

RED GRCC 97

Stuart



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Gallup, New Mexico
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505.
722.3833

July 3, 1997

Mr. Stuart Dinwiddie, Manager, RCRA Permit Management
New Mexico Environment Department
Hazardous and Radioactive Materials Bureau
2044 Galisteo
P. O. Box 26110
Santa Fe, New Mexico 87502



RE: RCRA LAND TREATMENT UNIT CLOSURE

Dear Mr. Dinwiddie:

Dave Pavlich and I had several phone conversations with Steve Pullen in May, 1997 regarding Giant's request for "clean" closure in the Closure Plan submitted in July, 1996. Mr. Pullen expressed some concern with levels of Chromium and Lead in the LTU soil. Following those conversations Giant conducted a review of all available historical information on sampling and background data regarding Chromium (Cr) and Lead (Pb) contaminant levels in and near the area of the Land Treatment Unit. Additionally, Giant has conducted sampling in 1996 and 1997 to ascertain current levels of Lead (Pb) and Chromium (Cr). The pertinent data from our records review and recent sampling is summarized below. For easier identification, background data is italicized; data from samples within the LTU is in bold letters.

The LTU is divided into 3 cells (Please see Figure 1). Cells 1 and 2 received plant hazardous wastes from 1981 to 1990. No wastes were ever applied to Cell 3. Background samples from the LTU soils were collected in 1980, prior to any wastes being applied (Please see Figure 2). This data is listed below in Table A. Background data is italicized.

TABLE A
Background Data from the LTU Prior to any Waste Application
Source - Ground Water Monitoring Plan 1981 Dames and Moore

Date	Zone / Sample Location	Chromium (mg/L)	Lead (mg/L)	Comments
11/80	<i>Background Land Farm Sample 1 0 to 3 feet, Cell 1</i>	34	24 - 27	<i>Concentrations are given in ranges; one sample/foot was analyzed.</i>

11/80	Background Land Farm Sample 2 0 to 3 feet, Cell 1	29 - 39	23 - 26	See comment above
11/80	Background Land Farm Sample 3 0 to 3 feet, Cell 3	34 - 45	24 - 26	See comment above
11/80	Background Land Farm Sample 4 0 to 3 feet, Cell 3	23 - 36	23 - 29	See comment above
11/80	Well OW 4 Boring 0 to 6 feet, Cell 2	20 - 34	23 - 29	See comment above

Between 1985 and 1988, Giant successfully completed the Land Treatment Demonstrations required to obtain a final permit for its Interim Status Land Treatment Unit. As part of the Demonstration, background samples were taken from the area south and east of the RCRA LTU. Please see Figures 3, 4, 5, and 6. The data is listed below in Table B.

TABLE B
Background Data Generated as Part of the Land Treatment Demonstration
Sources: 1. Progress Report, Land Treatment Demonstration Activities - 1985
Geoscience Consultants Ltd.
2. Land Treatment Demonstration, Vol. I and II 1988
Lockwood, Andrews, and Newnan, Inc.

Date	Zone / Sample Location	Chromium (mg/L)	Lead (mg/L)	Comments
12/85	ZOI Samples - Background Unit Cells 1, 2, 3	6 - 19	7 - 11	Six samples Figure 3
4/87	Background Unit 0 - 6 feet Cell 1	3 - 7	9 - 13	Concentrations are given in ranges; one sample/foot was analyzed. Figures 4 & 6
4/88	Background Unit 0 - 5 feet Cell 1	4 - 6	10 - 12	See comment above Figures 5 & 6

In 1996, Giant sampled and analyzed the Land Treatment Unit for Chromium and Lead in addition to the normal parameters required for the semi-annual and bi-monthly sampling events. See Figures 7 and 8. Results are listed below in Table C.

TABLE C
Analysis Data from LTU Generated in 1996
Source: 1. Analytical Reports, Inter-Mountain Laboratories, 1996

Date	Zone / Sample Location	Chromium (mg/L)	Lead (mg/L)	Comments
4/96	BTZ - Cell 1	11 - 16	6 - 10	Ranges are from 4 samples
4/96	BTZ - Cell 2	16 -21	9 - 10	Ranges are from 4 samples
4/96	BTZ - Cell 3	16 -22	8 - 9	Ranges are from 4 samples
6/96	ZOI - Cell 1	11	6	One sample
6/96	ZOI - Cell 2	10, 10	7, 8	Two samples
6/96	ZOI - Cell 3	14	7	One sample

In 1997, Giant again sampled the ZOI along with background areas outside the Land Treatment Unit. See Figures 9 and 10. The data is listed below in Table D.

TABLE D
**Analysis Data from LTU and Background Data from the Surrounding Area
Generated in 1997**
Source: 1. Analytical Reports, Inter-Mountain Laboratories, 1997

Date	Zone / Sample Location	Chromium (mg/L)	Lead (mg/L)	Comments
5/97	Background 1	8	7	Figure 9
5/97	Background 2	13	8	Figure 9
5/97	Background 3	13	10	Figure 9
5/97	Background 4	13	7	Figure 9
5/97	ZOI - Cell 1	9	12	Figure 10
5/97	ZOI - Cell 2	8	9	Figure 10
5/97	ZOI - Cell 3	28	15	Figure 10
5/97	ZOI - Cell 3	31	13	Figure 10

As noted in Table A, the original background soil levels of Chromium and Lead at the site of the LTU (prior to any waste application) is higher than soil levels in the surrounding areas.

Soil Chromium levels ranged from 23 - 45 ppm in the LTU (Table A) versus 3 - 19 ppm in the background samples from areas near the LTU (Tables B & D). Soil Lead concentrations follow the same pattern with the original LTU values higher than the surrounding area.

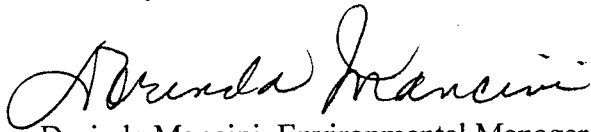
Cell 3 of the LTU was never put into service, i.e., no wastes were applied to this cell. Current soil Chromium levels of 28 and 31 ppm in Cell 3 are in the same range as the original samples from this cell (23 - 45). Current Lead levels in Cell 3 are somewhat lower than the original values obtained in the LTU soils.

Current soil Chromium and Lead concentrations are in the same range or lower than the background levels in and near the LTU area. The data discovered during our review illustrates that Giant's request for "clean" closure based on present and historical levels of Chromium and Lead is reasonable.

In order to most effectively utilize the summer and fall construction and growing seasons, Giant would appreciate your approval of its proposed closure plan at the Bureau's earliest convenience

Please do not hesitate to contact me at (505) 722-0227 with any questions or concerns you may have regarding this letter.

Sincerely,



Dorinda Mancini, Environmental Manager
Ciniza Refinery, Giant Refining Company

cc: Stephen Pullen, NMED, HRMB
Dick Platt, General Manager, Giant Refinery
Dave Pavlich, HSE Manager, Giant Refining
Steve Morris, Environmental Specialist, Ciniza Refinery

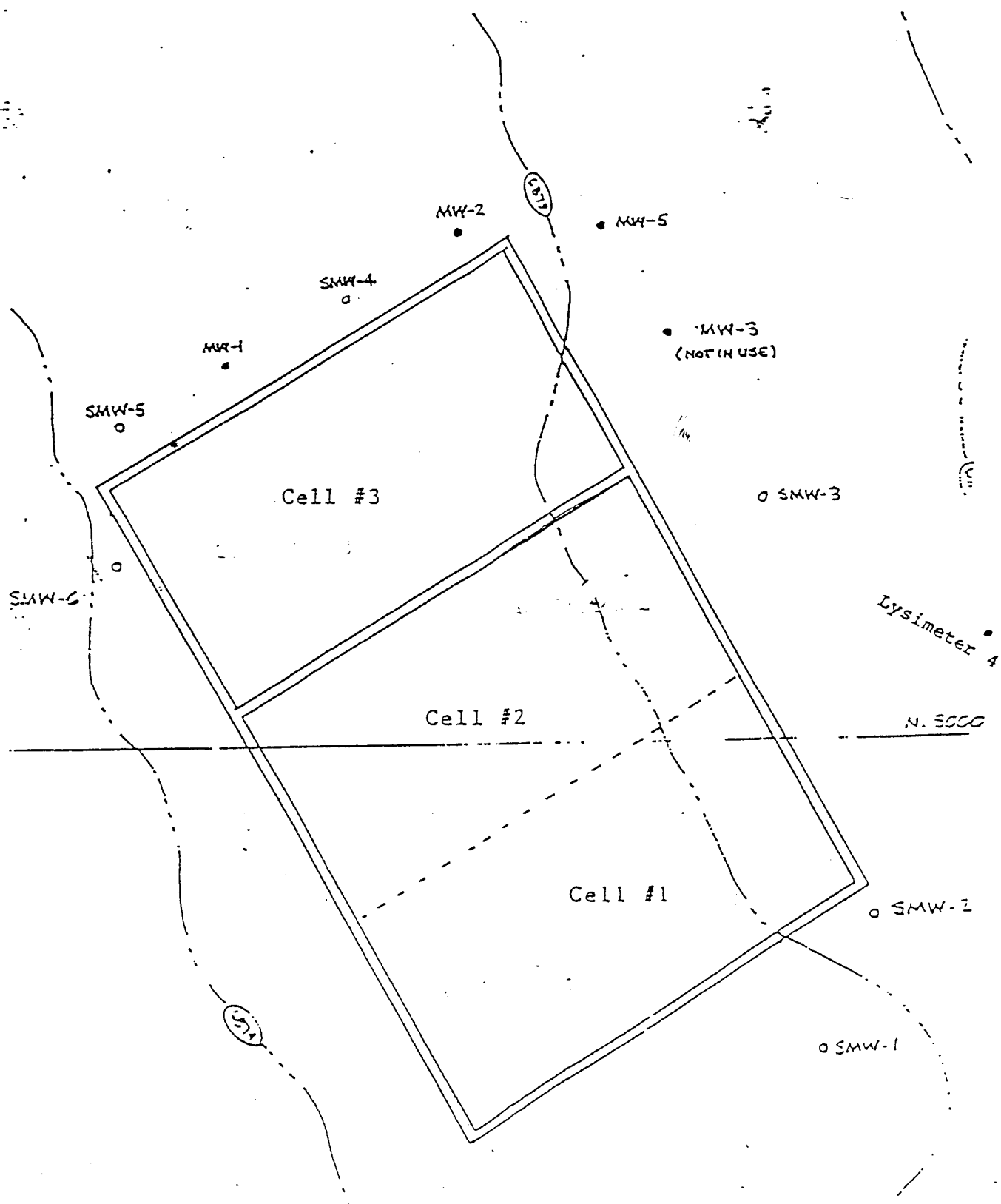


Figure 1

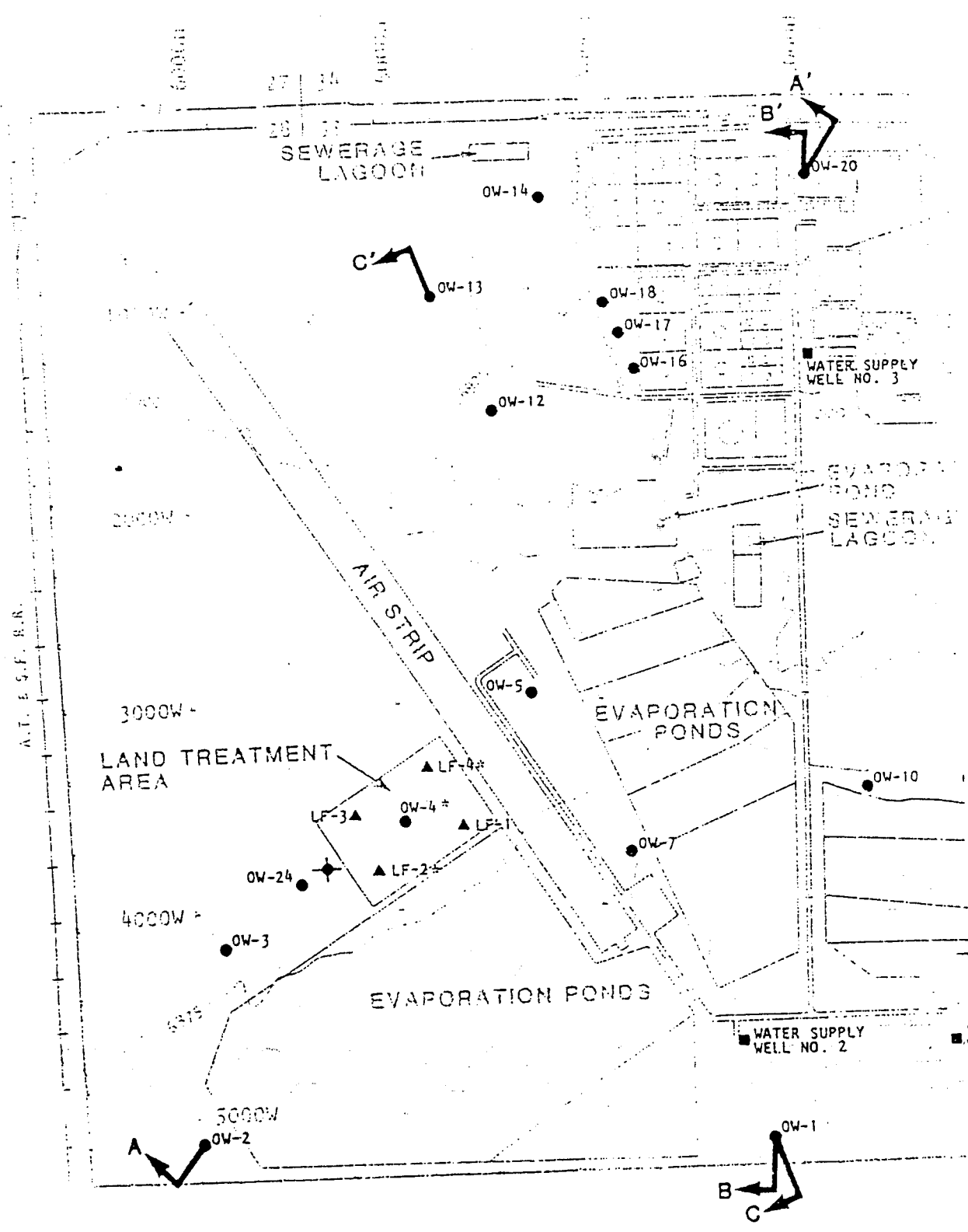


Figure 2

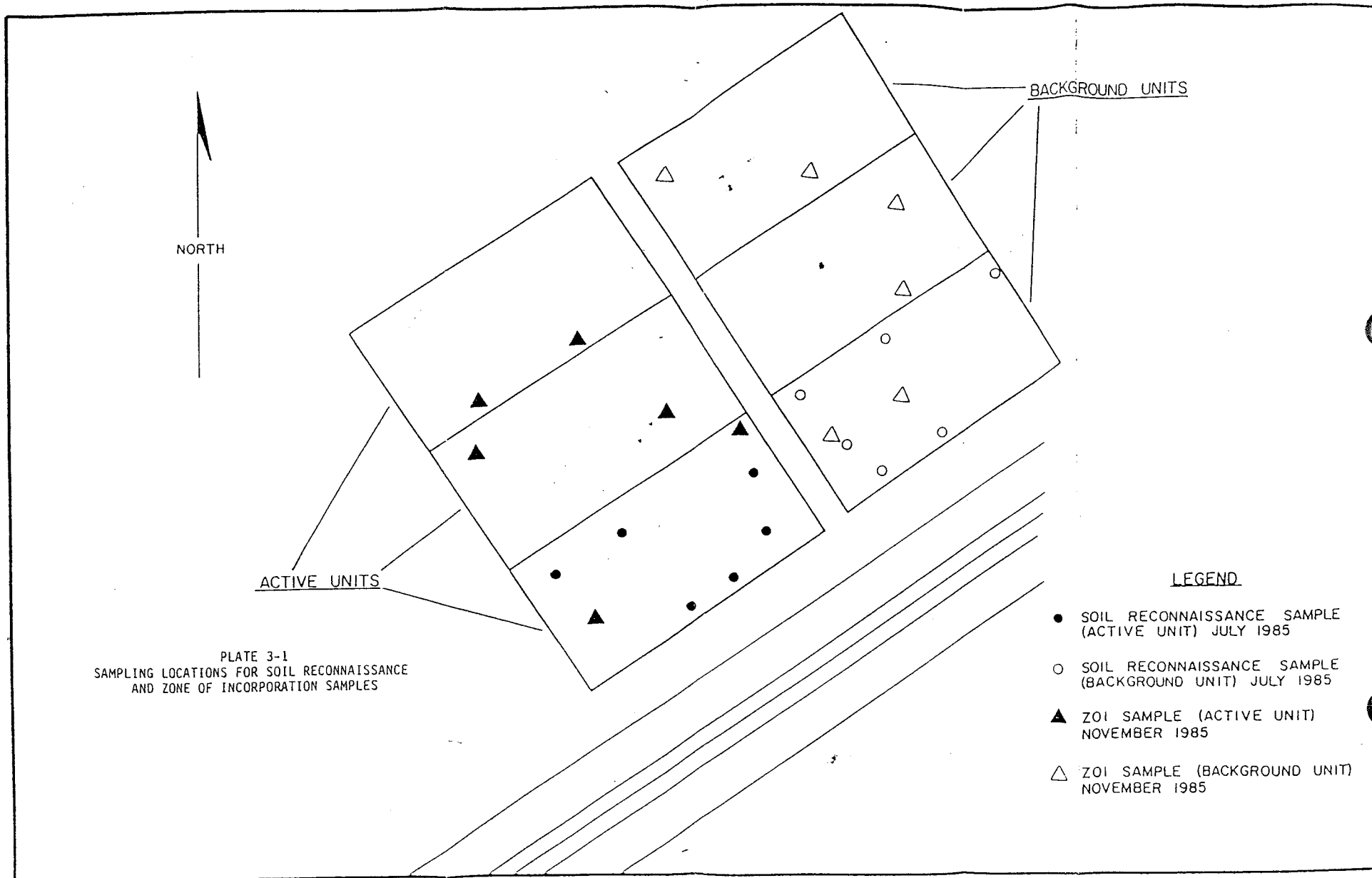


Figure 3

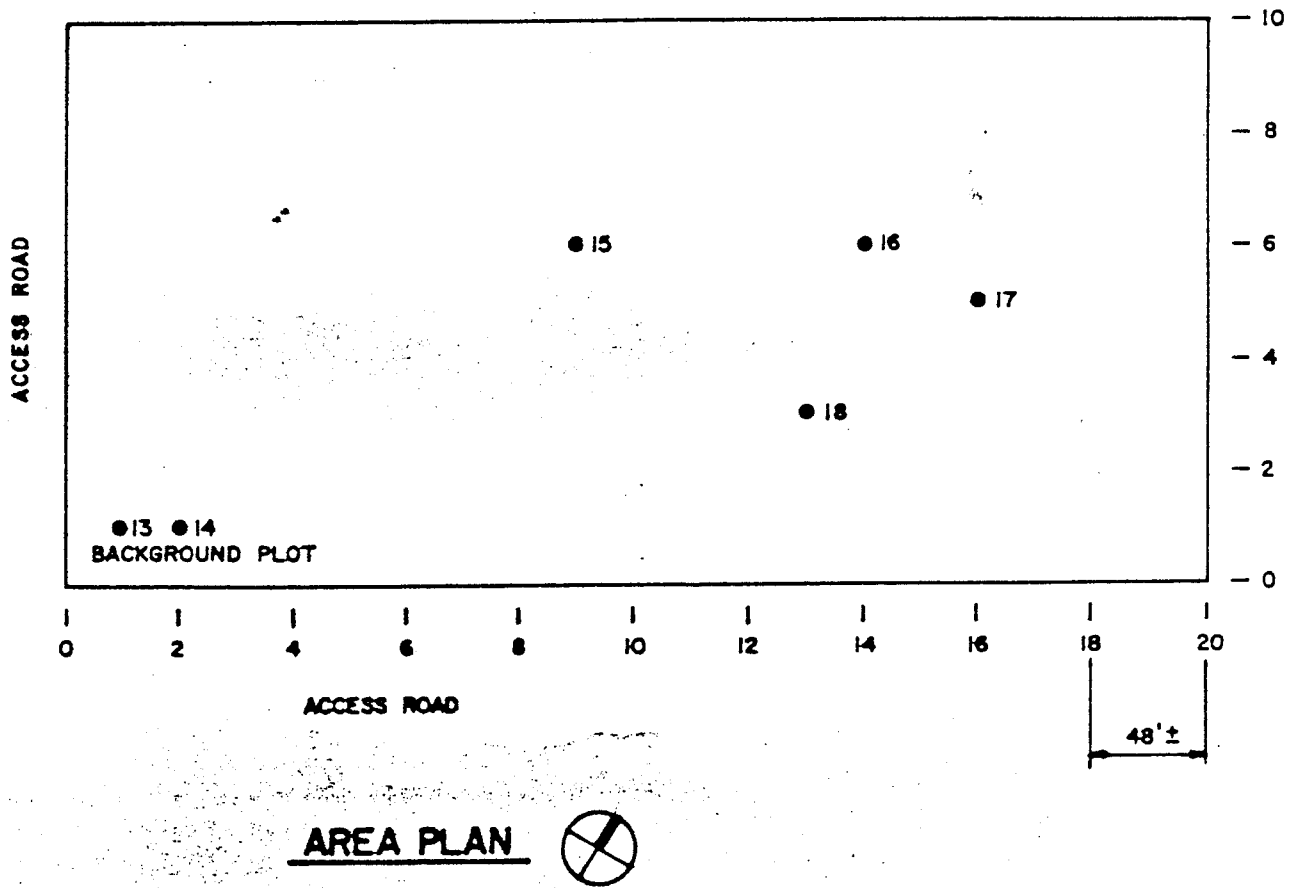


FIGURE 4

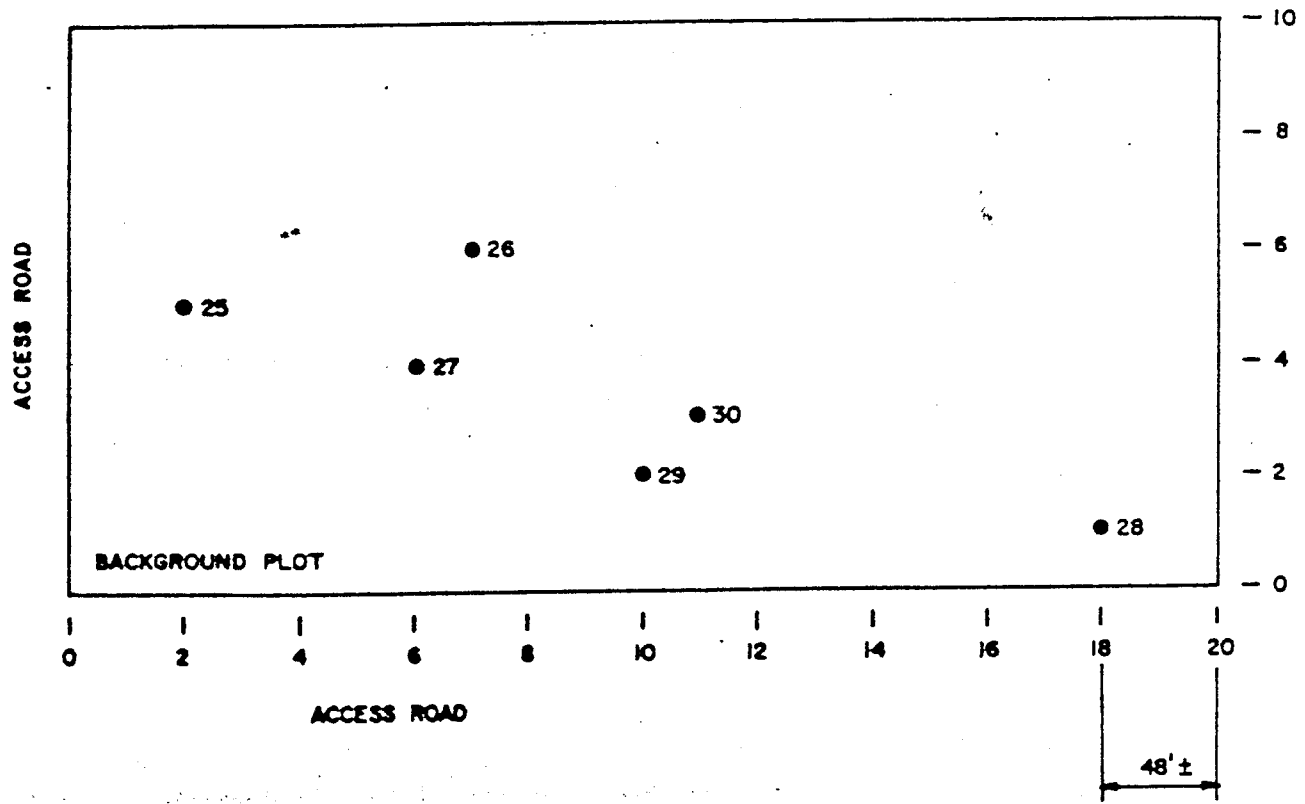
GIANT REFINING COMPANY - GALLUP, NM
 LAND TREATMENT DEMONSTRATION
 SAMPLE LOCATIONS - PRE DEMO EVENT, APR '87

FIGURE 3.2



Lockwood, Andrews
 & Newnam, Inc.

Engineering Architecture Planning Project Management



AREA PLAN

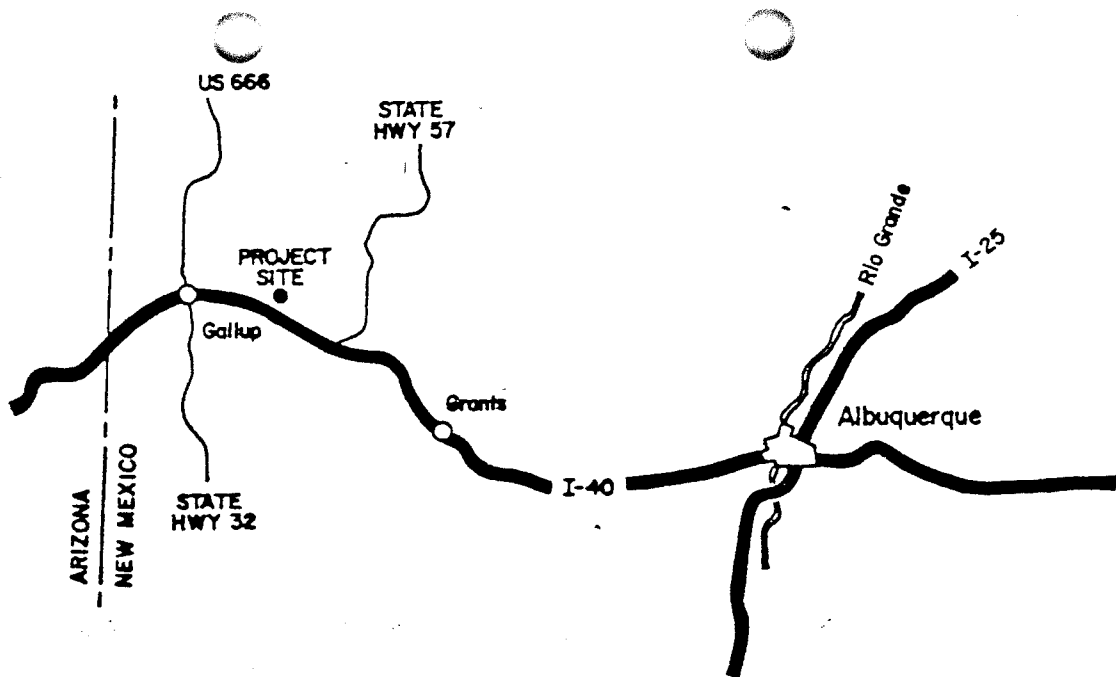
Figure 5

GIANT REFINING COMPANY - GALLUP, NM
 LAND TREATMENT DEMONSTRATION
 SAMPLE LOCATIONS - EVENT NO. 5, APR '88

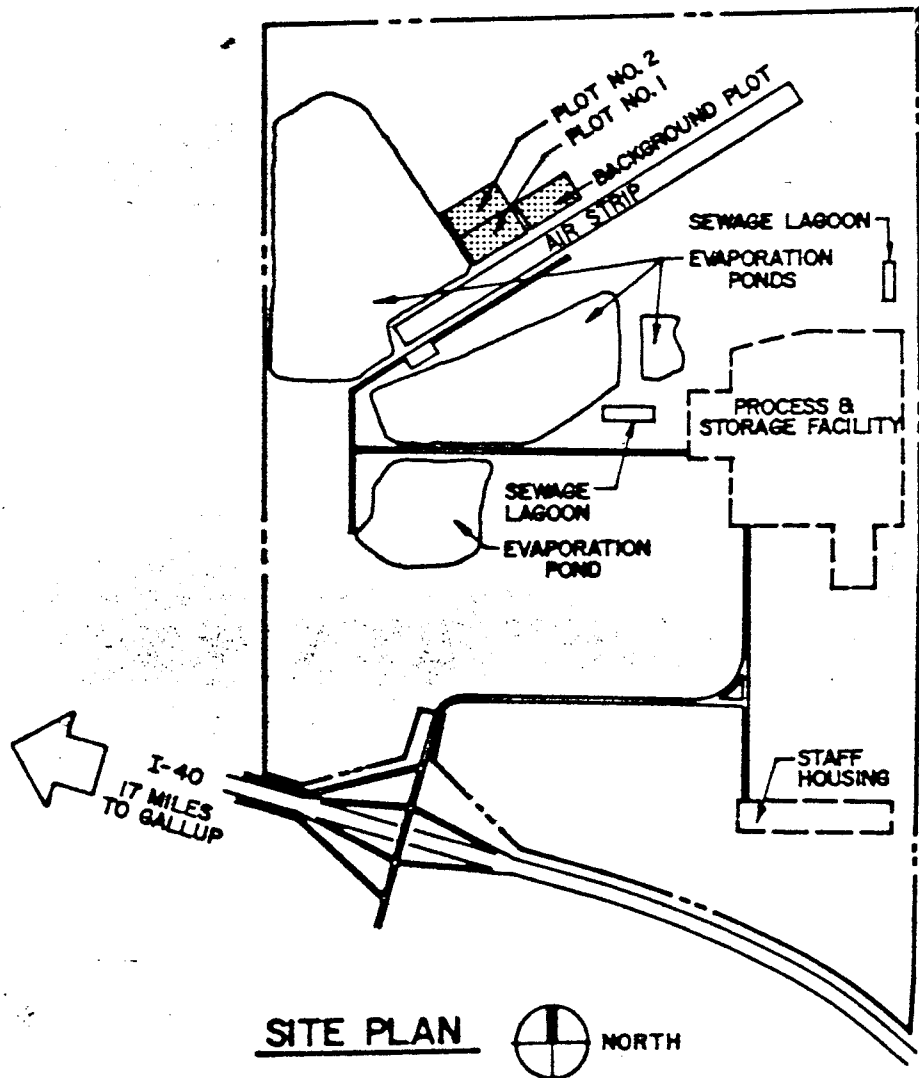
FIGURE 3.7



Lockwood, Andrews & Newnam, Inc.
 Engineering · Architecture · Planning · Project Management



VICINITY MAP



SITE PLAN



GIANT REFINING COMPANY - GALLUP, NM
 LAND TREATMENT DEMONSTRATION
 VICINITY & SITE PLAN

Figure 6

FIGURE 2.0



Lockwood, Andrews & Newnam, Inc.

Engineering Architecture Planning Project Management

4/96
BTZ

GIANT REFINING COMPANY – CINIZA
Land Treatment Area

Sampling Grid – Random Number System

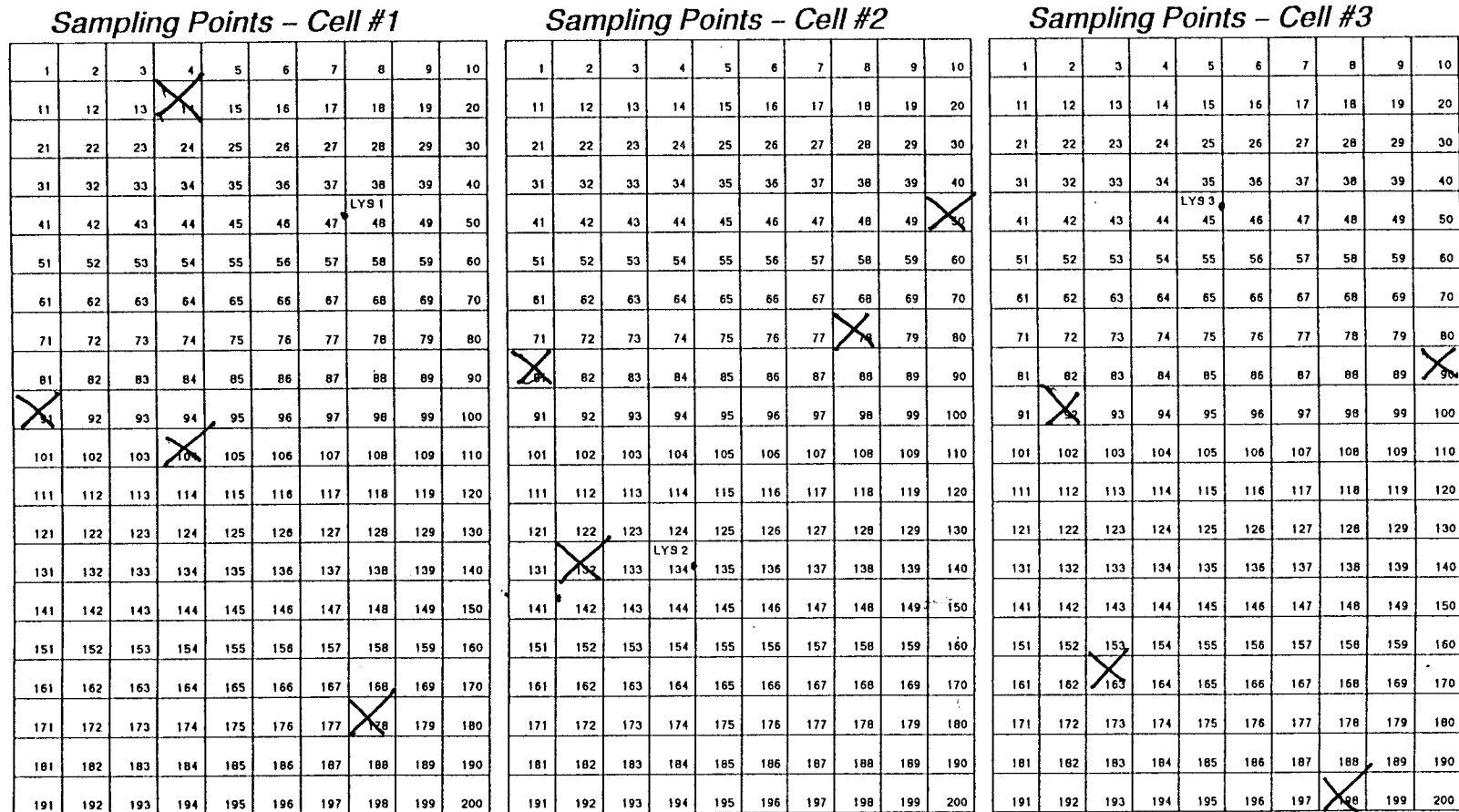


Figure 7

6/96
ZOF

GIANT REFINING COMPANY – CINIZA
Land Treatment Area

Sampling Grid – Random Number System

Sampling Points – Cell #1

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Sampling Points – Cell #2

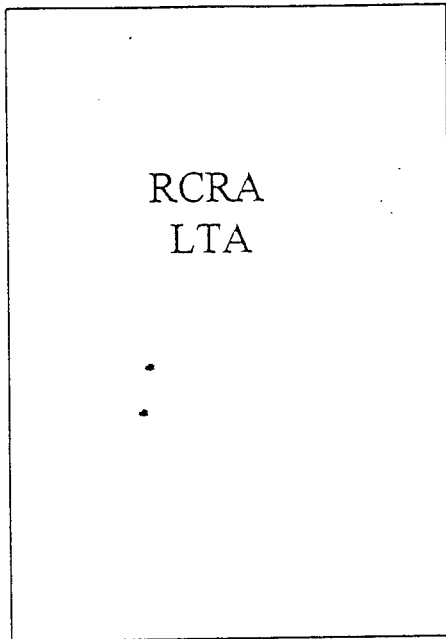
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Sampling Points – Cell #3

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Figure 8

BG-2



BG-1



BG-3



BG-4



FIGURE 9

5/97
ZOI

GIANT REFINING COMPANY - CINIZA
Land Treatment Area

Sampling Grid - Random Number System

Sampling Points - Cell #1

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Sampling Points - Cell #2

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Sampling Points - Cell #3

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200

Figure 10