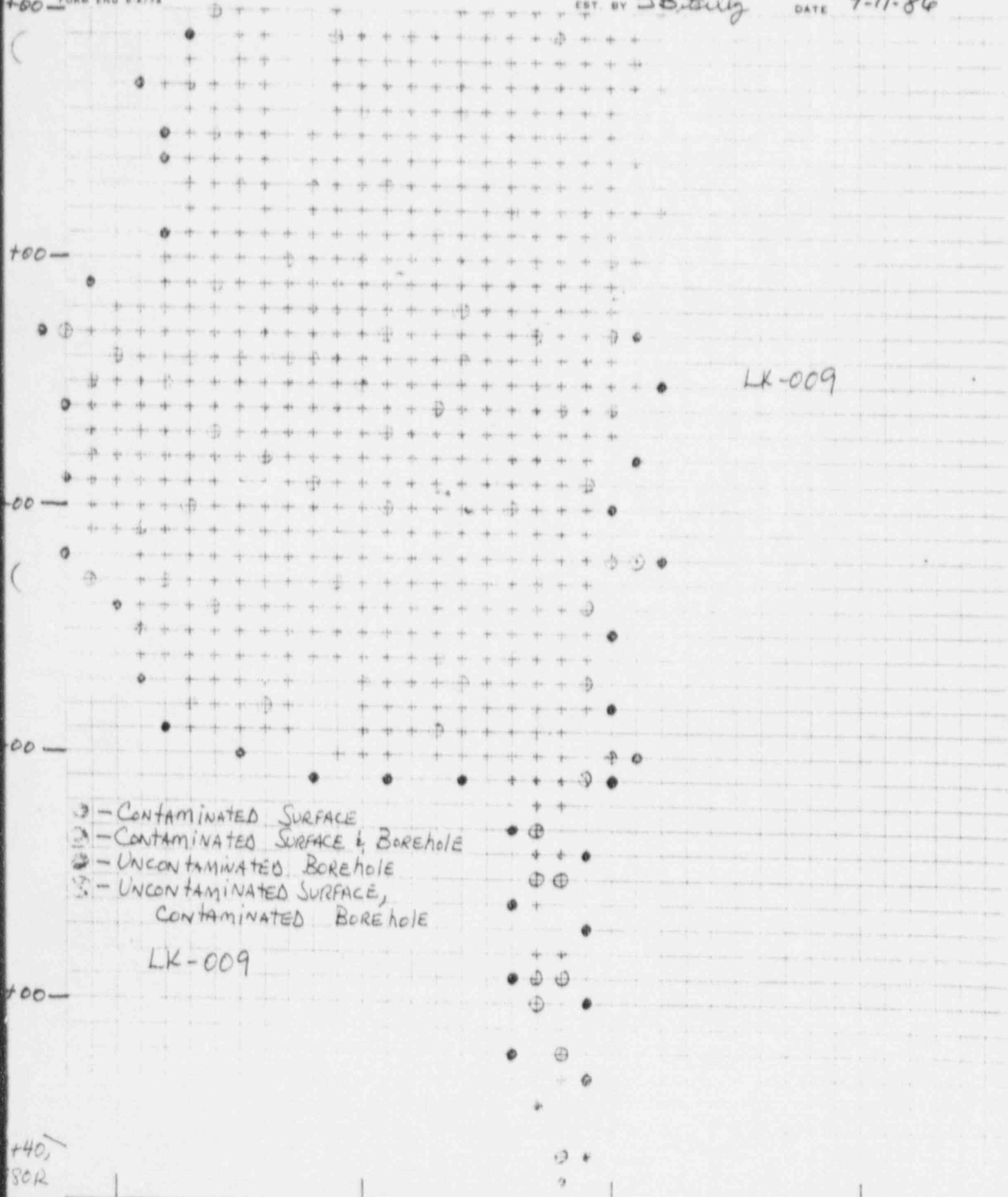
MORRISON
KNUDSEN

JOB LK-009

EST. BY JB, tully

DATE 7-11-86

+00 - FORM ENG 6-A/74



- ⊙ - CONTAMINATED SURFACE
- ⊕ - CONTAMINATED SURFACE & BOREHOLE
- ⊗ - UNCONTAMINATED BOREHOLE
- ⊙ - UNCONTAMINATED SURFACE,
CONTAMINATED BOREHOLE

LK-009

LK-009

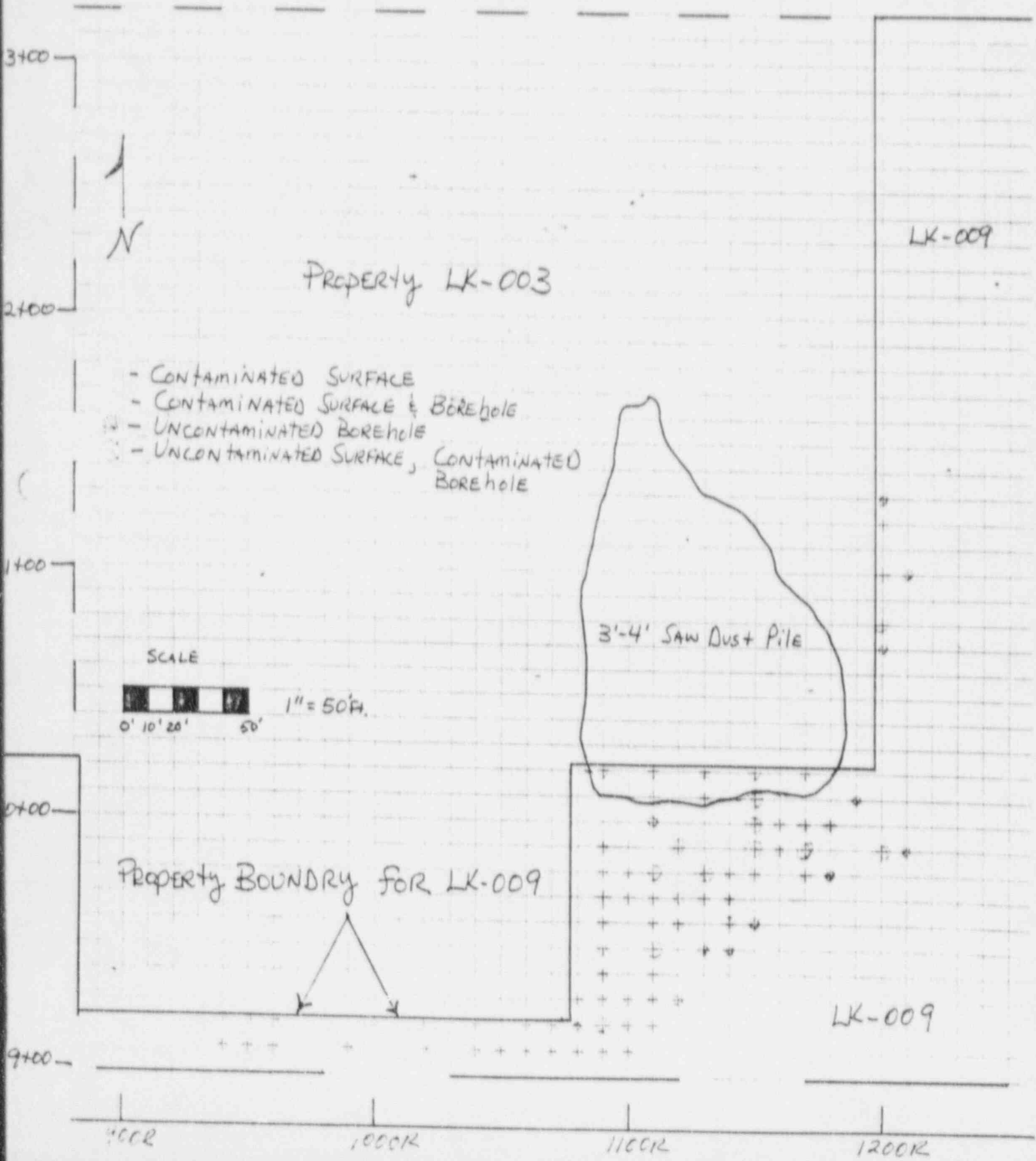
+40,
BOR

700R

1000R

1100R

1200R



PROPERTY LK-003

LK-009

- CONTAMINATED SURFACE
- CONTAMINATED SURFACE & BOREHOLE
- UNCONTAMINATED BOREHOLE
- UNCONTAMINATED SURFACE, CONTAMINATED BOREHOLE

3'-4' SAW DUST PILE

SCALE
 0' 10' 20' 50'
 1" = 50'

PROPERTY BOUNDARY FOR LK-009

LK-009

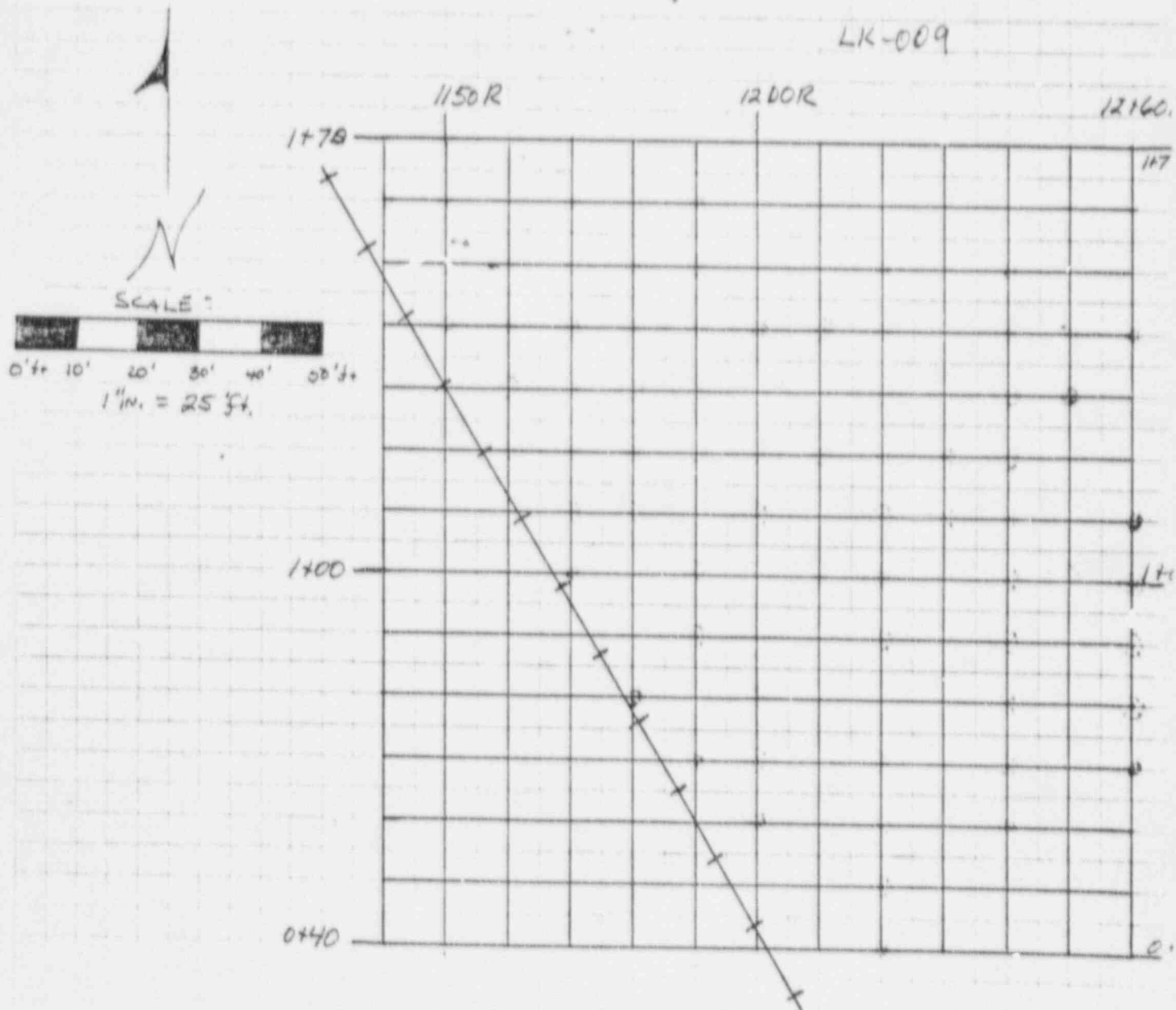
400R

1000R

1100R

1200R

LK-009



- CONTAMINATED SURFACE
- CONTAMINATED SURFACE & BOREHOLE
- UNCONTAMINATED BOREHOLE
- UNCONTAMINATED SURFACE, CONTAMINATED BOREHOLE

APPENDIX B
SOLICITATION OF OWNER'S COMMENTS



INTER-OFFICE CORRESPONDENCE

S/N-CE-3050-0-0585

TO	R. Schmitz	DATE	December 15, 1986
LOCATION	Power Division - Cleveland	FROM	<i>DC</i> D. Charlton/J. Pepin
SUBJECT	Railroad Tracks through LK-009	LOCATION	Albuquerque - 3050

1. Per the Lakeview site, E. Couch and J. Jones, the railroad tracks through LK-009 are used once a week, maybe.
2. Site personnel will contact the railroad and the customers affected to iron out the details of the application for Supplemental Standards to the railroad bed and tracks.
3. Site personnel are of the opinion that remedial action can be conducted up to, but not including, the ballast of the tracks, with little, if any, shutdown of rail service.
4. Please prepare the REA for LK-009 to show remedial action up to, but not including, the actual bed for the railroad tracks.

JGP/DAC/sh

cc: J. Oldham
R. Stearns
J. Williams
Document Control ←

TELEPHONE CONVERSATION REPORT

CLIENT: M-K, ALBUQUERQUE X INCOMING
 PROJECT: UMTRAP - VICINITY PROPERTY ENGINEERING OUTGOING
 JOB NO.: 3050-13 SUBJECT FILE NO.: 00-003, SERIAL NO.: MK-TC-158
 PERSON CONTACTED: Dave Charlton DATE: 12/09/86
 AFFILIATION: Chem-Nuclear
 ADDRESS: Albuquerque
 TELEPHONE NUMBER: 505-766-8243
 DISTRIBUTION 1. Jim Williams 4. John Pepin
 2. Gordon Gear 5. _____
 3. John Jones 6. _____

SUBJECT: Lakeview Vicinity Prperty LK-009

SUMMARY OF DISCUSSION:

Railroad tracks are located through remedial action area. Albuquerque office shall talk to Lakeview field office about problems involved in applying supplemental standards to the railroad track area. The radiological assessment report shall be updated accordingly.

Signature: _____


 Ralph Schmitz

ENGINEERS
AND
CONSTRUCTORS



MK-FERGUSON COMPANY
A MORRISON KNUDSEN COMPANY

HEADQUARTERS OFFICE
ONE LAKEVIEW PLAZA
CLEVELAND, OHIO U.S.A. 44114
PHONE (216) 523-5800/TELEX 985542

REPLY TO: MK-FERGUSON COMPANY
REMEDIAL ACTIONS
CONTRACTOR UMTRA PROJECT
PO BOX 9136
ALBUQUERQUE, NEW MEXICO U.S.A. 87119

February 19, 1987

Mr. Bob Evans, Manager
Fremont Sawmill Company
Lakeview, OR 97630

SUBJECT: Use of Supplemental Standards - LK-009

Dear Mr. Evans:

Pursuant to your telephone conversation with Mr. David Charlton concerning the implementation of Supplemental Standards on the contaminated railroad tracks on your property, we present the following:

The Radiological and Engineering Assessment (REA) performed on your property in Lakeview has revealed that radioactive materials were found in several locations within the property. One of these areas is a portion of the railroad spur near Missouri Avenue (Stock Drive) in the northern section of the property (see attached drawings). Because of the severe economic impact involved in cleaning up the track area, coupled with the very low health hazard, we are recommending that any radioactive materials located under the tracks remain in place. This action is permitted under Title 40, Code of Federal Regulations, Sections 192.21 and 22. Basically, these sections of the EPA standards, which are established for the cleanup of uranium mill tailings, allow residual radioactive materials to remain in place when certain conditions are met. The criteria defining when remedial action need not take place (called Supplemental Standards) are as follows:

- (1) The estimated cost of remedial action is unreasonably high relative to the long-term benefits, and the residual radioactive materials do not themselves pose a clear present or future hazard to the public.

Mr. Bob Evans

Page 2

February 19, 1987

The tailings to be left in place are about 355 cubic yards in volume with an estimated concentration of Ra-226 of 16 to 83 pCi/g. The general area gamma readings of 20 to 83 micro R/hr are caused, in part, by lateral gamma flux from the adjacent and more highly contaminated portions of LK-009. After remediation of the other contaminated portions of the property, another gamma survey will be conducted along the railroad tracks to more accurately characterize gamma radiation levels. The amount of radiation a worker might receive if he spent 40 hours a week for 50 weeks on the contaminated portion of the tracks, as they exist now, is about 166 millirem, one-third of the amount allowed by the U.S. NRC for the general public (10 CFR 20.105; attached).

MK-Ferguson believes that the criteria for the application of Supplemental Standards have been met due to the high cost to perform remedial action under the railroad tracks in regards to the low risk to the public health. To remove the contaminated material would require the demolition and restoration of the trackage. The amount of radioactive material that would be recovered, versus the economic cost, makes remedial action economically prohibitive in relation to the future risk to the public.

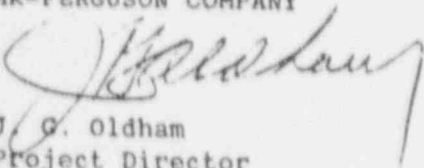
In compliance with EPA regulations (40 CFR 192.21), we solicit your comments concerning this action. Excavation of radioactive materials from other outdoor areas on your property will proceed.

We are attaching a copy of the applicable sections of the Code of Federal Regulations for your convenience in responding to this proposed action. To comply with EPA regulations, we must receive a written response with your comments. We request this response by March 13, 1987.

If you have any questions concerning this situation, please call David Charlton of my staff at (505) 766-3040.

Sincerely,

MK-FERGUSON COMPANY


J. G. Oldham
Project Director

bcc: J. Williams
J. Pepin
File

JGO/JGP/DAC/sh

Enclosures

cc: J. Jones

R. Sena

Document Control

44-009

Fremont Sawmill

Division of Ostrander Construction Co.
SOFT PONDEROSA PINE LUMBER
P. O. BOX 1340
LAKEVIEW, OREGON 97630



Area Code 503
947-2018

March 25, 1987

*John
will send
letter on
next Monday
w/longer
* **

M.K. - FERGUSON
ALBUQUERQUE

MAR 30 1987

RECEIVED

Mr. J.G. Oldham
Project Director
K-Ferguson Company
Remedial Actions
Contractor-Ultra Project
P.O. Box 9136
Albuquerque, New Mexico 87119

Dear Mr. Oldham:

In response to your request for comments on cleaning up the track area near Missouri Avenue, we don't feel qualified to pass judgment on the trade offs between the economic costs and the long term radiation hazards, if any.

I guess that our layman's opinion would be that if the radiation hazards elsewhere in the vicinity justified the project expenditures that the radiation should be removed from under the track area also.

We hope this is a suitable response and apologize for getting it to you after your requested date.

Sincerely,

Bob Evans
Bob Evans
General Manager

cc: John Jones

REP	INFO	DIST	REP	INFO	DIST
		JGO			DGS
		JDH			MWH
	✓	RFS		✓	JGP
	✓	JEW			HRM
		MMM			TRW/MKE
		CDW			VCD/PD
		JBH		✓	RAP



VICINITY PROPERTY REMEDIAL ACTION AGREEMENT

THIS AGREEMENT, entered into by and among the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), represented by the United States Department of Energy (hereinafter referred to as "DOE"), the STATE OF OREGON (hereinafter referred to as the "State"), represented by the Oregon Department of Energy (hereinafter referred to as the "DEPARTMENT") and FREMONT SAWMILL COMPANY, (hereinafter referred to as the "Owner"),

WITNESSETH THAT:

WHEREAS, pursuant to Title I of the Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604 (hereinafter referred to as the "Act"), the Government, represented by DOE, and the State have entered into a cooperative agreement (hereinafter referred to as "Cooperative Agreement") in order to implement a jointly-conducted program of assessment and remedial action at that certain DOE-designated processing site in LAKEVIEW, OREGON, known as the LAKEVIEW PROCESSING SITE, together with associated vicinity properties; and

WHEREAS, the Owner owns and controls a parcel of real property (hereinafter referred to as the "Vicinity Property") described in the map attached hereto as Appendix A; and

WHEREAS, DOE has designated the Vicinity Property for remedial action and the Owner has agreed to such remedial action under the terms set forth below;

NOW THEREFORE, it is agreed that:

1. Right of Entry, Inspection and Right to Restrict Access

- a. The Owner owns and controls the Vicinity Property and hereby grants to the State and to DOE, their authorized representatives, contractors and subcontractors, without payment of any land use charge: (a) right of entry in, across, and over the Vicinity Property to perform remedial action on the Vicinity Property and to take soil samples, perform radiological surveys, and to perform or take any other reasonable action consistent with expeditious performance and evaluation of such remedial action; and (b) the right to restrict access to, and post appropriate warning signs on, such parts of the Vicinity Property, as may be necessary, in order to facilitate remedial action and protect the health and assure the safety of the public; PROVIDED, that such rights are subject to existing easements for public roads and highways, public utilities, railroads and pipelines.

- b. The Owner further grants to the State and to the Government, including DOE, and the Nuclear Regulatory Commission, and their authorized representatives, the right to periodically enter upon the Vicinity Property at any time in order to inspect the Vicinity Property for the purposes of carrying out this Agreement and enforcing the Act and any rules and regulations promulgated under the Act.
2. Title to Residual Radioactive Materials. The Owner hereby grants to DOE all right, title and interest in all residual radioactive materials, equipment, vegetation, improvements and other property permanently removed from the Vicinity Property by the State or DOE, their authorized representatives, agents, contractors and subcontractors, in performing remedial action upon the Vicinity Property.
3. Remedial Action. The remedial action to be performed shall be that which is described in the Vicinity Property Remedial Action Plan attached hereto as Appendix B and incorporated herein by reference, subject to such changes deemed necessary by the State and DOE during the performance of such remedial action. The Owner shall be informed of all such changes. The remedial action contemplated herein shall be performed by the DOE, its authorized representatives, agents, contractors and subcontractors. The Owner shall not be held liable or have a duty to pay for any of the remedial action work performed hereunder by DOE, its authorized representatives, contractors and subcontractors. Upon completion of such remedial action work, the Owner shall execute the Owner Acceptance Form attached hereto as Appendix C and incorporated herein by reference.
4. Restoration. DOE shall be responsible for loss or destruction of, or damage to, the Owner's real and personal property caused by the activities of DOE, its authorized representatives, contractors and subcontractors, in exercising any of the rights granted in this Agreement; PROVIDED, that such responsibility shall be limited to restoration of such real and personal property to a condition comparable to its condition immediately prior to the performance of any remedial action by techniques of backfilling, seeding, sodding, landscaping, rebuilding, repair or replacement as indicated in the Vicinity Property Remedial Action Plan (Appendix B), and such other methods as may be agreed to by the State, DOE, and the Owner during the course of remedial action under this Agreement.

5. Release of Liability/Hold Harmless. Subject to the provision of Paragraph 4, Restoration, the Owner, on behalf of himself, his heirs, successors and assigns, hereby: (1) releases the State and the Government from, and holds the State and Government harmless against, any liability or claim thereof by the Owner on behalf of the Owner, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property; and (2) releases contractors and subcontractors of the Government, and holds contractors and subcontractors of the Government harmless against, any liability or claim thereof by the Owner on behalf of the Owner, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property, if the Government, by virtue of its contractual relationship, would be ultimately financially responsible for such liability or claim. For purposes of this Agreement, the term "subcontractors" includes all tiers of subcontracts.

6. State- or Government-Owned Property. Except for title to personal property brought to the Vicinity Property by DOE or the State in order to restore the Vicinity Property pursuant to the Vicinity Property Remedial Action Plan (Appendix B) or Paragraph 4, Restoration, title to all personal property brought to the Vicinity Property by the State or the Government, or their authorized representatives, contractors or subcontractors, during the term of this Agreement shall remain in the State or the Government, as appropriate, and such title shall not be affected by incorporation or attachment thereof to any property not owned by the State or the Government, nor shall such personal property, or any part thereof, become a fixture or lose its identity as personalty by reason of affixation to any realty. The Owner shall not be liable for any loss of or damage to such State or Government personal property, or for expenses incidental to such loss or damage, except that the Owner shall be responsible for any such loss or damage (including expenses incidental thereto) which results from the willful misconduct or lack of good faith of the Owner.

7. Permits and Licenses. The State and DOE, their authorized representatives, contractors and subcontractors, shall obtain all necessary permits or licenses and abide by all applicable Government, State, and local laws, regulations and ordinances.

8. Lessee/Sublessee Consent. If the Vicinity Property is subject to any leases or subleases, the Owner shall obtain the consent of the lessees and sublessees, as appropriate, to enter into this Agreement. Such consent shall be evidenced by the signatures of the lessees and sublessees in the space provided on the Lessee/Sublessee Consent Page of the Agreement. Such consent shall constitute the unconditional agreement, by each lessee or sublessee, with all terms and conditions of this Agreement, including but not limited to: the terms and conditions regarding right of entry and inspection, right to restrict access, transfer of title to residual radioactive materials and other property permanently removed from the Vicinity Property, title to State- or Government-owned property, notice to subsequent purchasers, term and termination, and appropriations; Appendix A; Appendix B; and Appendix C. By such consent, each lessee or sublessee, on behalf of himself, his heirs, successors and assigns, hereby: (1) releases the State and the Government from, and holds the State and Government harmless against, any liability or claim thereof by the lessee or sublessee on behalf of the lessee or sublessee, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property; and (2) releases contractors and subcontractors of the Government, and holds contractors and subcontractors of the Government harmless against, any liability or claim thereof by the lessee or sublessee on behalf of the lessee or sublessee, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property, if the Government, by virtue of its contractual relationship, would be ultimately financially responsible for such liability or claim. For purposes of this Agreement, the term "subcontractors" includes all tiers of subcontracts.
9. Binding Effect. The provisions of this Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the Owner. Except to the extent lessees and sublessees have consented to this Agreement pursuant to Paragraph 8, Lessee/Sublessee Consent, the Owner shall: (1) notify the State Site Representative or the Contracting Officer as designated in the signature blocks below, if the Vicinity Property is, or at any time during the term of this Agreement should become, leased, sold, or otherwise transferred to a party other than the Owner; and (2) give written notice to any purchaser, lessee, or transferee of the applicability of the rights of the State and the Government contained in this Agreement when such purchase, lease, or transfer takes place during the term of this Agreement.

10. Notice to Subsequent Purchasers. The State shall take such action as may be necessary, pursuant to DOE regulations and with the informed consent of the Owner by virtue of his or her execution of this Agreement, to assure that any person who purchases the Vicinity Property after the removal of residual radioactive materials from the Vicinity Property shall be notified, through the public land records, prior to purchase, of the nature and extent of residual radioactive materials removed from the Vicinity Property, including notice of the date when such action took place, and the condition of the Vicinity Property after such action.
11. Covenant Against Contingent Fees. The Owner warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Owner for the purpose of securing business. For breach or violation of this warranty, DOE and the State shall have the right to annul this Agreement without liability or in its direction to recover from the Owner, the full amount of such commission, percentage, brokerage, or contingent fees.
12. Officials Not to Benefit. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.
13. Health and Safety. The State and DOE, their authorized representatives, contractors and subcontractors, shall use their best efforts to protect the health and assure the safety of the public during performance of remedial action under this Agreement.
14. Term and Termination.
 - a. The effective date of this agreement shall be the date of execution by the DOE. The term of this agreement shall commence on the effective date hereof and shall continue, unless sooner terminated hereunder, until the remedial action upon the Vicinity Property is completed and certification by DOE, through radiological measurements deemed appropriate by DOE, that the Vicinity Property meets the applicable radiation standards promulgated by the U.S. Environmental Protection Agency (40 CFR Part 192) for the protection of the public health, safety and environment.

- b. The State and DOE may terminate this Agreement at any time and for any reason, and such termination shall be effected by delivery, by the State or DOE, or both, to the Owner of a Notice of Termination specifying the reason for the termination and the date upon which such termination becomes effective; PROVIDED, that this Agreement shall not be so terminated until such time as the State and DOE restore the Vicinity Property to a condition comparable to its condition immediately prior to the performance of any remedial action thereon under this Agreement.
15. App. oriations and Expenditures. To the extent that provisions of this Agreement call for the expenditure of appropriated funds in fiscal years subsequent to the current fiscal year, such provisions shall be subject to the availability of funds, appropriated by both Congress and the State, which may be legally expended for such purposes.
16. Appendices. The following Appendices are attached to and made a part of this Agreement:
- Appendix A - Vicinity Property Map and Legal Description.
 - Appendix B - Vicinity Property Remedial Action Plan
 - Appendix C - Owner Acceptance Form

Vicinity Property No. LK-909S
DOF Agreement No. DE-RO04-87AL38194

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in several counterparts.

STATE OF OREGON
OREGON DEPARTMENT OF ENERGY

By: David O. Kish
DAVID KISH, DIRECTOR
OREGON DEPARTMENT OF ENERGY
111 LABOR AND INDUSTRIES BUILDING
SALEM, OREGON 97310

DATE 5-28-87

UNITED STATES OF AMERICA
U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE

By: _____
TIMOTHY R. COALSON
CONTRACTING OFFICER
P.O. BOX 5400
ALBUQUERQUE, NM 87115

DATE _____

OWNER: FREMONT SAWMILL COMPANY

By: Bob Evans
BOB EVANS, MANAGER

DATE 5/11/87

ADDRESS: P.O. BOX 1340
LAKEVIEW, OR 97630

LESSEE/SUBLESSEE CONSENT PAGE

THE FOLLOWING LESSEES AND SUBLESSEES OF THE VICINITY PROPERTY HAVE CONSENTED TO THIS AGREEMENT AFTER READING AND ACKNOWLEDGING ALL TERMS AND CONDITIONS OF THIS AGREEMENT INCLUDING, BUT NOT LIMITED TO, PARAGRAPH 8, LESSEE/SUBLESSEE CONSENT.

NAME:

INTEREST:

1. _____
(Print or Type Name)

(Lessee or Sublessee)

(Signature)

(Address)

2. _____
(Print or Type Name)

(Lessee or Sublessee)

(Signature)

(Address)

Vicinity Property No. LK-009S
DOE Agreement No. DE-R004-87AL38194

APPENDIX A
VICINITY PROPERTY MAP
AND
LEGAL DESCRIPTION

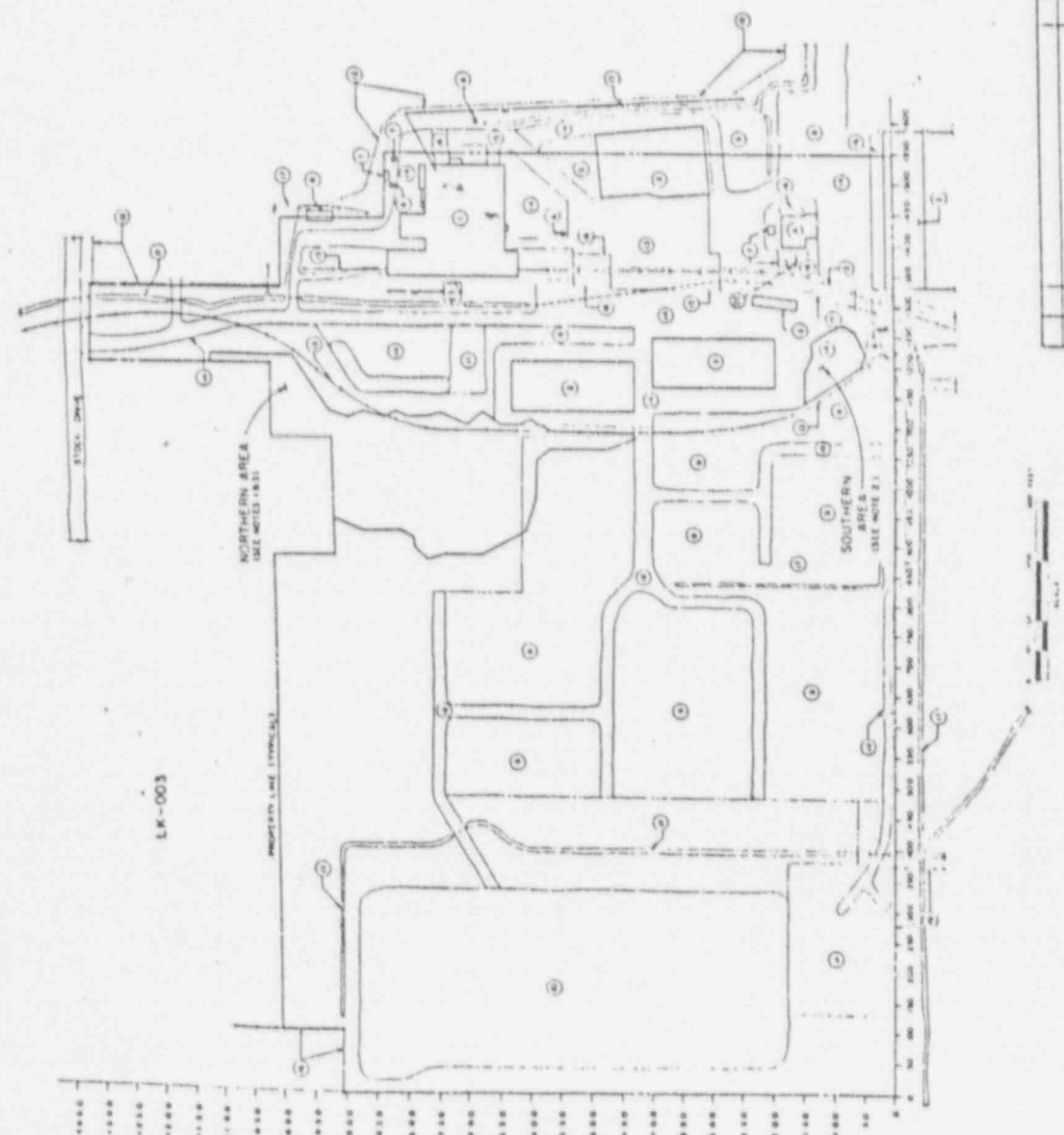
PROPERTY:	ADDRESS	SOUTH OF MISSOURI AVENUE LAKEVIEW, OR 97630
OWNER:	NAME	FREMONT SAWMILL COMPANY P.O. BOX 1340 LAKEVIEW, OR 97630

LEGEND

1. SAW MILL BUILDING
2. STORAGE BARRIS
3. DUST COLLECTOR
4. MILLING BUILDING
5. WASTEWATER
6. FIRE SHEDS
7. STORAGE SHEDS
8. STORAGE SHED (PARTIALLY COLLAPSED)
9. PRODUCT STORAGE AREAS
10. SAW DUST STORAGE PILE
11. JAM STORAGE AREAS
12. SECURITY FENCING
13. RAILROAD TRACKS
14. GRAVEL ROADWAY OR PARKING AREA
15. ASPHALT ROADWAY OR PARKING AREA
16. CONCRETE SLAB
17. DRAINAGE DITCH OR CANAL
18. DIRT ROADWAY
19. PROPERTY FENCING
20. TOWER

NOTES

1. FOR AUGER HOLE AND SOIL SAMPLE LOCATIONS WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-DK.
2. FOR AUGER HOLE AND SOIL SAMPLE LOCATIONS WITHIN SOUTHERN AREA, SEE DRAWING NUMBER LK-008-DK.
3. FOR ESTIMATED DEPTH OF CONTAMINATION WITHIN NORTHERN AREA, SEE DRAWING NUMBER LK-009-DT.
4. FOR ESTIMATED DEPTH OF CONTAMINATION WITHIN SOUTHERN AREA, SEE DRAWING NUMBER LK-008-DT.



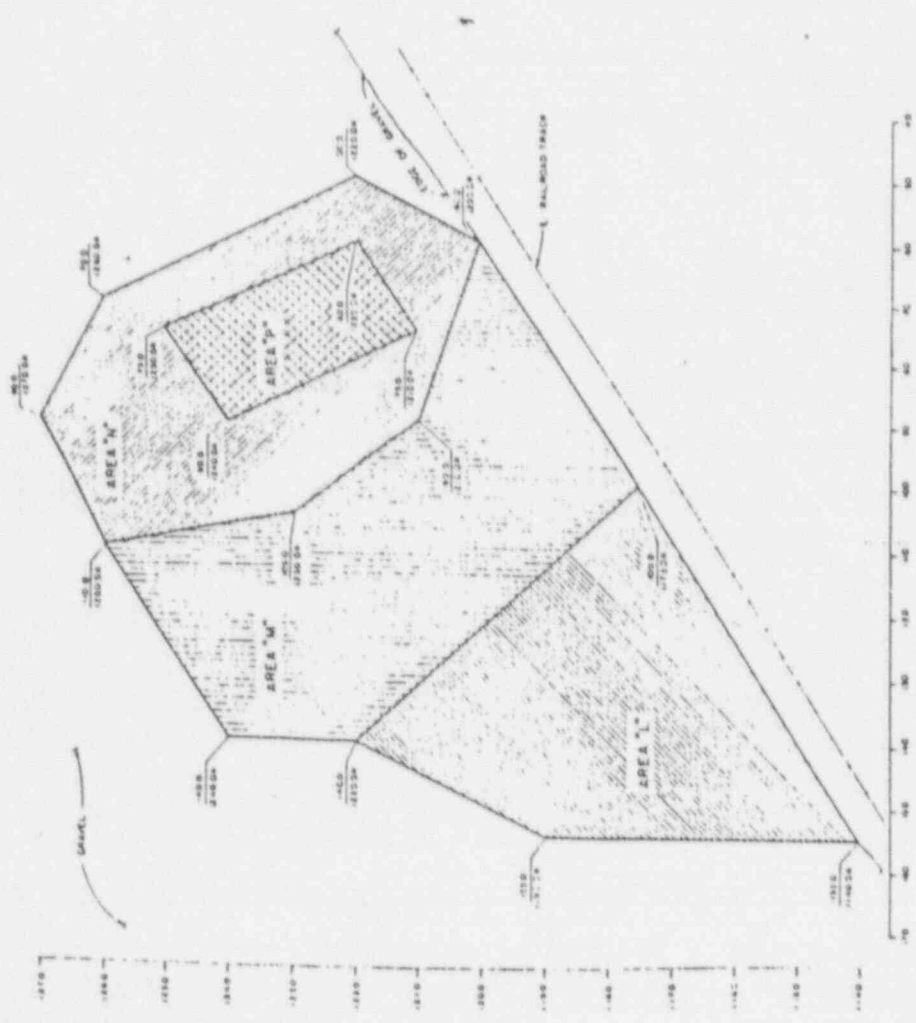
U. S. DEPARTMENT OF ENERGY	
ALBUQUERQUE, NEW MEXICO	
PROJECT	RADIOLOGICAL SURVEY DATA
SCALE	KEY PLAN LK-008
DATE	DATE
BY	BY
CHECKED	CHECKED
APPROVED	APPROVED
MORRISON MADSEN	
DE-AC04-83SL8796 PROJECT: LK-009-C15	

VICINITY PROPERTY MAP
A-2



NOTES

- 1. THIS DRAWING INDICATES LIMITS OF EXCAVATION WITHIN SOUTHERN AREA OF PROPERTY LK-009.
- 2. FOR GENERAL NOTES SEE DRAWING NUMBER LK-009-020.



U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

EXCAVATION AND RESTRICTION PLAN
SOUTHERN AREA
LK-009

APPROVED: [Signature]
DATE: [Date]

PROJECT NO. DE-2004-83AL-0796
DRAWING NO. A-4

MORRISON
MNUDSEN

NO.	DATE	BY	DESCRIPTION
1	11/11/04	MM	ISSUED FOR CONSTRUCTION
2	11/11/04	MM	ISSUED FOR CONSTRUCTION
3	11/11/04	MM	ISSUED FOR CONSTRUCTION
4	11/11/04	MM	ISSUED FOR CONSTRUCTION
5	11/11/04	MM	ISSUED FOR CONSTRUCTION
6	11/11/04	MM	ISSUED FOR CONSTRUCTION
7	11/11/04	MM	ISSUED FOR CONSTRUCTION
8	11/11/04	MM	ISSUED FOR CONSTRUCTION
9	11/11/04	MM	ISSUED FOR CONSTRUCTION
10	11/11/04	MM	ISSUED FOR CONSTRUCTION

VICINITY PROPERTY MAP

LEGAL DESCRIPTION

The property which is the subject of this Remedial Action Agreement, the address of which is South of Missouri Avenue, Lakeview Oregon, is more particularly described in the Lake County Recorder's Office, as follows:

All of the real property of every kind and nature or any interest in any real property of any kind or nature being located within Lake County, Oregon, including the N 1/2, S 1/2, SW 1/4 SE 1/4 of Section 15, Township 39 South, Range 19 East of the Willamette Meridian.

Vicinity Property No. LK-009S
DOE Agreement No. DE-R004-87AL38194

APPENDIX B

VICINITY PROPERTY

REMEDIAL ACTION PLAN

PROPERTY:	ADDRESS	SOUTH OF MISSOURI AVENUE LAKEVIEW, OR 97630
OWNER:		FREMONT SAWMILL COMPANY
	ADDRESS	P.O. BOX 1340 LAKEVIEW, OR 97630

Surveys have shown that low-level radioactive contamination exists on this property. In order to meet criteria established for contaminated properties associated with the Lakeview Processing Site, it will be necessary to remove contaminated soil and materials and, as may be required, such plantings and property improvements on the affected areas as shown in Appendix A. (NOTE: These are estimates based upon preliminary radiological surveys, and the exact amounts of property affected and the scope of work will be determined at the time of excavation).

Following removal of contaminated material and restoration of the property, the U.S. Department of Energy (DOE) will certify that the property meets applicable radiological criteria. Every effort will be made to restore the property as nearly as reasonably practical to its original condition. Efforts will be made to minimize disruptions and inconvenience to the occupants.

On this property it is anticipated that the following improvements will be affected:

1. None.

The following sequence of Remedial Action operations is anticipated for this property:

- A. Install safety/security fence, as needed, for protection of the public during the cleanup.
- B. Radiological measurements to mark contamination limits and guide the excavation, determining whether sufficient material has been removed.
- C. Dust control measures, as needed, during excavation and loading to minimize airborne contamination.
- D. Excavation of the contaminated areas, as described.
- E. Trucks will transport the contaminated materials from the vicinity property to the designated disposal site.
- F. Backfill and restore the excavated areas to their original condition.
- G. Removal of safety/security fence, as needed, at completion of work.
- H. Contaminated materials under the railroad tracks will be left in place, per 40 CFR 192, Supplemental Standards. Per the MK-F letter to Mr. Bob Evans, 2/19/87, the health hazards associated with this material is very low. The State of Oregon, the U.S. Nuclear Regulatory Commission, and the U.S. Department of Energy must all concur with the application of Supplemental Standards to this portion of the property.

APPENDIX C
OWNER ACCEPTANCE FORM

The undersigned Owner(s) of the Vicinity Property subject to DOE Vicinity Property Remedial Action Agreement No. DE-R004-87AL38194 acknowledge(s) that the remedial action described in the Vicinity Property Remedial Action Plan (Appendix B) of said Agreement has been satisfactorily performed and the DOE and the State have no further obligation under said Agreement except:

1. DOE must officially certify, in accordance with DOE policy implementing Public Law 95-604, that remedial actions on the Vicinity Property are in compliance with applicable radiation standards promulgated by the U.S. Environmental Protection Agency for the protection of the public health, safety and environment.
2. DOE, for the benefit of the Owner(s), shall use its best efforts to enforce any warranties or guarantees, express or implied, which the Government or its prime contractors are entitled to in connection with failure of remedial action work caused by omission of materials, defective materials or poor workmanship, or improper workmanship.

OWNER: FREMONT SAWMILL COMPANY

BY: _____
BOB EVANS, MANAGER

DATE: _____

JUL 21 11 51 PM '87



MK-FERGUSON COMPANY

A MORRISON KNUDSEN COMPANY

UMTRA PROJECT OFFICE

P.O. BOX 9136

ALBUQUERQUE, NEW MEXICO 87119

VICINITY PROPERTY REMEDIAL ACTION AGREEMENT

THIS AGREEMENT, entered into by and among the UNITED STATES OF AMERICA (hereinafter referred to as the "Government"), represented by the United States Department of Energy (hereinafter referred to as "DOE"), the STATE OF OREGON (hereinafter referred to as the "State"), represented by the Oregon Department of Energy (hereinafter referred to as the "DEPARTMENT") and FREMONT SAWMILL COMPANY, (hereinafter referred to as the "Owner"),

WITNESSETH THAT:

WHEREAS, pursuant to Title I of the Uranium Mill Tailings Radiation Control Act of 1978, Public Law 95-604 (hereinafter referred to as the "Act"), the Government, represented by DOE, and the State have entered into a cooperative agreement (hereinafter referred to as "Cooperative Agreement") in order to implement a jointly-conducted program of assessment and remedial action at that certain DOE-designated processing site in LAKEVIEW, OREGON, known as the LAKEVIEW PROCESSING SITE, together with associated vicinity properties; and

WHEREAS, the Owner owns and controls a parcel of real property (hereinafter referred to as the "Vicinity Property") described in the map attached hereto as Appendix A; and

WHEREAS, DOE has designated the Vicinity Property for remedial action and the Owner has agreed to such remedial action under the terms set forth below;

NOW THEREFORE, it is agreed that:

1. Right of Entry, Inspection and Right to Restrict Access

- a. The Owner owns and controls the Vicinity Property and hereby grants to the State and to DOE, their authorized representatives, contractors and subcontractors, without payment of any land use charge: (a) right of entry in, across, and over the Vicinity Property to perform remedial action on the Vicinity Property and to take soil samples, perform radiological surveys, and to perform or take any other reasonable action consistent with expeditious performance and evaluation of such remedial action; and (b) the right to restrict access to, and post appropriate warning signs on, such parts of the Vicinity Property, as may be necessary, in order to facilitate remedial action and protect the health and assure the safety of the public; PROVIDED, that such rights are subject to existing easements for public roads and highways, public utilities, railroads and pipelines.

URFO-10

NRC FILE CENTER COPY

- b. The Owner further grants to the State and to the Government, including DOE, and the Nuclear Regulatory Commission, and their authorized representatives, the right to periodically enter upon the Vicinity Property at any time in order to inspect the Vicinity Property for the purposes of carrying out this Agreement and enforcing the Act and any rules and regulations promulgated under the Act.
2. Title to Residual Radioactive Materials. The Owner hereby grants to DOE all right, title and interest in all residual radioactive materials, equipment, vegetation, improvements and other property permanently removed from the Vicinity Property by the State or DOE, their authorized representatives, agents, contractors and subcontractors, in performing remedial action upon the Vicinity Property.
3. Remedial Action. The remedial action to be performed shall be that which is described in the Vicinity Property Remedial Action Plan attached hereto as Appendix B and incorporated herein by reference, subject to such changes deemed necessary by the State and DOE during the performance of such remedial action. The Owner shall be informed of all such changes. The remedial action contemplated herein shall be performed by the DOE, its authorized representatives, agents, contractors and subcontractors. The Owner shall not be held liable or have a duty to pay for any of the remedial action work performed hereunder by DOE, its authorized representatives, contractors and subcontractors. Upon completion of such remedial action work, the Owner shall execute the Owner Acceptance Form attached hereto as Appendix C and incorporated herein by reference.
4. Restoration. DOE shall be responsible for loss or destruction of, or damage to, the Owner's real and personal property caused by the activities of DOE, its authorized representatives, contractors and subcontractors, in exercising any of the rights granted in this Agreement; PROVIDED, that such responsibility shall be limited to restoration of such real and personal property to a condition comparable to its condition immediately prior to the performance of any remedial action by techniques of backfilling, seeding, sodding, landscaping, rebuilding, repair or replacement as indicated in the Vicinity Property Remedial Action Plan (Appendix B), and such other methods as may be agreed to by the State, DOE, and the Owner during the course of remedial action under this Agreement.

5. Release of Liability/Hold Harmless. Subject to the provision of Paragraph 4, Restoration, the Owner, on behalf of himself, his heirs, successors and assigns, hereby: (1) releases the State and the Government from, and holds the State and Government harmless against, any liability or claim thereof by the Owner on behalf of the Owner, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property; and (2) releases contractors and subcontractors of the Government, and holds contractors and subcontractors of the Government harmless against, any liability or claim thereof by the Owner on behalf of the Owner, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property, if the Government, by virtue of its contractual relationship, would be ultimately financially responsible for such liability or claim. For purposes of this Agreement, the term "subcontractors" includes all tiers of subcontracts.

6. State- or Government-Owned Property. Except for title to personal property brought to the Vicinity Property by DOE or the State in order to restore the Vicinity Property pursuant to the Vicinity Property Remedial Action Plan (Appendix B) or Paragraph 4, Restoration, title to all personal property brought to the Vicinity Property by the State or the Government, or their authorized representatives, contractors or subcontractors, during the term of this Agreement shall remain in the State or the Government, as appropriate, and such title shall not be affected by incorporation or attachment thereof to any property not owned by the State or the Government, nor shall such personal property, or any part thereof, become a fixture or lose its identity as personalty by reason of affixation to any realty. The Owner shall not be liable for any loss of or damage to such State or Government personal property, or for expenses incidental to such loss or damage, except that the Owner shall be responsible for any such loss or damage (including expenses incidental thereto) which results from the willful misconduct or lack of good faith of the Owner.

7. Permits and Licenses. The State and DOE, their authorized representatives, contractors and subcontractors, shall obtain all necessary permits or licenses and abide by all applicable Government, State, and local laws, regulations and ordinances.

8. Lessee/Sublessee Consent. If the Vicinity Property is subject to any leases or subleases, the Owner shall obtain the consent of the lessees and sublessees, as appropriate, to enter into this Agreement. Such consent shall be evidenced by the signatures of the lessees and sublessees in the space provided on the Lessee/Sublessee Consent Page of the Agreement. Such consent shall constitute the unconditional agreement, by each lessee or sublessee, with all terms and conditions of this Agreement, including but not limited to: the terms and conditions regarding right of entry and inspection, right to restrict access, transfer of title to residual radioactive materials and other property permanently removed from the Vicinity Property, title to State- or Government-owned property, notice to subsequent purchasers, term and termination, and appropriations; Appendix A; Appendix B; and Appendix C. By such consent, each lessee or sublessee, on behalf of himself, his heirs, successors and assigns, hereby: (1) releases the State and the Government from, and holds the State and Government harmless against, any liability or claim thereof by the lessee or sublessee on behalf of the lessee or sublessee, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property; and (2) releases contractors and subcontractors of the Government, and holds contractors and subcontractors of the Government harmless against, any liability or claim thereof by the lessee or sublessee on behalf of the lessee or sublessee, his heirs, successors or assigns arising out of the performance of any remedial action on the Vicinity Property, if the Government, by virtue of its contractual relationship, would be ultimately financially responsible for such liability or claim. For purposes of this Agreement, the term "subcontractors" includes all tiers of subcontractors.
9. Binding Effect. The provisions of this Agreement shall be binding upon and shall inure to the benefit of the successors and assigns of the Owner. Except to the extent lessees and sublessees have consented to this Agreement pursuant to Paragraph 8, Lessee/Sublessee Consent, the Owner shall: (1) notify the State Site Representative or the Contracting Officer as designated in the signature blocks below, if the Vicinity Property is, or at any time during the term of this Agreement should become, leased, sold, or otherwise transferred to a party other than the Owner; and (2) give written notice to any purchaser, lessee, or transferee of the applicability of the rights of the State and the Government contained in this Agreement when such purchase, lease, or transfer takes place during the term of this Agreement.

10. Notice to Subsequent Purchasers. The State shall take such action as may be necessary, pursuant to DOE regulations and with the informed consent of the Owner by virtue of his or her execution of this Agreement, to assure that any person who purchases the Vicinity Property after the removal of residual radioactive materials from the Vicinity Property shall be notified, through the public land records, prior to purchase, of the nature and extent of residual radioactive materials removed from the Vicinity Property, including notice of the date when such action took place, and the condition of the Vicinity Property after such action.
11. Covenant Against Contingent Fees. The Owner warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bona fide employees or bona fide established commercial or selling agencies maintained by the Owner for the purpose of securing business. For breach or violation of this warranty, DOE and the State shall have the right to annul this Agreement without liability or in its direction to recover from the Owner, the full amount of such commission, percentage, brokerage, or contingent fee.
12. Officials Not to Benefit. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.
13. Health and Safety. The State and DOE, their authorized representatives, contractors and subcontractors, shall use their best efforts to protect the health and assure the safety of the public during performance of remedial action under this Agreement.
14. Term and Termination.
 - a. The effective date of this agreement shall be the date of execution by the DOE. The term of this agreement shall commence on the effective date hereof and shall continue, unless sooner terminated hereunder, until the remedial action upon the Vicinity Property is completed and certification by DOE, through radiological measurements deemed appropriate by DOE, that the Vicinity Property meets the applicable radiation standards promulgated by the U.S. Environmental Protection Agency (40 CFR Part 192) for the protection of the public health, safety and environment.

- b. The State and DOE may terminate this Agreement at any time and for any reason, and such termination shall be effected by delivery, by the State or DOE, or both, to the Owner of a Notice of Termination specifying the reason for the termination and the date upon which such termination becomes effective; PROVIDED, that this Agreement shall not be so terminated until such time as the State and DOE restore the Vicinity Property to a condition comparable to its condition immediately prior to the performance of any remedial action thereon under this Agreement.
15. Appropriations and Expenditures. To the extent that provisions of this Agreement call for the expenditure of appropriated funds in fiscal years subsequent to the current fiscal year, such provisions shall be subject to the availability of funds, appropriated by both Congress and the State, which may be legally expended for such purposes.
16. Appendices. The following Appendices are attached to and made a part of this Agreement:
- Appendix A - Vicinity Property Map and Legal Description.
 - Appendix B - Vicinity Property Remedial Action Plan
 - Appendix C - Owner Acceptance Form

Vicinity Property No. LK-0095
DOE Agreement No. DE-R004-87AL38194

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in several counterparts.

STATE OF OREGON
OREGON DEPARTMENT OF ENERGY

By: David O. Kish
DAVID KISH, DIRECTOR
OREGON DEPARTMENT OF ENERGY
111 LABOR AND INDUSTRIES BUILDING
SALEM, OREGON 97310

DATE 5-28-87

UNITED STATES OF AMERICA
U.S. DEPARTMENT OF ENERGY
ALBUQUERQUE OPERATIONS OFFICE

By: Timothy R. Coalsen
TIMOTHY R. COALSON
CONTRACTING OFFICER
P.O. BOX 5400
ALBUQUERQUE, NM 87115

DATE JUN 15 1987

OWNER: FREMONT SAWMILL COMPANY

By: Bob Evans
BOB EVANS, MANAGER

DATE 5/1/87

ADDRESS: P.O. BOX 1340
LAKEVIEW, OR 97630

LESSEE/SUBLESSEE CONSENT PAGE

THE FOLLOWING LESSEES AND SUBLESSEES OF THE VICINITY PROPERTY HAVE CONSENTED TO THIS AGREEMENT AFTER READING AND ACKNOWLEDGING ALL TERMS AND CONDITIONS OF THIS AGREEMENT INCLUDING, BUT NOT LIMITED TO, PARAGRAPH 8, LESSEE/SUBLESSEE CONSENT.

NAME:

INTEREST:

1. _____
(Print or Type Name)

(Lessee or Sublessee)

(Signature)

(Address)

2. _____
(Print or Type Name)

(Lessee or Sublessee)

(Signature)

(Address)

Vicinity Property No. LK-009S
DOE Agreement No. DE-R004-87AL38194

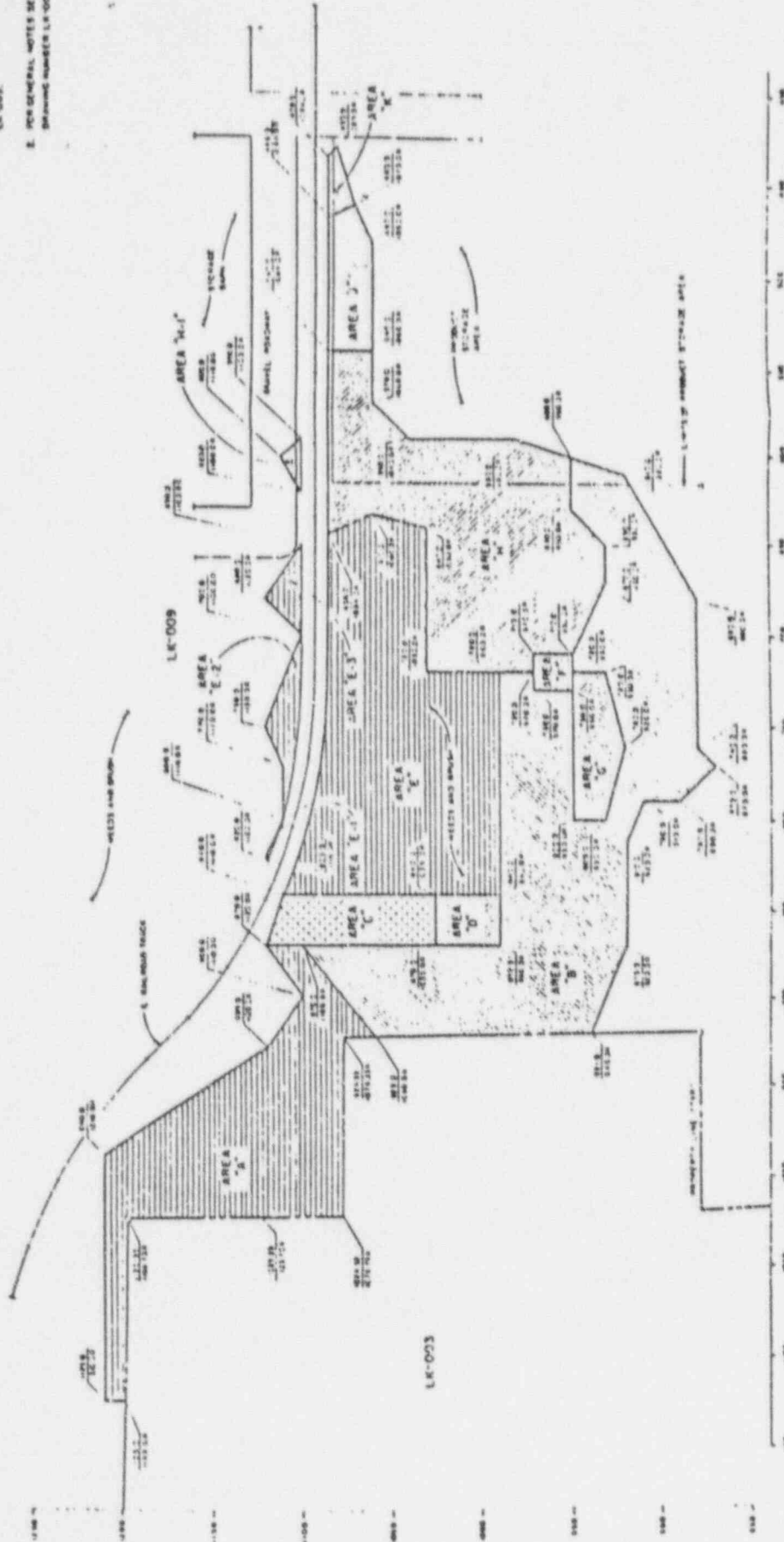
APPENDIX A
VICINITY PROPERTY MAP
AND
LEGAL DESCRIPTION

PROPERTY:	ADDRESS	SOUTH OF MISSOURI AVENUE LAKEVIEW, OR 97630
OWNER:	NAME	FREMONT SAWMILL COMPANY P.O. BOX 1340 LAKEVIEW, OR 97630



NOTES

- 1 THIS DRAWING INDICATES LIMITS OF EXCAVATION WORKING WITHIN THE AREA OF REQUEST LK-009.
- 2 FOR GENERAL NOTES SEE DRAWING NUMBER LK-009-010.



U. S. DEPARTMENT OF ENERGY
 ALBUQUERQUE, NEW MEXICO

EXCAVATION AND RESTORATION PLAN
 NORTHERN AREA
 LK-009
 LAURENCE CHESON

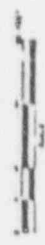
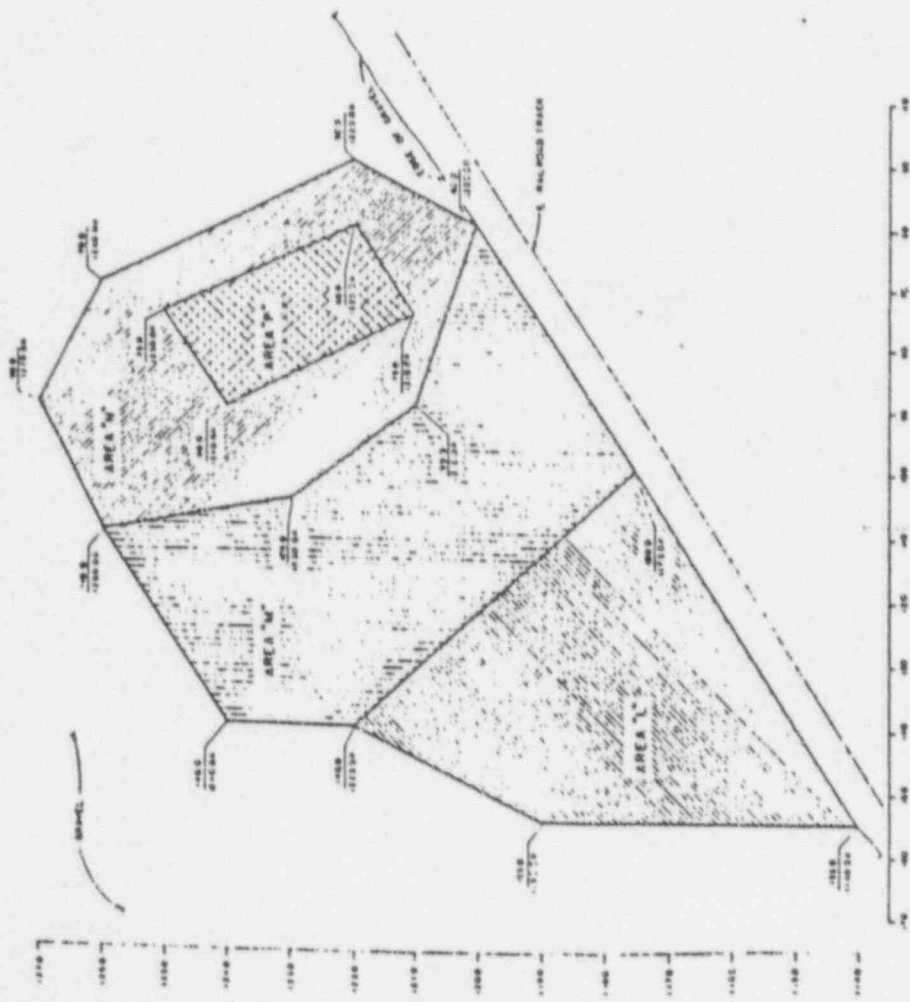
MORRISON KNUDSEN
 DE-AC09-83A-8795

VICINITY PROPERTY MAP
 A-3



NOTES

- 1. THIS DRAWING INDICATES LIMITS OF EXCAVATION WITHIN SOUTHERN AREA OF PROPERTY LX-008
- 2. FOR GENERAL NOTES SEE DRAWING NUMBER LX-008-020.



U. S. DEPARTMENT OF ENERGY
ALBUQUERQUE, NEW MEXICO

EXCAVATION AND RESTORATION PLAN
SOUTHERN AREA
LX-008

DESIGNED BY: MORRISON KNUDSEN
PROJECT NO.: DC-2204-83AL0796
DATE: 11-22-72

NO.	DATE	DESCRIPTION
1	11-22-72	ISSUED FOR CONSTRUCTION
2		
3		
4		
5		
6		
7		
8		
9		
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VICINITY PROPERTY MAP

Vicinity Property No. LK-009S
DOE Agreement No. DE-R004-87AL38194

LEGAL DESCRIPTION

The property which is the subject of this Remedial Action Agreement, the address of which is South of Missouri Avenue, Lakeview Oregon, is more particularly described in the Lake County Recorder's Office, as follows:

All of the real property of every kind and nature or any interest in any real property of any kind or nature being located within Lake County, Oregon, including the N 1/2, S 1/2, SW 1/4 SE 1/4 of Section 15, Township 39 South, Range 19 East of the Willamette Meridian.

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APPENDIX B
VICINITY PROPERTY
REMEDIAL ACTION PLAN

PROPERTY:	ADDRESS	SOUTH OF MISSOURI AVENUE LAKEVIEW, OR 97630
OWNER:	ADDRESS	FREMONT SAWMILL COMPANY P.O. BOX 1340 LAKEVIEW, OR 97630

Surveys have shown that low-level radioactive contamination exists on this property. In order to meet criteria established for contaminated properties associated with the Lakeview Processing Site, it will be necessary to remove contaminated soil and materials and, as may be required, such plantings and property improvements on the affected areas as shown in Appendix A. (NOTE: These are estimates based upon preliminary radiological surveys, and the exact amounts of property affected and the scope of work will be determined at the time of excavation).

Following removal of contaminated material and restoration of the property, the U.S. Department of Energy (DOE) will certify that the property meets applicable radiological criteria. Every effort will be made to restore the property as nearly as reasonably practical to its original condition. Efforts will be made to minimize disruptions and inconvenience to the occupants.

On this property it is anticipated that the following improvements will be affected:

1. None.

The following sequence of Remedial Action operations is anticipated for this property:

- A. Install safety/security fence, as needed, for protection of the public during the cleanup.
- B. Radiological measurements to mark contamination limits and guide the excavation, determining whether sufficient material has been removed.
- C. Dust control measures, as needed, during excavation and loading to minimize airborne contamination.
- D. Excavation of the contaminated areas, as described.
- E. Trucks will transport the contaminated materials from the vicinity property to the designated disposal site.
- F. Backfill and restore the excavated areas to their original condition.
- G. Removal of safety & security fence, as needed, at completion of work.
- H. Contaminated materials under the railroad tracks will be left in place, per 40 CFR 192, Supplemental Standards. Per the MK-F letter to Mr. Bob Evans, 2/19/87, the health hazards associated with this material is very low. The State of Oregon, the U.S. Nuclear Regulatory Commission, and the U.S. Department of Energy must all concur with the application of Supplemental Standards to this portion of the property.

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APPENDIX C
OWNER ACCEPTANCE FORM

The undersigned Owner(s) of the Vicinity Property subject to DOE Vicinity Property Remedial Action Agreement No. DE-R004-87AL38194 acknowledge(s) that the remedial action described in the Vicinity Property Remedial Action Plan (Appendix B) of said Agreement has been satisfactorily performed and the DOE and the State have no further obligation under said Agreement except:

1. DOE must officially certify, in accordance with DOE policy implementing Public Law 95-604, that remedial actions on the Vicinity Property are in compliance with applicable radiation standards promulgated by the U.S. Environmental Protection Agency for the protection of the public health, safety and environment.
2. DOE, for the benefit of the Owner(s), shall use its best efforts to enforce any warranties or guarantees, express or implied, which the Government or its prime contractors are entitled to in connection with failure of remedial action work caused by omission of materials, defective materials or poor workmanship, or improper workmanship.

OWNER: FREMONT SAWMILL COMPANY

BY: _____
BOB EVANS, MANAGER

DATE: _____