SDMS US EPA Region V

Imagery Insert Form

Document ID: 177612

Some images in this document may be illegible or unavailable in SDMS. Please see reason(s) indicated below:

[X] Illegible due to bad source documents. Image(s) in SDMS is equivalent to hard copy.

Specify Type of Document(s) / Comments:

AUGUST 27? COORDINATE LISTINGS NOT WORTH SCANNING; LIGHT WRITING IN ACTION LEVEL CALCULATIONS

[ ] Includes _____ COLOR or _____ RESOLUTION variations.
Unless otherwise noted, these pages are available in monochrome. The source document page(s) is more legible than the images. The original document is available for viewing at the Superfund Records Center.

Specify Type of Document(s) / Comments:

[ ] Confidential Business Information (CBI).
This document contains highly sensitive information. Due to confidentiality, materials with such information are not available in SDMS. You may contact the EPA Superfund Records Manager if you wish to view this document.

Specify Type of Document(s) / Comments:

[ ] Unscannable Material:
Oversized ____ or ____ Format.
Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. The original document is available for viewing at the Superfund Records center.

Specify Type of Document(s) / Comments:

[ ] Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:

Rev. 07/10/02

FINAL REPORT
APPENDIX G

NL/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS

Prepared for

U.S. Envrionmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

March, 1993

U.S. Department of the Army
Corps of Engineers, Omaha District
Omaha, Nebraska

US EPA/WMD File Room
7th Floor
77 West Jackson Blvd.
Chicago, IL 60604
312-886-0900

FINAL REPORT
APPENDIX G

NL/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS

Prepared for

U.S. Department of the Army
Corps of Engineers, Omaha District
Omaha, Nebraska

March, 1993

Woodward-Clyde

Woodward-Clyde Consultants
2318 Millpark Drive
St. Louis, Missouri 63043

WCC Project No. 89MC114V

BORROW VOLUME CALCULATIONS

RCRA COMPLIANT CAP

Woodward-Clyde Consultants

File 89MK114V

Made by KMB Date 3/10/93

FOR NL Taracorp - Borrow Calculations Checked by PMM Date 3/24/93

Total Volume

Existing pile	85000
SLR	6400
Res	97000
Main Ind	35000
	223400 yd³

Assume 15% on the additional soil to be added to the pile

(97000+35000) 15% = 19,800 yd³

132000 − 19800 = 112200 cyd

Adjusted Res & Main Ind	112200
	85000
	6400
TOTAL VOLUME	203600 yd³

Two trials on Laces produced volume results of the newly shaped pile:

A. 176134 @ 436 ∴ 203600 441.07
B. 190205 @ 438.6

Perform a third trial using 441.1 which should give a volume of 204849.7

Woodward-Clyde Consultants

Sheet No. 2 of 3

File 93MK114V

Made by KMB Date 3/10/93

Checked by PAM Date 3/24/93

FOR NL Taracorp

Ref to laces quantities printout

Total volume estimated from the pile 204400 ✓

A difference of 800 cu yds ∴ use the estimated surface area of the pile. ⇒ 11.0 acres ✓

Determine the volume of material required for the cap by multiplying the surface area times the depth.

Assume:

Topsoil & root zone ✓

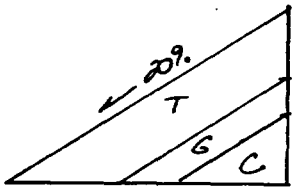
Gravel flow zone ✓

Clay subbase material ✓

(Ref: EPA/625/4-89/022 Requirements for Hazardous Waste Landfill Design, Construction and Closure)

Estimate the additional volume outside the toe of the slope

Assume a 20% slope hence a' verticle thickness of the cap is 5.09



Clay area: $\tan 11.30 = \frac{2.04}{x}$ $x = 10.20$ ✓

$A = \frac{1}{2}bh = \frac{1}{2}(2.04)(10.20)$

$A = 10.41\ ft^2$ ✓

Gravel Area: $\tan 11.30 = \frac{3.05}{x}$ $x = 15.26\ ft$ ✓

$A = \frac{1}{2}(3.05)(15.26) - 10.41\ ft^2$

$A = 12.86\ ft^2$ ✓

Woodward-Clyde Consultants

Sheet No. 3 Of 3

File 89MC114

Made by KMB Date 3/10/93

Checked by KMM Date 3/24/93

FOR NL Taracorp

Topsoil Area: $\tan 11.30 = \frac{5.09\,ft}{x}$ $x = 25.47\,ft$

$A = \frac{1}{2}(25.47)5.09 - \frac{1}{2}(3.05)(15.26)$

$A = 41.55\,ft^2$

Total Area = $A = \frac{1}{2}(25.47)5.09 = 64.82$

$10.41 + 12.86 + 41.55 = 64.82$

Estimate length of the triangle around the pile 2325 lin ft
$(19.4'' \times 120 \frac{ft}{in})$

Determine total volumes required:

Surface area 110 acres ⇒ $479160\,ft^2$

Clay: $(2\,ft)\,479160\,ft^2 + 10.41\,ft^2(2325\,ft) = 982523\,ft^3$
$= 36390\,yd^3$

Gravel: $1(479160\,ft^2) + 12.86\,ft^2(2325\,ft) = 509059.5\,ft^3$
$= 18854\,yd^3$

Topsoil: $2ft(479160\,ft^2) + 41.55\,ft^2(2325\,ft) = 1054923.7\,ft^3$
$= 39071\,yd^3$

Total volume of the cap ⇒ $94315\,yd^3$

RUN FILE PARAMETERS

TREENAME OF CGGO TABLE (CGGOXX):

DIGITIZING DATA:
REFERENCE POINT "A" PT#: COORD: 737850.0000 502350.0000
REFERENCE POINT "Z" PT#: COORD: 739200.0000 503550.0000
ROTATION= .4105926 SCALE FACTOR= 120.4508
TERRAIN.MDL WINDOW: LOWER LEFT = 737851.5533 502279.8804
UPPER RIGHT= 739194.5798 503604.0393

PLOT DATA:
SCALES HORIZ: 120.0000 VERT:
STARTING & ENDING STATIONS .0000 902.0400

EARTHWORK:
CROSS SECTION INTERVALS: 50.0000
CUT SECTIONS AT GC PI'S (Y/N) Y
DESIGN SURFACE ADJUSTMENT(+/-): .0000
REFERENCE SURFACE ADJ. (+/-): .0000
BEGIN STATION: .0000

RUN FILE INDEX

DESIGN SURFACE ELEMENT FILES	EDIT	COMPUTE	PRINT	PLOT
1- BASELINE	1	1	1	1
2- VERTICAL.CONTROL	2	2	2	2
3- BOUNDARY	1	1	1	1
4- GRADING.CONTROL	0	0	0	0
5- CONTOURS.DESIGN	4	4	4	4
6- CONTOURS.REFERENCE	1	1	1	1
7-	0	0	0	0
8- CROSS.SECTIONS	13	13	13	13
9- QUANTITIES	8	8	8	8
10-	0	0	0	0
			GO	

0 GRADING CONTROL FIGURES
15 DESIGN CONTOURS
4 REFERENCE CONTOURS

QUANTITIES

----- END AREAS (SQ.FT.) -----			---------- VOLUMES (CU.YDS.) ----------			
			* EACH *		* TOTAL *	
STATION	CUT	FILL	CUT	FILL	CUT	FILL
0+ .00	.00	.00			.00	.00
			.00	.00		
0+14.84	.00	.00			.00	.00
			.00	.00		
0+46.72	.00	.00			.00	.00
			.00	.00		
0+50.00	.00	.00			.00	.00
			.00	270.43		
0+81.39	.00	465.22			.00	270.43
			.00	627.47		
0+99.44	.00	1411.97			.00	897.90
			.00	29.45		
1+ .00	.00	1427.97			.00	927.35
			.00	5542.14		
1+50.00	.00	4557.54			.00	6469.49
			.00	8192.09		
1+88.83	.00	6835.02			.00	14661.58
			.00	2900.56		
2+ .00	.00	7187.40			.00	17562.15
			.00	14193.42		
2+50.00	.00	8141.49			.00	31755.56
			.00	14139.09		
2+94.70	.00	8939.29			.00	45894.65
			.00	1763.14		
3+ .00	.00	9024.77			.00	47657.79
			.00	8871.28		
3+26.35	.00	9155.47			.00	56529.08
			.00	8132.73		
3+50.00	.00	9413.97			.00	64661.80
			.00	18219.12		
4+ .00	.00	10262.68			.00	82880.92
			.00	7969.44		
4+20.60	.00	10628.08			.00	90850.36
			.00	9381.42		
4+44.16	.00	10874.33			.00	100231.78
			.00	2361.14		
4+50.00	.00	10958.11			.00	102592.92
			.00	20483.53		
5+ .00	.00	11164.10			.00	123076.45
			.00	10396.92		
5+25.75	.00	10639.14			.00	133473.37
			2.01	9217.86		
5+50.00	4.47	9887.22			2.01	142691.22
			2.20	3227.67		
5+58.92	8.87	9652.47			4.21	145918.89
			22.74	9961.72		
5+87.63	33.91	9084.31			26.96	155880.61
			14.40	4123.66		
6+ .00	28.97	8917.10			41.36	160004.27
			20.74	12064.39		
6+38.66	.00	7934.35			62.10	172068.66

QUANTITIES

END AREAS (SQ.FT.)			VOLUMES (CU.YDS.)			
			* EACH *		* TOTAL *	
STATION	CUT	FILL	CUT	FILL	CUT	FILL
			.00	3251.19	62.10	175319.85
6+50.00	.00	7547.53	.00	10767.82	62.10	186087.67
6+90.01	.00	6985.39	.00	2550.67	62.10	188638.34
7+ .00	.00	6802.02	.00	9996.46	62.10	198634.80
7+50.00	.00	3994.16	.00	1188.23	62.10	199823.03
7+58.73	.00	3355.73	11.81	2786.22	73.91	202609.26
7+90.53	20.06	1375.59	8.21	430.43	82.12	203039.69
8+ .00	26.74	1078.81	33.92	1189.75	116.04	204229.44
8+50.00	9.89	206.12	.95	37.94	116.99	204267.37
8+55.11	.17	194.80	.10	127.97	117.09	204395.34
8+87.24	.00	20.27	.00	4.79	117.09	204400.13
9+ .00	.00	.00	.00	.00	117.09	204400.13
9+ 2.04	.00	.00				

SURFACE AREA QUANTITIES

SLOPE DISTANCE DES.			ACRES			
			* EACH *		* TOTAL *	
STATION	CUT	FILL	CUT	FILL	CUT	FIL
0+ .00	.00	.00			.00	.
			.00	.03		
0+14.84	.00	186.76			.00	.
			.00	.18		
0+46.72	.00	311.86			.00	.
			.00	.02		
0+50.00	.00	322.14			.00	.
			.00	.27		
0+81.39	.00	420.73			.00	.
			.00	.18		
0+99.44	.00	433.70			.00	.
			.00	.01		
1+ .00	.00	434.21			.00	.
			.00	.53		
1+50.00	.00	482.10			.00	1.
			.00	.45		
1+88.83	.00	519.35			.00	1.
			.00	.13		
2+ .00	.00	529.86			.00	1.
			.00	.63		
2+50.00	.00	575.50			.00	2.
			.00	.61		
2+94.70	.00	616.17			.00	3.
			.00	.08		
3+ .00	.00	620.63			.00	3.
			.00	.38		
3+26.35	.00	642.74			.00	3.
			.00	.35		
3+50.00	.00	663.61			.00	3.
			.00	.79		
4+ .00	.00	707.36			.00	4.
			.00	.34		
4+20.60	.00	725.69			.00	4.
			.00	.40		
4+44.16	.00	739.58			.00	5.
			.00	.10		
4+50.00	.00	742.20			.00	5.
			.00	.87		
5+ .00	.00	765.52			.00	6.
			.00	.46		
5+25.75	.00	776.92			.00	6.
			.02	.42		
5+50.00	55.53	734.49			.02	7.
			.01	.15		
5+58.92	72.65	722.23			.03	7.
			.07	.46		
5+87.63	131.58	669.24			.10	7.
			.04	.19		
6+ .00	122.25	656.83			.13	8.
			.05	.61		
6+38.66	.00	711.27			.19	8.

QUANTITIES

----- SLOPE DISTANCE DES. ----			---------- ACRES ----------			
			* EACH *		* TOTAL *	
STATION	CUT	FILL	CUT	FILL	CUT	FILL
			.00	.18		
6+50.00	.00	691.15			.19	8.80
			.00	.60		
6+90.01	.00	619.30			.19	9.40
			.00	.14		
7+ .00	.00	599.77			.19	9.54
			.00	.63		
7+50.00	.00	503.38			.19	10.18
			.00	.10		
7+58.73	.00	486.59			.19	10.28
			.05	.27		
7+90.53	137.85	255.17			.24	10.[illegible]
			.03	.05		
8+ .00	122.40	243.23			.26	10.60
			.10	.24		
8+50.00	48.97	172.04			.36	10.84
			.00	.02		
8+55.11	7.74	198.66			.37	10.86
			.00	.12		
8+87.24	.00	114.55			.37	10.98
			.00	.02		
9+ .00	.00	15.75			.37	11.00
			.00	.00		
9+ 2.04	.00	.00			.37	11.00

SOIL VOLUME CALCULATIONS

ADJACENT RESIDENTIAL AREAS

Woodward-Clyde Consultants

Sheet No 1 of 2

File 89MC114V

Made by [illegible] Date 8/10/92

Checked by _____ Date _____

FOR NL/TARACORP SUPERFUND SITE

RESIDENTIAL UNPAVED AREAS - BY DECISION UNIT

UNIT NO.	UNPAVED AREA (FT²)
1	128,000
2	210,000
3	209,000
4	98,000
5	208,000
6	145,000
7	174,000
8	63,000
9	68,000
10	64,000
11	70,000
12	59,000
13	78,000
14	106,000
15	58,000
16	22,000
17	49,000
18	183,000
19	113,000
20	43,000
21	67,000

UNIT NO.	UN PAVED AREA (FT²)
22	145,000
23	124,000
24	166,000
25	212,000
26	169,000
27	64,000
28	84,000
29	141,000
30	140,000
31	68,000
32	100,000
33	83,000
34	142,000
35	142,000
36	145,000
37	146,000
38	145,000
39	86,000
40	113,000
41	185,000
42	171,000

Woodward-Clyde Consultants

Sheet No. 2 Of 2

File 89MC114V

Made by WJR/GH Date 8/10/92

Checked by _____ Date _____

FOR NL/TARACORP SUPERFUND SITE

RESIDENTIAL UNPAVED AREAS - BY DECISION UNIT

UNIT NO.	UNPAVED AREA (FT^2)
43	134,000
44	87,000
45	220,000
46	114,000

UNIT NO.	UNPAVED AREA (FT^2)

* AREAS ARE ROUNDED TO THE NEAREST THOUSAND FT^2.

** VALUES WERE CALCULATED USING THE PRE-DESIGN FIELD INVESTIGATION DETAIL MAPS - ADJACENT RESIDENTIAL AREAS (7/16/92).

SOIL VOLUME CALCULATIONS

MAIN INDUSTRIAL PROPERTY

Woodward-Clyde Consultants

Sheet No 1 of 2

File

Made by CP Date 8/26/92

Checked by Date

FOR NL/Taracorp Superfund Site
89MC114V

Area of Main Industrial Property

Area obtained using Planix planimeter and 1"=100' map

Area 132.00 in^2
132.70 in^2
132.30 in^2

Avg. 132.33 in^2

$$132.33 \text{ in}^2 \times \frac{10{,}000 \text{ ft}^2}{1 \text{ in}^2} = 1{,}323{,}300 \text{ ft}^2$$

$$1{,}323{,}300 \text{ ft}^2 \times \frac{1 \text{ acre}}{43{,}560 \text{ ft}^2} = \underline{\underline{30.38 \text{ acres}}}$$

Woodward-Clyde Consultants

Sheet No 2 of 2

File

Made by CP Date 8/26/92

Checked by Date

FOR NL/Taracorp Superfund Site
89MC114V

Area of Adjacent Residential Property

Area obtained using a Planix planimeter and a = 2000' map

Area 1	4.84 in^2	Avg. 4.85 in^2	
	4.87 in^2		
	4.84 in^2		
Area 2	0.06 in^2	Avg. 0.06 in^2	Total = 5.48 in^2
	0.06 in^2		
	0.06 in^2		
Area 3	0.45 in^2	Avg. 0.45 in^2	
	0.43 in^2		
	0.46 in^2		
Area 4	0.12 in^2	Avg. 0.12 in^2	
	0.12 in^2		
	0.12 in^2		

$$5.48\ in^2 \times \frac{4{,}000{,}000\ ft^2}{1\ in^2} = 21{,}920{,}000.00\ ft^2$$

$$21{,}920{,}000.00\ ft^2 \times \frac{1\ acre}{43{,}560\ ft^2} = \underline{\underline{503.21\ acres}}$$

Woodward-Clyde Consultants

Sheet No. 1 Of 2

File 99MC114V

Made by [illegible] Date 3/1/93

Checked by _____ Date _____

FOR VOLUME CALCULATIONS FOR

INDUSTRIAL AREA

AREAS FOUND USING A PLANIX DIGITAL PLANIMETER AND A 1" = 100' MAP OF THE MAIN INDUSTRIAL PROPERTY

SLLR & RICH OIL

AREA
31.16
31.22 31.20 in^2
31.23

$31.20\ in^2 \times \frac{10000\ ft^2}{1\ in^2} = \underline{\underline{312,000\ ft^2}}$

BV & G TRANSPORT

AREA
16.35
16.31 16.31 in^2
16.26

$16.31\ in^2 \times \frac{10000\ ft^2}{1\ in^2} = \underline{\underline{163,100\ ft^2}}$

2 FEET TO BE REMOVED FROM SLLR & RICH OIL

2 FEET TO BE REMOVED FROM BV & G TRANSPORT

SEVERAL BORINGS INDICATE LEAD LEVELS GREATER THAN 1000 ppm AT A DEPTH GREATER THAN TWO FEET. THEREFORE, CONFIRMATORY SAMPLING WILL BE DONE DURING REMEDIATION EFFORTS TO DETERMINE FINAL REMEDIATION DEPTH.

Woodward-Clyde Consultants

Sheet 2 of 2

Made by WCK Date 3/1/93

Checked by _____ Date _____

FOR VOLUME CALCULATIONS FOR INDUSTRIAL AREA

SLLR & RICH OIL

312,000 ft² x 2 ft = 624,000 ft³ = 23,111 yd³

BV & G TRANSPORT

63,100 ft² x 2 ft = 326,200 ft² = 12,081 yd³

TOTAL = 35,192 yd³ OR 35,000 yd³

SOIL VOLUME CALCULATIONS

REMOTE FILL AREAS

Woodward-Clyde Consultants

Sheet No. 1 of 12

File 89MC144V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/8/92

Checked by CP Date 9/17/92

Volume Calculations For Remedial Design of Remote Fill Areas

Other Remote Fill Areas

Schaeffer AVENUE - Former's Field

Boring	Depth of Fill	Sample ID	Depth Sampled	TCLP-Pb Result
OR0004	1 ft	SOR00041 0ABT	0-6 in.	13 mg/L
OR0005	1.5 ft	SOR00C510 ABT	0-6 in	1.41 mg/L
OR0006	1 ft	SOR00061 0ABT	0-6 in	4.86 mg/L

* Assume for Area w/ < 50% Surface Coverage Averge depth of Fill is 1.25 ft. Assume area w/ Trace of Battery Casing Material has 0.5 ft. depth of fill. Average TCLP-Pb Conc. of samples = 6.4 mg/L. Assume hazardous.

(A) Using Planimeter, Area w/ < 50% Surface Coverge (See Attached Page)

Area ≈ 16,350 ft^2

Volume of Fill = (Area)(depth) = (16,350 ft^2)(1.25 ft) ≈ 20,438 ft^3 or 20,440 ft^3

(B) Using Planimeter, Area w/ Trace Surface Coverage (See Attached Page)

Area ≈ 8,670 ft^2

Volume of Fill = (Area)(depth) = (8,670 ft^2)(0.5 ft) ≈ 4,335 ft^3 or 4,340 ft^3

Total Volume of Fill ≈ 20,440 ft^3 + 4,340 ft^3 ≈ 24,780 ft^3 ≈ 920 yd^3

Total Volume of Fill ≈ 920 yd^3 of soil w/ batt. casing material and w/ TCLP > 5 mg/L

Woodward-Clyde Consultants

Sheet No. 2 of 12

File 69MCIHV

Made by TPH Date 9-9-92

Checked by CEP Date 9-10-92

FOR NL/Taracorp SUPERFUND Site

Planimeter Areas

Remote Fill Areas
Schaeffer Road

< 50% Surface Coverage w/ Bat. Casing Material

Area A

10.21[5]
10.23[0]
10.19[4]

10.22 in² Ave

1" = 40ft

Trace Surface Coverage w/ Bat. Casing Material

Area B

5.42[5]
5.41[0]
5.42[5]

5.42 in² Ave

A. Area = 10.22 in² (40 ft/in)(40 ft/in)
= 10.22 in² (1600 ft²/in²)
= 16352 ft²

B. Area = 5.42 in² (1600 ft²/in²)
= 8672 ft²

Woodward-Clyde Consultants

Sheet No. 3 of 12

File 89MC114V

Made by CFP Date 8/8/92

Checked by LP Date 9/14/92

FOR NL / Taracorp Superfund Site

SAND ROAD – Farmer's Field

Boring No.	Depth of Fill	Sample ID	Depth Sampled	T. Lead (ppm)	TCLP-Pb (mg/L)
OR0022	1 ft	SOR00221 0ABL or T	0-6 in.	1030	< 0.20
		SOR00221 00CL	6-12 in	318	
OR0023	6 in	SOR00231 0AB L or T	0-6 in	712	< 0.20
		SOR00231 00CL	6-12 in	98	
OR0024	1 ft	SOR00231 0ABL, LD, or T	0-6 in	7130/4200	4.29
		SOR00231 00CL	6-12 in	3490	
		SOR00231 00DL	1-1.6 ft	141	

* Assume Area w/ <50% Surface Coverage (Borings 22, 23, + 24) have 1 ft depth of fill. Also plow depth 12-14", average mixing depth = 6"-8"

* Assume Area w/ Trace Surface Coverage have 6 in. depth of fill.

Area (A) – Trace Surface Coverage Area Using Planimeter (See Attached Page)

Area ≈ 42,000 ft^2

Volume of Fill = (Area)(Depth) ≈ (42,000 ft^2)(0.5 ft) ≈ 21,000 ft^3

Area (B) – < 50% Surface Coverage Area Using Planimeter (See Attached Page)

Area ≈ 17,200 ft^2

Volume of Fill = (Area)(Depth) ≈ (17,200 ft^2)(1 ft) ≈ 17,200 ft^3

Total Volume of Fill ≈ 21,000 ft^3 + 17,200 ft^3 ≈ 38,200 ft^3 ≈ 1,415 yd^3

Total Volume of Fill ≈ 1,415 yd^3 of soil w/ batt. casing material w/ TCLP < 5 mg/L

Woodward-Clyde Consultants

Sheet No. 4 of 12

File 89MC114V

Made by TPH Date 9-9-92

Checked by CPP Date 9-10-92

FOR NL/Taracorp SUPERFUND Site

Remote Fill Areas
Sand Road (Farmers Field)

1" = 100ft

Area A w/B

5.90"
5.92"
5.93"
5.92 in² Ave

Area B 1.72"
1.69"
1.73"
1.72 in² Ave

Area A = 5.92 − 1.72
= 4.20 in²

A. Trace Surface Coverage Area
Area = 4.20 in² (100 ft/in)(100 ft/in)
= 4.20 in² (10000 ft²/in²)
= 42,000 ft²

B. <50% Surface Coverage Area
Area = 1.72 in² (10000 ft²/in²)
= 17200 ft²

Woodward-Clyde Consultants

Sheet No. 5 of 12

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CPP Date 9/8/92

Checked by CP Date 9/17/92

3108 COLGATE

Boring *	Depth of Fill	Sample ID	Depth Sampled	T. Lead (ppm)	TCLP-A mg/L
OR0026-1	1 ft	SOR0026100A00L	0-3 in	3390	
		00B00L	3-6 in	11900	
		00C00T	6-12 in		10.9
OR0026-2 (Control Sample)	None	SOR0026200A00L	0-3 in	81.1	
		00B00L	3-6 in	70.1	
		00C00L	6-12 in	64.9	
OR0026-3	None	None			
OR0026-4	Trace of bat. casing at surface	None			

* Assume Area Adjacent to House has depth of fill 1 ft (Boring #1) - Area (A)

Area w/ Trace of Chips in backyard - surface wash - Remove top 3 in. - Area (B)
(See map for locations)

Volume of Fill = (Depth of Fill X Length X Width)

$\approx$ (1 ft (A)) X (25 ft) X (6 ft) + (0.25 (B)) X (22 ft) X (2 ft)

$\approx$ 150 ft^3 + 11 ft^3 $\cong$ 161 ft^3 $\approx$ 160 ft^3

$\approx$ 6 yd^3

Volume of Fill $\approx$ 160 ft^3 or 6 yd^3 of bat. casing and slag material w/ TCLP > 5 mg/L

Woodward-Clyde Consultants

Sheet No. 6 of 12

File 87MC14N

Made by CFP Date 9/10/92

Checked by [illegible] Date 9/17/92

FOR NL / Tamcorp Superfund Site

MISSOURI AVENUE

Boring	Depth of Fill	Sample ID	Depth Sampled	TCLP-Lead Result
OR0007	1+ ft	SOR000710ABT	0-6 in.	180 mg/L
OR0008	1 ft	SOR000810ABT	0-6in	< 0.65 mg/L
OR0009	1.5 ft	SOR000910ABT	0-6in	235 mg/L
OR0010	1.5 ft	SOR001010ABT	0-6in	82.5 mg/L
OR0013	1.5 ft	SOR0013100KT	2-4 ft	3.94 mg/L
OR0014	2 ft	SOR0014100KT	2-4 ft	<0.17 mg/L
OR0015	2 ft	SOR0015100JT SOR0015100KT	0-2 ft 2-4 ft	<0.19 mg/L 0.68 mg/L

* Assume Area Around Boring 8 has 1 ft depth of fill (SW Corner of Property).

Assume Areas w/ >50% and < 50% Surface Coverage have 2 ft depth of fill (Borings 7 + 15)

Assume Area w/ Trace Coverage has 1.5 ft depth of fill for North ½ area (Borings 10 + 13) and has 2 ft depth of fill for South/Southeast Area (Borings # 14 + 15).

(A) Using Planimeter, Boring #8 Area (See Attached Sheet)

Area ≈ 2088 ft² Volume of Fill = (Area)(Depth) ≈ (2088 ft²)(1 ft) ≈ 2090 ft³ ≈ 80 yd³

(B) Area w/ Trace Coverage, using planimeter (See Attached sheet)

Area ≈ 17,820 ft² Volume of Fill = (Area)(Depth)

Volume of Fill ≈ ½(17,820 ft²)(1.5 ft) + ½(17,820 ft²)(2 ft) ≈
North ½ Area — South ½ Area
≈ 13,365 + 17,820 ft³ ≈ 31,185 ft³ or 31,200 ft³

(C) + (D) Area w/ >50% and < 50% Surface Coverage, using planimeter (See Attached Sheet)

Area (C) < 50% S.C. ≅ 3996 ft² Area (D) > 50% S.C. ≈ 4536 ft²

Volume of Fill ≈ (Area)(Depth) ≈ (3996 + 4536)(2 ft) ≈ 17,064 ft³ or 17,100 ft³ ≈ 630 yd³

Woodward-Clyde Consultants

Sheet No. 7 of 12

File 89MC/14V

Made by CFP Date 9/10/92

Checked by EP Date 9/17/92

FOR NL / Taracorp Superfund Site

MISSOURI AVE cont'd

Total Volume of Fill w/TCLP < 5mg/L

Boring #8 Area (A) Fill

Volume of Fill ≈ 80 yd³ of soil w/ batt. casing material and TCLP-Pb < 5mg/L

Total Volume of Fill w/ TCLP ≥ 5mg/L

Area w/ Trace Coverage Volume of Fill ≈ 31,200 ft³

Area w/ <50% & >50% Surface Coverage Vol. of Fill ≈ 17,100 ft³

Volume of Fill w/ batt. casing material and TCLP-Pb ≥ 5mg/L ≈ 48,300 ft³ ≈ 1790 yd³

Total Volume of Fill for Missouri Ave ≈ 48,300 + 2090 ft³ ≈ 50,400 ft³
≈ 1870 yd³

Woodward-Clyde Consultants

Sheet No. 8 of 12

File 89MC114V

Made by TPN Date 9-8-92

Checked by CFP Date 9-10-92

FOR NL / Taracorp SUPERFUND SITE

Planimeter — Remote Fill Areas, Missouri Avenue

Area A
0.57 inches
0.57
0.58
0.58 in² Ave

Area B
4.92
4.99
4.91
4.95 in² Ave

Area C
1.11
1.10
1.11
1.11 in² Ave

Area D
1.28
1.240
1.25
1.26 in² Ave

1" = 60ft

A. Boring #8 Area

Area = 0.58 in² (60ft/in)(60ft/in)

= 0.58 in² (3600ft²/in²)

= 2088ft²

B. Trace Surface Coverage Area

Area = 4.95 in² (3600ft²/in²)

= 17820ft²

C. < 50% Surface Coverage Area

Area = 1.11 in² (3600ft²/in²)

= 3996ft²

D. > 50% Surface Coverage Area

Area = 1.26 in² (3600ft²/in²)

= 4536ft²

Woodward-Clyde Consultants

Sheet No. 9 of 12

File 89MC1RAV

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/10/92

Checked by CP Date 9/17/92

2230 CLEVELAND - For Driveway Only - Does not include possible yard remediations

Boring No.	Depth of Fill	Sample ID	Depth Sampled	TCLP - Pb Result
#3	1 ft	SOR0001100AT & TD	0-3 in	10.3 / 11.2 mg/L
#4	9 in	SOR0002100AT	0-3 in	72.8 mg/L
#5	6 in	SOR0003100AT	0-3 in	15.6 mg/L

* Assume Area (C) w/ > 50% Surface Coverage (Boring #3) has 1 ft depth of fill

Assume Area (B) w/ < 50% Surface Coverage (Boring #4) has 1 ft depth of fill

Assume Area (A) w/ Trace Surface Coverage (Boring #5) has 6 in depth of Fill

Using Planimeter, Areas of Surface Coverage (See Attached Sheet)

Area (A) Trace Surface Coverage ≈ 1280 ft²

Area (B) < 50% Surface Coverage ≈ 236 ft²

Area (C) > 50% Surface Coverage ≈ 500 ft²

∴ Volume of Fill = (Area)(Depth)

Volume of Fill ≈ (1280 ft²)(0.5) + (236 ft²)(1 ft) + (500 ft²)(1 ft) ≈ 1376 ft³ or 1380 ft³ × 5

Volume of Fill ≈ 51 yd³ of soil w/ bull. casing material and w/ TCLP-Pb > 5 mg/L

Woodward-Clyde Consultants

Sheet No. 10 of 12

File 89MC114V

Made by TPH Date 9-8-92

Checked by CPP Date 9-10-92

FOR NL / Taracorp SUPERFUND Site

Planimeter Areas

Remote Fill Areas
2230 Cleveland

Area A
3.20
3.19
3.16
3.19 in² Ave

Area B
0.58
0.60
0.58
0.59 in² Ave

Area C
1.24
1.25
1.25
1.25 in² Ave

1" = 20ft

Trace Surface Coverage Area

A. Area = 3.19 in² (20ft/in)(20ft/in)
= 3.19 in² (400 ft²/in²)
= 1276 ft²

<50% Surface Coverage Area

B. Area = 0.59 in² (400ft²/in²)
= 236 ft²

>50% Surface Coverage Area

C. Area = 1.25 in² (400ft²/in²)
= 500 ft²

Woodward-Clyde Consultants

Sheet No. 11 of 12

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/10/92

Checked by EP Date 9/17/92

1628 DELMAR - Include Driveway Area Only Does not include possible yard remediation.

Boring No.	Depth of Fill	Sample ID	Depth Interval	TCLP-Pb Result
#3	6 in.	50R0025300AT	0-3 in	0.47 mg/L
#4	6 in.	50R0025400AT	0-3 in	0.11 mg/L
#5	3 in	None		

* Assume Area (A) located in Front of House (Borings #3 and #4) have a depth of fill 6 in.

Assume other 2 Areas (B) + (C) located Along Side of House (Boring #5) have 3 in depth of Fill.

Using Planimeter, Area calculated (See Attached Sheet)

Area (A) - Front of House ≈ 232 ft²

Area (B) - Middle Area Along the Side of House ≈ 40 ft²

Area (C) Backyard Area Along the Side of House ≈ 248 ft²

Volume of Fill = (Area)(Depth)

$$\approx (232\,ft^2)(0.5\,ft) + (40\,ft^2)(0.25\,ft) + (248\,ft^2)(0.25\,ft)$$

Volume of Fill ≈ 116 ft³ + 10 ft³ + 62 ft³ ≈ 188 ft³ or 190 ft³ ≈ 7 yd³

Volume of Fill ≈ 190 ft³ ≈ 7 yd³ of soil w/ bath. casing material w/ TCLP-Pb < 5 mg/L

Woodward-Clyde Consultants

File 89MC114V

Made by TPH Date 9-8-92

Checked by CPP Date 9-10-92

FOR NL/Taracorp SUPERFUND Site

Planimeter Areas — Additional Remote Fill Areas 1628 Delmar

Area A
0.605
0.583
0.574
0.58 in² ave

Area B
0.12
0.093
0.093
0.10 in² ave

Area C
0.605
0.630
0.620
0.62 ave

1" = 20ft

A. Front of House Area

Area = 0.58 in² (20ft/in)(20ft/in)

= 0.58 in² (400 ft²/in²)

= 232 ft²

B. Middle Area Along the Side of House

Area = 0.10 in² (400ft²/in²)

≈ 40 ft²

C. Back Yard Area Along the Side of House

Area = 0.62 in² (400ft²/in²)

= 248 ft²

Woodward-Clyde Consultants

Sheet No. 1 of 18

File 89MC114V T1.C

Made by CFP Date 9/10/92

Checked by CP Date 9/18/92

FOR NL/Taracorp Superfund Site

Volume Calculations For Remedial Design of Remote Fill Areas

EAGLE PARKS

100-201 HILL ST.

Boring No.	Depth of Fill Mat.	Sample ID	Depth Interval	T. Lead Res.	TCLP-Pb Res
#1	8 in	SHI0100100ABL+T	0-6in	17,900 mg/kg	152mg/L
		" 100CL	6-12in	1580 mg/kg	
		100DL	1-1.5ft	843 mg/kg	
*2	(Surface Only)	SHI010020ABL or T	0-6in	360 mg/kg	1.36mg/L
		SHI0100200CL	6-12in	90.2mg/kg	

* For Area w/ <50% Surface Coverage (Boring #1) lead has leached below the fill depth although concentration is decreasing w/ depth. Assume below 2.5ft Lead concentration would be < 500ppm = Cleanup Standard ∴ Depth to Remediate = 2.5ft.

For Area w/ Trace Surface Coverage (Boring #2) Battery Casing Material covers surface only; therefore recommend to remediate top 3in. only.

Using Planimeter, Area (A) w/ Trace Surface Coverage (Boring #2), Calculated (See Attached Sheet)

Area (A) ≈ 2551 ft²

Area (B) w/ < 50% Surface Coverage, determine w/ planimeter (See Attached Sheet)

Area (B) ≈ 632 ft²

Volume of Fill (Area (A)) = (Area)(Depth) ≈ (2551 ft²)(.25 ft) = 638 ft³ or 640 ft³

Volume of Fill (Area (B)) = (Area)(Depth) ≈ (632 ft²)(2.5 ft) ≈ 1580 ft³

Volume of Fill for Trace Surface Coverage Area w/ batt. casing mat. and TCLP < 5mg/L ≈ 6.4 ft³ ≈ 25 yd³

Volume of Fill for <50% Surface Coverage Area w/ batt. casing mat. and TCLP ≥ 5mg/L = 1580 ft³ ≈ 60 yd

Total Volume of Fill ≈ 1580 ft³ + 620 ft³ ≈ 2200 ft³ ≈ 85 yd³

Woodward-Clyde Consultants

Sheet No. 2 Of 18

File 89MC114V

Made by TPH Date 9-8-92

Checked by CFP Date 9-10-92

FOR NL/Taracorp SUPERFUND SITE

Planimeter

Remote Fill Areas
100 - 201 Hill Street
(Eagle Park Acres

Area A
6.20°
6.185
6.154
6.18 in² Ave

Area B
1.59°
1.56°
1.581
1.58 in² Ave

$\boxed{1'' - 20ft}$

Trace Surface Coverage Area

$\boxed{A.}$ Area = 6.18 in² (20 ft/in)(20 ft/in)

= 6.18 in² (400 ft²/in²)

= 2472 ft²

Circle of Trace Area Located in NE Corner

diam. = 10 ft

Area of Circle = π/4 d²

Area ≅ 78.5 ft²

Area = 2472 ft² + 78.5 ft² = 2551 ft²

<50% Surface Coverage Area

$\boxed{B.}$ Area = 1.58 in² (400 ft²/in²)

= 632 ft²

Woodward-Clyde Consultants

Sheet No. 3 of 18

File 89MC114V

Made by CFP Date 9/10/92

Checked by LP Date 9/17/92

FOR NL/Taracorp Superfund Site

Eagle Parks Cont'd

108 CARVER

Boring No.	Depth of Fill	Sample ID	Depth Interval	T. Lead Res.	TCLP-Pb Result
#1	6 in	SCA0108100AT	0-3 in		4 mg/L
		SCA0108100CL	6-12 in	154 mg/kg	
#2	1 ft	SCA0108200ABL	0-6 in	4350 mg/kg	
		SCA0108200CL	6-12 in	1810 mg/kg	

* Expect Area w/ < 50 Surface Coverage (Boring #1) to have a larger depth of fill than Area w/ Trace Coverage (Boring #2) except in Boring #1 depth of fill is only down to 6 in while Boring #2 has fill down to 1 ft.

Assume whole area requires remediation down to 1 ft.

Area w/ Surface Coverage of Battery Casing Material determined by planimeter (See Attached Page)

Total Area ≈ 1,504 ft²

Volume of Fill ≈ (Area)(Depth) ≈ (1,504 ft²)(1 ft) ≈ 1504 ft³ or 1,500 ft³ ≈ 56 yd³

Volume of Fill ≈ 1500 ft³ or 56 yd³ of soil with batt. casing material and w/ TCLP-Pb < 5 mg/L

Woodward-Clyde Consultants

Sheet No. 4 of 18

File 89MC114V

Made by TPH Date 9-8-92

Checked by CFP Date 9-10-92

FOR NL/Tarncorp SUPERFUND SITE

Planimeter Areas – Remote Fill Areas
108 Carver St.
(Eagle Park Acres)

Area A
1.65[9] in²
1.56[6]
1.64[3]
1.62 in²

Area B
2.13[9]
2.17[0]
2.10[8]
2.14 in²

MAP SCALE is 1" = 20ft

Area w/ < 50% Surface Coverage

A. Area = 1.62 in² (20ft/in * 20ft/in)

= 1.62 in² (400 ft²/in²)

= 648 ft²

Area w/ Trace Surface Coverage

B. Area = 2.14 in² (400 ft²/in²)

= 856 ft²

Total Area = 648 ft² + 856 ft² = 1,504 ft²

Woodward-Clyde Consultants

Sheet No. 5 of 18

File 89MR1MN

FOR NL/Taracorp Superfund Site

Made by CFP Date 8/10/92

Checked by _____ Date _____

111 CARVER

Boring No.	Depth of Fill	Sample ID	Depth Interval	T. Lead Results
*1	No Surface Coverage or Fill Found	SCA[illegible]ABL	0-6 in	471 mg/kg
*2	No Surface Coverage or Fill Found	SCAØ1112ØABL	0-6 in	445 mg/kg

Do Not Recommend to Remediate because visual inspection did not find any battery casing or slag material and samples had T. Lead concentrations less than 500ppm.

Woodward-Clyde Consultants

Sheet No. 6 of 18

FOR NL/Taracorp Superfund Site

File 89MC114V

Made by CFP Date 9/10/92

Checked by EP Date 9/17/92

202A HARRISON

Boring No.	Depth of Fill	Sample ID	Depth Int.	T. Lead Res.	TCLP-Pb Rte
#1	1.5 ft.	SHA020210ABLorT	0-6in	68,400 mg/kg	440 mg/L
		SHA0202100CLorT	6-12in	2,320 mg/kg	11.7 mg/l.
		SHA0202100DL	1-2ft	103 mg/kg	
		SHA0202100EL	2-3ft	198 mg/kg	
#2	2.5 ft	SHA020220ABLorT	0-6in	1240 mg/kg	1.47 mg/L
		" 200CT	6-12in		2.34 mg/L
		" 200FL	3-4ft	19.4 mg/kg	
#3	4 ft	SHA020230ABLorLD	0-6in	937/536 mg/kg	
		" 300CL	6-12in	752 mg/kg	
		" 300EL	2-3ft	622 mg/kg	
		" 300FTorTD	3-4ft		0.93/1.13 mg/l
		" 300GL	4-5ft	177 mg/kg	
#4	Surface Coverage Only	SHA020240ABL	0-6in	106 mg/kg	
		SHA0202400CL	6-12in	151 mg/kg	

* Assume Area w/ > 50% Surface Coverage of Bat. Casing Mat. (Boring #3) has 4 ft depth of fill.
* Assume Area w/ < 50% Surface Coverage in Driveway (Boring #1 and #2) has an average fill depth of 2 ft.
* Garden Area (Boring #4) had battery casing material on surface only. Recommend to remediate top 3in only.
* Assume Area w/ Trace Surface Coverage in Driveway has 1.5 ft depth of fill (same as B*.

Using planimeter, Area w/ >50% Surface Coverage calculated (See Attached Shee

Area (D) ≈ 500 ft²

Volume of Fill = (Area)(Depth) ≈ (500 ft²)(4 ft) ≈ 2000 ft³ or 74 yd³

202 A HARRISON Cont'd.

Using planimeter, Driveway Area w/ < 50% Surface Coverage calculated (See Attached Shee
(Boring #1+2)

Area Ⓒ ≈ 2,980 ft²

Volume of Fill ≈ (Area)(Depth) ≈ (2,980 ft²)(2 ft) ≈ 5,960 ft³ ≈ 221 yd³

Using planimeter, Driveway Area w/ Trace Surface Coverage calculated (See Attached Sheet)

Area Ⓔ ≈ 272 ft²

Volume of Fill ≈ (Area)(Depth) ≈ (272 ft²)(1.5 ft) ≈ 408 ft³ or 410 ft³ ≈ 15 yd³

Using planimeter, Garden Area w/ Trace + <50% Surface Coverage Calculated (See Attached

Areas Ⓐ + Ⓑ ≈ 2720 ft² + 388 ft² ≅ 3,108 ft²

Volume of Fill ≈ (Area)(Depth) ≈ (3108 ft²)(.25 ft) ≈ 777 ft³ or 780 ft³ ≈ 30 yd³

Total Volume of Fill ≈ 2000 ft³ + 5,960 ft³ + 410 ft³ + 780 ft³
≈ 9150 ft³ or 9,200 ft³

≈ 340 yd³

Assume Driveway Area w/ battery casing material has TCLP > 5 mg/L. Average TCLP-Lead for 5 samples = 91.3 mg/L.

Volume of Fill ≈ 2000 ft³ + 5960 ft³ + 410 ft³ ≈ 8,370 ft³ or 310 yd³

Volume of Fill ≈ 8370 ft³ or 310 yd³ of soil w/ batt. casing and slag material w/ TCLP-Pb > 5 mg/L.

Assume Garden Area w/ battery casing material has TCLP < 5 mg/L, because T. Lead Concentration Average ≅ 130 mg/kg.

Volume of Fill ≈ 780 ft³ or 30 yd³ of soil w/ batt. casing and slag material w/ TCLP-Pb < 5

Woodward-Clyde Consultants

Sheet No. 1 of 2

File 89MC114V

Made by TPH Date 9/8/92

Checked by LP Date 9/17/92

FOR NL/Taracorp SUPERFUND SITE

Planimeter areas - Remote Fill Areas
202A Harrison St.
(Eagle Park Acres)

Area A (including area B)

7.7 in²
7.77 in²
7.78 in²
7.81 in²
7.77 in²
7.77 ave

Area B

0.977 in²
0.961 in²
0.977 in²
0.972 ave

Net area A (subtract area B) = 7.77 − 0.97 = **6.80 in² = A**

0.97 in² = B

Area C (including area D)

8.68
8.69
8.73
8.70 in² ave

Area D

1.25
1.25
1.24
1.25 in² ave

Net Area C (subtract area D) = 8.70 − 1.25 = **7.45 in² = C**
1.25 in² = D

Area E

0.68
0.66
0.698
0.68 in² ave

Area E = 0.68 in²

MAP SCALE is **1 inch = 20 feet**

13.6

Check Area E w/ scale
1.2" × 0.6" = 0.72 in² vs. 0.68" ✓

Woodward-Clyde Consultants

Sheet No. 11 Of 18

File 89MC114V

FOR NL / Taracorp Superfund Site

Made by CFP Date 9/11/92

Checked by CP Date 9/17/92

203/205 TERRY ST

Boring	Depth of Fill	Sample ID	Depth Interval	T. Lead Results (mg/kg)	TCLP-Pb Re (mg/L)
#1	9 in.	STE 020310ABL or LD	0-6 in.	45200 / 37700	
		STE 020310AB T	0-6 in		156
		STE 020310 0C L or LD	6-12 in	10,100 / 5930	
		STE 020310 0 C T	6-12 in		71.6
		STE 020310 0 D L	1-1.5 ft	292	
#2	6 in.	STE 020320 ABL or T	0-6 in.	8060	52.3
		" 200 CL	6-12 in	820	
		200 DL	1-1.5 ft	44.2	
#3	6 in	STE 020330 ABL or LD	0-6 in	5430 / 9140	
	6-12 in trace	" 30 ABT	0-6 in		32.2
		" 300 CL	6-12 in	126	
		" 300 DL	1-1.5 ft	41.5	
#4	6 in	STE 020340 AB L or T	0-6 in	37,500	101
		" 400 CL	6-12 in	971	
		" 400 DL	1-1.5 ft	59.8	

* Based on T. Lead and TCLP-Pb Results, recommend to remediate down to 1 ft. All T. Lead Concentrations for 6-12" sample depth interval > 500 ppm except for Boring #3, nevertheless Boring #3 had Trace batt. casing mat. down to 1 ft.

Using Planimeter, determined area on map w/ various amounts of surface coverage. (See Attached Sheet)

Area ≈ 11,830 ft²

Volume of Fill = (Depth)(Area) ≈ (1 ft)(11,830 ft²) ≈ 11,830 ft³ ≈ 438 yd³

Volume of Fill ≈ 438 yd³ of soil w/ batt. casing material and w/ TCLP >> 5 mg/L

Woodward-Clyde Consultants

Sheet No. 12 of 18

File 89MC114V

Made by TPH Date 9-8-92

Checked by CFP Date 9-10-92

FOR NL/Tercerp

Planimeter

Remote Fill Areas
203/205 Terry Street
(Eagle Park Acres)

Area A/D
3.68
3.51
3.47
3.56 in² Ave

Area B
14.94
14.92
14.89
14.92 in² Ave

Area C
11.14
11.12
11.03
11.10 in² Ave

Area D
0.49
0.49
0.46
0.49

Area A = 3.56 − 0.49
= 3.07 in² Ave

1" = 20ft → $\frac{20ft}{in} * \frac{20ft}{in} = 400 \frac{ft^2}{in^2}$

A. Area = 3.07 in² (400 ft²/in²)
= 1228 ft²

Total Area = 1228 + 5968 + 4440 + 196
= 11,832 ft² or 11,830 ft²

B. Area = 14.92 in² (400 ft²/in²)
= 5968 ft²

C. Area = 11.10 in² (400 ft²/in²)
= 4440 ft²

D. Area = 0.49 in² (400 ft²/in²)
= 196 ft²

Woodward-Clyde Consultants

Sheet No. 2 of 2

File [illegible]

Made by TPH Date 9-8-92

Checked by EJ Date 9/17/92

FOR NLTSS 202A Harrison Street

Scale 1" = 20ft

A. Garden Area w/ Trace Bit. Casing

Area = $6.80\ in^2 \left(\frac{20ft}{in} \times \frac{20ft}{in}\right)$

$= 6.80\ in^2 (400 ft^2/in^2)$

$= 2720\ ft^2$

B. Garden Area w/ <50% Surface Coverage

Area = $0.97\ in^2 \left(\frac{20ft}{in} \times \frac{20ft}{in}\right)$

$= 0.97\ in^2 (400 ft^2/in^2)$

$= 388\ ft^2$

C. Driveway Area w/ < 50% Surface Coverage

Area = $7.45\ in^2 (400 ft^2/in^2)$

$= 2980\ ft^2$

D. Driveway Area w/ >50% Surface Coverage

Area = $1.25\ in^2 (400 ft^2/in^2)$

$= 500\ ft^2$

E. Driveway Area w/ Trace Surface Coverage

Area = $0.68\ in^2 (400\ ft^2/in^2)$

$= 272.0 ft^2$

Woodward-Clyde Consultants

Sheet No. 10 of 18

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/10/92

Checked by CR Date 9/17/92

128 ROOSEVELT

Boring	Depth of Fill	Samples ID	Depth Interval	T. Lead Results (mg/kg)	TCLP-Pb R (mg/L)
#1	1 ft	SRS012810ABL	0-6"	53.2	
		SRS0128100CL	6-12	1670	
		SRS0128100DL	1-2	197	
#2	1.5 ft	SRS0128200CL	6-12"	474	
		SRS0128200DL a T	1-2 ft	163	0.3
		SRS0128200EL	2-3 ft	60.9	
#3	1.5 ft	SRS0128300CL a T	6-12"	745	<0.18
		SRS0128300DL a T	1-2 ft	117	
		SRS0128300EL	2-3 ft	57.2	

* Visual Inspection of Property did not identify batt. casing material contamination, but did identify large pieces of tar material. From borings and analytical samples, fill appeared to be 1 to 1.5 ft deep and w/ T. Lead concentrations > 500 ppm at 6-12 in. Recommend to remediate top 1 ft of fill. for whole yard.

** May want to conduct more sampling for front yard (NW Side) to determine if remediation is required.

Total Area of Lot ≈ (125 ft)(110 ft) ≈ 13,750 ft²

Area of House + Paved Area ≈ 2,500 ft²

Yard Area ≈ 13,750 ft² - 2,500 ft² ≈ 11,250 ft²

Volume of Fill = (Area)(Depth) ≈ (11,250 ft²)(1 ft) ≈ 11,250 ft³ ≈ 420 yd³

Volume of Fill ≈ 420 yd³ of soil w/ fill material, T. Lead > 500 ppm and TCLP < 5 mg/L

Woodward-Clyde Consultants

Sheet No. 13 of 18

File 89MC114V

Made by CFP Date 9/11/92

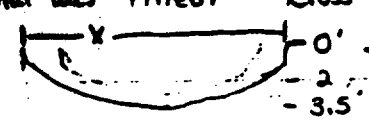
Checked by CP Date 9/17/92

FOR NL/Taracorp Superfund Site

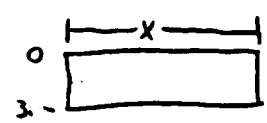
203/205 HARRISON

Boring	Depth of Fill	Sample ID	Depth Int.	T. Lead Res. mg/kg	TCLP-Pb Res. mg/L
203-1	0	SHA0203 10ACL	0-1 ft	92.9	
		" 100DL	1-2 ft	49.8	
203-2	9 in	SHA0203 20ACL	0-1 ft	848	
		" 200DL	1-2 ft	101	
203-3	2.5 ft	SHA0203 300DL or LD	1-2 ft	1540/1220	
		" 300DT	1-2 ft		0.54
		" 300EL or T	2-3 ft	507	0.31
		" 300FL	3-4 ft	95.9	
203-4	3.0 ft	SHA0203 40ACL	0-1 ft	186	
		" 400DL or T	1-2 ft	1800	<0.20
		" 400EL	2-3 ft	148	
		" 400FL	3-4 ft	178	
205-1	2.5 ft	SHA0205 100DL	1-2 ft	1030	
		" 100EL	2-3 ft	223	
205-2	3.0 ft	SHA0205 200DL or LD	1-2 ft	529/832	
		" 200EL	2-3 ft	216	
		" 200FL	3-4 ft	20.4	
205-3	3.5 ft	SHA0205 30ACL	0-1 ft	45	
		" 300DL	1-2 ft	782	
		" 300DT or TD	1-2 ft		0.22/0.32
		" 300EL or ET	2-3 ft	500	<0.19

* Type of Contamination - Slough area or water filled depression filled w/ cinder and slag material. and then covered w/ topsoil (3-6 in). Residents identified area that was filled. Cross-section of slough probably looked like



To simplify volume calculations assume fill area has rectangular shape w/ 3.0 fill depth



This conservative approach will take in to account areas not identified in borings.

Woodward-Clyde Consultants

Sheet No. 14 of 18

File 87MC/MV

FOR NL/Taracorp Superfund Site

Made by CPP Date 9/11/92

Checked by LP Date 9/17/92

203/205 HARRISON (cont'd)

Using Planimeter, Slough Area (Fill Area) identified by residents was calculated (See Attached Sheet).

Area ≈ 11,475 ft²

Volume of Fill = (Area X Depth) ≈ (11,475 ft²)(3.0 ft)

≈ 34,425 ft³ or 34,400 ft³ = 1,275 yd³

Volume of Fill = 1,275 yd³ of soil w/ slag/cinder material and w/ T. Lead > 500 ppm and TCLP-Pb < 5 mg/L

Woodward-Clyde Consultants

Sheet No. 15 of 18

File 89MC114V

Made by TPH Date 9-9-92

Checked by CPP Date 9-11-92

FOR NL/Taracorp SUPERFUND SITE

Remote Fill Areas
203/205 Harrison St.
(Eagle Park Acres)

Area A

12.77²
12.72⁶
12.74⁸
12.75 in² Area

1" = 30 ft

Check 6.8 x 1.7 = 11.56 ✓ (area is irregular

A. Area = 12.75 in² (30 ft/in)(30 ft/in)

= 12.75 in² (900 ft²/in²)

= 11475 ft²

Woodward-Clyde Consultants

Sheet No. 16 of 18

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/11/92

Checked by EP Date 9/17/92

208 TERRY ST

Boring	Depth of Fill	Sample ID	Depth Int.	T. Lead Res (mg/kg)	TCLP-Pb Res (mg/L)
1	6 in	STE020810ABLaT	0-6in	2170	1.79
		STE020810OCL	6-12in	52	
2	6 in	STE020820ABLaT	0-6in	474	0.88
		" 200CL	6-12in	88.9	
3	0-6in trace ball. casing material	STE020830ABL	0-6in	90.7	
		" 300CL	6-12in	19.4	
4	0-1 ft	STE020840ABLaT	0-6in	2790	0.51
		" 400CL	6-12	2100	
5	0-1 ft	STE020850ABLaT	0-6in	1180	0.53
		" 500CL	6-12in	4070	

* Due to heavy underbrush and tall grass, field visual inspection could not identify particular areas that contained ball, casing material. Identified trace amount over entire property. * Based on Sample Data w/ T. Lead concentrations above 500 mg/kg recommend to remediate to depth of fill at 6in in front half of the property (North side).

* For Backyard recommend to remediate to depth of fill at 1 ft. This is based on sample results.
* Trash Pile will require extra effort during remediation.
* For Abandoned Foundation Hole (See Map) recommend not to remediate due to low sample concentration (Boring #3).

Front Yard - Assume area stops at N. side of Abandoned Foundation Hole

Front Yard Area ≈ [106' (Terry St.)][100' back] ≈ 10,600 ft²

Abandoned Foundation Hole Area ≈ (35')(30') = 1050 ft²

Total Back Yard Area ≈ (106 ft)(90 ft) ≈ 9540 ft²

Net Back Yard Area ≈ 9540 ft² − 1050 ft² (Hole Area) ≈ 8,490 ft² or 8500 ft²

Woodward-Clyde Consultants

Sheet No. 17 of 18

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/11/92

Checked by CD Date 9/14/92

208 TERRY ST (Cont'd)

Volume of Fill = (Depth X Front Yard Area) + (Depth X Back Yard Area)

$\approx (0.5 ft)(10,600 ft^2) + (1 ft)(8500 ft^2)$

$\approx 5,300 ft^3 + 8500 ft^3 = 13,800 ft^3 \approx 510 yd^3$

Volume of Fill $\approx$ 510 yd^3 of soil w/ batt. casing & slag material w/ T, Lead > 500 ppm and TCLP < 5 mg/L

Woodward-Clyde Consultants

Sheet No. 18 of 18

File 89MC114V

FOR NL/Taracorp Superfund Site

Made by CFP Date 9/11/92

Checked by EP Date 9/17/92

Total Volume of Fill to Remediate from Eagle Park Acres

Location	* Hazardous TCLP-Pb > 5mg/L	Est. Non-Hazardous Volume (ft^3) / (yd^3)	Est. Hazardous Volume (ft^3) / (yd^3)
100-201 Hill St	No / Yes	640 / 25	1580 / 60
108 Carver	No	1500 / 56	
111 Carver	No	0	0
202A Harrison	Yes / No	780 / 30	8420 / 310
128 Roosevelt	No	11,250 / 420	
203/205 Terry	Yes		11,830 / 440
203/205 Harrison	No	34,400 / 1,275	
208 Terry	No	13,800 / 510	
Total Volume of Fill →	Non-Hazardous	62,370 ft^3 / 2316 yd^3	
	Hazardous		21,830 ft^3 /

Total Volume of Fill ≈ 84,200 ft^3

or ≈ 3,130 yd^3

Woodward-Clyde Consultants

Sheet No. 1 Of 8

File 89MC1HV

FOR NL/Taracorp Superfund Site

Made by CFP Date 8/11/92

Checked by DZ Date 8/29/92

Volume Calculations For Remedial Design of Remote Fill Areas

Venice Alleys

① Lincoln Ave

Boring #1 Depth of Fill = 3 in.

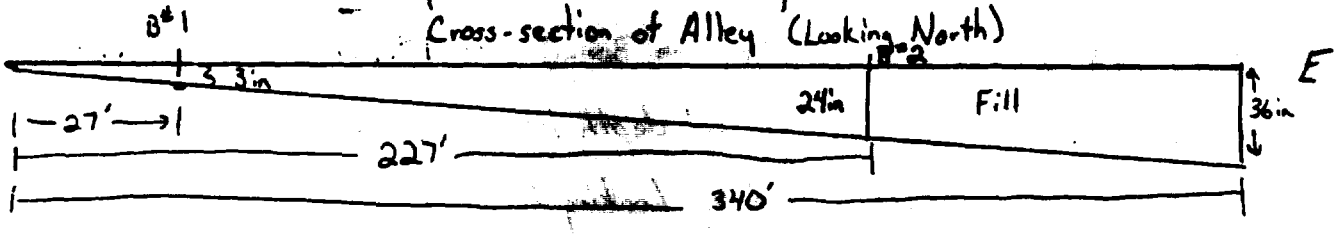
Boring #2 Depth of Fill = 2 ft.

Sample ID - SVE0002100J T = < .65 mg/L 0 - 2 ft Depth

Length of Alley = 340 ft Width = 12 ft. Surface Area = (340)(12) = 4080 ft²

* Assume Constant Slope of Fill (From Boring 1 to 2).

Cross-section of Alley (Looking North)



Slope of Fill = $\frac{2 \text{ ft}}{227 \text{ ft}}$ = 0.0088 Fill Depth at East End of Alley (0.0088)(340 ft) ≅ 3.0 ft

Volume of Fill (Based on Prism) = ½ (depth of fill)(Length)(Width)

= ½ (3.0')(340')(12') = 6,120 ft³

Volume of Fill ≅ 6,120 ft³ of soil w/ bot. casing mat. or slag and w/ TCLP-Pb < 5 mg/L

or 230 yd³

Woodward-Clyde Consultants

Sheet No. 2 of 8

File

Made by CFP Date 8/11/92

Checked by DZ Date 8/24/92

FOR NL/Taracorp Superfund Site

Venice Alleys cont'd

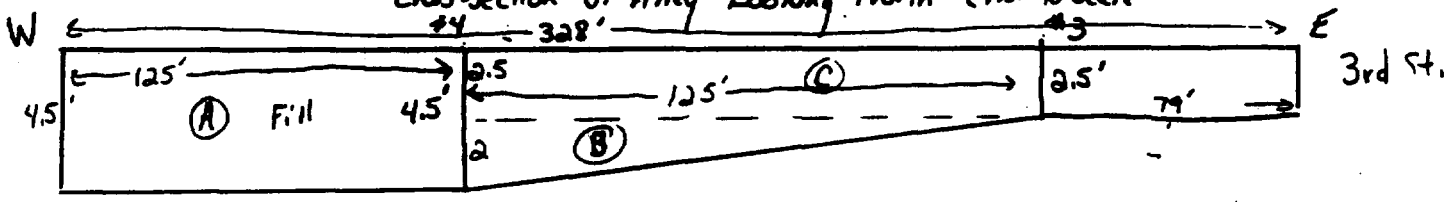
② Abbott St. (West of 2nd St to 3rd St)

Boring	Depth of Fill	Sample ID	Depth Sampled	TCLP-Lead Result
#3	2.5'	None		
#4	4.5'	SVE0004100JT	0-2ft	6.8 mg/L
#5	9.5'	SVE0005100LT	4-6 ft	7.52 mg/L
#6	1.5	None		
#7	1.5	None		

②a Alley between 2nd + 3rd St. → Borings #3 + #4

* Assume Fill at least 2.5 ft and depth increases to 4.5 ft (Boring #4)

Cross-section of Alley Looking North (Not to Scale



Width = 12'

Volume of Fill = (Depth of Fill)(Length of Alley)(Width)

Volume = (4.5ft)(125 ft)(12ft) + ½ (2ft)(125)(12) + (2.5')(125+79)(12')

= 6750 + 1500 + 6120 = 14370 ft³ or 14,400 ft³

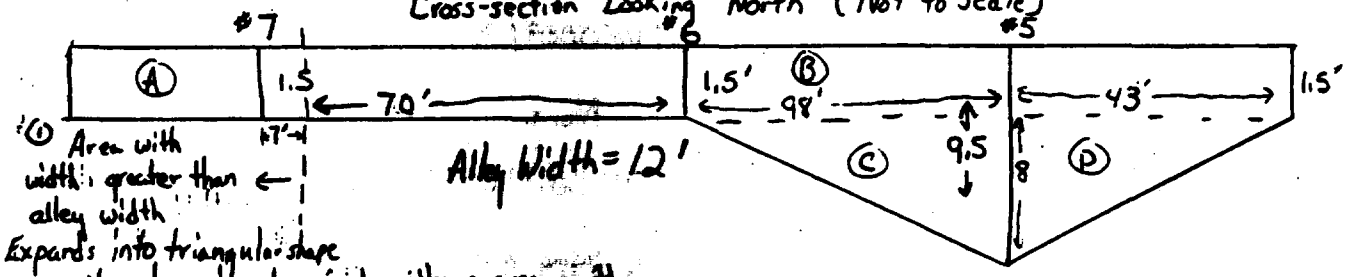
Volume of Fill ≈ 14,400 ft³ or 533 yd³ of soil w/ TCLP-Lead > 5.0 mg/L

VENICE ALLEYS (cont'd)

(2b) Abbott St. (West of 2nd St. to Railroad)

* Assume thickness of fill w/ battery chips or slag material is at least 1.5 ft and localized area around Boring #5 is 9.5 ft.

Cross-section Looking North (Not to Scale)



(1) Area of Block A (From Map) ≈ Triangle Shape ≈ bh ≈ (47ft)(90') + Rect. Shape (20')(60') ≈ 5430

Volume of Fill = (Depth)(Length)(Width)

Volume of Fill = (1.5 ft)(5430 ft²) + (1.5 ft)(70 + 98 + 43)(12') + ½(8ft)(98ft)(12') + ½(8')(43')(12')

= 8,145 + 3798 + 4704 + 2064

Volume of Fill ≈ 18,711 ft³ . 18,700 ft³ of soil w/ TCLP-Lead > 5 mg/L

(2c) Alley North of Hampden Ave. (No Samples Taken) → Alley Identified in field work.

* Assume 2 ft of fill material w/ battery casing material. Assume TCLP-Pb > 5 mg/L.

Volume of Fill = (Depth of Fill)(Alley Length)(Width)

Volume of Fill Around Alley's West End ≈ (2ft)(35ft)(35ft) ≈ 2450 ft³

Volume of Fill Within Alley ≈ (2ft)(105ft)(12ft) ≈ 2520 ft³

Volume of Fill ≈ 2450 ft³ + 2520 ft³ ≈ 4,970 ft³ ≈ 5,000 ft³ w/ assumed TCLP-Pb > 5 mg/L

(2) Total Volume of Fill for Abbott St. Alley ≈ 14,400 ft³ + 18,700 ft³ + 5000 ft³ ≈ 38,100 ft³ or 1410 yd³

≈ 1,410 yd³ w/ TCLP-Pb > 5 mg/L

Woodward-Clyde Consultants

Sheet No. 4 of 8

File

Made by CFP Date 8/21/92

Checked by DZ Date 8/24/92

FOR

Venice Alleys (cont'd)

③ Weber St. (West of 2nd St. to 3rd St) - N. of Weber St.

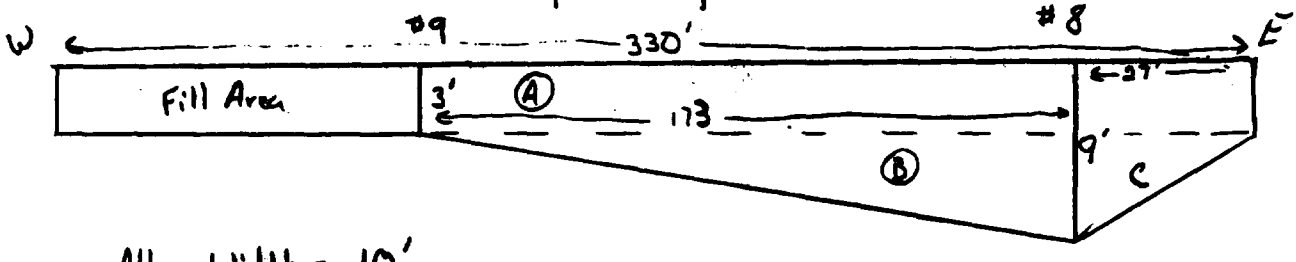
Boring	Depth of Fill (ft)	Sample ID	Depth Sampled	TCLP-Pb
#8	9'*	SVE0008100LT	4'-6'	< .65 mg/L
#9	3'	SVE0009100JT	0-2'	1.53 mg/L
#10	2'	None		
#11	1'	SVE0011100JT		5.6

* slag fill to this depth, not battery casing material

③a Alley between 2nd + 3rd St. → Borings #8 + #9

* Assume fill at least 3 ft and depth increases to 9' (Boring #8)

Cross-section of Alley Looking N. (Not to Scale)



Alley Width = 10'

Volume of Fill = (Depth X Length)(Width)

Volume of Fill ≅ (3' X 330 ft)(10) + ½(6')(173')(10) + ½(6)(27')(10)

≅ 9,900 ft³ + 5190 ft³ + 810 ft³ = 15,900 ft³

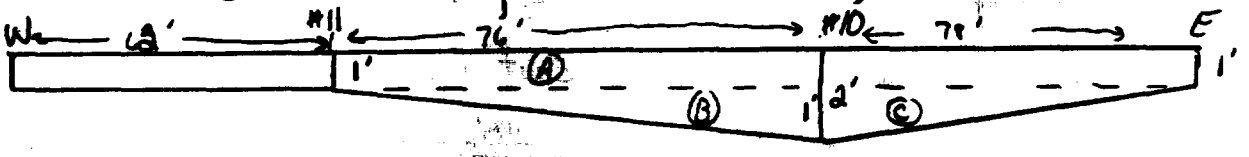
Volume of Fill ≅ 15,900 ft³ of soil w/ battery casing or slag mat. and w/ TCLP < 5 mg/L

VENICE ALLEYS (cont'd)

(3b) Alley West of 2nd St. - North of Weber St. (Borings #10 + #11)

* Assume fill at least 1 ft and depth increases to 2' at Boring #10

Cross-section Looking North (Not to Scale)



Alley Width = 10ft

Volume of Fill = (Depth)(Length of Alley)(Width)

Volume of Fill ≅ (1ft)(62+76+78)(10') + ½(1')(76')(10) + ½(1)(78')(10')

≅ 2160ft³ + 380ft³ + 390ft³ = 2930ft³

Volume of Fill ≅ 2930ft³ of soil w/ batt. casing or slag mat. and w/ TCLP-Pb > 5mg/L

(3) Total Volume of Fill for Alley North of Weber St.

Volume of Fill for Alley between 2nd + 3rd St. ≅ 15,900ft³ or 590yd³ soil w/ TCLP-Pb < 5mg/L

Volume of Fill for Alley West of 2nd St ≅ 2930ft³ or 110yd³ soil w/ TCLP-Pb > 5mg/L

(4) Alley North of Klein Ave

Boring	Depth of Fill	Sample ID	Depth Sampled	TCLP-Pb Result
#12	1'			
#13	2'	SVE001300JT	0-2'	<0.65 mg/L
#14	2'			
#15	4'	SVE001500KT	2-4'	<0.65 mg/L

Woodward-Clyde Consultants

Sheet No. 6 of 8

File

Made by CFP Date 8/21/92

Checked by DZ Date 9/22/92

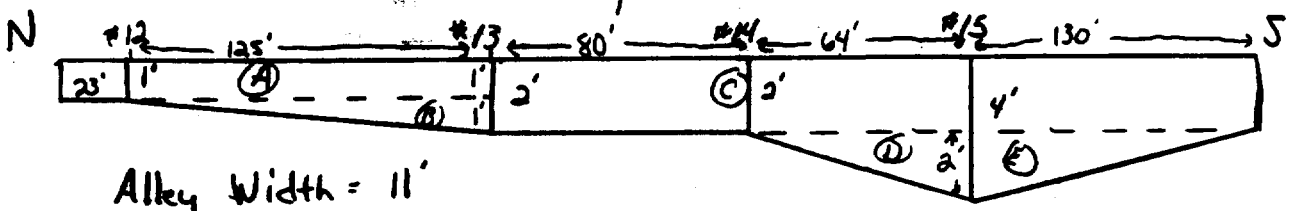
FOR

VENICE ALLEYS (Cont'd)

(4) Klein Ave. Alley (cont'd)

* Assume bat. casing + slag material fill / ft on north side and increasing to the east (Boring #15 - 4 ft) and decreasing back to 2 ft on south si

Cross-section Looking East (Not to Scale)



Alley Width = 11'

Volume of Fill = (Depth)(Length of Alley)(Width)

$$\approx (1')(23' + 125')(11') + \tfrac{1}{2}(1')(125')(11') + (2')(80' + 64' + 130')(11') + \tfrac{1}{2}(2')(64')(11) + \tfrac{1}{2}(2')(130')(11')$$

$$\approx \overset{A}{1628\ ft^3} + \overset{B}{687.5\ ft^3} + \overset{C}{6028\ ft^3} + \overset{D}{704\ ft^3} + \overset{E}{1430\ ft^3} \approx 10{,}478$$

$\approx 10{,}500\ ft^3$

or $390\ yd^3$ $\approx$ or $390\ yd^3$

Volume of Fill $\approx$ 10,500 ft^3 of soil w/ bat. casing + slag mat. and w/ TCLP-Pb < 5 mg/L

VENICE ALLEYS - Cont'd

(5) Slough Road

Borings	Depth of Fill	Sample ID	Depth Sampled	TCLP - Pb Result
#16	1'	None		
#17	1'	SVE001710 0JT	0-2'	93.4 mg/L
#18	1'	None		
#19	1'	None		
#20	2.5'	SVE002010 0JT	0-2'	2.59 mg/L

* Assume depth of fill is at least 1 ft thick and there is a 20 ft radius around Boring #20 with a 2.5' thickness.

(A) Area of Narrow Lane Section (Boring #16 + #17) (See Map)

$(23 ft)(\approx 280') \approx 6,440 ft^2$

(B) Area of Parking Lot Minus Area around Boring #20 $\approx$ (Total Area) $(125 ft)(150') -$ (Triangle w/ no Fill) $\frac{1}{2}(42)(105) -$ (Boring #20 area) $\pi(20')^2$

$\approx 18,750 ft^2 - 2205 ft^2 - 1257$

$\approx 15,288 ft^2$

(B) Volume of Fill = (Depth)(Area) $\approx (1 ft)(15,288 ft^2) + (1 ft)(6440 ft^2) \approx 21,728 ft^3 \approx 21,730 ft^3$

Volume of Fill $\approx 21,730 ft^3$ for Park. Lot + Narrow Lane Section

(C) Area around Boring #20 $\pi r^2 \approx \pi(20)^2 = 1257 ft^2$

(C) Volume of Fill = (depth)(Area) $\approx (2.5 ft)(1257 ft^2) \approx 3143 ft^3$ or $3140 ft^3$ for Boring #20 Ar

Total Volume of Fill $\approx 21,730 ft^3 + 3140 ft^3 \approx 24,870 ft^3$ or $24,900$ or $\approx 920 yd^3$

Volume of Fill $\approx 24,900 ft^3$ or $920 yd^3$ of soil w/ bat. casing + slag material and with majority of area w/ TCLP-Pb > 5 mg/L.

Woodward-Clyde Consultants

Sheet No. 8 of 8

FOR NL/Taracorp Superfund Site

Made by CFP Date 8/21/92

Checked by DZ Date 9/22/92

File 89MC114V

Volume Calculations of VENICE ALLEYS (cont'd)

Total Volume of Fill to be Remediated for Venice Alleys

Location	Hazardous TCLP-Pb ≥ 5 mg/L	Est. Non-hazardous Volume	Est. Hazardous Volume
① Lincoln Ave	No	6,120 ft³/230 yd³	
② Abbott St.	Yes		38,100 ft³/1410 yd³
3a Weber St. (Alley between 2nd + 3rd St)	No	15,900 ft³/590 yd³	
3b Weber St. (Alley West of 2nd St)	Yes		2930 ft³/110 yd³
④ Klein Ave	No	10,500 ft³/390 yd³	
⑤ Slough Road	Yes * (Majority of Area w/ TCLP > 5 mg/L)		24,900 ft³/920 yd
Total Volume of Fill w/ battery casing + slag mat. Est. Non hazardous		≈ 32,520 ft³/1210 yd³	
Est. Hazardous			65,930 ft³/24

Total Volume of Fill w/ battery casing + slag material	≈ 98,450 ft³ or 98,500 ft³

STATISTICAL METHODOLOGY

Woodward-Clyde Consultants

Sheet No. 1 Of 3

File 89MC114V

Made by CFP Date 9/3/92

Checked by _____ Date _____

FOR NL/Taracorp Superfund Site

Residential Decision Units

Binomial Distribution (Application used in Sect 7.4 Methods for Evaluating the Attainment of Cleanup Standards

For single probability of success = $b(x)$

$$b(x; n, p) = {}_nC_x \, p^x (1-p)^{n-x}$$

For Cumulative Binomial Distribution = $B(x)$ = Prob. of achieving x or fewer succes

$$B(x; n, p) = \sum_{k=0}^{x} b(k; n, p)$$

H_0: Null Hypothesis: Assume Unit is Dirty

X = no. of successes in trial n = total number of samples in trial.

$X = \sum_{y=0}^{n} y_i > C_s$ C_s: Cleanup Standard = 500ppm

Given

$p = P_0$ = Amount of dirty soil allowed in "clean" unit

$p = P_0 = 25\%$

$\alpha = 5\%$ = false positive rate, error when reject H_0

$P_1 = 2\%$ Prob. of Alternative hypothesis, Prob. that clean soil declared "dirty"

β = false negative rate, error when reject H_A (Alternative hypothesis)

Woodward-Clyde Consultants

Sheet No. 2 of 3

FOR NL/Taracorp Superfund Site

File

Made by CFP Date 9/3/92

Checked by Date

Using $x, n, + p$ determine $B(x; n, p)$ from table or stats program.

If $B(x; n, p) \geq 0.05 = \alpha$ $\therefore$ H_0 Correct $\rightarrow$ Remediate

If $B(x; n, p) < 0.05 = \alpha$ $\therefore$ Reject H_0 $\rightarrow$ Unit Declared "Clean"

Examples ① Decision Unit No. 15 - Depth Interval 0"-3"

$x = 3$ $n = 19$ $p = .25$

From table $B(x; n, p) = .263$

$B(x; n, p) = .263 \geq 0.05$ $\therefore$ Remediate

② Dec. Unit #15 Depth Interval - 3"-6"

$x = 1$ $n = 19$ $p = .25$

From table $B(x; n, p) = .031$

$B(x; n, p) = .031 < 0.05$ $\therefore$ Dec. Unit is Clean.

To Calculate β or false negative rate, use Equation 7.1 (p. 7-6), Methods for Evaluating the Attainment of Cleanup Standards, USEPA Doc. PB89-234959

Given: P_0, P_1, α, $n \rightarrow$ changes w/ each decision unit

Solve for $z_{1-\beta}$. Using Table A.2 find β

Equation 7.1

$$n = \left[\frac{z_{1-\beta}\sqrt{P_1(1-P_1)} + z_{1-\alpha}\sqrt{P_0(1-P_0)}}{(P_0 - P_1)} \right]^2$$

STATISTICAL EVALUATION

MAIN INDUSTRIAL PROPERTY

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

Each sample has a unique sample identification. The identification consists of sample matrix code, street code, lot number, boring number, sample depth code, and sample type. All of the codes are listed in the following tables with their appropriate description. An example follows to demonstrate the operation of the sample identification.

SMP1629200B00L

S	Sample Matrix (In this case, the sample matrix is soil, see **SAMPLE MATRICES** table.)
MP	Street Code (In this case, the sample location is on Maple Street, see **STREET CODE** table.)
1629	Lot Number (In this case, the sample was taken at lot/house number 1629.)
2	Boring Number (In this case, the sample was taken from the 2nd boring on the property.)
00B	Sample Depth (In this case, the sample was taken between 3 - 6 inches from the boring indicated, see **SAMPLE DEPTHS** table.)
00L	Sample Type (In this case, the sample was analyzed for Total Lead, see **SAMPLE TYPES** table.)

SAMPLE MATRICES

S	Soil Sampled for Chemical Analysis &/or Geotechnical
W	Groundwater Sampled from Monitoring Wells

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

STREET CODES

RESIDENTIAL

AD	ADAMS	OH	OHIO
AL	ALTON	OL	OLIVE
3E	BENTON	RE	REYNOLDS
BR	BRYAN	RR	ROCK ROAD
CH	CHESTNUT	SA	SALVETER
CL	CLEVELAND	SP	SPRUCE
DE	DELMAR	ST	STATE
DV	DENVER	WA	WALNUT
ED	EDISON	WS	WASHINGTON
EL	ELIZABETH		
ER	EDWARDSVILLE ROAD	ET	18th
GR	GRAND	FI	5th
GW	GREENWOOD	NT	19th
IO	IOWA	TL	12th
KE	KENNEDY	SN	2nd
LE	LEE	TW	20th
MA	MADISON	TS	22nd
MP	MAPLE	WT	W. 20th
MC	McCAMBRIDGE		
ME	MEREDOCIA		
NI	NIEDRINGHAUS		

INDUSTRIAL AND REMOTE FILL AREAS

BV	BV & G TRANSPORT		
OR	OTHER REMOTE FILL AREAS	CA	CARVER
		CO	COLGATE
RO	RICH OIL	HA	HARRISON
TA	TARACORP	HI	HILL
TR	TRUST 454	RS	ROOSEVELT
VE	VENICE ALLEYS	TE	TERRY

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

SAMPLE DEPTH

CODE	DEPTH
00A	0-3 inches
00B	3-6 inches
00C	6-12 inches
00D	1-2 feet
00E	2-3 feet
00F	3-4 feet
00G	4-5 feet
00H	5-6 feet
00I	6-7 feet
00J	0-2 feet
00K	2-4 feet
00L	4-6 feet
00M	6-8 feet
00N	8-10 feet
00P	10-12 feet
00R	12-14 feet
00S	14-15 feet
00T	13-15 feet
00U	10-11 feet
00V	15-16 feet
00W	20-21 feet
00X	25-26 feet
0AB	0-6 inches
0AC	0-1 feet
0GG	Top of Groundwater

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

SAMPLE TYPE

00G	Geotechnical Sample
0GD	Geotechnical Duplicate
0GQ	Geotechnical QA Sample
00L	Total Lead Sample
0LD	Total Lead Duplicate Sample - Boring 1
0LQ	Total Lead Quality Assurance
0XM	Total Lead, Boring 2, Duplicate - # 1
0XX	Total Lead, Boring 2, Duplicate - # 2
00T	TCLP Lead Sample
0TD	TCLP Lead Duplicate
0TQ	TCLP Lead Quality Assurance
0TM	TCLP Lead Matrix Spike
0TX	TCLP Lead Matrix Spike Duplicate
00W	Groundwater Sample
0WD	Groundwater Duplicate
0WB	Groundwater Rinsate Blank
0WM	Groundwater Matrix Spike
0WX	Groundwater Matrix Spike Duplicate
0WQ	Groundwater QA Sample
0WR	Groundwater QA Matrix Spike
0WS	Groundwater QA Matrix Spike Duplicate
0WT	Groundwater QA Rinsate Blank
0TB	Trip Blank
0RS	Re-Sample

DATA QUALIFIER CODES

U — The compound was analyzed for but was not detected. The associated numerical value is attributed to contamination and is considered to be the sample quantitation limit.

J — The associated numerical value is an estimated quantity.

UJ — The compound was analyzed for but was not detected. The sample quantitation limit is an estimated quantity.

R — The data are unusable (whether the compound is present or not). Resampling and reanalysis are necessary for verification.

BV & G TRUCKING DECISION UNIT
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL AC (0 – 1 FOOT)											
SBV000110AC00L	Total Lead	11/21/1991	12/12/1991	44600		MG/KG	7.4	Moisture Content	12/07/1991	13	%WET W
SBV000210AC00L	Total Lead	11/21/1991	12/15/1991	91500		MG/KG	720	Moisture Content	12/07/1991	11 1	%WET W
SBV000310AC00L	Total Lead	11/22/1991	12/12/1991	979		MG/KG	7.3	Moisture Content	12/12/1991	13 2	%WET W

NUMBER OF SAMPLES > = 1000 ppm 2
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.98
ß error > 45 %

For Level AC. P > = alpha → → **Remediate**
(alpha = 0.05)

LEVEL D (1 – 2 FEET)											
SBV0001100D00L	Total Lead	11/21/1991	12/12/1991	859		MG/KG	7.2	Moisture Content	12/07/1991	15 6	%WET W
SBV0002100D00L	Total Lead	11/21/1991	12/12/1991	565		MG/KG	7.6	Moisture Content	12/07/1991	18 1	%WET W
SBV0003100D00L	Total Lead	11/22/1991	12/12/1991	1490		MG/KG	7.8	Moisture Content	12/12/1991	15 4	%WET W

NUMBER OF SAMPLES > = 1000 ppm 1
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.84
ß error > 45 %

For Level D. P > = alpha → → **Remediate**
(alpha = 0.05)

BV & G TRUCKING DECISION UNIT
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL K (2 – 4 FEET)											
SBV0001100K00L	Total Lead	11/21/1991	12/12/1991	227		MG/KG	7.7	Moisture Content	12/07/1991	22.6	%WT. I W.
SBV0002100K00L	Total Lead	11/21/1991	12/12/1991	2960		MG/KG	7.0	Moisture Content	12/07/1991	10.5	%WT. I W.
SBV0003100K00L	Total Lead	11/22/1991	12/12/1991	230		MG/KG	7.7	Moisture Content	12/12/1991	22	%WT. I W.

NUMBER OF SAMPLES >= 1000 ppm 1
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.84
ß error > 45 %

For Level K: P >= alpha → → **Remediate**
(alpha = 0.05)

LEVEL L (4 – 6 FEET)											
SBV0001100L00L	Total Lead	11/21/1991	12/12/1991	56		MG/KG	8.7	Moisture Content	12/07/1991	26.2	%WT. I W.
SBV0002100L00L	Total Lead	11/21/1991	12/12/1991	165		MG/KG	6.4	Moisture Content	12/07/1991	8.6	%WT. I W.
SBV0003100L00L	Total Lead	11/22/1991	12/12/1991	23		MG/KG	8.8	Moisture Content	12/12/1991	28.3	%WT. I W.

NUMBER OF SAMPLES >= 1000 ppm 0
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.42
ß error > 45 %

For Level L: P >= alpha → → **Remediate**
(alpha = 0.05)

BV & G TRUCKING DECISION UNIT
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL M (6 – 8 FEET)											
SBV0001100M00L	Total Lead	11/21/1991	12/12/1991	24.2		MG/KG	8.5	Moisture Content	12/07/1991	28.8	%WET W
SBV0002100M00L	Total Lead	11/21/1991	12/12/1991	101		MG/KG	6.1	Moisture Content	12/07/1991	9.4	%WET W
SBV0003100M00L	Total Lead	11/22/1991	12/12/1991	22.2		MG/KG	8.4	Moisture Content	12/12/1991	24	%WET W

NUMBER OF SAMPLES >= 1000 ppm 0
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.42
ß error > 45 %

For Level M: P >= alpha → → **Remediate**
(alpha = 0.05)

LEVEL N (8 – 10 FEET)											
SBV0001100N00L	Total Lead	11/21/1991	12/12/1991	11.4		MG/KG	7.6	Moisture Content	12/07/1991	21.8	%WET W
SBV0002100N00L	Total Lead	11/21/1991	12/12/1991	4340		MG/KG	8.0	Moisture Content	12/07/1991	18.9	%WET W
SBV0003100N00L	Total Lead	11/22/1991	12/12/1991	17.8		MG/KG	9.4	Moisture Content	12/12/1991	29.6	%WET W

NUMBER OF SAMPLES >= 1000 ppm 1
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.84
ß error > 45 %

For Level N: P >= alpha → → **Remediate**
(alpha = 0.05)

BV & G TRUCKING DECISION UNIT
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL T (13 – 15 FEET)											
SBV0001100T00L	Total Lead	11/21/1991	12/12/1991	<7.1		MG/KG	7.1	Moisture Content	12/07/1991	[illegible]	%WET WT
SBV0002100T00L	Total Lead	11/21/1991	12/12/1991	15.6		MG/KG	6.3	Moisture Content	12/12/1991	7.6	%WET WT
SBV0003100T00L	Total Lead	11/22/1991	12/12/1991	<6.5		MG/KG	6.5	Moisture Content	12/12/1991	6.9	%WET WT

NUMBER OF SAMPLES >= 1000 ppm 0
NUMBER OF SAMPLES 3
CUMULATIVE BINOMIAL PROBABILITY (P) 0.42
ß error > 45 %

For Level T: P >= alpha → → **Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL AC (0 – 1 FOOT)											
SMW108920AC00L	Total Lead	06/12/1992	07/30/1992	30900		MG/KG	110	Moisture Content	07/09/1992	11.1	%WET W
SRO000110AC00L	Total Lead	11/20/1991	12/10/1991	1330		MG/KG	6.6	Moisture Content	12/05/1991	13.5	%WET W
SRO000210AC00L	Total Lead	11/21/1991	12/10/1991	1100		MG/KG	7.9	Moisture Content	12/07/1991	20.3	%WET W
STR000110AC00L	Total Lead	11/20/1991	12/16/1991	56900		MG/KG	622	Moisture Content	12/05/1991	9.7	%WET W
STR000210AC00L	Total Lead	11/19/1991	12/10/1991	345000		MG/KG	6410	Moisture Content	12/06/1991	11.1	%WET W
STR000310AC00L	Total Lead	11/20/1991	12/10/1991	270		MG/KG	7.1	Moisture Content	12/05/1991	21.6	%WET W
STR000410AC00L	Total Lead	11/20/1991	12/10/1991	362		MG/KG	7.8	Moisture Content	12/05/1991	17.3	%WET W
STR000510AC00L	Total Lead	11/19/1991	12/10/1991	7300		MG/KG	6.9	Moisture Content	12/06/1991	13.1	%WET W
STR000610AC00L	Total Lead	11/18/1991	12/06/1991	9790		MG/KG	7.1	Moisture Content	12/06/1991	11.4	%WET W
STR000710AC00L	Total Lead	11/18/1991	12/06/1991	15300		MG/KG	6.2	Moisture Content	12/06/1991	8.5	%WET W
STR000810AC00L	Total Lead	11/18/1991	12/06/1991	8.8		MG/KG	6.7	Moisture Content	12/06/1991	11.2	%WET W
STR000910AC00L	Total Lead	11/18/1991	12/06/1991	2880		MG/KG	7.6	Moisture Content	12/06/1991	18.7	%WET W
STR001010AC00L	Total Lead	11/15/1991	12/05/1991	68.7		MG/KG	7.8	Moisture Content	12/04/1991	17.2	%WET W
STR001110AC00L	Total Lead	06/08/1992	07/30/1992	798		MG/KG	5.8	Moisture Content	06/11/1992	18.8	%WET W

NUMBER OF SAMPLES >= 1000 ppm 9
NUMBER OF SAMPLES 14
CUMULATIVE BINOMIAL PROBABILITY (P) 0.99
8 error 20 %

For Level AC: P >= alpha → → **Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL D (1 – 2 FEET)											
SRO0001100D00L	Total Lead	11/20/1991	12/10/1991	715		MG/KG	7.7	Moisture Content	12/05/1991	18.3	%WET W
SRO0002100D00L	Total Lead	11/21/1991	12/10/1991	94.2		MG/KG	7.9	Moisture Content	12/07/1991	19.9	%WET W
STR0001100D00L	Total Lead	11/20/1991	12/10/1991	739		MG/KG	6.6	Moisture Content	12/05/1991	6.7	%WET W
STR0002100D00L	Total Lead	11/19/1991	12/10/1991	82.3		MG/KG	6.5	Moisture Content	12/06/1991	9.5	%WET W
STR0003100D00L	Total Lead	11/20/1991	12/10/1991	19		MG/KG	7.4	Moisture Content	12/05/1991	15.6	%WET W
STR0004100D00L	Total Lead	11/20/1991	12/10/1991	445		MG/KG	8.4	Moisture Content	12/05/1991	27.6	%WET W
STR0005100D00L	Total Lead	11/19/1991	12/10/1991	1410		MG/KG	7.1	Moisture Content	12/06/1991	12.6	%WET W
STR0006100D00L	Total Lead	11/18/1991	12/06/1991	1920		MG/KG	8.0	Moisture Content	12/06/1991	18.1	%WET W
STR0007100D00L	Total Lead	11/18/1991	12/06/1991	2950		MG/KG	7.1	Moisture Content	12/06/1991	8.3	%WET W
STR0008100D00L	Total Lead	11/18/1991	12/06/1991	395	J	MG/KG	7.6	Moisture Content	12/06/1991	14.9	%WET W
STR0009100D00L	Total Lead	11/18/1991	12/06/1991	445		MG/KG	8.0	Moisture Content	12/06/1991	22.0	%WET W
STR0010100D00L	Total Lead	11/15/1991	12/05/1991	95		MG/KG	7.5	Moisture Content	12/04/1991	12.6	%WET W

NUMBER OF SAMPLES > = 1000 ppm	3
NUMBER OF SAMPLES	12
CUMULATIVE BINOMIAL PROBABILITY (P)	0.65
ß error	30 %

For Level D: P > = alpha → → **Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL K (2 – 4 FEET)											
SRO0001100K00L	Total Lead	11/20/1991	12/10/1991	329	J	MG/KG	8.7	Moisture Content	12/05/1991	30.4	%WET W
SRO0002100K00L	Total Lead	11/21/1991	12/10/1991	273		MG/KG	8.9	Moisture Content	12/07/1991	31.7	%WET W
STR0001100K00L	Total Lead	11/20/1991	12/10/1991	107		MG/KG	8.6	Moisture Content	12/05/1991	25.2	%WET W
STR0002100K00L	Total Lead	11/19/1991	12/10/1991	323		MG/KG	7.8	Moisture Content	12/06/1991	18.4	%WET W
STR0003100K00L	Total Lead	11/20/1991	12/10/1991	28.6		MG/KG	8.5	Moisture Content	12/05/1991	26.6	%WET W
STR0004100K00L	Total Lead	11/20/1991	12/10/1991	454		MG/KG	9.1	Moisture Content	12/05/1991	27.4	%WET W
STR0005100K00L	Total Lead	11/19/1991	12/10/1991	404		MG/KG	7.3	Moisture Content	12/06/1991	10.5	%WET W
STR0006100K00L	Total Lead	11/18/1991	12/06/1991	214		MG/KG	7.2	Moisture Content	12/06/1991	19	%WET W
STR0007100K00L	Total Lead	11/18/1991	12/06/1991	1620		MG/KG	8.5	Moisture Content	12/06/1991	24.1	%WET W
STR0008100K00L	Total Lead	11/18/1991	12/06/1991	384		MG/KG	7.2	Moisture Content	12/06/1991	16.2	%WET W
STR0009100K00L	Total Lead	11/18/1991	12/06/1991	115		MG/KG	8.1	Moisture Content	12/06/1991	27.6	%WET W
STR0010100K00L	Total Lead	11/15/1991	12/05/1991	23		MG/KG	8.3	Moisture Content	12/04/1991	21.9	%WET W

NUMBER OF SAMPLES >= 1000 ppm 1
NUMBER OF SAMPLES 12
CUMULATIVE BINOMIAL PROBABILITY (P) 0.16
β error 30 %

For Level K: P >= alpha → → **Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL L (4 – 6 FEET)											
SRO0001100L00L	Total Lead	11/20/1991	12/10/1991	53.1		MG/KG	8.0	Moisture Content	12/06/1991	28	%WET W
SRO0002100L00L	Total Lead	11/21/1991	12/10/1991	31.6		MG/KG	8.9	Moisture Content	12/07/1991	28.5	%WET W
STR0001100L00L	Total Lead	11/20/1991	12/10/1991	82.2		MG/KG	8.4	Moisture Content	12/05/1991	24.9	%WET W
STR0002100L00L	Total Lead	11/19/1991	12/10/1991	28.1		MG/KG	8.4	Moisture Content	12/06/1991	25.2	%WET W
STR0003100L00L	Total Lead	11/20/1991	12/10/1991	22.6		MG/KG	8.7	Moisture Content	12/05/1991	28.7	%WET W
STR0004100L00L	Total Lead	11/20/1991	12/10/1991	123		MG/KG	9.0	Moisture Content	12/05/1991	28.6	%WET W
STR0005100L00L	Total Lead	11/19/1991	12/10/1991	93.5		MG/KG	8.5	Moisture Content	12/06/1991	27.2	%WET W
STR0006100L00L	Total Lead	11/18/1991	12/06/1991	238		MG/KG	7.7	Moisture Content	12/06/1991	22.9	%WET W
STR0007100L00L	Total Lead	11/18/1991	12/06/1991	62.2		MG/KG	8.5	Moisture Content	12/06/1991	27.8	%WET W
STR0008100L00L	Total Lead	11/18/1991	12/06/1991	43.1		MG/KG	8.2	Moisture Content	12/06/1991	27.4	%WET W
STR0009100L00L	Total Lead	11/18/1991	12/06/1991	11.7		MG/KG	7.8	Moisture Content	12/06/1991	22.4	%WET W
STR0010100L00L	Total Lead	11/15/1991	12/05/1991	26.5		MG/KG	7.8	Moisture Content	12/04/1991	26.1	%WET W
SMW1089200H00L*	Total Lead	06/12/1992	07/30/1992	1190							
STR0011100H00L*	Total Lead	06/08/1992	07/30/1992	66.4							

NUMBER OF SAMPLES > = 1000 ppm	1
NUMBER OF SAMPLES	14
CUMULATIVE BINOMIAL PROBABILITY (P)	0.1
β error	20 %

For Level L: P > = alpha → → **Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL M (6 – 8 FEET)											
SRO0001100M00L	Total Lead	11/20/1991	12/10/1991	21.4		MG/KG	8.3	Moisture Content	12/06/1991	25.6	%WET W
SRO0002100M00L	Total Lead	11/21/1991	12/10/1991	89.6		MG/KG	8.3	Moisture Content	12/07/1991	28	%WET W
STR0001100M00L	Total Lead	11/20/1991	12/10/1991	29.7		MG/KG	8.4	Moisture Content	12/05/1991	25.2	%WET W
STR0002100M00L	Total Lead	11/19/1991	12/10/1991	20.9		MG/KG	8.5	Moisture Content	12/06/1991	28.2	%WET W
STR0003100M00L	Total Lead	11/20/1991	12/10/1991	45.5		MG/KG	8.2	Moisture Content	12/05/1991	30.3	%WET W
STR0004100M00L	Total Lead	11/20/1991	12/10/1991	18		MG/KG	8.9	Moisture Content	12/05/1991	29.6	%WET W
STR0005100M00L	Total Lead	11/19/1991	12/10/1991	21.5		MG/KG	8.5	Moisture Content	12/06/1991	29.1	%WET W
STR0006100M00L	Total Lead	11/18/1991	12/06/1991	22.9		MG/KG	7.9	Moisture Content	12/06/1991	28.4	%WET W
STR0007100M00L	Total Lead	11/18/1991	12/06/1991	19		MG/KG	7.8	Moisture Content	12/06/1991	25.6	%WET W
STR0008100M00L	Total Lead	11/18/1991	12/06/1991	23.4		MG/KG	7.8	Moisture Content	12/06/1991	22.8	%WET W
STR0009100M00L	Total Lead	11/18/1991	12/06/1991	<6.5		MG/KG	6.5	Moisture Content	12/06/1991	5	%WET W
STR0010100M00L	Total Lead	11/15/1991	12/05/1991	<6.5		MG/KG	6.5	Moisture Content	12/04/1991	8.3	%WET W

NUMBER OF SAMPLES > = 1000 ppm 0
NUMBER OF SAMPLES 12
CUMULATIVE BINOMIAL PROBABILITY (P) 0.03
β error 30 %

For Level M: P < alpha → → **Do Not Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL N (8 – 10 FEET)											
SRO0001100N00L	Total Lead	11/20/1991	12/10/1991	11.8		MG/KG	8.2	Moisture Content	12/06/1991	25.4	%WET W
SRO0002100N00L	Total Lead	11/21/1991	12/12/1991	15.5		MG/KG	8.5	Moisture Content	12/07/1991	25.2	%WET W
STR0001100N00L	Total Lead	11/20/1991	12/10/1991	33.2		MG/KG	8.2	Moisture Content	12/05/1991	26	%WET W
STR0002100N00L	Total Lead	11/19/1991	12/10/1991	17.5		MG/KG	7.6	Moisture Content	12/06/1991	26.5	%WET W
STR0003100N00L	Total Lead	11/20/1991	12/10/1991	15.4		MG/KG	7.6	Moisture Content	12/05/1991	13.7	%WET W
STR0004100N00L	Total Lead	11/20/1991	12/10/1991	11.5		MG/KG	7.1	Moisture Content	12/05/1991	10.2	%WET W
STR0005100N00L	Total Lead	11/19/1991	12/10/1991	26.4		MG/KG	8.4	Moisture Content	12/06/1991	25.3	%WET W
STR0006100N00L	Total Lead	11/18/1991	12/06/1991	21.6		MG/KG	8.1	Moisture Content	12/06/1991	26	%WET W
STR0007100N00L	Total Lead	11/18/1991	12/06/1991	58.3		MG/KG	8.7	Moisture Content	12/06/1991	27.2	%WET W
STR0008100N00L	Total Lead	11/18/1991	12/06/1991	8.4		MG/KG	7.3	Moisture Content	12/06/1991	13.2	%WET W
STR0009100N00L	Total Lead	11/18/1991	12/06/1991	<6.8		MG/KG	6.8	Moisture Content	12/06/1991	4.4	%WET W
STR0010100N00L	Total Lead	11/15/1991	12/05/1991	<6.7		MG/KG	6.7	Moisture Content	12/04/1991	4.4	%WET W
SMW1089200U00L**	Total Lead	06/12/1992	07/30/1992	293							
STR0011100U00L**	Total Lead	06/08/1992	07/30/1992	14							

NUMBER OF SAMPLES > = 1000 ppm 0
NUMBER OF SAMPLES 14
CUMULATIVE BINOMIAL PROBABILITY (P) 0.02
β error 20 %

For Level N: P < alpha → → **Do Not Remediate**
(alpha = 0.05)

MAIN INDUSTRIAL PROPERTY
ANALYSIS DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MCANALYTICAL REPORT GENERATED: Sep 11, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT	QUALIFIER	UNITS	REPORTING DETECTION LIMIT	PARAMETER	ANALYSIS DATE	RESULT	UNITS
LEVEL T (13 – 15 FEET)											
SRO0001100T00L	Total Lead	11/20/1991	12/10/1991	<7.7		MG/KG	7.7	Moisture Content	12/06/1991	18.1	%WET W
SRO0002100T00L	Total Lead	11/21/1991	12/12/1991	<7.3		MG/KG	7.3	Moisture Content	12/07/1991	16	%WET W
STR0001100T00L	Total Lead	11/20/1991	12/10/1991	12.8		MG/KG	7.2	Moisture Content	12/05/1991	11.3	%WET W
STR0002100T00L	Total Lead	11/19/1991	12/10/1991	<7.0		MG/KG	7.0	Moisture Content	12/06/1991	10.1	%WET W
STR0003100T00L	Total Lead	11/20/1991	12/10/1991	<6.8		MG/KG	6.8	Moisture Content	12/05/1991	16.3	%WET W
STR0004100T00L	Total Lead	11/20/1991	12/10/1991	12.5		MG/KG	7.5	Moisture Content	12/05/1991	21.4	%WET W
STR0005100T00L	Total Lead	11/19/1991	12/10/1991	6.9		MG/KG	6.8	Moisture Content	12/06/1991	8.7	%WET W
STR0006100T00L	Total Lead	11/18/1991	12/06/1991	<6.6		MG/KG	6.6	Moisture Content	12/06/1991	8.3	%WET W
STR0007100T00L	Total Lead	11/18/1991	12/06/1991	9.2		MG/KG	7.7	Moisture Content	12/06/1991	19.8	%WET W
STR0008100T00L	Total Lead	11/18/1991	12/06/1991	<6.9		MG/KG	6.9	Moisture Content	12/06/1991	12.5	%WET W
STR0009100T00L	Total Lead	11/18/1991	12/06/1991	<7.3		MG/KG	7.3	Moisture Content	12/06/1991	18.7	%WET W
STR0010100T00L	Total Lead	11/15/1991	12/05/1991	<7.4		MG/KG	7.4	Moisture Content	12/04/1991	12.4	%WET W
SMW1089200V00L***	Total Lead	06/12/1992	07/30/1992	261		MG/KG	8.0	Moisture Content	07/09/1992	40.1	%WET W
STR0011100V00L***	Total Lead	06/09/1992	07/30/1992	12.3		MG/KG	5.1	Moisture Content	06/11/1992	3.7	%WET W

NUMBER OF SAMPLES > = 1000 ppm 0
NUMBER OF SAMPLES 14
CUMULATIVE BINOMIAL PROBABILITY (P) 0.02
β error 20 %

For Level T: P < alpha → → **Do Not Remediate**
(alpha = 0.05)

LEGEND
* This sample was taken from a 5 – 6 foot depth interval.
** This sample was taken from a 10 – 11 foot depth interval.
*** This sample was taken from a 15 – 16 foot depth interval.

STATISTICAL EVALUATION

BY DECISION UNIT

ADJACENT RESIDENTIAL AREAS

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

Each sample has a unique sample identification. The identification consists of sample matrix code, street code, lot number, boring number, sample depth code, and sample type. All of the codes are listed in the following tables with their appropriate description. An example follows to demonstrate the operation of the sample identification.

SMP1629200B00L

S	Sample Matrix (In this case, the sample matrix is soil, see **SAMPLE MATRICES** table.)
MP	Street Code (In this case, the sample location is on Maple Street, see **STREET CODE** table.)
1629	Lot Number (In this case, the sample was taken at lot/house number 1629.)
2	Boring Number (In this case, the sample was taken from the 2nd boring on the property.)
00B	Sample Depth (In this case, the sample was taken between 3 - 6 inches from the boring indicated, see **SAMPLE DEPTHS** table.)
00L	Sample Type (In this case, the sample was analyzed for Total Lead, see **SAMPLE TYPES** table.)

SAMPLE MATRICES

S	Soil Sampled for Chemical Analysis &/or Geotechnical
W	Groundwater Sampled from Monitoring Wells

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

STREET CODES

RESIDENTIAL

AD	ADAMS	OH	OHIO
AL	ALTON	OL	OLIVE
BE	BENTON	RE	REYNOLDS
BR	BRYAN	RR	ROCK ROAD
CH	CHESTNUT	SA	SALVETER
CL	CLEVELAND	SP	SPRUCE
DE	DELMAR	ST	STATE
DV	DENVER	WA	WALNUT
ED	EDISON	WS	WASHINGTON
EL	ELIZABETH		
ER	EDWARDSVILLE ROAD	ET	18th
GR	GRAND	FI	5th
GW	GREENWOOD	NT	19th
IO	IOWA	TL	12th
KE	KENNEDY	SN	2nd
LE	LEE	TW	20th
MA	MADISON	TS	22nd
MP	MAPLE	WT	W. 20th
MC	McCAMBRIDGE		
ME	MEREDOCIA		
NI	NIEDRINGHAUS		

INDUSTRIAL AND REMOTE FILL AREAS

BV	BV & G TRANSPORT		
OR	OTHER REMOTE FILL AREAS	CA	CARVER
		CO	COLGATE
RO	RICH OIL	HA	HARRISON
TA	TARACORP	HI	HILL
TR	TRUST 454	RS	ROOSEVELT
VE	VENICE ALLEYS	TE	TERRY

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

SAMPLE DEPTH

CODE	DEPTH
00A	0-3 inches
00B	3-6 inches
00C	6-12 inches
00D	1-2 feet
00E	2-3 feet
00F	3-4 feet
00G	4-5 feet
00H	5-6 feet
00I	6-7 feet
00J	0-2 feet
00K	2-4 feet
00L	4-6 feet
00M	6-8 feet
00N	8-10 feet
00P	10-12 feet
00R	12-14 feet
00S	14-15 feet
00T	13-15 feet
00U	10-11 feet
00V	15-16 feet
00W	20-21 feet
00X	25-26 feet
0AB	0-6 inches
0AC	0-1 feet
0GG	Top of Groundwater

SAMPLE IDENTIFICATION CODE DESCRIPTION
NL/TARACORP SUPERFUND SITE

SAMPLE TYPE

00G	Geotechnical Sample
0GD	Geotechnical Duplicate
0GQ	Geotechnical QA Sample
00L	Total Lead Sample
0LD	Total Lead Duplicate Sample - Boring 1
0LQ	Total Lead Quality Assurance
0XM	Total Lead, Boring 2, Duplicate - # 1
0XX	Total Lead, Boring 2, Duplicate - # 2
00T	TCLP Lead Sample
0TD	TCLP Lead Duplicate
0TQ	TCLP Lead Quality Assurance
0TM	TCLP Lead Matrix Spike
0TX	TCLP Lead Matrix Spike Duplicate
00W	Groundwater Sample
0WD	Groundwater Duplicate
0WB	Groundwater Rinsate Blank
0WM	Groundwater Matrix Spike
0WX	Groundwater Matrix Spike Duplicate
0WQ	Groundwater QA Sample
0WR	Groundwater QA Matrix Spike
0WS	Groundwater QA Matrix Spike Duplicate
0WT	Groundwater QA Rinsate Blank
0TB	Trip Blank
0RS	Re-Sample

DATA QUALIFIER CODES

U — The compound was analyzed for but was not detected. The associated numerical value is attributed to contamination and is considered to be the sample quantitation limit.

J — The associated numerical value is an estimated quantity.

UJ — The compound was analyzed for but was not detected. The sample quantitation limit is an estimated quantity.

R — The data are unusable (whether the compound is present or not). Resampling and reanalysis are necessary for verification.

Woodward-Clyde Consultants

Sheet No 1 of 6

File 89MC114V

Made by WER/CFP Date 9/8/92

Checked by WEL Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
1	0-3	16	45	0.96	YES
	3-6	9	45	0.28	YES
	6-12	4	45	0.0059	NO
2	0-3	36	95	0.99	YES
	3-6	18	95	0.10	YES
	6-12	4	95	6.1×10^{-8}	NO
3	0-3	35	91	0.99	YES
	3-6	28	91	0.91	YES
	6-12	7	91	2.07×10^{-5}	NO
4	0-3	20	38	0.99	YES
	3-6	9	38	0.51	YES
	6-12	2	38	0.0016	NO
5	0-3	24	84	0.81	YES
	3-6	16	84	0.13	YES
	6-12	8	84	0.0003	NO
6	0-3	27	63	0.99	YES
	3-6	18	63	0.79	YES
	6-12	5	63	0.0051	NO
7	0-3	25	54	0.99	YES
	3-6	26	54	0.99	YES
	6-12	6	54	0.0096	NO
8	0-3	5	9	0.99	YES
	3-6	1	9	0.30	YES
	6-12	1	9	0.30	YES

Woodward-Clyde Consultants

Sheet No 2 Of 6

File 89MC114V

Made by WER/CEP Date 9/8/92

Checked by NEL Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
9	0-3	13	25	0.99	YES
	3-6	13	25	0.99	YES
	6-12	4	24	0.25	YES
10	0-3	8	24	0.88	YES
	3-6	3	24	0.12	YES
	6-12	0	24	0.0010	NO
11	0-3	15	24	0.99	YES
	3-6	7	24	0.77	YES
	6-12	0	24	0.001	NO
12	0-3	16	21	0.99	YES
	3-6	11	21	0.99	YES
	6-12	2	21	0.075	YES
13	0-3	16	23	0.99	YES
	3-6	13	23	0.99	YES
	6-12	6	23	0.65	YES
14	0-3	25	48	0.99	YES
	3-6	9	48	0.20	YES
	6-12	2	48	1.4×10^{-4}	NO
15	0-3	3	19	0.26	YES
	3-6	1	19	0.031	NO
	6-12	0	19	0.0042	NO
16	0-3	11	12	1.0	YES
	3-6	6	12	0.98	YES
	6-12	1	12	0.16	YES

Woodward-Clyde Consultants

Sheet No 3 Of 6

File 89MC114V

Made by WER/CEP Date 9/8/92

Checked by NEL Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
17	0-3	0	2	0.56	YES
	3-6	0	2	0.56	YES
	6-12	0	2	0.56	YES
18	0-3	60	63	0.99	YES
	3-6	44	62	0.99	YES
	6-12	21	61	0.96	YES
19	0-3	23	27	0.99	YES
	3-6	19	27	0.99	YES
	6-12	12	27	0.99	YES
20	0-3	23	24	0.99	YES
	3-6	20	24	0.99	YES
	6-12	10	24	0.98	YES
21	0-3	26	26	1.0	YES
	3-6	22	26	1.0	YES
	6-12	12	26	0.99	YES
22	0-3	9	26	0.91	YES
	3-6	5	26	0.34	YES
	6-12	3	26	0.08	YES
23	0-3	17	33	0.99	YES
	3-6	13	33	0.98	YES
	6-12	6	33	0.25	YES
24	0-3	27	66	0.99	YES
	3-6	13	66	0.20	YES
	6-12	6	66	9.8×10^{-4}	NO

Woodward-Clyde Consultants

Sheet No 4 of 6

File 89MC114V

Made by WER/CEP Date 9/8/92

Checked by NEL Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
25	0-3	34	81	0.99	YES
	3-6	20	81	0.53	YES
	6-12	9	80	0.0015	NO
26	0-3	44	66	1.0	YES
	3-6	32	66	0.99	YES
	6-12	18	66	0.72	YES
27	0-3	11	18	0.99	YES
	3-6	6	18	0.86	YES
	6-12	4	18	0.52	YES
28	0-3	11	23	0.99	YES
	3-6	7	23	0.80	YES
	6-12	4	23	0.28	YES
29	0-3	41	42	0.99	YES
	3-6	39	42	0.99	YES
	6-12	34	42	0.99	YES
30	0-3	13	16	0.99	YES
	3-6	13	16	0.99	YES
	6-12	6	16	0.92	YES
31	0-3	15	22	0.99	YES
	3-6	12	22	0.99	YES
	6-12	5	22	0.52	YES
32	0-3	7	14	0.98	YES
	3-6	5	14	0.89	YES
	6-12	2	13	0.33	YES

Woodward-Clyde Consultants

Sheet No 5 of 6

File 89MC114V

Made by WER/CEP Date 9/8/92

Checked by NEB Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
33	0-3	9	14	0.99	YES
	3-6	6	14	0.96	YES
	6-12	3	14	0.52	YES
34	0-3	12	34	0.94	YES
	3-6	5	34	0.11	YES
	6-12	2	34	0.0042	NO
35	0-3	14	26	0.99	YES
	3-6	12	26	0.99	YES
	6-12	10	26	0.96	YES
36	0-3	3	36	0.011	NO
	3-6	2	36	0.0026	NO
	6-12	4	36	0.034	NO
37	0-3	17	39	0.99	YES
	3-6	15	39	0.98	YES
	6-12	9	39	0.48	YES
38	0-3	15	54	0.74	YES
	3-6	10	54	0.17	YES
	6-12	4	54	9.0×10^{-4}	NO
39	0-3	1	26	0.0055	NO
	3-6	3	26	0.080	YES
	6-12	5	26	0.34	YES
40	0-3	0	29	0.00024	NO
	3-6	1	29	0.0025	NO
	6-12	2	29	0.013	NO

Woodward-Clyde Consultants

Sheet No 6 Of 6

File 89MC114V

Made by WER/CEP Date 9/8/92

Checked by WER Date 9/10/92

FOR NL/TARACORP SUPERFUND SITE

ADJACENT RESIDENTIAL REMEDIATION CALCULATIONS*

DECISION UNIT	DEPTH (INCHES)	NO. OF SAMPLES ≥ 500 ppm TOTAL LEAD	NO. OF SAMPLES IN DECISION UNIT	CUMULATIVE BINOMIAL PROBABILITY (P)	REMEDIATE (Y/N)
41	0-3	1	35	5.4×10^{-4}	NO
	3-6	0	35	4.2×10^{-5}	NO
	6-12	0	35	4.2×10^{-5}	NO
42	0-3	13	42	0.86	YES
	3-6	5	42	0.031	NO
	6-12	3	42	0.003	NO
43	0-3	5	29	0.23	YES
	3-6	6	29	0.39	YES
	6-12	2	29	0.013	NO
44	0-3	1	18	0.039	NO
	3-6	1	18	0.039	NO
	6-12	0	18	0.0056	NO
45	0-3	1	24	0.009	NO
	3-6	1	24	0.009	NO
	6-12	0	24	0.001	NO
46	0-3	4	22	0.32	YES
	3-6	3	22	0.16	YES
	6-12	4	22	0.32	YES

* BASED ON STATISTICAL ANALYSIS ONLY.

CUMULATIVE BINOMIAL PROBABILITY WAS COMPUTED USING MICROCOMPUTER SOFTWARE FOR STATISTICAL ANALYSIS FOR ENGINEERS, J. WESLEY BARNES, 1988.

(P) WAS COMPARED TO α ($\alpha = 0.05$).

(P) $\geq \alpha$; REMEDIATE

(P) $< \alpha$; DO NOT REMEDIATE

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SBE2208100A00L	Total Lead	08/12/1992	09/10/1992	164	J	MG/KG	5.28
SBE2208200A00L	Total Lead	08/12/1992	09/10/1992	2550	J	MG/KG	24.8
SBE2218100A00L	Total Lead	05/05/1992	06/11/1992	208		MG/KG	5.1
SBE2218200A00L	Total Lead	05/05/1992	06/11/1992	12.5		MG/KG	5.7
SBE2222100A00L	Total Lead	05/05/1992	06/11/1992	748		MG/KG	5.6
SBE2222200A00L	Total Lead	05/05/1992	06/11/1992	198		MG/KG	5.2
SBE2228100A00L	Total Lead	11/14/1991	12/03/1991	700		MG/KG	8.0
SBE2228200A00L	Total Lead	11/14/1991	12/03/1991	689		MG/KG	8.1
SBE2230100A00L	Total Lead	11/14/1991	12/03/1991	1640		MG/KG	8.1
SBE2230200A00L	Total Lead	11/14/1991	12/03/1991	745		MG/KG	7.8
SBE2232100A00L	Total Lead	11/14/1991	12/03/1991	614		MG/KG	6.5
SBE2232200A00L	Total Lead	11/14/1991	12/03/1991	806		MG/KG	7.9
SBE2244100A00L	Total Lead	03/05/1992	03/19/1992	313		MG/KG	5.5
SBE2244200A00L	Total Lead	03/05/1992	03/19/1992	240		MG/KG	5.6
SBE2246100A00L	Total Lead	03/05/1992	03/19/1992	239		MG/KG	5.9
SBE2246200A00L	Total Lead	03/05/1992	03/19/1992	253		MG/KG	5.6
SBE2248100A00L	Total Lead	11/13/1991	12/02/1991	524		MG/KG	7.6
SBE2250100A00L	Total Lead	05/11/1992	06/19/1992	545		MG/KG	5.5
SBE2250200A00L	Total Lead	05/11/1992	06/19/1992	295		MG/KG	5.3
SBE2252100A00L	Total Lead	11/13/1991	12/02/1991	436		MG/KG	7.0
SBE2252200A00L	Total Lead	04/17/1992	06/02/1992	274		MG/KG	6.2
SBE2254100A00L	Total Lead	11/13/1991	12/02/1991	319		MG/KG	8.5
SBE2254200A00L	Total Lead	11/13/1991	12/02/1991	331		MG/KG	7.9

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2256100A00L	Total Lead	03/05/1992	03/19/1992	379		MG/KG	5.9
SBE2256200A00L	Total Lead	03/05/1992	03/19/1992	398		MG/KG	5.4
SBE2258100A00L	Total Lead	11/13/1991	12/02/1991	349		MG/KG	7.9
SBE2258200A00L	Total Lead	11/13/1991	12/02/1991	289		MG/KG	7.5
SBE2264100A00L	Total Lead	04/17/1992	06/02/1992	282		MG/KG	6.2
SBE2264200A00L	Total Lead	04/17/1992	06/02/1992	426		MG/KG	5.8
SCL2201100A00L	Total Lead	11/22/1991	12/12/1991	315		MG/KG	8.4
SCL2201200A00L	Total Lead	11/22/1991	12/12/1991	1350		MG/KG	7.7
SCL2215100A00L	Total Lead	11/13/1991	12/02/1991	349		MG/KG	8.0
SCL2215200A00L	Total Lead	11/13/1991	12/02/1991	192		MG/KG	7.3
SCL2217100A00L	Total Lead	03/11/1992	03/24/1992	451		MG/KG	5.3
SCL2217200A00L	Total Lead	03/11/1992	03/24/1992	128		MG/KG	5.7
SCL2221100A00L	Total Lead	03/11/1992	03/24/1992	299		MG/KG	6.1
SCL2221200A00L	Total Lead	03/11/1992	05/11/1992	8870		MG/KG	54.5
SCL2225100A00L	Total Lead	04/21/1992	06/03/1992	435		MG/KG	6.7
SCL2225200A00L	Total Lead	04/21/1992	06/03/1992	594		MG/KG	6.2
SCL2229100A00L	Total Lead	03/11/1992	05/11/1992	552		MG/KG	6.2
SCL2229200A00L	Total Lead	03/11/1992	05/11/1992	921		MG/KG	6.0
SCL2243100A00L	Total Lead	03/11/1992	05/11/1992	390		MG/KG	6.2
SCL2243200A00L	Total Lead	03/11/1992	05/11/1992	388		MG/KG	6.2
SCL2257100A00L	Total Lead	04/21/1992	06/02/1992	644		MG/KG	6.3
SCL2257200A00L	Total Lead	04/21/1992	06/02/1992	214		MG/KG	6.4

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT

NUMBER OF SAMPLES >= 500 ppm	16
NUMBER OF SAMPLES	45
CUMULATIVE BINOMIAL PROBABILITY (P)	0.96
β error	0.1 %

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SBE2008100B00L	Total Lead	08/12/1992	09/10/1992	91.8	J	MG/KG	5.46
SBE2208200B00L	Total Lead	08/12/1992	09/10/1992	575	J	MG/KG	5.33
SBE2218100B00L	Total Lead	05/05/1992	06/11/1992	235		MG/KG	5.3
SBE2218200B00L	Total Lead	05/05/1992	06/11/1992	6.9		MG/KG	5.8
SBE2222100B00L	Total Lead	05/05/1992	06/11/1992	574		MG/KG	5.3
SBE2222200B00L	Total Lead	05/05/1992	06/11/1992	540		MG/KG	5.2
SBE2228100B00L	Total Lead	11/14/1991	12/03/1991	226		MG/KG	7.3
SBE2228200B00L	Total Lead	11/14/1991	12/03/1991	337		MG/KG	7.1
SBE2230100B00L	Total Lead	11/14/1991	12/03/1991	461		MG/KG	7.2
SBE2230200B00L	Total Lead	11/14/1991	12/03/1991	811		MG/KG	7.4
SBE2232100B00L	Total Lead	11/14/1991	12/03/1991	57.1		MG/KG	6.8
SBE2232200B00L	Total Lead	11/14/1991	12/03/1991	391		MG/KG	6.9
SBE2244100B00L	Total Lead	03/05/1992	03/19/1992	180		MG/KG	5.6
SBE2244200B00L	Total Lead	03/05/1992	03/19/1992	96		MG/KG	5.4
SBE2246100B00L	Total Lead	03/05/1992	03/19/1992	25		MG/KG	5.7
SBE2246200B00L	Total Lead	03/05/1992	03/19/1992	366		MG/KG	5.5
SBE2248100B00L	Total Lead	11/13/1991	12/02/1991	317		MG/KG	7.8
SBE2250100B00L	Total Lead	05/11/1992	06/19/1992	282		MG/KG	5.4
SBE2250200B00L	Total Lead	05/11/1992	06/19/1992	162		MG/KG	5.6
SBE2252100B00L	Total Lead	11/13/1991	12/02/1991	423		MG/KG	7.8
SBE2252200B00L	Total Lead	04/17/1992	06/02/1992	33.2		MG/KG	5.7
SBE2254100B00L	Total Lead	11/13/1991	12/02/1991	188		MG/KG	8.5
SBE2254200B00L	Total Lead	11/13/1991	12/02/1991	199		MG/KG	7.4

DECISION UNIT 1
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2256100B00L	Total Lead	03/05/1992	03/19/1992	218		MG/KG	6.3
SBE2256200B00L	Total Lead	03/05/1992	03/19/1992	340		MG/KG	5.2
SBE2258100B00L	Total Lead	11/13/1991	12/02/1991	222		MG/KG	6.7
SBE2258200B00L	Total Lead	11/13/1991	12/02/1991	300		MG/KG	6.9
SBE2264100B00L	Total Lead	04/17/1992	06/02/1992	202		MG/KG	5.7
SBE2264200B00L	Total Lead	04/17/1992	06/02/1992	355		MG/KG	5.4
SCL2201100B00L	Total Lead	11/22/1991	12/12/1991	232		MG/KG	8.1
SCL2201200B00L	Total Lead	11/22/1991	12/12/1991	632		MG/KG	6.6
SCL2215100B00L	Total Lead	11/13/1991	12/02/1991	234		MG/KG	7.1
SCL2215200B00L	Total Lead	11/13/1991	12/02/1991	441		MG/KG	8.3
SCL2217100B00L	Total Lead	03/11/1992	03/24/1992	291		MG/KG	5.6
SCL2217200B00L	Total Lead	03/11/1992	03/24/1992	390		MG/KG	5.9
SCL2221100B00L	Total Lead	03/11/1992	03/24/1992	305		MG/KG	5.8
SCL2221200B00L	Total Lead	03/11/1992	03/24/1992	1410		MG/KG	5.1
SCL2225100B00L	Total Lead	04/21/1992	06/03/1992	366		MG/KG	6.4
SCL2225200B00L	Total Lead	04/21/1992	06/03/1992	622		MG/KG	6.3
SCL2229100B00L	Total Lead	03/11/1992	05/11/1992	503		MG/KG	6.0
SCL2229200B00L	Total Lead	03/11/1992	05/11/1992	918		MG/KG	5.9
SCL2243100B00L	Total Lead	03/11/1992	05/11/1992	318		MG/KG	6.1
SCL2243200B00L	Total Lead	03/11/1992	05/11/1992	224		MG/KG	6.0
SCL2257100B00L	Total Lead	04/21/1992	06/02/1992	259		MG/KG	5.9
SCL2257200B00L	Total Lead	04/21/1992	06/02/1992	196		MG/KG	5.9

DECISION UNIT 1
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT

NUMBER OF SAMPLES >= 500 ppm	9
NUMBER OF SAMPLES	45
CUMULATIVE BINOMIAL PROBABILITY (P)	0.28
ß error	0.1 %

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SBE2208100C00L	Total Lead	08/12/1992	09/10/1992	677	J	MG/KG	5.25
SBE2208200C00L	Total Lead	08/12/1992	09/10/1992	476	J	MG/KG	5.39
SBE2218100C00L	Total Lead	05/05/1992	06/11/1992	63.2		MG/KG	5.2
SBE2218200C00L	Total Lead	05/05/1992	06/11/1992	490		MG/KG	5.5
SBE2222100C00L	Total Lead	05/05/1992	06/11/1992	226		MG/KG	5.3
SBE2222200C00L	Total Lead	05/05/1992	06/11/1992	365		MG/KG	5.6
SBE2228100C00L	Total Lead	11/14/1991	12/03/1991	83.3		MG/KG	6.9
SBE2228200C00L	Total Lead	11/14/1991	12/03/1991	154		MG/KG	6.5
SBE2230100C00L	Total Lead	11/14/1991	12/03/1991	37.3		MG/KG	6.6
SBE2230200C00L	Total Lead	11/14/1991	12/03/1991	581		MG/KG	6.6
SBE2232100C00L	Total Lead	11/14/1991	12/03/1991	28.5		MG/KG	6.8
SBE2232200C00L	Total Lead	11/14/1991	12/03/1991	153		MG/KG	7.2
SBE2244100C00L	Total Lead	03/05/1992	03/19/1992	111		MG/KG	5.7
SBE2244200C00L	Total Lead	03/05/1992	03/19/1992	<5.3		MG/KG	5.3
SBE2246100C00L	Total Lead	03/05/1992	03/19/1992	<5.6		MG/KG	5.6
SBE2246200C00L	Total Lead	03/05/1992	03/19/1992	153		MG/KG	5.4
SBE2248100C00L	Total Lead	11/13/1991	12/02/1991	62.5		MG/KG	7.7
SBE2250100C00L	Total Lead	05/11/1992	06/19/1992	63.4		MG/KG	5.4
SBE2250200C00L	Total Lead	05/11/1992	06/19/1992	130		MG/KG	5.4
SBE2252100C00L	Total Lead	11/13/1991	12/02/1991	84.7		MG/KG	7.9
SBE2252200C00L	Total Lead	04/17/1992	06/02/1992	604		MG/KG	6.0
SBE2254100C00L	Total Lead	11/13/1991	12/02/1991	42.7		MG/KG	7.5
SBE2254200C00L	Total Lead	11/13/1991	12/02/1991	303		MG/KG	7.4

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2256100C00L	Total Lead	03/05/1992	03/19/1992	164		MG/KG	5.9
SBE2256200C00L	Total Lead	03/05/1992	03/19/1992	153		MG/KG	5.4
SBE2258100C00L	Total Lead	11/13/1991	12/02/1991	106		MG/KG	7.6
SBE2258200C00L	Total Lead	11/13/1991	12/02/1991	109		MG/KG	6.9
SBE2264100C00L	Total Lead	04/17/1992	06/02/1992	82.2		MG/KG	5.6
SBE2264200C00L	Total Lead	04/17/1992	06/02/1992	276		MG/KG	5.3
SCL2201100C00L	Total Lead	11/22/1991	12/12/1991	36.6		MG/KG	6.9
SCL2201200C00L	Total Lead	11/22/1991	12/12/1991	132		MG/KG	7.3
SCL2215100C00L	Total Lead	11/13/1991	12/02/1991	81.8		MG/KG	7.3
SCL2215200C00L	Total Lead	11/13/1991	12/02/1991	413		MG/KG	8.0
SCL2217100C00L	Total Lead	03/11/1992	03/24/1992	76.2		MG/KG	5.4
SCL2217200C00L	Total Lead	03/11/1992	03/24/1992	491		MG/KG	5.7
SCL2221100C00L	Total Lead	03/11/1992	03/24/1992	146		MG/KG	5.7
SCL2221200C00L	Total Lead	03/11/1992	03/24/1992	154		MG/KG	5.5
SCL2225100C00L	Total Lead	04/21/1992	06/03/1992	212		MG/KG	5.8
SCL2225200C00L	Total Lead	04/21/1992	06/03/1992	537		MG/KG	6.1
SCL2229100C00L	Total Lead	03/11/1992	05/11/1992	277		MG/KG	5.9
SCL2229200C00L	Total Lead	03/11/1992	05/11/1992	435		MG/KG	5.8
SCL2243100C00L	Total Lead	03/11/1992	05/11/1992	221		MG/KG	6.0
SCL2243200C00L	Total Lead	03/11/1992	05/11/1992	111		MG/KG	5.6
SCL2257100C00L	Total Lead	04/21/1992	06/02/1992	80.7		MG/KG	5.9
SCL2257200C00L	Total Lead	04/21/1992	06/02/1992	87.1		MG/KG	5.7

DECISION UNIT 1

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	4			
			NUMBER OF SAMPLES	45			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0059			
			β error	0.1 %			
		For Level C:	P >= alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCL2208100A00L	Total Lead	03/11/1992	05/11/1992	445		MG/KG	5.6
SCL2208200A00L	Total Lead	03/11/1992	05/11/1992	383		MG/KG	5.7
SCL2214100A00L	Total Lead	04/21/1992	06/03/1992	773		MG/KG	5.9
SCL2214200A00L	Total Lead	04/21/1992	06/03/1992	699		MG/KG	6.1
SCL2222100A00L	Total Lead	03/11/1992	05/11/1992	549		MG/KG	6.3
SCL2222200A00L	Total Lead	03/11/1992	05/11/1992	662		MG/KG	6.1
SCL2230100A00L	Total Lead	04/22/1992	06/03/1992	525		MG/KG	5.8
SCL2230200A00L	Total Lead	04/22/1992	06/03/1992	1020		MG/KG	6.2
SCL2242100A00L	Total Lead	03/11/1992	03/24/1992	251		MG/KG	6.1
SCL2242200A00L	Total Lead	03/11/1992	05/11/1992	393		MG/KG	6.2
SCL2246100A00L	Total Lead	03/11/1992	05/11/1992	347		MG/KG	6.2
SCL2246200A00L	Total Lead	03/11/1992	05/11/1992	1210		MG/KG	6.0
SCL2250100A00L	Total Lead	04/21/1992	06/02/1992	509		MG/KG	6.3
SCL2250200A00L	Total Lead	04/21/1992	06/02/1992	358		MG/KG	5.9
SCL2254100A00L	Total Lead	03/11/1992	03/24/1992	381		MG/KG	5.8
SCL2258100A00L	Total Lead	04/21/1992	06/02/1992	299		MG/KG	6.1
SCL2258200A00L	Total Lead	04/21/1992	06/02/1992	624		MG/KG	6.5
SCL2262100A00L	Total Lead	04/21/1992	06/02/1992	315		MG/KG	6.8
SCL2262200A00L	Total Lead	04/21/1992	06/03/1992	295		MG/KG	6.1
SCL2264100A00L	Total Lead	03/11/1992	03/24/1992	250		MG/KG	6.4
SCL2264200A00L	Total Lead	03/11/1992	03/24/1992	427		MG/KG	6.3
SDE2200100A00L	Total Lead	05/07/1992	06/12/1992	461		MG/KG	5.5
SDE2200200A00L	Total Lead	05/07/1992	06/12/1992	444		MG/KG	5.5

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2205100A00L	Total Lead	03/13/1992	03/24/1992	423		MG/KG	6.1
SDE2205200A00L	Total Lead	03/13/1992	03/24/1992	641		MG/KG	6.2
SDE2206100A00L	Total Lead	03/13/1992	03/24/1992	473		MG/KG	6.3
SDE2206200A00L	Total Lead	03/13/1992	03/24/1992	901		MG/KG	5.8
SDE2209100A00L	Total Lead	04/14/1992	05/18/1992	1300		MG/KG	6.1
SDE2209200A00L	Total Lead	04/14/1992	05/18/1992	369		MG/KG	5.3
SDE2218100A00L	Total Lead	03/13/1992	03/24/1992	477		MG/KG	6.0
SDE2218200A00L	Total Lead	03/13/1992	03/24/1992	211		MG/KG	5.8
SDE2219100A00L	Total Lead	05/07/1992	06/12/1992	402		MG/KG	5.0
SDE2219200A00L	Total Lead	05/07/1992	06/19/1992	194		MG/KG	5.1
SDE2222100A00L	Total Lead	04/21/1992	06/03/1992	427		MG/KG	6.2
SDE2222200A00L	Total Lead	04/21/1992	06/03/1992	326		MG/KG	5.9
SDE2227100A00L	Total Lead	03/13/1992	03/24/1992	247		MG/KG	5.8
SDE2227200A00L	Total Lead	03/13/1992	03/24/1992	203		MG/KG	5.6
SDE2233100A00L	Total Lead	03/13/1992	03/24/1992	434		MG/KG	6.2
SDE2233200A00L	Total Lead	03/13/1992	03/24/1992	287		MG/KG	6.0
SDE2234100A00L	Total Lead	03/13/1992	03/24/1992	1190	J	MG/KG	6.1
SDE2234200A00L	Total Lead	03/13/1992	03/24/1992	383		MG/KG	6.3
SDE2245100A00L	Total Lead	03/13/1992	04/06/1992	487		MG/KG	5.8
SDE2245200A00L	Total Lead	03/13/1992	04/06/1992	365		MG/KG	5.8
SDE2247100A00L	Total Lead	03/13/1992	04/06/1992	1210		MG/KG	5.9
SDE2247200A00L	Total Lead	03/13/1992	04/06/1992	789		MG/KG	6.2
SDE2253100A00L	Total Lead	03/13/1992	04/06/1992	354		MG/KG	6.0
SDE2253200A00L	Total Lead	03/13/1992	04/06/1992	337		MG/KG	5.5

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2254100A00L	Total Lead	04/14/1992	05/18/1992	196		MG/KG	5.9
SDE2254200A00L	Total Lead	04/14/1992	06/09/1992	18.9		MG/KG	5.9
SDE2256100A00L	Total Lead	04/14/1992	05/18/1992	895		MG/KG	5.7
SDE2256200A00L	Total Lead	04/14/1992	05/18/1992	449		MG/KG	6.0
SDE2257100A00L	Total Lead	04/14/1992	05/18/1992	449		MG/KG	5.6
SDE2257200A00L	Total Lead	04/14/1992	05/18/1992	273		MG/KG	6.1
SDE2258100A00L	Total Lead	03/17/1992	05/11/1992	762		MG/KG	6.3
SDE2258200A00L	Total Lead	03/17/1992	04/06/1992	229		MG/KG	5.8
SDE2259100A00L	Total Lead	04/21/1992	06/03/1992	576		MG/KG	6.3
SDE2259200A00L	Total Lead	04/21/1992	06/03/1992	373		MG/KG	6.1
SDE2260100A00L	Total Lead	03/17/1992	04/06/1992	512		MG/KG	6.1
SDE2260200A00L	Total Lead	03/17/1992	04/06/1992	645		MG/KG	6.4
SDE2261100A00L	Total Lead	05/07/1992	06/12/1992	371		MG/KG	5.3
SDE2262100A00L	Total Lead	03/17/1992	04/06/1992	416		MG/KG	6.0
SDE2262200A00L	Total Lead	03/17/1992	04/06/1992	536		MG/KG	5.4
SDE2263100A00L	Total Lead	04/14/1992	05/18/1992	636		MG/KG	5.5
SDE2263200A00L	Total Lead	04/14/1992	05/18/1992	1130		MG/KG	5.9
SDE2265100A00L	Total Lead	05/18/1992	07/29/1992	172	J	MG/KG	6.1
SDE2265200A00L	Total Lead	05/18/1992	07/29/1992	1700	J	MG/KG	5.4
SED2207100A00L	Total Lead	04/01/1992	04/15/1992	715		MG/KG	6.0
SED2207200A00L	Total Lead	04/01/1992	04/15/1992	977		MG/KG	6.0
SED2211100A00L	Total Lead	04/01/1992	05/11/1992	14800		MG/KG	58.0
SED2211200A00L	Total Lead	04/01/1992	04/15/1992	315		MG/KG	6.2
SED2215100A00L	Total Lead	04/01/1992	04/15/1992	662		MG/KG	6.2

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2215200A00L	Total Lead	04/01/1992	04/15/1992	550		MG/KG	6.2
SED2219100A00L	Total Lead	04/01/1992	04/15/1992	421		MG/KG	6.1
SED2219200A00L	Total Lead	04/01/1992	04/15/1992	514		MG/KG	5.6
SED2223100A00L	Total Lead	04/01/1992	04/14/1992	536		MG/KG	5.9
SED2223200A00L	Total Lead	04/01/1992	04/14/1992	560		MG/KG	5.8
SED2225100A00L	Total Lead	04/01/1992	04/15/1992	388		MG/KG	6.0
SED2225200A00L	Total Lead	04/01/1992	04/15/1992	421		MG/KG	6.3
SED2229100A00L	Total Lead	05/18/1992	07/28/1992	564	J	MG/KG	6.1
SED2235100A00L	Total Lead	04/01/1992	04/15/1992	635	J	MG/KG	6.2
SED2235200A00L	Total Lead	04/01/1992	04/15/1992	609		MG/KG	6.3
SED2237100A00L	Total Lead	04/01/1992	04/15/1992	914		MG/KG	6.2
SED2237200A00L	Total Lead	04/01/1992	04/15/1992	272		MG/KG	5.9
SED2241100A00L	Total Lead	05/18/1992	07/28/1992	388	J	MG/KG	6.0
SED2241200A00L	Total Lead	05/18/1992	07/28/1992	419	J	MG/KG	6.4
SED2245100A00L	Total Lead	04/01/1992	04/15/1992	385		MG/KG	6.0
SED2245200A00L	Total Lead	04/01/1992	04/15/1992	443		MG/KG	6.2
SED2255100A00L	Total Lead	04/03/1992	05/14/1992	312		MG/KG	6.0
SED2255200A00L	Total Lead	04/03/1992	05/14/1992	380		MG/KG	6.1
SED2259100A00L	Total Lead	05/18/1992	07/28/1992	208	J	MG/KG	5.9
SED2259200A00L	Total Lead	05/18/1992	07/28/1992	60.1	U	MG/KG	5.6
SED2261100A00L	Total Lead	04/03/1992	05/14/1992	343		MG/KG	6.2
SED2261200A00L	Total Lead	04/03/1992	05/14/1992	156		MG/KG	6.2
STS1215100A00L	Total Lead	04/27/1992	06/08/1992	417		MG/KG	6.2
STS1215200A00L	Total Lead	04/27/1992	06/08/1992	244		MG/KG	5.9

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	36			
			NUMBER OF SAMPLES	95			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCL2208100B00L	Total Lead	03/11/1992	05/11/1992	376		MG/KG	5.4
SCL2208200B00L	Total Lead	03/11/1992	05/11/1992	457		MG/KG	6.0
SCL2214100B00L	Total Lead	04/21/1992	06/03/1992	494		MG/KG	5.7
SCL2214200B00L	Total Lead	04/21/1992	06/03/1992	565		MG/KG	6.3
SCL2222100B00L	Total Lead	03/11/1992	05/11/1992	460		MG/KG	6.1
SCL2222200B00L	Total Lead	03/11/1992	05/11/1992	442		MG/KG	5.4
SCL2230100B00L	Total Lead	04/22/1992	06/03/1992	422		MG/KG	6.2
SCL2230200B00L	Total Lead	04/22/1992	06/03/1992	613		MG/KG	6.1
SCL2242100B00L	Total Lead	03/11/1992	05/11/1992	245		MG/KG	6.1
SCL2242200B00L	Total Lead	03/11/1992	05/11/1992	284		MG/KG	6.1
SCL2246100B00L	Total Lead	03/11/1992	05/11/1992	256		MG/KG	6.0
SCL2246200B00L	Total Lead	03/11/1992	05/11/1992	562		MG/KG	6.1
SCL2250100B00L	Total Lead	04/21/1992	06/02/1992	336		MG/KG	6.2
SCL2250200B00L	Total Lead	04/21/1992	06/02/1992	381		MG/KG	5.7
SCL2254100B00L	Total Lead	03/11/1992	03/24/1992	226		MG/KG	6.0
SCL2258100B00L	Total Lead	04/21/1992	06/02/1992	448		MG/KG	5.5
SCL2258200B00L	Total Lead	04/21/1992	06/02/1992	255		MG/KG	6.0
SCL2262100B00L	Total Lead	04/21/1992	06/02/1992	195		MG/KG	6.2
SCL2262200B00L	Total Lead	04/21/1992	06/03/1992	178		MG/KG	5.9
SCL2264100B00L	Total Lead	03/11/1992	03/24/1992	133		MG/KG	5.7
SCL2264200B00L	Total Lead	03/11/1992	03/24/1992	287		MG/KG	6.0
SDE2200100B00L	Total Lead	05/07/1992	06/12/1992	218		MG/KG	5.3
SDE2200200B00L	Total Lead	05/07/1992	06/12/1992	406		MG/KG	5.4

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2205100B00L	Total Lead	03/13/1992	03/24/1992	354		MG/KG	5.5
SDE2205200B00L	Total Lead	03/13/1992	03/24/1992	560		MG/KG	5.9
SDE2206100B00L	Total Lead	03/13/1992	03/24/1992	197		MG/KG	5.9
SDE2206200B00L	Total Lead	03/13/1992	03/24/1992	440		MG/KG	5.5
SDE2209100B00L	Total Lead	04/14/1992	05/18/1992	775		MG/KG	5.8
SDE2209200B00L	Total Lead	04/14/1992	05/18/1992	290		MG/KG	5.3
SDE2218100B00L	Total Lead	03/13/1992	03/24/1992	199	J	MG/KG	5.7
SDE2218200B00L	Total Lead	03/13/1992	03/24/1992	226		MG/KG	5.8
SDE2219100B00L	Total Lead	05/07/1992	06/12/1992	271		MG/KG	5.0
SDE2219200B00L	Total Lead	05/07/1992	06/19/1992	92.4		MG/KG	5.0
SDE2222100B00L	Total Lead	04/21/1992	06/03/1992	392		MG/KG	6.3
SDE2222200B00L	Total Lead	04/21/1992	06/03/1992	313		MG/KG	6.2
SDE2227100B00L	Total Lead	03/13/1992	03/24/1992	222		MG/KG	5.9
SDE2227200B00L	Total Lead	03/13/1992	03/24/1992	129		MG/KG	5.5
SDE2233100B00L	Total Lead	03/13/1992	03/24/1992	301		MG/KG	5.7
SDE2233200B00L	Total Lead	03/13/1992	03/24/1992	264		MG/KG	5.8
SDE2234100B00L	Total Lead	03/13/1992	03/24/1992	485		MG/KG	5.8
SDE2234200B00L	Total Lead	03/13/1992	03/24/1992	243		MG/KG	6.2
SDE2245100B00L	Total Lead	03/13/1992	04/06/1992	433		MG/KG	5.8
SDE2245200B00L	Total Lead	03/13/1992	04/06/1992	431		MG/KG	5.7
SDE2247100B00L	Total Lead	03/13/1992	04/06/1992	706		MG/KG	5.8
SDE2247200B00L	Total Lead	03/13/1992	04/06/1992	556		MG/KG	5.6
SDE2253100B00L	Total Lead	03/13/1992	04/06/1992	10800		MG/KG	69.8
SDE2253200B00L	Total Lead	03/13/1992	04/06/1992	233		MG/KG	5.4

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2254100B00L	Total Lead	04/14/1992	05/18/1992	69.4		MG/KG	5.6
SDE2254200B00L	Total Lead	04/14/1992	06/09/1992	491		MG/KG	5.7
SDE2256100B00L	Total Lead	04/14/1992	05/18/1992	404		MG/KG	6.1
SDE2256200B00L	Total Lead	04/14/1992	05/18/1992	159		MG/KG	5.5
SDE2257100B00L	Total Lead	04/14/1992	05/18/1992	318		MG/KG	5.3
SDE2257200B00L	Total Lead	04/14/1992	05/18/1992	246		MG/KG	5.7
SDE2258100B00L	Total Lead	03/17/1992	05/11/1992	477		MG/KG	6.1
SDE2258200B00L	Total Lead	03/17/1992	04/06/1992	230		MG/KG	6.0
SDE2259100B00L	Total Lead	04/21/1992	06/03/1992	375		MG/KG	6.2
SDE2259200B00L	Total Lead	04/21/1992	06/03/1992	184		MG/KG	6.0
SDE2260100B00L	Total Lead	03/17/1992	04/06/1992	368		MG/KG	5.6
SDE2260200B00L	Total Lead	03/17/1992	04/06/1992	494		MG/KG	5.9
SDE2261100B00L	Total Lead	05/07/1992	06/12/1992	121		MG/KG	5.3
SDE2262100B00L	Total Lead	03/17/1992	04/06/1992	331		MG/KG	5.7
SDE2262200B00L	Total Lead	03/17/1992	04/06/1992	463		MG/KG	5.8
SDE2263100B00L	Total Lead	04/14/1992	05/18/1992	813		MG/KG	5.9
SDE2263200B00L	Total Lead	04/14/1992	05/18/1992	1350		MG/KG	6.1
SDE2265100B00L	Total Lead	05/18/1992	07/29/1992	126	U	MG/KG	5.7
SDE2265200B00L	Total Lead	05/18/1992	07/29/1992	1280	J	MG/KG	5.9
SED2207100B00L	Total Lead	04/01/1992	04/15/1992	505		MG/KG	6.0
SED2207200B00L	Total Lead	04/01/1992	04/15/1992	934		MG/KG	5.9
SED2211100B00L	Total Lead	04/01/1992	04/15/1992	554		MG/KG	5.9
SED2211200B00L	Total Lead	04/01/1992	04/15/1992	352		MG/KG	6.0
SED2215100B00L	Total Lead	04/01/1992	04/15/1992	349		MG/KG	5.8

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2215200B00L	Total Lead	04/01/1992	04/15/1992	625		MG/KG	5.8
SED2219100B00L	Total Lead	04/01/1992	04/15/1992	323		MG/KG	5.9
SED2219200B00L	Total Lead	04/01/1992	04/15/1992	447		MG/KG	5.7
SED2223100B00L	Total Lead	04/01/1992	04/14/1992	170		MG/KG	5.6
SED2223200B00L	Total Lead	04/01/1992	04/14/1992	586		MG/KG	5.5
SED2225100B00L	Total Lead	04/01/1992	04/15/1992	194		MG/KG	5.7
SED2225200B00L	Total Lead	04/01/1992	04/15/1992	314		MG/KG	5.9
SED2229100B00L	Total Lead	05/18/1992	07/28/1992	411	J	MG/KG	5.3
SED2235100B00L	Total Lead	04/01/1992	04/15/1992	441		MG/KG	6.0
SED2235200B00L	Total Lead	04/01/1992	04/15/1992	563		MG/KG	6.0
SED2237100B00L	Total Lead	04/01/1992	04/15/1992	819		MG/KG	5.7
SED2237200B00L	Total Lead	04/01/1992	04/15/1992	275		MG/KG	5.7
SED2241100B00L	Total Lead	05/18/1992	07/28/1992	340	J	MG/KG	5.9
SED2241200B00L	Total Lead	05/18/1992	07/28/1992	317	J	MG/KG	5.8
SED2245100B00L	Total Lead	04/01/1992	04/15/1992	305		MG/KG	6.3
SED2245200B00L	Total Lead	04/01/1992	04/15/1992	456		MG/KG	6.1
SED2255100B00L	Total Lead	04/03/1992	05/14/1992	246		MG/KG	5.9
SED2255200B00L	Total Lead	04/03/1992	05/14/1992	325		MG/KG	7.3
SED2259100B00L	Total Lead	05/18/1992	07/28/1992	213	J	MG/KG	5.6
SED2259200B00L	Total Lead	05/18/1992	07/28/1992	334	J	MG/KG	6.0
SED2261100B00L	Total Lead	04/03/1992	05/14/1992	161		MG/KG	5.9
SED2261200B00L	Total Lead	04/03/1992	05/14/1992	81.9		MG/KG	5.9
STS1215100B00L	Total Lead	04/27/1992	06/08/1992	397		MG/KG	5.9
STS1215200B00L	Total Lead	04/27/1992	06/08/1992	246		MG/KG	5.9

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	18			
			NUMBER OF SAMPLES	95			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.1			
			β error	0.1%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SCL2208100C00L	Total Lead	03/11/1992	05/11/1992	130		MG/KG	5.9
SCL2208200C00L	Total Lead	03/11/1992	05/11/1992	306		MG/KG	5.8
SCL2214100C00L	Total Lead	04/21/1992	06/03/1992	382		MG/KG	5.6
SCL2214200C00L	Total Lead	04/21/1992	06/03/1992	400		MG/KG	5.6
SCL2222100C00L	Total Lead	03/11/1992	05/11/1992	232		MG/KG	6.1
SCL2222200C00L	Total Lead	03/11/1992	05/11/1992	218		MG/KG	5.9
SCL2230100C00L	Total Lead	04/22/1992	06/03/1992	148		MG/KG	5.9
SCL2230200C00L	Total Lead	04/22/1992	06/03/1992	433		MG/KG	6.0
SCL2242100C00L	Total Lead	03/11/1992	05/11/1992	111		MG/KG	5.9
SCL2242200C00L	Total Lead	03/11/1992	05/11/1992	135		MG/KG	6.0
SCL2246100C00L	Total Lead	03/11/1992	05/11/1992	102		MG/KG	6.0
SCL2246200C00L	Total Lead	03/11/1992	05/11/1992	287		MG/KG	5.6
SCL2250100C00L	Total Lead	04/21/1992	06/02/1992	172		MG/KG	5.9
SCL2250200C00L	Total Lead	04/21/1992	06/02/1992	264		MG/KG	6.0
SCL2254100C00L	Total Lead	03/11/1992	03/24/1992	192		MG/KG	5.7
SCL2258100C00L	Total Lead	04/21/1992	06/02/1992	186		MG/KG	5.9
SCL2258200C00L	Total Lead	04/21/1992	06/02/1992	285		MG/KG	5.7
SCL2262100C00L	Total Lead	04/21/1992	06/02/1992	80.5		MG/KG	5.9
SCL2262200C00L	Total Lead	04/21/1992	06/03/1992	112		MG/KG	6.1
SCL2264100C00L	Total Lead	03/11/1992	03/24/1992	81		MG/KG	5.7
SCL2264200C00L	Total Lead	03/11/1992	03/24/1992	220		MG/KG	5.8
SDE2200100C00L	Total Lead	05/07/1992	06/12/1992	85.6		MG/KG	5.4
SDE2200200C00L	Total Lead	05/07/1992	06/12/1992	254		MG/KG	5.2

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2205100C00L	Total Lead	03/13/1992	03/24/1992	142		MG/KG	5.6
SDE2205200C00L	Total Lead	03/13/1992	03/24/1992	169		MG/KG	5.8
SDE2206100C00L	Total Lead	03/13/1992	03/24/1992	55.2		MG/KG	5.5
SDE2206200C00L	Total Lead	03/13/1992	03/24/1992	83.8		MG/KG	5.5
SDE2209100C00L	Total Lead	04/14/1992	05/18/1992	209		MG/KG	6.2
SDE2209200C00L	Total Lead	04/14/1992	05/18/1992	222		MG/KG	5.8
SDE2218100C00L	Total Lead	03/13/1992	03/24/1992	51.5		MG/KG	5.7
SDE2218200C00L	Total Lead	03/13/1992	03/24/1992	74.4		MG/KG	5.7
SDE2219100C00L	Total Lead	05/07/1992	06/12/1992	120		MG/KG	5.1
SDE2219200C00L	Total Lead	05/07/1992	06/19/1992	83.4		MG/KG	5.3
SDE2222100C00L	Total Lead	04/21/1992	06/03/1992	191		MG/KG	6.2
SDE2222200C00L	Total Lead	04/21/1992	06/03/1992	219		MG/KG	6.0
SDE2227100C00L	Total Lead	03/13/1992	03/24/1992	268		MG/KG	5.5
SDE2227200C00L	Total Lead	03/13/1992	03/24/1992	118		MG/KG	5.4
SDE2233100C00L	Total Lead	03/13/1992	03/24/1992	196		MG/KG	5.6
SDE2233200C00L	Total Lead	03/13/1992	03/24/1992	584		MG/KG	6.1
SDE2234100C00L	Total Lead	03/13/1992	03/24/1992	113		MG/KG	6.0
SDE2234200C00L	Total Lead	03/13/1992	03/24/1992	112		MG/KG	6.3
SDE2245100C00L	Total Lead	03/13/1992	04/06/1992	253		MG/KG	5.5
SDE2245200C00L	Total Lead	03/13/1992	04/06/1992	353		MG/KG	5.5
SDE2247100C00L	Total Lead	03/13/1992	04/06/1992	112		MG/KG	6.1
SDE2247200C00L	Total Lead	03/13/1992	04/06/1992	135		MG/KG	6.0
SDE2253100C00L	Total Lead	03/13/1992	04/06/1992	380		MG/KG	5.7
SDE2253200C00L	Total Lead	03/13/1992	04/06/1992	163	J	MG/KG	5.8

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE2254100C00L	Total Lead	04/14/1992	05/18/1992	508		MG/KG	5.5
SDE2254200C00L	Total Lead	04/14/1992	06/09/1992	282		MG/KG	5.8
SDE2256100C00L	Total Lead	04/14/1992	05/18/1992	263		MG/KG	5.8
SDE2256200C00L	Total Lead	04/14/1992	05/18/1992	47.1		MG/KG	5.4
SDE2257100C00L	Total Lead	04/14/1992	05/18/1992	193		MG/KG	5.6
SDE2257200C00L	Total Lead	04/14/1992	05/18/1992	323		MG/KG	5.8
SDE2258100C00L	Total Lead	03/17/1992	05/11/1992	192		MG/KG	5.8
SDE2258200C00L	Total Lead	03/17/1992	04/06/1992	344		MG/KG	5.9
SDE2259100C00L	Total Lead	04/21/1992	06/03/1992	209		MG/KG	6.1
SDE2259200C00L	Total Lead	04/21/1992	06/03/1992	108		MG/KG	6.0
SDE2260100C00L	Total Lead	03/17/1992	04/06/1992	118		MG/KG	5.7
SDE2260200C00L	Total Lead	03/17/1992	05/11/1992	406		MG/KG	6.1
SDE2261100C00L	Total Lead	05/07/1992	06/12/1992	46.7		MG/KG	5.7
SDE2262100C00L	Total Lead	03/17/1992	04/06/1992	176		MG/KG	5.7
SDE2262200C00L	Total Lead	03/17/1992	04/06/1992	111		MG/KG	5.7
SDE2263100C00L	Total Lead	04/14/1992	05/18/1992	470		MG/KG	5.9
SDE2263200C00L	Total Lead	04/14/1992	05/18/1992	527		MG/KG	5.9
SDE2265100C00L	Total Lead	05/18/1992	07/29/1992	38.8	U	MG/KG	5.7
SDE2265200C00L	Total Lead	05/18/1992	07/29/1992	226	J	MG/KG	5.8
SED2207100C00L	Total Lead	04/01/1992	04/15/1992	158		MG/KG	5.9
SED2207200C00L	Total Lead	04/01/1992	04/15/1992	347		MG/KG	6.0
SED2211100C00L	Total Lead	04/01/1992	04/15/1992	102		MG/KG	5.6
SED2211200C00L	Total Lead	04/01/1992	04/15/1992	256		MG/KG	5.7
SED2215100C00L	Total Lead	04/01/1992	04/15/1992	131		MG/KG	5.8

DECISION UNIT 2
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2215200C00L	Total Lead	04/01/1992	04/15/1992	360		MG/KG	5.5
SED2219100C00L	Total Lead	04/01/1992	04/15/1992	178		MG/KG	5.7
SED2219200C00L	Total Lead	04/01/1992	04/15/1992	160		MG/KG	5.6
SED2223100C00L	Total Lead	04/01/1992	04/14/1992	58.7		MG/KG	5.8
SED2223200C00L	Total Lead	04/01/1992	04/14/1992	304		MG/KG	5.7
SED2225100C00L	Total Lead	04/01/1992	04/15/1992	72.5		MG/KG	5.8
SED2225200C00L	Total Lead	04/01/1992	04/15/1992	139		MG/KG	5.9
SED2229100C00L	Total Lead	05/18/1992	07/28/1992	124	J	MG/KG	5.5
SED2235100C00L	Total Lead	04/01/1992	04/15/1992	154		MG/KG	5.8
SED2235200C00L	Total Lead	04/01/1992	04/15/1992	423		MG/KG	5.9
SED2237100C00L	Total Lead	04/01/1992	04/15/1992	284		MG/KG	5.6
SED2237200C00L	Total Lead	04/01/1992	04/15/1992	266		MG/KG	6.1
SED2241100C00L	Total Lead	05/18/1992	07/28/1992	268	J	MG/KG	5.5
SED2241200C00L	Total Lead	05/18/1992	07/28/1992	150	J	MG/KG	5.5
SED2245100C00L	Total Lead	04/01/1992	04/15/1992	168		MG/KG	6.2
SED2245200C00L	Total Lead	04/01/1992	04/15/1992	283		MG/KG	5.7
SED2255100C00L	Total Lead	04/03/1992	05/14/1992	81.7		MG/KG	5.9
SED2255200C00L	Total Lead	04/03/1992	05/14/1992	74		MG/KG	6.0
SED2259100C00L	Total Lead	05/18/1992	07/28/1992	140	J	MG/KG	5.4
SED2259200C00L	Total Lead	05/18/1992	07/28/1992	544	J	MG/KG	5.9
SED2261100C00L	Total Lead	04/03/1992	05/14/1992	42		MG/KG	5.8
SED2261200C00L	Total Lead	04/03/1992	05/14/1992	63		MG/KG	5.9
STS1215100C00L	Total Lead	04/27/1992	06/08/1992	345		MG/KG	5.6
STS1215200C00L	Total Lead	04/27/1992	06/08/1992	197		MG/KG	5.7

DECISION UNIT 2

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	4			
			NUMBER OF SAMPLES	95			
			CUMULATIVE BINOMIAL PROBABILITY (P)	6.8E-06			
			β error	0.1%			
		For Level C:	P < alpha → → (alpha = 0.05)	Do Not Remediate			

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SED2204100A00L	Total Lead	04/28/1992	06/09/1992	485		MG/KG	5.8
SED2204200A00L	Total Lead	04/28/1992	06/09/1992	109		MG/KG	5.6
SED2208100A00L	Total Lead	04/28/1992	06/08/1992	620		MG/KG	5.9
SED2208200A00L	Total Lead	04/28/1992	06/09/1992	767		MG/KG	5.9
SED2212100A00L	Total Lead	04/01/1992	04/15/1992	545		MG/KG	6.0
SED2212200A00L	Total Lead	04/01/1992	04/15/1992	672		MG/KG	5.9
SED2218100A00L	Total Lead	04/01/1992	04/15/1992	393		MG/KG	5.6
SED2218200A00L	Total Lead	04/01/1992	04/15/1992	415		MG/KG	5.8
SED2222100A00L	Total Lead	04/01/1992	04/15/1992	608		MG/KG	6.0
SED2222200A00L	Total Lead	04/01/1992	04/15/1992	934		MG/KG	5.7
SED2224100A00L	Total Lead	04/28/1992	06/08/1992	569		MG/KG	5.6
SED2224200A00L	Total Lead	04/28/1992	06/08/1992	314		MG/KG	6.0
SED2230100A00L	Total Lead	04/01/1992	04/15/1992	659		MG/KG	5.8
SED2230200A00L	Total Lead	04/01/1992	04/15/1992	219		MG/KG	5.8
SED2232100A00L	Total Lead	04/01/1992	04/15/1992	220		MG/KG	5.7
SED2232200A00L	Total Lead	04/01/1992	04/15/1992	373		MG/KG	5.6
SED2236100A00L	Total Lead	04/28/1992	06/08/1992	516		MG/KG	5.7
SED2236200A00L	Total Lead	04/28/1992	06/08/1992	289		MG/KG	6.3
SED2246100A00L	Total Lead	04/03/1992	05/14/1992	768		MG/KG	6.2
SED2246200A00L	Total Lead	04/03/1992	05/14/1992	647		MG/KG	6.3
SED2254100A00L	Total Lead	04/03/1992	05/14/1992	384		MG/KG	6.2
SED2254200A00L	Total Lead	04/03/1992	05/14/1992	289		MG/KG	6.0
SED2262100A00L	Total Lead	04/03/1992	05/14/1992	479		MG/KG	5.9

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2262200A00L	Total Lead	04/03/1992	05/14/1992	556		MG/KG	5.8
SST2210100A00L	Total Lead	04/02/1992	05/14/1992	471		MG/KG	5.9
SST2210200A00L	Total Lead	04/02/1992	05/14/1992	272		MG/KG	5.8
SST2212100A00L	Total Lead	04/02/1992	05/14/1992	313		MG/KG	6.1
SST2212200A00L	Total Lead	04/02/1992	05/14/1992	836		MG/KG	6.6
SST2214100A00L	Total Lead	04/02/1992	05/14/1992	566		MG/KG	6.4
SST2214200A00L	Total Lead	04/02/1992	05/14/1992	410		MG/KG	6.4
SST2216100A00L	Total Lead	05/11/1992	06/26/1992	592		MG/KG	5.3
SST2216200A00L	Total Lead	05/11/1992	06/26/1992	730		MG/KG	5.4
SST2222100A00L	Total Lead	04/02/1992	05/14/1992	283		MG/KG	6.1
SST2222200A00L	Total Lead	04/02/1992	05/14/1992	324		MG/KG	5.9
SST2223100A00L	Total Lead	04/02/1992	05/14/1992	604		MG/KG	6.1
SST2223200A00L	Total Lead	04/02/1992	05/14/1992	285		MG/KG	6.0
SST2226100A00L	Total Lead	04/02/1992	05/14/1992	461		MG/KG	6.1
SST2226200A00L	Total Lead	04/02/1992	05/14/1992	259		MG/KG	6.2
SST2228100A00L	Total Lead	04/22/1992	06/03/1992	1000		MG/KG	6.6
SST2228200A00L	Total Lead	04/22/1992	06/03/1992	60.8		MG/KG	6.0
SST2230100A00L	Total Lead	04/22/1992	06/03/1992	281		MG/KG	6.5
SST2230200A00L	Total Lead	04/22/1992	06/03/1992	582	J	MG/KG	6.0
SST2231100A00L	Total Lead	05/11/1992	06/26/1992	558		MG/KG	5.3
SST2231200A00L	Total Lead	05/11/1992	06/26/1992	1110		MG/KG	5.3
SST2232100A00L	Total Lead	05/04/1992	06/11/1992	265		MG/KG	5.7
SST2232200A00L	Total Lead	05/04/1992	06/11/1992	135		MG/KG	5.8
SST2235100A00L	Total Lead	04/02/1992	05/14/1992	466		MG/KG	6.0

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2235200A00L	Total Lead	04/02/1992	05/14/1992	854		MG/KG	6.2
SST2238100A00L	Total Lead	08/12/1992	09/10/1992	402	J	MG/KG	5.24
SST2238200A00L	Total Lead	08/12/1992	09/10/1992	1080	J	MG/KG	5.43
SST2239100A00L	Total Lead	05/04/1992	06/11/1992	119		MG/KG	5.7
SST2239200A00L	Total Lead	05/04/1992	06/11/1992	653		MG/KG	5.7
SST2240100A00L	Total Lead	08/12/1992	09/10/1992	415	J	MG/KG	5.40
SST2240200A00L	Total Lead	08/12/1992	09/10/1992	200	J	MG/KG	5.36
SST2242100A00L	Total Lead	05/11/1992	06/19/1992	394	U	MG/KG	5.3
SST2242200A00L	Total Lead	05/11/1992	06/26/1992	431		MG/KG	5.2
SST2244100A00L	Total Lead	04/02/1992	05/14/1992	427		MG/KG	6.1
SST2244200A00L	Total Lead	04/02/1992	05/14/1992	329		MG/KG	5.3
SST2247100A00L	Total Lead	04/22/1992	06/03/1992	240		MG/KG	5.9
SST2247200A00L	Total Lead	04/22/1992	06/03/1992	526		MG/KG	5.7
SST2248100A00L	Total Lead	04/02/1992	05/14/1992	387		MG/KG	6.0
SST2248200A00L	Total Lead	04/02/1992	05/14/1992	1010		MG/KG	6.6
SST2250100A00L	Total Lead	04/02/1992	04/15/1992	160		MG/KG	5.4
SST2250200A00L	Total Lead	04/02/1992	04/15/1992	627		MG/KG	6.1
SST2251100A00L	Total Lead	04/03/1992	05/14/1992	502		MG/KG	6.1
SST2251200A00L	Total Lead	04/03/1992	05/14/1992	356		MG/KG	6.0
SST2254100A00L	Total Lead	04/03/1992	05/14/1992	375		MG/KG	6.1
SST2254200A00L	Total Lead	04/03/1992	05/14/1992	485		MG/KG	5.9
SST2256100A00L	Total Lead	04/03/1992	05/14/1992	531		MG/KG	6.0
SST2256200A00L	Total Lead	04/03/1992	06/02/1992	292		MG/KG	5.3
SGR2209100A00L	Total Lead	03/12/1992	03/24/1992	282		MG/KG	5.5

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2209200A00L	Total Lead	03/12/1992	03/24/1992	238		MG/KG	5.9
SGR2213100A00L	Total Lead	03/12/1992	03/24/1992	1310		MG/KG	6.0
SGR2213200A00L	Total Lead	03/12/1992	05/11/1992	3410		MG/KG	57.6
SGR2217100A00L	Total Lead	03/12/1992	03/24/1992	308	J	MG/KG	5.5
SGR2217200A00L	Total Lead	03/12/1992	03/24/1992	478		MG/KG	6.4
SGR2221100A00L	Total Lead	03/12/1992	03/24/1992	639		MG/KG	5.5
SGR2221200A00L	Total Lead	03/12/1992	03/24/1992	829		MG/KG	6.0
SGR2233100A00L	Total Lead	03/12/1992	03/24/1992	332		MG/KG	5.6
SGR2241100A00L	Total Lead	05/12/1992	06/26/1992	316		MG/KG	5.3
SGR2241200A00L	Total Lead	05/12/1992	06/26/1992	680		MG/KG	5.4
SGR2247100A00L	Total Lead	04/23/1992	06/04/1992	288		MG/KG	5.7
SGR2247200A00L	Total Lead	04/23/1992	06/04/1992	458		MG/KG	6.0
SGR2249100A00L	Total Lead	04/24/1992	06/04/1992	257		MG/KG	6.0
SGR2249200A00L	Total Lead	04/24/1992	06/04/1992	357		MG/KG	5.7
SGR2251100A00L	Total Lead	04/17/1992	06/02/1992	439		MG/KG	6.2
SGR2251200A00L	Total Lead	04/17/1992	06/02/1992	1310		MG/KG	5.9
SGR2253100A00L	Total Lead	04/17/1992	06/02/1992	281		MG/KG	6.2
SGR2253200A00L	Total Lead	04/17/1992	06/02/1992	429		MG/KG	6.5
SGR2263100A00L	Total Lead	03/12/1992	03/24/1992	353		MG/KG	5.8
SGR2263200A00L	Total Lead	03/12/1992	03/24/1992	340		MG/KG	6.1

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SGR2204100C00L	Total Lead	04/23/1992	06/04/1992	236		MG/KG	6.0
SGR2204100C00L	Total Lead	05/12/1992	06/26/1992	306		MG/KG	5.4
SGR2204200C00L	Total Lead	04/23/1992	06/04/1992	426		MG/KG	5.9
SGR2204200C00L	Total Lead	05/12/1992	06/26/1992	233		MG/KG	5.4
SGR2206100C00L	Total Lead	04/23/1992	06/04/1992	137		MG/KG	5.9
SGR2206200C00L	Total Lead	04/23/1992	06/04/1992	331		MG/KG	5.9
SGR2216100C00L	Total Lead	04/23/1992	06/04/1992	134		MG/KG	5.9
SGR2216200C00L	Total Lead	04/23/1992	06/04/1992	375		MG/KG	6.2
SGR2218100C00L	Total Lead	05/12/1992	06/26/1992	312		MG/KG	5.3
SGR2218200C00L	Total Lead	05/12/1992	06/26/1992	386		MG/KG	5.5
SGR2220100C00L	Total Lead	04/23/1992	06/04/1992	161		MG/KG	5.9
SGR2220200C00L	Total Lead	04/23/1992	06/04/1992	1010		MG/KG	32.0
SGR2224100C00L	Total Lead	04/23/1992	06/04/1992	294		MG/KG	6.1
SGR2224200C00L	Total Lead	04/23/1992	06/04/1992	224		MG/KG	5.8
SGR2228100C00L	Total Lead	03/12/1992	03/24/1992	72.7		MG/KG	6.0
SGR2228200C00L	Total Lead	03/12/1992	03/24/1992	348		MG/KG	6.0
SGR2246100C00L	Total Lead	04/23/1992	06/04/1992	162		MG/KG	5.7
SGR2246200C00L	Total Lead	04/23/1992	06/03/1992	101		MG/KG	5.8
SGR2248100C00L	Total Lead	03/12/1992	03/24/1992	130		MG/KG	5.7
SGR2248200C00L	Total Lead	03/12/1992	03/24/1992	379		MG/KG	5.8
SGR2254100C00L	Total Lead	03/12/1992	03/24/1992	83.4		MG/KG	6.0
SGR2254200C00L	Total Lead	03/12/1992	03/24/1992	170		MG/KG	5.5
SGR2258100C00L	Total Lead	04/24/1992	06/04/1992	208		MG/KG	5.7

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	9			
			NUMBER OF SAMPLES	38			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.51			
			ß error	0.1%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2258200B00L	Total Lead	04/24/1992	06/04/1992	262		MG/KG	5.7
SIO2207100B00L	Total Lead	05/14/1992	07/28/1992	474	J	MG/KG	5.5
SIO2207200B00L	Total Lead	05/14/1992	07/28/1992	365	J	MG/KG	5.5
SIO2209100B00L	Total Lead	04/24/1992	06/04/1992	350		MG/KG	5.8
SIO2209200B00L	Total Lead	04/24/1992	06/04/1992	668		MG/KG	6.2
SIO2221100B00L	Total Lead	04/08/1992	05/15/1992	373		MG/KG	5.8
SIO2221200B00L	Total Lead	04/08/1992	05/15/1992	457		MG/KG	6.1
SIO2247100B00L	Total Lead	04/24/1992	06/04/1992	340		MG/KG	6.4
SIO2247200B00L	Total Lead	04/24/1992	06/04/1992	483		MG/KG	6.3
SIO2251100B00L	Total Lead	04/24/1992	06/04/1992	358		MG/KG	5.7
SIO2251200B00L	Total Lead	04/24/1992	06/04/1992	489		MG/KG	5.8
SIO2263100B00L	Total Lead	05/14/1992	07/28/1992	209	J	MG/KG	5.5
SIO2263200B00L	Total Lead	05/14/1992	07/28/1992	250	J	MG/KG	5.2
STT1510100B00L	Total Lead	05/04/1992	06/11/1992	609		MG/KG	5.2
STT1510200B00L	Total Lead	05/04/1992	06/11/1992	122		MG/KG	5.4

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SGR2204100B00L	Total Lead	04/23/1992	06/04/1992	460		MG/KG	5.9
SGR2204100B00L	Total Lead	05/12/1992	06/26/1992	483		MG/KG	5.3
SGR2204200B00L	Total Lead	04/23/1992	06/04/1992	530		MG/KG	5.8
SGR2204200B00L	Total Lead	05/12/1992	06/26/1992	385		MG/KG	5.7
SGR2206100B00L	Total Lead	04/23/1992	06/04/1992	2980		MG/KG	7.3
SGR2206200B00L	Total Lead	04/23/1992	06/04/1992	563		MG/KG	6.0
SGR2216100B00L	Total Lead	04/23/1992	06/04/1992	381		MG/KG	6.1
SGR2216200B00L	Total Lead	04/23/1992	06/04/1992	692		MG/KG	5.8
SGR2218100B00L	Total Lead	05/12/1992	06/26/1992	417		MG/KG	5.3
SGR2218200B00L	Total Lead	05/12/1992	06/26/1992	825		MG/KG	5.9
SGR2220100B00L	Total Lead	04/23/1992	06/04/1992	256		MG/KG	5.9
SGR2220200B00L	Total Lead	04/23/1992	06/04/1992	485		MG/KG	6.0
SGR2224100B00L	Total Lead	04/23/1992	06/04/1992	520		MG/KG	5.7
SGR2224200B00L	Total Lead	04/23/1992	06/04/1992	371		MG/KG	5.7
SGR2228100B00L	Total Lead	03/12/1992	03/24/1992	156		MG/KG	5.8
SGR2228200B00L	Total Lead	03/12/1992	03/24/1992	438		MG/KG	5.2
SGR2246100B00L	Total Lead	04/23/1992	06/04/1992	356		MG/KG	6.0
SGR2246200B00L	Total Lead	04/23/1992	06/03/1992	800		MG/KG	5.9
SGR2248100B00L	Total Lead	03/12/1992	03/24/1992	305		MG/KG	5.9
SGR2248200B00L	Total Lead	03/12/1992	03/24/1992	159		MG/KG	5.8
SGR2254100B00L	Total Lead	03/12/1992	03/24/1992	221		MG/KG	5.9
SGR2254200B00L	Total Lead	03/12/1992	03/24/1992	217		MG/KG	5.5
SGR2258100B00L	Total Lead	04/24/1992	06/04/1992	316		MG/KG	5.6

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	20			
			NUMBER OF SAMPLES	38			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			ß error	0.1%			
	For Level A:		P >= alpha → →Remediate (alpha = 0.05)				

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2258200A00L	Total Lead	04/24/1992	06/04/1992	388		MG/KG	5.7
SIO2207100A00L	Total Lead	05/14/1992	07/28/1992	777	J	MG/KG	5.5
SIO2207200A00L	Total Lead	05/14/1992	07/28/1992	414	J	MG/KG	5.7
SIO2209100A00L	Total Lead	04/24/1992	06/04/1992	413		MG/KG	6.1
SIO2209200A00L	Total Lead	04/24/1992	06/04/1992	738		MG/KG	5.7
SIO2221100A00L	Total Lead	04/08/1992	05/15/1992	514		MG/KG	5.7
SIO2221200A00L	Total Lead	04/08/1992	05/15/1992	558		MG/KG	5.8
SIO2247100A00L	Total Lead	04/24/1992	06/04/1992	612		MG/KG	7.7
SIO2247200A00L	Total Lead	04/24/1992	06/04/1992	551		MG/KG	7.0
SIO2251100A00L	Total Lead	04/24/1992	06/04/1992	419		MG/KG	6.0
SIO2251200A00L	Total Lead	04/24/1992	06/04/1992	694		MG/KG	6.2
SIO2263100A00L	Total Lead	05/14/1992	07/28/1992	171	J	MG/KG	5.6
SIO2263200A00L	Total Lead	05/14/1992	07/28/1992	288	J	MG/KG	5.3
STT1510100A00L	Total Lead	05/04/1992	06/11/1992	968		MG/KG	5.6
STT1510200A00L	Total Lead	05/04/1992	06/11/1992	72.2		MG/KG	5.2

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SGR2204100A00L	Total Lead	04/23/1992	06/04/1992	549		MG/KG	6.2
SGR2204100A00L	Total Lead	05/12/1992	06/26/1992	661	U	MG/KG	5.1
SGR2204200A00L	Total Lead	04/23/1992	06/04/1992	1790		MG/KG	5.9
SGR2204200A00L	Total Lead	05/12/1992	06/26/1992	429		MG/KG	5.4
SGR2206100A00L	Total Lead	04/23/1992	06/04/1992	980		MG/KG	6.0
SGR2206200A00L	Total Lead	04/23/1992	06/04/1992	497		MG/KG	6.1
SGR2216100A00L	Total Lead	04/23/1992	06/04/1992	570		MG/KG	6.4
SGR2216200A00L	Total Lead	04/23/1992	06/04/1992	692		MG/KG	6.1
SGR2218100A00L	Total Lead	05/12/1992	06/26/1992	479		MG/KG	5.4
SGR2218200A00L	Total Lead	05/12/1992	06/26/1992	968		MG/KG	6.1
SGR2220100A00L	Total Lead	04/23/1992	06/04/1992	325		MG/KG	6.4
SGR2220200A00L	Total Lead	04/23/1992	06/04/1992	381		MG/KG	6.4
SGR2224100A00L	Total Lead	04/23/1992	06/04/1992	681		MG/KG	5.5
SGR2224200A00L	Total Lead	04/23/1992	06/04/1992	571		MG/KG	6.1
SGR2228100A00L	Total Lead	03/12/1992	03/24/1992	353		MG/KG	5.9
SGR2228200A00L	Total Lead	03/12/1992	03/24/1992	597		MG/KG	5.1
SGR2246100A00L	Total Lead	04/23/1992	06/04/1992	783		MG/KG	6.0
SGR2246200A00L	Total Lead	04/23/1992	06/03/1992	1510		MG/KG	6.6
SGR2248100A00L	Total Lead	03/12/1992	03/24/1992	411		MG/KG	6.1
SGR2248200A00L	Total Lead	03/12/1992	03/24/1992	197		MG/KG	6.0
SGR2254100A00L	Total Lead	03/12/1992	03/24/1992	318		MG/KG	6.1
SGR2254200A00L	Total Lead	03/12/1992	03/24/1992	271		MG/KG	5.5
SGR2258100A00L	Total Lead	04/24/1992	06/04/1992	434		MG/KG	6.3

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	7			
			NUMBER OF SAMPLES	91			
			CUMULATIVE BINOMIAL PROBABILITY (P)	2.07E-05			
			ß error	0.1			
		For Level C:	P >= alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2235200C00L	Total Lead	04/02/1992	05/14/1992	194		MG/KG	6.0
SST2238100C00L	Total Lead	08/12/1992	09/10/1992	262	J	MG/KG	5.11
SST2238200C00L	Total Lead	08/12/1992	09/10/1992	169	J	MG/KG	5.13
SST2239100C00L	Total Lead	05/04/1992	06/11/1992	169		MG/KG	5.7
SST2239200C00L	Total Lead	05/04/1992	06/11/1992	51.5		MG/KG	5.6
SST2240100C00L	Total Lead	08/12/1992	09/10/1992	372	J	MG/KG	5.41
SST2240200C00L	Total Lead	08/12/1992	09/10/1992	474	J	MG/KG	5.31
SST2242100C00L	Total Lead	05/11/1992	06/26/1992	246		MG/KG	5.3
SST2242200C00L	Total Lead	05/11/1992	06/26/1992	248		MG/KG	5.0
SST2244100C00L	Total Lead	04/02/1992	05/14/1992	138		MG/KG	5.8
SST2244200C00L	Total Lead	04/02/1992	05/14/1992	459		MG/KG	5.5
SST2247100C00L	Total Lead	04/22/1992	06/03/1992	438		MG/KG	5.8
SST2247200C00L	Total Lead	04/22/1992	06/03/1992	352		MG/KG	5.9
SST2248100C00L	Total Lead	04/02/1992	05/14/1992	255		MG/KG	5.8
SST2248200C00L	Total Lead	04/02/1992	05/14/1992	899		MG/KG	6.1
SST2250100C00L	Total Lead	04/02/1992	04/15/1992	57.6		MG/KG	5.9
SST2250200C00L	Total Lead	04/02/1992	05/14/1992	485		MG/KG	5.5
SST2251100C00L	Total Lead	04/03/1992	05/14/1992	99.7		MG/KG	5.7
SST2251200C00L	Total Lead	04/03/1992	05/14/1992	306		MG/KG	6.0
SST2254100C00L	Total Lead	04/03/1992	05/14/1992	188		MG/KG	6.0
SST2254200C00L	Total Lead	04/03/1992	05/14/1992	331		MG/KG	6.0
SST2256100C00L	Total Lead	04/03/1992	05/14/1992	346		MG/KG	5.6
SST2256200C00L	Total Lead	04/03/1992	06/02/1992	554		MG/KG	5.8
SGR2209100C00L	Total Lead	03/12/1992	03/24/1992	118		MG/KG	5.3

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2209200C00L	Total Lead	03/12/1992	03/24/1992	281		MG/KG	5.8
SGR2213100C00L	Total Lead	03/12/1992	03/24/1992	1150		MG/KG	5.6
SGR2213200C00L	Total Lead	03/12/1992	03/24/1992	497		MG/KG	5.9
SGR2217100C00L	Total Lead	03/12/1992	03/24/1992	94.4		MG/KG	5.5
SGR2217200C00L	Total Lead	03/12/1992	03/24/1992	322		MG/KG	5.8
SGR2221100C00L	Total Lead	03/12/1992	03/24/1992	150		MG/KG	5.6
SGR2221200C00L	Total Lead	03/12/1992	03/24/1992	125		MG/KG	6.2
SGR2233100C00L	Total Lead	03/12/1992	03/24/1992	97.2		MG/KG	5.3
SGR2241100C00L	Total Lead	05/12/1992	06/26/1992	127		MG/KG	5.2
SGR2241200C00L	Total Lead	05/12/1992	06/26/1992	214		MG/KG	5.5
SGR2247100C00L	Total Lead	04/23/1992	06/04/1992	107		MG/KG	5.6
SGR2247200C00L	Total Lead	04/23/1992	06/04/1992	190		MG/KG	5.7
SGR2249100C00L	Total Lead	04/24/1992	06/04/1992	106		MG/KG	5.9
SGR2249200C00L	Total Lead	04/24/1992	06/04/1992	114		MG/KG	5.3
SGR2251100C00L	Total Lead	04/17/1992	06/02/1992	161		MG/KG	5.6
SGR2251200C00L	Total Lead	04/17/1992	06/02/1992	815		MG/KG	5.8
SGR2253100C00L	Total Lead	04/17/1992	06/02/1992	75.2		MG/KG	5.5
SGR2253200C00L	Total Lead	04/17/1992	06/02/1992	56.3		MG/KG	5.5
SGR2263100C00L	Total Lead	03/12/1992	03/24/1992	94.4		MG/KG	5.3
SGR2263200C00L	Total Lead	03/12/1992	03/24/1992	139		MG/KG	5.9

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SED2204100C00L	Total Lead	04/28/1992	06/09/1992	592		MG/KG	5.7
SED2204200C00L	Total Lead	04/28/1992	06/09/1992	470		MG/KG	5.5
SED2208100C00L	Total Lead	04/28/1992	06/09/1992	119		MG/KG	5.4
SED2208200C00L	Total Lead	04/28/1992	06/09/1992	284		MG/KG	5.5
SED2212100C00L	Total Lead	04/01/1992	04/15/1992	60.9		MG/KG	5.3
SED2212200C00L	Total Lead	04/01/1992	04/15/1992	393		MG/KG	5.5
SED2218100C00L	Total Lead	04/01/1992	04/15/1992	107		MG/KG	5.8
SED2218200C00L	Total Lead	04/01/1992	04/15/1992	272		MG/KG	5.2
SED2222100C00L	Total Lead	04/01/1992	04/15/1992	150		MG/KG	5.6
SED2222200C00L	Total Lead	04/01/1992	04/15/1992	87.1		MG/KG	5.3
SED2224100C00L	Total Lead	04/28/1992	06/08/1992	132		MG/KG	5.6
SED2224200C00L	Total Lead	04/28/1992	06/08/1992	158		MG/KG	5.6
SED2230100C00L	Total Lead	04/01/1992	04/15/1992	129		MG/KG	5.7
SED2230200C00L	Total Lead	04/01/1992	04/15/1992	429		MG/KG	5.5
SED2232100C00L	Total Lead	04/01/1992	04/15/1992	175		MG/KG	6.0
SED2232200C00L	Total Lead	04/01/1992	04/15/1992	318		MG/KG	5.9
SED2236100C00L	Total Lead	04/28/1992	06/08/1992	229		MG/KG	5.8
SED2236200C00L	Total Lead	04/28/1992	06/08/1992	189		MG/KG	5.8
SED2246100C00L	Total Lead	04/03/1992	05/14/1992	251		MG/KG	5.8
SED2246200C00L	Total Lead	04/03/1992	05/14/1992	351		MG/KG	5.9
SED2254100C00L	Total Lead	04/03/1992	05/14/1992	202		MG/KG	6.0
SED2254200C00L	Total Lead	04/03/1992	05/14/1992	271		MG/KG	5.7
SED2262100C00L	Total Lead	04/03/1992	05/14/1992	48.5		MG/KG	5.8

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2262200C00L	Total Lead	04/03/1992	05/14/1992	132		MG/KG	5.6
SST2210100C00L	Total Lead	04/02/1992	05/14/1992	97.1		MG/KG	5.9
SST2210200C00L	Total Lead	04/02/1992	05/14/1992	382		MG/KG	6.5
SST2212100C00L	Total Lead	04/02/1992	05/14/1992	107		MG/KG	6.1
SST2212200C00L	Total Lead	04/02/1992	05/14/1992	101		MG/KG	5.7
SST2214100C00L	Total Lead	04/02/1992	05/14/1992	233		MG/KG	5.9
SST2214200C00L	Total Lead	04/02/1992	05/14/1992	265		MG/KG	5.9
SST2216100C00L	Total Lead	05/11/1992	06/26/1992	110		MG/KG	5.0
SST2216200C00L	Total Lead	05/11/1992	06/26/1992	400		MG/KG	5.6
SST2222100C00L	Total Lead	04/02/1992	05/14/1992	149		MG/KG	5.9
SST2222200C00L	Total Lead	04/02/1992	05/14/1992	255		MG/KG	5.2
SST2223100C00L	Total Lead	04/02/1992	05/14/1992	332		MG/KG	5.8
SST2223200C00L	Total Lead	04/02/1992	05/14/1992	126		MG/KG	5.6
SST2226100C00L	Total Lead	04/02/1992	05/14/1992	155		MG/KG	5.9
SST2226200C00L	Total Lead	04/02/1992	05/14/1992	178		MG/KG	5.9
SST2228100C00L	Total Lead	04/22/1992	06/03/1992	414		MG/KG	6.0
SST2228200C00L	Total Lead	04/22/1992	06/03/1992	470		MG/KG	6.2
SST2230100C00L	Total Lead	04/22/1992	06/03/1992	152		MG/KG	5.7
SST2230200C00L	Total Lead	04/22/1992	06/03/1992	377		MG/KG	6.3
SST2231100C00L	Total Lead	05/11/1992	06/26/1992	2010		MG/KG	5.3
SST2231200C00L	Total Lead	05/11/1992	06/26/1992	1390		MG/KG	5.3
SST2232100C00L	Total Lead	05/04/1992	06/11/1992	153		MG/KG	5.8
SST2232200C00L	Total Lead	05/04/1992	06/11/1992	283		MG/KG	5.6
SST2235100C00L	Total Lead	04/02/1992	05/14/1992	236		MG/KG	5.9

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2209200B00L	Total Lead	03/12/1992	03/24/1992	118	J	MG/KG	5.5
SGR2213100B00L	Total Lead	03/12/1992	03/24/1992	581		MG/KG	5.8
SGR2213200B00L	Total Lead	03/12/1992	03/24/1992	568		MG/KG	5.8
SGR2217100B00L	Total Lead	03/12/1992	03/24/1992	268		MG/KG	5.4
SGR2217200B00L	Total Lead	03/12/1992	03/24/1992	541		MG/KG	6.2
SGR2221100B00L	Total Lead	03/12/1992	03/24/1992	466		MG/KG	5.6
SGR2221200B00L	Total Lead	03/12/1992	03/24/1992	411		MG/KG	6.0
SGR2233100B00L	Total Lead	03/12/1992	03/24/1992	262		MG/KG	5.6
SGR2241100B00L	Total Lead	05/12/1992	06/26/1992	234		MG/KG	5.3
SGR2241200B00L	Total Lead	05/12/1992	06/26/1992	541		MG/KG	5.3
SGR2247100B00L	Total Lead	04/23/1992	06/04/1992	193		MG/KG	5.9
SGR2247200B00L	Total Lead	04/23/1992	06/04/1992	377		MG/KG	5.6
SGR2249100B00L	Total Lead	04/24/1992	06/04/1992	228	J	MG/KG	5.7
SGR2249200B00L	Total Lead	04/24/1992	06/04/1992	243		MG/KG	5.7
SGR2251100B00L	Total Lead	04/17/1992	06/02/1992	359		MG/KG	5.9
SGR2251200B00L	Total Lead	04/17/1992	06/02/1992	999		MG/KG	6.1
SGR2253100B00L	Total Lead	04/17/1992	06/02/1992	219		MG/KG	5.9
SGR2253200B00L	Total Lead	04/17/1992	06/02/1992	172		MG/KG	5.9
SGR2263100B00L	Total Lead	03/12/1992	03/24/1992	289		MG/KG	5.4
SGR2263200B00L	Total Lead	03/12/1992	03/24/1992	225		MG/KG	5.8

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	28			
			NUMBER OF SAMPLES	91			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.91			
			ß error	0.1			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2164200B00L	Total Lead	03/09/1992	03/24/1992	284		MG/KG	5.9
SDE2100300B00L	Total Lead	05/13/1992	06/26/1992	54.5		MG/KG	5.6
SDE2112100B00L	Total Lead	05/14/1992	07/28/1992	454	J	MG/KG	5.1
SDE2112200B00L	Total Lead	05/14/1992	07/28/1992	1240	J	MG/KG	5.1
SDE2124100B00L	Total Lead	04/14/1992	05/18/1992	273		MG/KG	5.5
SDE2130100B00L	Total Lead	05/05/1992	06/11/1992	1360		MG/KG	5.8
SDE2130200B00L	Total Lead	05/05/1992	06/11/1992	592		MG/KG	5.6
SDE2133100B00L	Total Lead	04/14/1992	05/18/1992	323		MG/KG	5.5
SDE2133200B00L	Total Lead	04/14/1992	05/18/1992	399		MG/KG	5.4
SDE2134100B00L	Total Lead	05/05/1992	06/11/1992	283		MG/KG	5.0
SDE2134200B00L	Total Lead	05/05/1992	06/11/1992	652		MG/KG	5.5
SDE2137100B00L	Total Lead	03/03/1992	03/18/1992	978		MG/KG	5.8
SDE2147100B00L	Total Lead	03/17/1992	03/25/1992	1160		MG/KG	5.7
SDE2147200B00L	Total Lead	03/17/1992	03/25/1992	1030		MG/KG	5.8
SDE2153100B00L	Total Lead	03/17/1992	03/25/1992	232		MG/KG	5.8
SDE2153200B00L	Total Lead	03/17/1992	04/06/1992	398		MG/KG	5.8
SDE2154100B00L	Total Lead	04/14/1992	05/18/1992	318		MG/KG	5.8
SDE2154200B00L	Total Lead	04/14/1992	05/19/1992	257		MG/KG	5.2
SDE2157100B00L	Total Lead	03/17/1992	03/25/1992	224		MG/KG	5.7
SDE2157200B00L	Total Lead	03/17/1992	03/25/1992	289		MG/KG	5.7
SDE2160100B00L	Total Lead	05/05/1992	06/11/1992	22		MG/KG	5.5
SDE2160200B00L	Total Lead	05/05/1992	06/11/1992	287		MG/KG	5.3
SDE2163100B00L	Total Lead	04/24/1992	06/04/1992	564		MG/KG	5.9
SDE2163200B00L	Total Lead	04/24/1992	06/04/1992	488		MG/KG	5.8

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2117100B00L	Total Lead	04/21/1992	06/03/1992	269		MG/KG	5.6
SED2121100B00L	Total Lead	03/30/1992	04/14/1992	669		MG/KG	5.8
SED2121200B00L	Total Lead	03/30/1992	04/14/1992	491		MG/KG	5.8
SED2123100B00L	Total Lead	03/30/1992	04/14/1992	305		MG/KG	5.9
SED2123200B00L	Total Lead	03/30/1992	04/14/1992	441		MG/KG	5.7
SED2125100B00L	Total Lead	03/30/1992	04/14/1992	396		MG/KG	5.9
SED2125200B00L	Total Lead	03/30/1992	04/14/1992	246		MG/KG	5.7
SED2137100B00L	Total Lead	03/20/1992	04/07/1992	393		MG/KG	6.0
SED2137200B00L	Total Lead	03/20/1992	04/07/1992	886		MG/KG	5.8
SED2141100B00L	Total Lead	03/30/1992	04/14/1992	275		MG/KG	5.9
SED2141200B00L	Total Lead	03/30/1992	04/14/1992	268		MG/KG	5.4
SED2149100B00L	Total Lead	03/30/1992	04/14/1992	1150		MG/KG	5.7
SED2149200B00L	Total Lead	03/30/1992	04/14/1992	723		MG/KG	6.2
SED2153100B00L	Total Lead	03/20/1992	04/07/1992	599		MG/KG	5.6
SED2153200B00L	Total Lead	03/20/1992	04/07/1992	495		MG/KG	5.8
STS1240100B00L	Total Lead	04/14/1992	05/18/1992	319		MG/KG	5.8

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	18			
			NUMBER OF SAMPLES	63			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.79			
			β error	0.1%			
		For Level B:	P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SCL2110100C00L	Total Lead	05/14/1992	07/28/1992	91.2	J	MG/KG	5.2
SCL2110200C00L	Total Lead	05/14/1992	07/28/1992	272	J	MG/KG	5.1
SCL2114100C00L	Total Lead	03/06/1992	03/20/1992	146		MG/KG	6.1
SCL2114200C00L	Total Lead	03/06/1992	03/20/1992	191		MG/KG	5.7
SCL2116100C00L	Total Lead	04/15/1992	05/19/1992	299		MG/KG	5.9
SCL2116200C00L	Total Lead	04/15/1992	05/19/1992	279		MG/KG	5.9
SCL2126100C00L	Total Lead	03/06/1992	03/20/1992	116		MG/KG	5.6
SCL2126200C00L	Total Lead	03/06/1992	03/20/1992	172		MG/KG	5.9
SCL2128100C00L	Total Lead	03/06/1992	03/20/1992	80.2		MG/KG	5.9
SCL2128200C00L	Total Lead	03/06/1992	03/20/1992	380		MG/KG	5.5
SCL2134100C00L	Total Lead	04/15/1992	05/19/1992	204		MG/KG	5.7
SCL2134200C00L	Total Lead	04/15/1992	05/19/1992	199		MG/KG	5.6
SCL2138100C00L	Total Lead	04/15/1992	05/19/1992	121		MG/KG	5.8
SCL2138200C00L	Total Lead	04/15/1992	05/19/1992	412		MG/KG	5.7
SCL2140100C00L	Total Lead	04/24/1992	06/04/1992	167		MG/KG	5.8
SCL2140200C00L	Total Lead	04/24/1992	06/04/1992	646		MG/KG	5.5
SCL2156100C00L	Total Lead	03/09/1992	03/24/1992	64.3		MG/KG	5.7
SCL2156200C00L	Total Lead	03/09/1992	03/24/1992	285		MG/KG	5.8
SCL2158100C00L	Total Lead	04/15/1992	05/19/1992	290		MG/KG	5.6
SCL2158200C00L	Total Lead	04/15/1992	05/19/1992	303		MG/KG	5.6
SCL2160100C00L	Total Lead	03/09/1992	03/20/1992	77.8		MG/KG	5.7
SCL2160200C00L	Total Lead	03/09/1992	03/20/1992	645		MG/KG	5.6
SCL2164100C00L	Total Lead	03/09/1992	03/24/1992	78.4		MG/KG	5.7

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2164200C00L	Total Lead	03/09/1992	03/24/1992	211		MG/KG	5.9
SDE2100300C00L	Total Lead	05/13/1992	06/26/1992	72		MG/KG	5.3
SDE2112100C00L	Total Lead	05/14/1992	07/28/1992	266	J	MG/KG	5.2
SDE2112200C00L	Total Lead	05/14/1992	07/28/1992	409	J	MG/KG	5.5
SDE2124100C00L	Total Lead	04/14/1992	05/18/1992	158		MG/KG	5.5
SDE2130100C00L	Total Lead	05/05/1992	06/11/1992	418		MG/KG	5.7
SDE2130200C00L	Total Lead	05/05/1992	06/11/1992	331		MG/KG	5.6
SDE2133100C00L	Total Lead	04/14/1992	05/18/1992	235		MG/KG	5.6
SDE2133200C00L	Total Lead	04/14/1992	05/18/1992	220		MG/KG	5.7
SDE2134100C00L	Total Lead	05/05/1992	06/11/1992	89.8		MG/KG	5.5
SDE2134200C00L	Total Lead	05/05/1992	06/11/1992	1370		MG/KG	5.3
SDE2137100C00L	Total Lead	03/03/1992	03/18/1992	974		MG/KG	5.9
SDE2147100C00L	Total Lead	03/17/1992	03/25/1992	275		MG/KG	5.8
SDE2147200C00L	Total Lead	03/17/1992	03/25/1992	425		MG/KG	5.8
SDE2153100C00L	Total Lead	03/17/1992	03/25/1992	113		MG/KG	5.7
SDE2153200C00L	Total Lead	03/17/1992	04/06/1992	186		MG/KG	5.5
SDE2154100C00L	Total Lead	04/14/1992	05/18/1992	211		MG/KG	5.6
SDE2154200C00L	Total Lead	04/14/1992	05/19/1992	265		MG/KG	5.5
SDE2157100C00L	Total Lead	03/17/1992	03/25/1992	134		MG/KG	5.3
SDE2157200C00L	Total Lead	03/17/1992	03/25/1992	132		MG/KG	5.8
SDE2160100C00L	Total Lead	05/05/1992	06/11/1992	18.5		MG/KG	5.8
SDE2160200C00L	Total Lead	05/05/1992	06/11/1992	140		MG/KG	5.8
SDE2163100C00L	Total Lead	04/24/1992	06/04/1992	286		MG/KG	6.0
SDE2163200C00L	Total Lead	04/24/1992	06/04/1992	299		MG/KG	5.6

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2117100C00L	Total Lead	04/21/1992	06/03/1992	127		MG/KG	5.6
SED2121100C00L	Total Lead	03/30/1992	04/14/1992	239		MG/KG	5.8
SED2121200C00L	Total Lead	03/30/1992	04/14/1992	396		MG/KG	6.0
SED2123100C00L	Total Lead	03/30/1992	04/14/1992	140		MG/KG	5.6
SED2123200C00L	Total Lead	03/30/1992	04/14/1992	80.1		MG/KG	5.9
SED2125100C00L	Total Lead	03/30/1992	04/14/1992	374		MG/KG	5.8
SED2125200C00L	Total Lead	03/30/1992	04/14/1992	96.3		MG/KG	5.7
SED2137100C00L	Total Lead	03/20/1992	04/07/1992	251		MG/KG	5.6
SED2137200C00L	Total Lead	03/20/1992	04/07/1992	297		MG/KG	5.9
SED2141100C00L	Total Lead	03/30/1992	04/14/1992	147		MG/KG	5.9
SED2141200C00L	Total Lead	03/30/1992	04/14/1992	46.7		MG/KG	5.6
SED2149100C00L	Total Lead	03/30/1992	04/14/1992	534		MG/KG	5.9
SED2149200C00L	Total Lead	03/30/1992	04/14/1992	396		MG/KG	5.9
SED2153100C00L	Total Lead	03/20/1992	04/07/1992	168		MG/KG	5.5
SED2153200C00L	Total Lead	03/20/1992	04/07/1992	335		MG/KG	5.6
STS1240100C00L	Total Lead	04/14/1992	05/18/1992	144		MG/KG	5.6

DECISION UNIT 10
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SAD2034100A00L	Total Lead	11/13/1991	12/03/1991	264		MG/KG	8.1
SAD2034200A00L	Total Lead	11/13/1991	12/03/1991	227		MG/KG	7.9
SBE2020100A00L	Total Lead	03/04/1992	03/19/1992	476		MG/KG	5.8
SBE2020200A00L	Total Lead	03/04/1992	03/19/1992	693		MG/KG	5.9
SBE2024100A00L	Total Lead	04/27/1992	06/08/1992	558		MG/KG	6.1
SBE2024200A00L	Total Lead	04/27/1992	06/04/1992	377		MG/KG	6.1
SBE2028100A00L	Total Lead	08/13/1992	09/10/1992	986	J	MG/KG	5.31
SBE2028200A00L	Total Lead	08/13/1992	09/10/1992	423	J	MG/KG	5.03
SBE2032100A00L	Total Lead	03/04/1992	03/19/1992	299		MG/KG	5.5
SBE2032200A00L	Total Lead	03/04/1992	03/19/1992	347		MG/KG	5.8
SBE2034100A00L	Total Lead	03/04/1992	03/19/1992	284		MG/KG	5.7
SBE2034200A00L	Total Lead	03/04/1992	03/19/1992	341		MG/KG	5.5
SBE2038100A00L	Total Lead	12/05/1991	12/16/1991	304		MG/KG	7.6
SBE2040100A00L	Total Lead	05/11/1992	06/19/1992	707		MG/KG	5.6
SBE2040200A00L	Total Lead	05/11/1992	06/19/1992	416		MG/KG	5.2
SCL2027100A00L	Total Lead	11/14/1991	12/03/1991	481		MG/KG	8.1
SCL2029100A00L	Total Lead	11/14/1991	12/03/1991	995		MG/KG	8.5
SCL2029200A00L	Total Lead	11/14/1991	12/03/1991	194		MG/KG	6.8
SCL2053100A00L	Total Lead	05/05/1992	06/11/1992	477		MG/KG	5.3
SCL2053200A00L	Total Lead	05/05/1992	06/11/1992	182		MG/KG	5.8
SCL2055100A00L	Total Lead	11/14/1991	12/03/1991	340		MG/KG	7.7
SCL2055200A00L	Total Lead	11/14/1991	12/03/1991	715		MG/KG	7.9
SCL2057100A00L	Total Lead	03/06/1992	03/20/1992	677		MG/KG	5.8

DECISION UNIT 10

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2057200A00L	Total Lead	03/06/1992	03/20/1992	552		MG/KG	5.8

NUMBER OF SAMPLES >= 500 ppm	8
NUMBER OF SAMPLES	24
CUMULATIVE BINOMIAL PROBABILITY (P)	0.88
β error	0.25 %

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SWS2104100B00L	Total Lead	11/18/1991	12/05/1991	514		MG/KG	7.8
SWS2104200B00L	Total Lead	11/18/1991	12/05/1991	550		MG/KG	8.1
SWS2108100B00L	Total Lead	05/04/1992	06/11/1992	284		MG/KG	5.1
SWS2108200B00L	Total Lead	05/04/1992	06/11/1992	952		MG/KG	5.8
SWS2140100B00L	Total Lead	05/13/1992	06/26/1992	67.1		MG/KG	5.3
SWS2140200B00L	Total Lead	05/13/1992	06/26/1992	83.2		MG/KG	5.2
SLE2119100B00L	Total Lead	05/04/1992	06/11/1992	477		MG/KG	5.5
SLE2119200B00L	Total Lead	05/04/1992	06/11/1992	736		MG/KG	5.7
SLE2123100B00L	Total Lead	03/23/1992	04/13/1992	141		MG/KG	6.1
SLE2123200B00L	Total Lead	03/23/1992	04/13/1992	516		MG/KG	5.4
SLE2127100B00L	Total Lead	03/23/1992	04/13/1992	932		MG/KG	5.7
SLE2127200B00L	Total Lead	03/23/1992	04/13/1992	529		MG/KG	5.9
SLE2135100B00L	Total Lead	05/14/1992	07/28/1992	143	J	MG/KG	5.2
SLE2135200B00L	Total Lead	05/14/1992	07/28/1992	486	J	MG/KG	5.7
SLE2143100B00L	Total Lead	11/15/1991	12/05/1991	730		MG/KG	7.6
SLE2143200B00L	Total Lead	11/15/1991	12/05/1991	300		MG/KG	7.0
SLE2145100B00L	Total Lead	03/23/1992	04/13/1992	347		MG/KG	5.8
SLE2145200B00L	Total Lead	03/23/1992	04/13/1992	385		MG/KG	6.0
SLE2147100B00L	Total Lead	03/23/1992	04/13/1992	816		MG/KG	6.0
SLE2147200B00L	Total Lead	03/23/1992	04/13/1992	586		MG/KG	5.8
SLE2149100B00L	Total Lead	03/23/1992	04/13/1992	686		MG/KG	6.1
SLE2149200B00L	Total Lead	03/23/1992	04/13/1992	696		MG/KG	5.7
SLE2151100B00L	Total Lead	11/15/1991	12/05/1991	68.2		MG/KG	7.7

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SLE2151200B00L	Total Lead	11/15/1991	12/05/1991	169		MG/KG	7.9
SLE2161100B00L	Total Lead	11/15/1991	12/05/1991	816		MG/KG	7.3
			NUMBER OF SAMPLES >= 500 ppm	13			
			NUMBER OF SAMPLES	25			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SWS2104100C00L	Total Lead	11/18/1991	12/05/1991	156		MG/KG	6.8
SWS2104200C00L	Total Lead	11/18/1991	12/05/1991	243		MG/KG	7.0
SWS2108100C00L	Total Lead	05/04/1992	06/11/1992	158		MG/KG	5.2
SWS2108200C00L	Total Lead	05/04/1992	06/11/1992	668		MG/KG	5.8
SWS2140100C00L	Total Lead	05/13/1992	06/26/1992	67.1		MG/KG	5.3
SLE2119100C00L	Total Lead	05/04/1992	06/11/1992	333		MG/KG	5.8
SLE2119200C00L	Total Lead	05/04/1992	06/11/1992	460		MG/KG	5.7
SLE2123100C00L	Total Lead	03/23/1992	04/13/1992	161		MG/KG	5.8
SLE2123200C00L	Total Lead	03/23/1992	04/13/1992	768		MG/KG	6.1
SLE2127100C00L	Total Lead	03/23/1992	04/13/1992	184		MG/KG	6.0
SLE2127200C00L	Total Lead	03/23/1992	04/13/1992	741		MG/KG	6.3
SLE2135100C00L	Total Lead	05/14/1992	07/28/1992	92.7	J	MG/KG	5.5
SLE2135200C00L	Total Lead	05/14/1992	07/28/1992	344	J	MG/KG	5.6
SLE2143100C00L	Total Lead	11/15/1991	12/05/1991	132		MG/KG	7.8
SLE2143200C00L	Total Lead	11/15/1991	12/05/1991	130		MG/KG	7.9
SLE2145100C00L	Total Lead	03/23/1992	04/13/1992	189		MG/KG	5.9
SLE2145200C00L	Total Lead	03/23/1992	04/13/1992	276		MG/KG	5.9
SLE2147100C00L	Total Lead	03/23/1992	04/13/1992	296		MG/KG	6.0
SLE2147200C00L	Total Lead	03/23/1992	04/13/1992	310		MG/KG	5.7
SLE2149100C00L	Total Lead	03/23/1992	04/13/1992	612		MG/KG	5.6
SLE2149200C00L	Total Lead	03/23/1992	04/13/1992	114		MG/KG	5.8
SLE2151100C00L	Total Lead	11/15/1991	12/05/1991	148		MG/KG	7.8
SLE2151200C00L	Total Lead	11/15/1991	12/05/1991	219		MG/KG	8.1

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SLE2161100C00L	Total Lead	11/15/1991	12/05/1991	263		MG/KG	7.8
		NUMBER OF SAMPLES >= 500 ppm		4			
		NUMBER OF SAMPLES		24			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.25			
			ß error	0.25%			
	For Level C:	P >= alpha → → Remediate (alpha = 0.05)					

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SWS2104100A00L	Total Lead	11/18/1991	12/05/1991	596		MG/KG	7.8
SWS2104200A00L	Total Lead	11/18/1991	12/05/1991	436		MG/KG	8.5
SWS2108100A00L	Total Lead	05/04/1992	06/11/1992	794		MG/KG	5.2
SWS2108200A00L	Total Lead	05/04/1992	06/11/1992	1500		MG/KG	5.6
SWS2140100A00L	Total Lead	05/13/1992	06/26/1992	81.7		MG/KG	5.5
SWS2140200A00L	Total Lead	05/13/1992	06/26/1992	71.4		MG/KG	5.2
SLE2119100A00L	Total Lead	05/04/1992	06/11/1992	537		MG/KG	5.7
SLE2119200A00L	Total Lead	05/04/1992	06/11/1992	633		MG/KG	5.3
SLE2123100A00L	Total Lead	03/23/1992	04/13/1992	300		MG/KG	5.6
SLE2123200A00L	Total Lead	03/23/1992	04/13/1992	641		MG/KG	5.4
SLE2127100A00L	Total Lead	03/23/1992	04/13/1992	909		MG/KG	6.1
SLE2127200A00L	Total Lead	03/23/1992	04/13/1992	572		MG/KG	6.3
SLE2135100A00L	Total Lead	05/14/1992	07/28/1992	166	J	MG/KG	5.5
SLE2135200A00L	Total Lead	05/14/1992	07/28/1992	585	J	MG/KG	5.4
SLE2143100A00L	Total Lead	11/15/1991	12/05/1991	912		MG/KG	7.8
SLE2143200A00L	Total Lead	11/15/1991	12/05/1991	381		MG/KG	7.7
SLE2145100A00L	Total Lead	03/23/1992	04/13/1992	422		MG/KG	6.3
SLE2145200A00L	Total Lead	03/23/1992	04/13/1992	399		MG/KG	6.0
SLE2147100A00L	Total Lead	03/23/1992	04/13/1992	849		MG/KG	6.1
SLE2147200A00L	Total Lead	03/23/1992	04/13/1992	752		MG/KG	6.0
SLE2149100A00L	Total Lead	03/23/1992	04/13/1992	733		MG/KG	5.9
SLE2149200A00L	Total Lead	03/23/1992	04/13/1992	337		MG/KG	5.5
SLE2151100A00L	Total Lead	11/15/1991	12/05/1991	141		MG/KG	7.7

DECISION UNIT 9

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SLE2151200A00L	Total Lead	11/15/1991	12/05/1991	269		MG/KG	7.6
SLE2161100A00L	Total Lead	11/15/1991	12/05/1991	384		MG/KG	7.4
			NUMBER OF SAMPLES >= 500 ppm	13			
			NUMBER OF SAMPLES	25			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SMA2100100B00L	Total Lead	05/13/1992	06/26/1992	77.3		MG/KG	5.3
SMA2100200B00L	Total Lead	05/13/1992	06/26/1992	64.5		MG/KG	5.1
SIO2103100B00L	Total Lead	05/13/1992	06/26/1992	392		MG/KG	5.5
SIO2103200B00L	Total Lead	05/13/1992	06/26/1992	447		MG/KG	5.6
SNI1500100B00L	Total Lead	05/27/1992	07/30/1992	253		MG/KG	5.3
SNI1500200B00L	Total Lead	05/27/1992	07/30/1992	209		MG/KG	5.2
SNI1500300B00L	Total Lead	05/27/1992	07/30/1992	531		MG/KG	5.7
SNI1500400B00L	Total Lead	05/27/1992	07/30/1992	468		MG/KG	5.4
SNI1500500B00L	Total Lead	05/27/1992	07/30/1992	459		MG/KG	5.5

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	1			
			NUMBER OF SAMPLES	9			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.3			
			ß error	> 50 %			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SMA2100100C00L	Total Lead	05/13/1992	06/26/1992	71		MG/KG	5.4
SMA2100200C00L	Total Lead	05/13/1992	06/26/1992	64.4		MG/KG	5.1
SIO2103100C00L	Total Lead	05/13/1992	06/26/1992	203		MG/KG	5.5
SIO2103200C00L	Total Lead	05/13/1992	06/26/1992	257		MG/KG	5.4
SNI1500100C00L	Total Lead	05/27/1992	07/30/1992	60.6		MG/KG	5.2
SNI1500200C00L	Total Lead	05/27/1992	07/30/1992	698		MG/KG	5.0
SNI1500300C00L	Total Lead	05/27/1992	07/30/1992	222		MG/KG	5.7
SNI1500400C00L	Total Lead	05/27/1992	07/30/1992	99.8		MG/KG	5.7
SNI1500500C00L	Total Lead	05/27/1992	07/30/1992	276		MG/KG	5.5

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	1			
			NUMBER OF SAMPLES	9			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.3			
			ß error	> 50 %			
	For Level C:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SMA2100100A00L	Total Lead	05/13/1992	06/26/1992	86.1		MG/KG	5.5
SMA2100200A00L	Total Lead	05/13/1992	06/26/1992	90.8		MG/KG	5.3
SIO2103100A00L	Total Lead	05/13/1992	06/26/1992	446		MG/KG	5.7
SIO2103200A00L	Total Lead	05/13/1992	06/26/1992	2200		MG/KG	5.8
SNI1500100A00L	Total Lead	05/27/1992	07/30/1992	649		MG/KG	5.5
SNI1500200A00L	Total Lead	05/27/1992	07/30/1992	1070		MG/KG	5.5
SNI1500300A00L	Total Lead	05/27/1992	07/30/1992	671		MG/KG	5.9
SNI1500400A00L	Total Lead	05/27/1992	07/30/1992	935		MG/KG	5.8
SNI1500500A00L	Total Lead	05/27/1992	07/30/1992	472		MG/KG	5.6

DECISION UNIT 8

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	5			
			NUMBER OF SAMPLES	9			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	> 50 %			
			For Level A: P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2139200C00L	Total Lead	03/30/1992	04/14/1992	613		MG/KG	5.8
SGR2149100C00L	Total Lead	11/18/1991	12/05/1991	75.7		MG/KG	7.4
SGR2149200C00L	Total Lead	11/18/1991	12/05/1991	114		MG/KG	7.4
SGR2151100C00L	Total Lead	04/16/1992	06/02/1992	182		MG/KG	5.7
SGR2151200C00L	Total Lead	04/16/1992	06/02/1992	885		MG/KG	5.5
SGR2167100C00L	Total Lead	04/16/1992	06/02/1992	89.7		MG/KG	5.3
SGR2167200C00L	Total Lead	04/16/1992	06/02/1992	167		MG/KG	5.7

DECISION UNIT 7
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	6			
			NUMBER OF SAMPLES	54			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0096			
			β error	0.1%			
	For Level C:		P < alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SED2118200C00L	Total Lead	04/21/1992	06/03/1992	550		MG/KG	5.7
SED2122100C00L	Total Lead	03/30/1992	04/14/1992	177		MG/KG	5.9
SED2124100C00L	Total Lead	05/12/1992	06/26/1992	350		MG/KG	5.2
SED2124200C00L	Total Lead	05/12/1992	06/26/1992	822		MG/KG	5.5
SED2128100C00L	Total Lead	03/30/1992	04/14/1992	392		MG/KG	5.8
SED2128200C00L	Total Lead	03/30/1992	04/14/1992	216		MG/KG	6.1
SED2138100C00L	Total Lead	04/21/1992	06/03/1992	75.5		MG/KG	6.0
SED2138200C00L	Total Lead	04/21/1992	06/03/1992	268		MG/KG	5.9
SED2142100C00L	Total Lead	04/21/1992	06/03/1992	133		MG/KG	6.0
SED2142200C00L	Total Lead	04/21/1992	06/03/1992	944		MG/KG	6.3
SED2144100C00L	Total Lead	03/20/1992	04/07/1992	268		MG/KG	5.4
SED2144200C00L	Total Lead	03/20/1992	04/07/1992	243		MG/KG	6.0
SED2154100C00L	Total Lead	05/12/1992	06/26/1992	463		MG/KG	5.1
SED2154200C00L	Total Lead	05/12/1992	06/26/1992	459		MG/KG	5.6
SST2101100C00L	Total Lead	03/23/1992	04/13/1992	130		MG/KG	5.9
SST2101200C00L	Total Lead	03/23/1992	04/13/1992	163		MG/KG	5.6
SST2118100C00L	Total Lead	03/23/1992	04/13/1992	269		MG/KG	6.0
SST2118200C00L	Total Lead	03/23/1992	04/13/1992	283		MG/KG	5.6
SST2119100C00L	Total Lead	03/23/1992	04/13/1992	424		MG/KG	5.8
SST2119200C00L	Total Lead	03/23/1992	04/13/1992	349		MG/KG	6.0
SST2132100C00L	Total Lead	03/23/1992	04/13/1992	6		MG/KG	6.0
SST2132200C00L	Total Lead	03/23/1992	04/13/1992	12.7		MG/KG	6.3
SST2135100C00L	Total Lead	03/23/1992	04/13/1992	127		MG/KG	6.2

DECISION UNIT 7
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2135200C00L	Total Lead	03/23/1992	04/13/1992	121		MG/KG	6.1
SST2137100C00L	Total Lead	05/11/1992	06/19/1992	325		MG/KG	5.7
SST2137200C00L	Total Lead	05/11/1992	06/19/1992	685		MG/KG	5.5
SST2147100C00L	Total Lead	03/30/1992	04/14/1992	391		MG/KG	5.7
SST2147200C00L	Total Lead	03/30/1992	04/14/1992	180		MG/KG	5.9
SST2148100C00L	Total Lead	03/23/1992	04/13/1992	200		MG/KG	6.2
SST2148200C00L	Total Lead	03/30/1992	04/14/1992	267		MG/KG	6.2
SST2150100C00L	Total Lead	03/30/1992	04/14/1992	148		MG/KG	6.1
SST2150200C00L	Total Lead	03/30/1992	04/14/1992	103		MG/KG	6.5
SST2152100C00L	Total Lead	05/11/1992	06/19/1992	457		MG/KG	5.8
SST2152200C00L	Total Lead	05/11/1992	06/19/1992	233		MG/KG	5.5
SST2157100C00L	Total Lead	04/22/1992	06/03/1992	114		MG/KG	6.0
SST2157200C00L	Total Lead	04/22/1992	06/03/1992	262		MG/KG	5.9
SST2158100C00L	Total Lead	03/23/1992	04/13/1992	402		MG/KG	6.3
SST2158200C00L	Total Lead	03/23/1992	04/13/1992	291		MG/KG	6.3
SST2159100C00L	Total Lead	03/30/1992	04/14/1992	241		MG/KG	5.9
SST2159200C00L	Total Lead	03/30/1992	04/14/1992	124		MG/KG	5.7
SST2162100C00L	Total Lead	03/30/1992	04/14/1992	213		MG/KG	6.4
SST2162200C00L	Total Lead	03/30/1992	04/14/1992	227		MG/KG	6.4
SGR2113100C00L	Total Lead	05/12/1992	06/26/1992	415		MG/KG	5.3
SGR2113200C00L	Total Lead	05/12/1992	06/26/1992	313		MG/KG	5.1
SGR2127100C00L	Total Lead	03/17/1992	03/25/1992	330		MG/KG	5.6
SGR2127200C00L	Total Lead	03/17/1992	03/25/1992	349		MG/KG	5.9
SGR2139100C00L	Total Lead	03/17/1992	03/25/1992	235		MG/KG	5.6

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2139200B00L	Total Lead	03/30/1992	04/14/1992	1150		MG/KG	5.9
SGR2149100B00L	Total Lead	11/18/1991	12/05/1991	256		MG/KG	8.0
SGR2149200B00L	Total Lead	11/18/1991	12/05/1991	1100		MG/KG	7.6
SGR2151100B00L	Total Lead	04/16/1992	06/02/1992	416		MG/KG	5.9
SGR2151200B00L	Total Lead	04/16/1992	06/02/1992	20100		MG/KG	53.9
SGR2167100B00L	Total Lead	04/16/1992	06/02/1992	358		MG/KG	5.2
SGR2167200B00L	Total Lead	04/16/1992	06/02/1992	220		MG/KG	6.0

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	26			
			NUMBER OF SAMPLES	54			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			ß error	0.1%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SED2118200B00L	Total Lead	04/21/1992	06/03/1992	485		MG/KG	5.7
SED2122100B00L	Total Lead	03/30/1992	04/14/1992	199		MG/KG	6.1
SED2124100B00L	Total Lead	05/12/1992	06/26/1992	701		MG/KG	5.3
SED2124200B00L	Total Lead	05/12/1992	06/26/1992	709		MG/KG	5.3
SED2128100B00L	Total Lead	03/30/1992	04/14/1992	543		MG/KG	5.9
SED2128200B00L	Total Lead	03/30/1992	04/14/1992	320		MG/KG	5.8
SED2138100B00L	Total Lead	04/21/1992	06/03/1992	547		MG/KG	6.2
SED2138200B00L	Total Lead	04/21/1992	06/03/1992	696		MG/KG	6.4
SED2142100B00L	Total Lead	04/21/1992	06/03/1992	321		MG/KG	6.0
SED2142200B00L	Total Lead	04/21/1992	06/03/1992	871		MG/KG	6.6
SED2144100B00L	Total Lead	03/20/1992	04/07/1992	240		MG/KG	5.7
SED2144200B00L	Total Lead	03/20/1992	04/07/1992	576		MG/KG	5.9
SED2154100B00L	Total Lead	05/12/1992	06/26/1992	653		MG/KG	5.6
SED2154200B00L	Total Lead	05/12/1992	06/26/1992	390		MG/KG	5.6
SST2101100B00L	Total Lead	03/23/1992	04/13/1992	151		MG/KG	6.0
SST2101200B00L	Total Lead	03/23/1992	04/13/1992	279		MG/KG	5.9
SST2118100B00L	Total Lead	03/23/1992	04/13/1992	345		MG/KG	6.3
SST2118200B00L	Total Lead	03/23/1992	04/13/1992	692		MG/KG	6.0
SST2119100B00L	Total Lead	03/23/1992	04/13/1992	578		MG/KG	6.0
SST2119200B00L	Total Lead	03/23/1992	04/13/1992	512		MG/KG	6.0
SST2132100B00L	Total Lead	03/23/1992	04/13/1992	15.6		MG/KG	6.0
SST2132200B00L	Total Lead	03/23/1992	04/13/1992	83		MG/KG	6.3
SST2135100B00L	Total Lead	03/23/1992	04/13/1992	563		MG/KG	5.8

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2135200B00L	Total Lead	03/23/1992	04/13/1992	269		MG/KG	5.9
SST2137100B00L	Total Lead	05/11/1992	06/19/1992	563		MG/KG	5.6
SST2137200B00L	Total Lead	05/11/1992	06/19/1992	711		MG/KG	5.2
SST2147100B00L	Total Lead	03/30/1992	04/14/1992	588		MG/KG	6.0
SST2147200B00L	Total Lead	03/30/1992	04/14/1992	701		MG/KG	5.5
SST2148100B00L	Total Lead	03/23/1992	04/13/1992	326		MG/KG	6.1
SST2148200B00L	Total Lead	03/30/1992	04/14/1992	491	J	MG/KG	6.3
SST2150100B00L	Total Lead	03/30/1992	04/14/1992	327		MG/KG	6.1
SST2150200B00L	Total Lead	03/30/1992	04/14/1992	512		MG/KG	6.3
SST2152100B00L	Total Lead	05/11/1992	06/19/1992	617		MG/KG	5.5
SST2152200B00L	Total Lead	05/11/1992	06/19/1992	363		MG/KG	5.7
SST2157100B00L	Total Lead	04/22/1992	06/03/1992	369		MG/KG	6.3
SST2157200B00L	Total Lead	04/22/1992	06/03/1992	311		MG/KG	5.9
SST2158100B00L	Total Lead	03/23/1992	04/13/1992	578		MG/KG	6.4
SST2158200B00L	Total Lead	03/23/1992	04/13/1992	555		MG/KG	6.6
SST2159100B00L	Total Lead	03/30/1992	04/14/1992	441		MG/KG	6.0
SST2159200B00L	Total Lead	03/30/1992	04/14/1992	223		MG/KG	5.8
SST2162100B00L	Total Lead	03/30/1992	04/14/1992	324		MG/KG	6.4
SST2162200B00L	Total Lead	03/30/1992	04/14/1992	709		MG/KG	6.6
SGR2113100B00L	Total Lead	05/12/1992	06/26/1992	478		MG/KG	5.7
SGR2113200B00L	Total Lead	05/12/1992	06/26/1992	107		MG/KG	5.1
SGR2127100B00L	Total Lead	03/17/1992	03/25/1992	709		MG/KG	5.9
SGR2127200B00L	Total Lead	03/17/1992	03/25/1992	572		MG/KG	5.5
SGR2139100B00L	Total Lead	03/17/1992	03/25/1992	381		MG/KG	5.8

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2139200A00L	Total Lead	03/30/1992	04/14/1992	1310		MG/KG	6.2
SGR2149100A00L	Total Lead	11/18/1991	12/05/1991	352		MG/KG	7.7
SGR2149200A00L	Total Lead	11/18/1991	12/05/1991	963		MG/KG	7.5
SGR2151100A00L	Total Lead	04/16/1992	06/02/1992	456		MG/KG	5.7
SGR2151200A00L	Total Lead	04/16/1992	06/02/1992	420		MG/KG	5.5
SGR2167100A00L	Total Lead	04/16/1992	06/02/1992	432		MG/KG	5.7
SGR2167200A00L	Total Lead	04/16/1992	06/02/1992	280		MG/KG	6.2

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	25			
			NUMBER OF SAMPLES	54			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			ß error	0.1%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 7

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SED2118200A00L	Total Lead	04/21/1992	06/03/1992	159		MG/KG	5.8
SED2122100A00L	Total Lead	03/30/1992	04/14/1992	1080		MG/KG	6.5
SED2124100A00L	Total Lead	05/12/1992	06/26/1992	901		MG/KG	5.2
SED2124200A00L	Total Lead	05/12/1992	06/26/1992	736		MG/KG	5.5
SED2128100A00L	Total Lead	03/30/1992	04/14/1992	756		MG/KG	6.2
SED2128200A00L	Total Lead	03/30/1992	04/14/1992	369		MG/KG	5.9
SED2138100A00L	Total Lead	04/21/1992	06/03/1992	1160		MG/KG	5.6
SED2138200A00L	Total Lead	04/21/1992	06/03/1992	636		MG/KG	5.9
SED2142100A00L	Total Lead	04/21/1992	06/03/1992	1270		MG/KG	6.1
SED2142200A00L	Total Lead	04/21/1992	06/03/1992	566		MG/KG	6.7
SED2144100A00L	Total Lead	03/20/1992	04/07/1992	206		MG/KG	6.1
SED2144200A00L	Total Lead	03/20/1992	04/07/1992	650		MG/KG	6.4
SED2154100A00L	Total Lead	05/12/1992	06/26/1992	663		MG/KG	5.3
SED2154200A00L	Total Lead	05/12/1992	06/26/1992	1180		MG/KG	5.6
SST2101100A00L	Total Lead	03/23/1992	04/13/1992	215		MG/KG	5.9
SST2101200A00L	Total Lead	03/23/1992	04/13/1992	299		MG/KG	5.8
SST2118100A00L	Total Lead	03/23/1992	04/13/1992	364		MG/KG	6.0
SST2118200A00L	Total Lead	03/23/1992	04/13/1992	963		MG/KG	5.5
SST2119100A00L	Total Lead	03/23/1992	04/13/1992	605		MG/KG	6.1
SST2119200A00L	Total Lead	03/23/1992	04/13/1992	640		MG/KG	6.1
SST2132100A00L	Total Lead	03/23/1992	04/13/1992	147		MG/KG	6.1
SST2132200A00L	Total Lead	03/23/1992	04/13/1992	261		MG/KG	5.9
SST2135100A00L	Total Lead	03/23/1992	04/13/1992	39.3		MG/KG	5.8

DECISION UNIT 7
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2135200A00L	Total Lead	03/23/1992	04/13/1992	308		MG/KG	6.0
SST2137100A00L	Total Lead	05/11/1992	06/19/1992	832		MG/KG	5.8
SST2137200A00L	Total Lead	05/11/1992	06/19/1992	808		MG/KG	5.3
SST2147100A00L	Total Lead	03/30/1992	04/14/1992	504		MG/KG	6.3
SST2147200A00L	Total Lead	03/30/1992	04/14/1992	1350		MG/KG	6.3
SST2148100A00L	Total Lead	03/23/1992	05/11/1992	441		MG/KG	6.4
SST2148200A00L	Total Lead	03/30/1992	04/14/1992	733		MG/KG	6.1
SST2150100A00L	Total Lead	03/30/1992	04/14/1992	326		MG/KG	6.0
SST2150200A00L	Total Lead	03/30/1992	04/14/1992	658		MG/KG	6.0
SST2152100A00L	Total Lead	05/11/1992	06/19/1992	222		MG/KG	5.1
SST2152200A00L	Total Lead	05/11/1992	06/19/1992	347		MG/KG	5.3
SST2157100A00L	Total Lead	04/22/1992	06/03/1992	439		MG/KG	6.3
SST2157200A00L	Total Lead	04/22/1992	06/03/1992	306		MG/KG	6.4
SST2158100A00L	Total Lead	03/23/1992	04/13/1992	139		MG/KG	6.1
SST2158200A00L	Total Lead	03/23/1992	04/13/1992	209		MG/KG	6.2
SST2159100A00L	Total Lead	03/30/1992	04/14/1992	499		MG/KG	6.4
SST2159200A00L	Total Lead	03/30/1992	04/14/1992	223		MG/KG	6.2
SST2162100A00L	Total Lead	03/30/1992	04/14/1992	448		MG/KG	6.4
SST2162200A00L	Total Lead	03/30/1992	05/11/1992	5630		MG/KG	63.4
SGR2113100A00L	Total Lead	05/12/1992	06/26/1992	290		MG/KG	5.4
SGR2113200A00L	Total Lead	05/12/1992	06/26/1992	367		MG/KG	5.3
SGR2127100A00L	Total Lead	03/17/1992	03/25/1992	845		MG/KG	5.8
SGR2127200A00L	Total Lead	03/17/1992	03/25/1992	583		MG/KG	5.8
SGR2139100A00L	Total Lead	03/17/1992	03/25/1992	412		MG/KG	6.0

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	5			
			NUMBER OF SAMPLES	63			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.00051			
			ß error	0.1%			
	For Level C:		P < alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 5
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SAD2160100C00L	Total Lead	11/22/1991	12/12/1991	47.9		MG/KG	7.1
SAD2160200C00L	Total Lead	11/22/1991	12/12/1991	239		MG/KG	6.7
SBE2103100C00L	Total Lead	05/05/1992	06/11/1992	127		MG/KG	5.7
SBE2103200C00L	Total Lead	05/05/1992	06/11/1992	341		MG/KG	5.7
SBE2109100C00L	Total Lead	05/11/1992	06/19/1992	181		MG/KG	5.2
SBE2109200C00L	Total Lead	05/11/1992	06/19/1992	254		MG/KG	5.3
SBE2113100C00L	Total Lead	05/11/1992	06/19/1992	291		MG/KG	5.3
SBE2113200C00L	Total Lead	05/11/1992	06/19/1992	546		MG/KG	5.5
SBE2119100C00L	Total Lead	04/16/1992	06/02/1992	116		MG/KG	5.6
SBE2119200C00L	Total Lead	04/16/1992	06/02/1992	621		MG/KG	6.1
SBE2121100C00L	Total Lead	11/14/1991	12/03/1991	148		MG/KG	6.8
SBE2121200C00L	Total Lead	11/14/1991	12/03/1991	325		MG/KG	7.1
SBE2123100C00L	Total Lead	11/13/1991	12/02/1991	109		MG/KG	7.1
SBE2123200C00L	Total Lead	11/13/1991	12/02/1991	360		MG/KG	7.7
SBE2124100C00L	Total Lead	05/11/1992	06/19/1992	141		MG/KG	5.5
SBE2125100C00L	Total Lead	12/05/1991	12/16/1991	95.4		MG/KG	7.8
SBE2125200C00L	Total Lead	12/05/1991	12/16/1991	351		MG/KG	7.8
SBE2131100C00L	Total Lead	11/14/1991	12/03/1991	312		MG/KG	7.3
SBE2131200C00L	Total Lead	11/14/1991	12/03/1991	159		MG/KG	6.6
SBE2133100C00L	Total Lead	11/14/1991	12/03/1991	347		MG/KG	7.5
SBE2133200C00L	Total Lead	11/14/1991	12/03/1991	60.6		MG/KG	7.9
SBE2137100C00L	Total Lead	05/11/1992	06/19/1992	511		MG/KG	5.2
SBE2137200C00L	Total Lead	05/11/1992	06/19/1992	207		MG/KG	5.4
SBE2140100C00L	Total Lead	03/04/1992	03/19/1992	230		MG/KG	5.7

DECISION UNIT 5
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SAD2100100C00L	Total Lead	03/04/1992	03/18/1992	236		MG/KG	5.7
SAD2100200C00L	Total Lead	03/04/1992	03/18/1992	843		MG/KG	5.8
SAD2108100C00L	Total Lead	11/15/1991	12/05/1991	96.9		MG/KG	7.2
SAD2120100C00L	Total Lead	11/15/1991	12/05/1991	454		MG/KG	8.2
SAD2120200C00L	Total Lead	11/15/1991	12/05/1991	436		MG/KG	7.4
SAD2124100C00L	Total Lead	04/23/1992	06/03/1992	92.7		MG/KG	6.2
SAD2124200C00L	Total Lead	04/23/1992	06/03/1992	160		MG/KG	5.8
SAD2128100C00L	Total Lead	03/04/1992	03/18/1992	316		MG/KG	5.8
SAD2128200C00L	Total Lead	03/04/1992	03/19/1992	145		MG/KG	5.8
SAD2134100C00L	Total Lead	11/15/1991	12/05/1991	535		MG/KG	8.6
SAD2134200C00L	Total Lead	11/15/1991	12/05/1991	152		MG/KG	7.2
SAD2138100C00L	Total Lead	11/15/1991	12/05/1991	148		MG/KG	7.2
SAD2138200C00L	Total Lead	11/15/1991	12/05/1991	233		MG/KG	7.3
SAD2140100C00L	Total Lead	03/04/1992	03/19/1992	324		MG/KG	5.4
SAD2140200C00L	Total Lead	03/04/1992	03/19/1992	145		MG/KG	5.3
SAD2144100C00L	Total Lead	11/15/1991	12/05/1991	98.6		MG/KG	7.0
SAD2144200C00L	Total Lead	11/15/1991	12/05/1991	506		MG/KG	8.1
SAD2148100C00L	Total Lead	03/04/1992	03/19/1992	67.7		MG/KG	5.4
SAD2148200C00L	Total Lead	03/04/1992	03/19/1992	1290		MG/KG	5.9
SAD2152100C00L	Total Lead	11/15/1991	12/05/1991	95.4		MG/KG	7.7
SAD2152200C00L	Total Lead	11/15/1991	12/05/1991	164		MG/KG	7.2
SAD2156100C00L	Total Lead	11/22/1991	12/12/1991	651		MG/KG	7.2
SAD2156200C00L	Total Lead	11/22/1991	12/12/1991	116		MG/KG	7.0

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	16			
			NUMBER OF SAMPLES	84			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.13			
			β error	0.1%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2133200B00L	Total Lead	04/15/1992	05/19/1992	333		MG/KG	5.3
SCL2141100B00L	Total Lead	04/15/1992	05/19/1992	224		MG/KG	5.4
SCL2141200B00L	Total Lead	04/15/1992	05/19/1992	243		MG/KG	5.4
SCL2145100B00L	Total Lead	03/09/1992	03/20/1992	119		MG/KG	5.6
SCL2145200B00L	Total Lead	03/09/1992	03/20/1992	493		MG/KG	5.9
SCL2149100B00L	Total Lead	03/09/1992	03/20/1992	259		MG/KG	5.7
SCL2149200B00L	Total Lead	03/09/1992	03/24/1992	211		MG/KG	5.7
SCL2153100B00L	Total Lead	03/09/1992	03/24/1992	180		MG/KG	5.5
SCL2153200B00L	Total Lead	03/09/1992	03/24/1992	524		MG/KG	5.7
SCL2157100B00L	Total Lead	11/13/1991	12/02/1991	306		MG/KG	8.0
SCL2157200B00L	Total Lead	11/13/1991	12/02/1991	458		MG/KG	10.4
SCL2161100B00L	Total Lead	03/09/1992	03/20/1992	122		MG/KG	5.8
SCL2161200B00L	Total Lead	03/09/1992	03/20/1992	320		MG/KG	5.8

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2140200B00L	Total Lead	03/04/1992	03/19/1992	618		MG/KG	5.8
SBE2148100B00L	Total Lead	11/15/1991	12/05/1991	114		MG/KG	7.8
SBE2148200B00L	Total Lead	11/15/1991	12/05/1991	182		MG/KG	7.4
SBE2151100B00L	Total Lead	11/22/1991	12/12/1991	180		MG/KG	7.0
SBE2151200B00L	Total Lead	11/22/1991	12/12/1991	251		MG/KG	7.6
SBE2153100B00L	Total Lead	03/02/1992	03/18/1992	142		MG/KG	5.5
SBE2153200B00L	Total Lead	03/02/1992	03/18/1992	814		MG/KG	6.0
SBE2157100B00L	Total Lead	11/14/1991	12/03/1991	206		MG/KG	7.3
SBE2157200B00L	Total Lead	11/14/1991	12/03/1991	324		MG/KG	7.2
SBE2158100B00L	Total Lead	11/14/1991	12/03/1991	183		MG/KG	7.8
SBE2158200B00L	Total Lead	11/14/1991	12/03/1991	524		MG/KG	7.8
SBE2163100B00L	Total Lead	11/22/1991	12/12/1991	251		MG/KG	7.2
SBE2163200B00L	Total Lead	11/22/1991	12/12/1991	257		MG/KG	7.0
SBE2164100B00L	Total Lead	03/02/1992	03/18/1992	131		MG/KG	5.7
SBE2164200B00L	Total Lead	03/02/1992	03/18/1992	242		MG/KG	6.0
SCL2101100B00L	Total Lead	05/18/1992	07/29/1992	155	J	MG/KG	5.5
SCL2101200B00L	Total Lead	05/18/1992	07/29/1992	56.7	U	MG/KG	5.6
SCL2121100B00L	Total Lead	03/06/1992	03/20/1992	502		MG/KG	5.7
SCL2121200B00L	Total Lead	03/06/1992	03/20/1992	372		MG/KG	5.8
SCL2127100B00L	Total Lead	03/06/1992	03/20/1992	524	J	MG/KG	5.7
SCL2127200B00L	Total Lead	03/06/1992	03/20/1992	465		MG/KG	5.7
SCL2131100B00L	Total Lead	03/06/1992	03/20/1992	168		MG/KG	5.4
SCL2131200B00L	Total Lead	03/06/1992	03/20/1992	321		MG/KG	6.1
SCL2133100B00L	Total Lead	04/15/1992	05/19/1992	333		MG/KG	5.8

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SAD2160100B00L	Total Lead	11/22/1991	12/12/1991	164		MG/KG	7.4
SAD2160200B00L	Total Lead	11/22/1991	12/12/1991	324		MG/KG	7.0
SBE2103100B00L	Total Lead	05/05/1992	06/11/1992	293		MG/KG	5.3
SBE2103200B00L	Total Lead	05/05/1992	06/11/1992	149		MG/KG	5.1
SBE2109100B00L	Total Lead	05/11/1992	06/19/1992	282		MG/KG	5.1
SBE2109200B00L	Total Lead	05/11/1992	06/19/1992	555		MG/KG	5.3
SBE2113100B00L	Total Lead	05/11/1992	06/19/1992	427		MG/KG	5.5
SBE2113200B00L	Total Lead	05/11/1992	06/19/1992	3100		MG/KG	27.2
SBE2119100B00L	Total Lead	04/16/1992	06/02/1992	316		MG/KG	5.8
SBE2119200B00L	Total Lead	04/16/1992	06/02/1992	542		MG/KG	6.0
SBE2121100B00L	Total Lead	11/14/1991	12/03/1991	415		MG/KG	7.0
SBE2121200B00L	Total Lead	11/14/1991	12/03/1991	455		MG/KG	7.8
SBE2123100B00L	Total Lead	11/13/1991	12/02/1991	510		MG/KG	7.9
SBE2123200B00L	Total Lead	11/13/1991	12/02/1991	464		MG/KG	8.1
SBE2124100B00L	Total Lead	05/11/1992	06/19/1992	383		MG/KG	5.4
SBE2125100B00L	Total Lead	12/05/1991	12/16/1991	229		MG/KG	7.2
SBE2125200B00L	Total Lead	12/05/1991	12/16/1991	251		MG/KG	7.8
SBE2131100B00L	Total Lead	11/14/1991	12/03/1991	480		MG/KG	7.1
SBE2131200B00L	Total Lead	11/14/1991	12/03/1991	472		MG/KG	7.4
SBE2133100B00L	Total Lead	11/14/1991	12/03/1991	604		MG/KG	7.2
SBE2133200B00L	Total Lead	11/14/1991	12/03/1991	243		MG/KG	7 5
SBE2137100B00L	Total Lead	05/11/1992	06/19/1992	319		MG/KG	5.3
SBE2137200B00L	Total Lead	05/11/1992	06/19/1992	318		MG/KG	5.3
SBE2140100B00L	Total Lead	03/04/1992	03/19/1992	417		MG/KG	5.9

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SAD2100100B00L	Total Lead	03/04/1992	03/18/1992	436		MG/KG	5.7
SAD2100200B00L	Total Lead	03/04/1992	03/18/1992	882		MG/KG	5.6
SAD2108100B00L	Total Lead	11/15/1991	12/05/1991	182		MG/KG	6.6
SAD2120100B00L	Total Lead	11/15/1991	12/05/1991	465		MG/KG	7.3
SAD2120200B00L	Total Lead	11/15/1991	12/05/1991	1080		MG/KG	7.2
SAD2124100B00L	Total Lead	04/23/1992	06/03/1992	172		MG/KG	6.1
SAD2124200B00L	Total Lead	04/23/1992	06/03/1992	337		MG/KG	5.8
SAD2128100B00L	Total Lead	03/04/1992	03/18/1992	411		MG/KG	5.9
SAD2128200B00L	Total Lead	03/04/1992	03/18/1992	239		MG/KG	5.7
SAD2134100B00L	Total Lead	11/15/1991	12/05/1991	434		MG/KG	6.7
SAD2134200B00L	Total Lead	11/15/1991	12/05/1991	454		MG/KG	7.5
SAD2138100B00L	Total Lead	11/15/1991	12/05/1991	174		MG/KG	7.4
SAD2138200B00L	Total Lead	11/15/1991	12/05/1991	105		MG/KG	7.1
SAD2140100B00L	Total Lead	03/04/1992	03/19/1992	413		MG/KG	5.8
SAD2140200B00L	Total Lead	03/04/1992	03/19/1992	73.7		MG/KG	5.4
SAD2144100B00L	Total Lead	11/15/1991	12/05/1991	126		MG/KG	7.7
SAD2144200B00L	Total Lead	11/15/1991	12/05/1991	606		MG/KG	7.4
SAD2148100B00L	Total Lead	03/04/1992	03/19/1992	269		MG/KG	5.5
SAD2148200B00L	Total Lead	03/04/1992	03/19/1992	1250		MG/KG	5.9
SAD2152100B00L	Total Lead	11/15/1991	12/05/1991	294		MG/KG	7.3
SAD2152200B00L	Total Lead	11/15/1991	12/05/1991	481		MG/KG	7.1
SAD2156100B00L	Total Lead	11/22/1991	12/12/1991	658		MG/KG	7.6
SAD2156200B00L	Total Lead	11/22/1991	12/12/1991	151		MG/KG	7.8

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	24			
			NUMBER OF SAMPLES	84			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.81			
			ß error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2133200A00L	Total Lead	04/15/1992	05/19/1992	364		MG/KG	5.3
SCL2141100A00L	Total Lead	04/15/1992	05/19/1992	414		MG/KG	5.5
SCL2141200A00L	Total Lead	04/15/1992	05/19/1992	328		MG/KG	5.5
SCL2145100A00L	Total Lead	03/09/1992	03/20/1992	162		MG/KG	5.7
SCL2145200A00L	Total Lead	03/09/1992	03/20/1992	312		MG/KG	5.6
SCL2149100A00L	Total Lead	03/09/1992	03/20/1992	444		MG/KG	5.8
SCL2149200A00L	Total Lead	03/09/1992	03/24/1992	290		MG/KG	5.9
SCL2153100A00L	Total Lead	03/09/1992	03/24/1992	230		MG/KG	5.5
SCL2153200A00L	Total Lead	03/09/1992	03/24/1992	484	J	MG/KG	6.2
SCL2157100A00L	Total Lead	11/13/1991	12/02/1991	271		MG/KG	7.2
SCL2157200A00L	Total Lead	11/13/1991	12/02/1991	345	J	MG/KG	7.9
SCL2161100A00L	Total Lead	03/09/1992	03/20/1992	304		MG/KG	6.0
SCL2161200A00L	Total Lead	03/09/1992	03/20/1992	584		MG/KG	5.9

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2140200A00L	Total Lead	03/04/1992	03/19/1992	523		MG/KG	5.6
SBE2148100A00L	Total Lead	11/15/1991	12/05/1991	155		MG/KG	7.5
SBE2148200A00L	Total Lead	11/15/1991	12/05/1991	282		MG/KG	7.9
SBE2151100A00L	Total Lead	11/22/1991	12/12/1991	286		MG/KG	7.3
SBE2151200A00L	Total Lead	11/22/1991	12/12/1991	353		MG/KG	8.3
SBE2153100A00L	Total Lead	03/02/1992	03/18/1992	218		MG/KG	5.5
SBE2153200A00L	Total Lead	03/02/1992	03/18/1992	963		MG/KG	6.0
SBE2157100A00L	Total Lead	11/14/1991	12/03/1991	294		MG/KG	7.1
SBE2157200A00L	Total Lead	11/14/1991	12/03/1991	301		MG/KG	7.8
SBE2158100A00L	Total Lead	11/14/1991	12/03/1991	353		MG/KG	7.8
SBE2158200A00L	Total Lead	11/14/1991	12/03/1991	555		MG/KG	7.3
SBE2163100A00L	Total Lead	11/22/1991	12/12/1991	360		MG/KG	7.3
SBE2163200A00L	Total Lead	11/22/1991	12/12/1991	350		MG/KG	7.2
SBE2164100A00L	Total Lead	03/02/1992	03/18/1992	290		MG/KG	5.9
SBE2164200A00L	Total Lead	03/02/1992	03/18/1992	409		MG/KG	6.2
SCL2101100A00L	Total Lead	05/18/1992	07/29/1992	286	J	MG/KG	5.8
SCL2101200A00L	Total Lead	05/18/1992	07/29/1992	79.1	U	MG/KG	5.9
SCL2121100A00L	Total Lead	03/06/1992	03/20/1992	695		MG/KG	6.0
SCL2121200A00L	Total Lead	03/06/1992	03/20/1992	652		MG/KG	5.8
SCL2127100A00L	Total Lead	03/06/1992	03/20/1992	1150		MG/KG	4.9
SCL2127200A00L	Total Lead	03/06/1992	03/20/1992	448		MG/KG	5.9
SCL2131100A00L	Total Lead	03/06/1992	03/20/1992	309		MG/KG	6.0
SCL2131200A00L	Total Lead	03/06/1992	03/20/1992	401		MG/KG	6.1
SCL2133100A00L	Total Lead	04/15/1992	05/19/1992	368		MG/KG	5.2

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SAD2160100A00L	Total Lead	11/22/1991	12/12/1991	290		MG/KG	7.6
SAD2160200A00L	Total Lead	11/22/1991	12/12/1991	379		MG/KG	8.0
SBE2103100A00L	Total Lead	05/05/1992	06/11/1992	145		MG/KG	5.4
SBE2103200A00L	Total Lead	05/05/1992	06/11/1992	159		MG/KG	5.4
SBE2109100A00L	Total Lead	05/11/1992	06/19/1992	431		MG/KG	5.1
SBE2109200A00L	Total Lead	05/11/1992	06/19/1992	690		MG/KG	5.2
SBE2113100A00L	Total Lead	05/11/1992	06/19/1992	472	U	MG/KG	5.1
SBE2113200A00L	Total Lead	05/11/1992	06/19/1992	1380		MG/KG	5.6
SBE2119100A00L	Total Lead	04/16/1992	06/02/1992	323		MG/KG	6.1
SBE2119200A00L	Total Lead	04/16/1992	06/02/1992	188		MG/KG	5.6
SBE2121100A00L	Total Lead	11/14/1991	12/03/1991	338		MG/KG	7.1
SBE2121200A00L	Total Lead	11/14/1991	12/03/1991	745		MG/KG	8.1
SBE2123100A00L	Total Lead	11/13/1991	12/02/1991	345		MG/KG	7.5
SBE2123200A00L	Total Lead	11/13/1991	12/02/1991	541		MG/KG	7.4
SBE2124100A00L	Total Lead	05/11/1992	06/19/1992	399		MG/KG	5.4
SBE2125100A00L	Total Lead	12/05/1991	12/16/1991	331		MG/KG	7.2
SBE2125200A00L	Total Lead	12/05/1991	12/16/1991	300		MG/KG	8.1
SBE2131100A00L	Total Lead	11/14/1991	12/03/1991	429		MG/KG	7.9
SBE2131200A00L	Total Lead	11/14/1991	12/03/1991	586		MG/KG	7.1
SBE2133100A00L	Total Lead	11/14/1991	12/03/1991	560		MG/KG	7.0
SBE2133200A00L	Total Lead	11/14/1991	12/03/1991	341		MG/KG	8.0
SBE2137100A00L	Total Lead	05/11/1992	06/19/1992	326		MG/KG	5.1
SBE2137200A00L	Total Lead	05/11/1992	06/19/1992	621		MG/KG	5.3
SBE2140100A00L	Total Lead	03/04/1992	03/19/1992	402		MG/KG	5.7

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SAD2100100A00L	Total Lead	03/04/1992	03/18/1992	586		MG/KG	5.8
SAD2100200A00L	Total Lead	03/04/1992	03/18/1992	872		MG/KG	5.6
SAD2108100A00L	Total Lead	11/15/1991	12/05/1991	135		MG/KG	8.0
SAD2120100A00L	Total Lead	11/15/1991	12/05/1991	639		MG/KG	8.2
SAD2120200A00L	Total Lead	11/15/1991	12/05/1991	1020		MG/KG	7.6
SAD2124100A00L	Total Lead	04/23/1992	06/03/1992	322		MG/KG	6.0
SAD2124200A00L	Total Lead	04/23/1992	06/03/1992	401		MG/KG	5.9
SAD2128100A00L	Total Lead	03/04/1992	03/18/1992	453		MG/KG	5.7
SAD2128200A00L	Total Lead	03/04/1992	03/18/1992	264		MG/KG	5.5
SAD2134100A00L	Total Lead	11/15/1991	12/05/1991	547		MG/KG	7.7
SAD2134200A00L	Total Lead	11/15/1991	12/05/1991	2650		MG/KG	7.7
SAD2138100A00L	Total Lead	11/15/1991	12/05/1991	199		MG/KG	7.8
SAD2138200A00L	Total Lead	11/15/1991	12/05/1991	183		MG/KG	8.0
SAD2140100A00L	Total Lead	03/04/1992	03/19/1992	408		MG/KG	5.8
SAD2140200A00L	Total Lead	03/04/1992	03/19/1992	102		MG/KG	5.7
SAD2144100A00L	Total Lead	11/15/1991	12/05/1991	246		MG/KG	7.7
SAD2144200A00L	Total Lead	11/15/1991	12/05/1991	556		MG/KG	7.9
SAD2148100A00L	Total Lead	03/04/1992	03/19/1992	529		MG/KG	5.8
SAD2148200A00L	Total Lead	03/04/1992	03/19/1992	1460		MG/KG	5.8
SAD2152100A00L	Total Lead	11/15/1991	12/05/1991	395		MG/KG	7.4
SAD2152200A00L	Total Lead	11/15/1991	12/05/1991	466		MG/KG	8.5
SAD2156100A00L	Total Lead	11/22/1991	12/12/1991	543		MG/KG	6.9
SAD2156200A00L	Total Lead	11/22/1991	12/12/1991	461		MG/KG	7.5

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	2			
			NUMBER OF SAMPLES	38			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0016			
			β error	0.1%			
	For Level C:		P < alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 4

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SGR2258200C00L	Total Lead	04/24/1992	06/04/1992	192		MG/KG	5.6
SIO2207100C00L	Total Lead	05/14/1992	07/28/1992	297	J	MG/KG	5.9
SIO2207200C00L	Total Lead	05/14/1992	07/28/1992	350	J	MG/KG	6.2
SIO2209100C00L	Total Lead	04/24/1992	06/04/1992	213		MG/KG	6.1
SIO2209200C00L	Total Lead	04/24/1992	06/04/1992	431		MG/KG	6.0
SIO2221100C00L	Total Lead	04/08/1992	05/15/1992	144		MG/KG	6.0
SIO2221200C00L	Total Lead	04/08/1992	05/15/1992	180		MG/KG	6.1
SIO2247100C00L	Total Lead	04/24/1992	06/04/1992	187		MG/KG	6.1
SIO2247200C00L	Total Lead	04/24/1992	06/04/1992	251		MG/KG	6.1
SIO2251100C00L	Total Lead	04/24/1992	06/04/1992	212		MG/KG	5.8
SIO2251200C00L	Total Lead	04/24/1992	06/04/1992	206		MG/KG	6.4
SIO2263100C00L	Total Lead	05/14/1992	07/28/1992	211	J	MG/KG	5.8
SIO2263200C00L	Total Lead	05/14/1992	07/28/1992	205	J	MG/KG	5.5
STT1510100C00L	Total Lead	05/04/1992	06/11/1992	573		MG/KG	5.3
STT1510200C00L	Total Lead	05/04/1992	06/11/1992	354		MG/KG	5.6

DECISION UNIT 3

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2262200B00L	Total Lead	04/03/1992	05/14/1992	327		MG/KG	6.0
SST2210100B00L	Total Lead	04/02/1992	05/14/1992	287		MG/KG	6.0
SST2210200B00L	Total Lead	04/02/1992	05/14/1992	845		MG/KG	6.4
SST2212100B00L	Total Lead	04/02/1992	05/14/1992	283		MG/KG	5.8
SST2212200B00L	Total Lead	04/02/1992	05/14/1992	465		MG/KG	6.0
SST2214100B00L	Total Lead	04/02/1992	05/14/1992	343		MG/KG	6.1
SST2214200B00L	Total Lead	04/02/1992	05/14/1992	388		MG/KG	6.4
SST2216100B00L	Total Lead	05/11/1992	06/26/1992	306		MG/KG	5.2
SST2216200B00L	Total Lead	05/11/1992	06/26/1992	562		MG/KG	5.5
SST2222100B00L	Total Lead	04/02/1992	05/14/1992	277		MG/KG	5.9
SST2222200B00L	Total Lead	04/02/1992	05/14/1992	360		MG/KG	5.4
SST2223100B00L	Total Lead	04/02/1992	05/14/1992	655		MG/KG	5.7
SST2223200B00L	Total Lead	04/02/1992	05/14/1992	211		MG/KG	5.8
SST2226100B00L	Total Lead	04/02/1992	05/14/1992	288		MG/KG	5.8
SST2226200B00L	Total Lead	04/02/1992	05/14/1992	197		MG/KG	6.0
SST2228100B00L	Total Lead	04/22/1992	06/03/1992	702		MG/KG	6.0
SST2228200B00L	Total Lead	04/22/1992	06/03/1992	789		MG/KG	6.0
SST2230100B00L	Total Lead	04/22/1992	06/03/1992	259		MG/KG	6.0
SST2230200B00L	Total Lead	04/22/1992	06/03/1992	444		MG/KG	6.3
SST2231100B00L	Total Lead	05/11/1992	06/26/1992	571		MG/KG	5.0
SST2231200B00L	Total Lead	05/11/1992	06/26/1992	1010		MG/KG	5.2
SST2232100B00L	Total Lead	05/04/1992	06/11/1992	207		MG/KG	5.7
SST2232200B00L	Total Lead	05/04/1992	06/11/1992	102		MG/KG	5.7
SST2235100B00L	Total Lead	04/02/1992	05/14/1992	507		MG/KG	6.2

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST2235200B00L	Total Lead	04/02/1992	05/14/1992	463		MG/KG	5.8
SST2238100B00L	Total Lead	08/12/1992	09/10/1992	335	J	MG/KG	5.08
SST2238200B00L	Total Lead	08/12/1992	09/10/1992	378	J	MG/KG	5.10
SST2239100B00L	Total Lead	05/04/1992	06/11/1992	287		MG/KG	5.6
SST2239200B00L	Total Lead	05/04/1992	06/11/1992	487		MG/KG	5.6
SST2240100B00L	Total Lead	08/12/1992	09/10/1992	348	J	MG/KG	4.98
SST2240200B00L	Total Lead	08/12/1992	09/10/1992	691	J	MG/KG	5.04
SST2242100B00L	Total Lead	05/11/1992	06/26/1992	434		MG/KG	5.4
SST2242200B00L	Total Lead	05/11/1992	06/26/1992	408		MG/KG	5.1
SST2244100B00L	Total Lead	04/02/1992	05/14/1992	292		MG/KG	6.0
SST2244200B00L	Total Lead	04/02/1992	05/14/1992	569		MG/KG	5.6
SST2247100B00L	Total Lead	04/22/1992	06/03/1992	559		MG/KG	6.1
SST2247200B00L	Total Lead	04/22/1992	06/03/1992	717		MG/KG	5.9
SST2248100B00L	Total Lead	04/02/1992	05/14/1992	342		MG/KG	5.8
SST2248200B00L	Total Lead	04/02/1992	05/14/1992	1550		MG/KG	6.2
SST2250100B00L	Total Lead	04/02/1992	04/15/1992	141		MG/KG	5.4
SST2250200B00L	Total Lead	04/02/1992	04/15/1992	861		MG/KG	6.2
SST2251100B00L	Total Lead	04/03/1992	05/14/1992	269		MG/KG	6.1
SST2251200B00L	Total Lead	04/03/1992	05/14/1992	394		MG/KG	6.2
SST2254100B00L	Total Lead	04/03/1992	05/14/1992	228		MG/KG	5.6
SST2254200B00L	Total Lead	04/03/1992	05/14/1992	461		MG/KG	5.7
SST2256100B00L	Total Lead	04/03/1992	05/14/1992	507		MG/KG	6.1
SST2256200B00L	Total Lead	04/03/1992	06/02/1992	494		MG/KG	5.4
SGR2209100B00L	Total Lead	03/12/1992	03/24/1992	211		MG/KG	5.8

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	35			
			NUMBER OF SAMPLES	91			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			ß error	0.1			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 3
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 26, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SED2204100B00L	Total Lead	04/28/1992	06/09/1992	92.1		MG/KG	5.8
SED2204200B00L	Total Lead	04/28/1992	06/09/1992	618		MG/KG	5.5
SED2208100B00L	Total Lead	04/28/1992	06/08/1992	432		MG/KG	5.6
SED2208200B00L	Total Lead	04/28/1992	06/09/1992	688		MG/KG	5.9
SED2212100B00L	Total Lead	04/01/1992	04/15/1992	151		MG/KG	5.8
SED2212200B00L	Total Lead	04/01/1992	04/15/1992	650		MG/KG	5.9
SED2218100B00L	Total Lead	04/01/1992	04/15/1992	223		MG/KG	5.7
SED2218200B00L	Total Lead	04/01/1992	04/15/1992	287		MG/KG	5.5
SED2222100B00L	Total Lead	04/01/1992	04/15/1992	267		MG/KG	5.7
SED2222200B00L	Total Lead	04/01/1992	04/15/1992	264		MG/KG	5.6
SED2224100B00L	Total Lead	04/28/1992	06/08/1992	538		MG/KG	5.6
SED2224200B00L	Total Lead	04/28/1992	06/08/1992	308		MG/KG	5.7
SED2230100B00L	Total Lead	04/01/1992	04/15/1992	508		MG/KG	5.6
SED2230200B00L	Total Lead	04/01/1992	04/15/1992	189		MG/KG	5.7
SED2232100B00L	Total Lead	04/01/1992	04/15/1992	190		MG/KG	5.6
SED2232200B00L	Total Lead	04/01/1992	04/15/1992	174		MG/KG	5.5
SED2236100B00L	Total Lead	04/28/1992	06/08/1992	589		MG/KG	5.8
SED2236200B00L	Total Lead	04/28/1992	06/08/1992	682		MG/KG	6.0
SED2246100B00L	Total Lead	04/03/1992	05/14/1992	502		MG/KG	5.9
SED2246200B00L	Total Lead	04/03/1992	05/14/1992	478		MG/KG	6.2
SED2254100B00L	Total Lead	04/03/1992	05/14/1992	320		MG/KG	5.9
SED2254200B00L	Total Lead	04/03/1992	05/14/1992	254		MG/KG	6.0
SED2262100B00L	Total Lead	04/03/1992	05/14/1992	126		MG/KG	5.7

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	27			
			NUMBER OF SAMPLES	63			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			
		For Level A:	P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 6
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCL2110100B00L	Total Lead	05/14/1992	07/28/1992	297	J	MG/KG	5.4
SCL2110200B00L	Total Lead	05/14/1992	07/28/1992	437	J	MG/KG	5.4
SCL2114100B00L	Total Lead	03/06/1992	03/20/1992	375		MG/KG	5.7
SCL2114200B00L	Total Lead	03/06/1992	03/20/1992	476		MG/KG	5.7
SCL2116100B00L	Total Lead	04/15/1992	05/19/1992	594		MG/KG	5.5
SCL2116200B00L	Total Lead	04/15/1992	05/19/1992	211		MG/KG	5.7
SCL2126100B00L	Total Lead	03/06/1992	03/20/1992	321		MG/KG	5.9
SCL2126200B00L	Total Lead	03/06/1992	03/20/1992	497		MG/KG	5.8
SCL2128100B00L	Total Lead	03/06/1992	03/20/1992	198		MG/KG	5.7
SCL2128200B00L	Total Lead	03/06/1992	03/20/1992	272		MG/KG	5.5
SCL2134100B00L	Total Lead	04/15/1992	05/19/1992	256		MG/KG	5.9
SCL2134200B00L	Total Lead	04/15/1992	05/19/1992	440		MG/KG	5.5
SCL2138100B00L	Total Lead	04/15/1992	05/19/1992	292		MG/KG	6.1
SCL2138200B00L	Total Lead	04/15/1992	05/19/1992	505		MG/KG	5.8
SCL2140100B00L	Total Lead	04/24/1992	06/04/1992	282		MG/KG	6.0
SCL2140200B00L	Total Lead	04/24/1992	06/04/1992	1120		MG/KG	5.5
SCL2156100B00L	Total Lead	03/09/1992	03/24/1992	197		MG/KG	6.0
SCL2156200B00L	Total Lead	03/09/1992	03/24/1992	557		MG/KG	5.7
SCL2158100B00L	Total Lead	04/15/1992	05/19/1992	371		MG/KG	5.8
SCL2158200B00L	Total Lead	04/15/1992	05/19/1992	507		MG/KG	5.9
SCL2160100B00L	Total Lead	03/09/1992	03/20/1992	131		MG/KG	5.8
SCL2160200B00L	Total Lead	03/09/1992	03/20/1992	374		MG/KG	5.2
SCL2164100B00L	Total Lead	03/09/1992	03/24/1992	222		MG/KG	5.7

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2164200A00L	Total Lead	03/09/1992	03/24/1992	333		MG/KG	6.0
SDE2100300A00L	Total Lead	05/13/1992	06/26/1992	68.6		MG/KG	5.4
SDE2112100A00L	Total Lead	05/14/1992	07/28/1992	586	J	MG/KG	5.4
SDE2112200A00L	Total Lead	05/14/1992	07/28/1992	580	J	MG/KG	5.3
SDE2124100A00L	Total Lead	04/14/1992	05/18/1992	335		MG/KG	5.4
SDE2130100A00L	Total Lead	05/05/1992	06/11/1992	984		MG/KG	5.6
SDE2130200A00L	Total Lead	05/05/1992	06/11/1992	820		MG/KG	5.6
SDE2133100A00L	Total Lead	04/14/1992	05/18/1992	535		MG/KG	5.8
SDE2133200A00L	Total Lead	04/14/1992	05/18/1992	777		MG/KG	5.5
SDE2134100A00L	Total Lead	05/05/1992	06/11/1992	193		MG/KG	5.4
SDE2134200A00L	Total Lead	05/05/1992	06/11/1992	422		MG/KG	5.5
SDE2137100A00L	Total Lead	03/03/1992	03/18/1992	1420		MG/KG	6.1
SDE2147100A00L	Total Lead	03/17/1992	03/25/1992	1420		MG/KG	5.7
SDE2147200A00L	Total Lead	03/17/1992	03/25/1992	964		MG/KG	5.7
SDE2153100A00L	Total Lead	03/17/1992	03/25/1992	292		MG/KG	5.8
SDE2153200A00L	Total Lead	03/17/1992	04/06/1992	371		MG/KG	5.8
SDE2154100A00L	Total Lead	04/14/1992	05/18/1992	407		MG/KG	5.5
SDE2154200A00L	Total Lead	04/14/1992	05/18/1992	537		MG/KG	5.3
SDE2157100A00L	Total Lead	03/17/1992	03/25/1992	466		MG/KG	5.6
SDE2157200A00L	Total Lead	03/17/1992	03/25/1992	426		MG/KG	5.7
SDE2160100A00L	Total Lead	05/05/1992	06/11/1992	7.4		MG/KG	5.3
SDE2160200A00L	Total Lead	05/05/1992	06/11/1992	461		MG/KG	5.8
SDE2163100A00L	Total Lead	04/24/1992	06/04/1992	673		MG/KG	6.2
SDE2163200A00L	Total Lead	04/24/1992	06/04/1992	1420		MG/KG	6.1

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED2117100A00L	Total Lead	04/21/1992	06/03/1992	396		MG/KG	6.1
SED2121100A00L	Total Lead	03/30/1992	04/14/1992	708		MG/KG	5.9
SED2121200A00L	Total Lead	03/30/1992	04/14/1992	477		MG/KG	6.0
SED2123100A00L	Total Lead	03/30/1992	04/14/1992	335		MG/KG	6.0
SED2123200A00L	Total Lead	03/30/1992	04/14/1992	609		MG/KG	6.4
SED2125100A00L	Total Lead	03/30/1992	04/14/1992	339		MG/KG	6.7
SED2125200A00L	Total Lead	03/30/1992	04/14/1992	622		MG/KG	6.1
SED2137100A00L	Total Lead	03/20/1992	04/07/1992	389		MG/KG	6.0
SED2137200A00L	Total Lead	03/20/1992	04/07/1992	635		MG/KG	6.2
SED2141100A00L	Total Lead	03/30/1992	04/14/1992	346		MG/KG	6.0
SED2141200A00L	Total Lead	03/30/1992	04/14/1992	707		MG/KG	5.7
SED2149100A00L	Total Lead	03/30/1992	05/11/1992	7650		MG/KG	60.6
SED2149200A00L	Total Lead	03/30/1992	04/14/1992	576		MG/KG	6.2
SED2153100A00L	Total Lead	03/20/1992	04/07/1992	551		MG/KG	5.6
SED2153200A00L	Total Lead	03/20/1992	04/07/1992	832		MG/KG	5.9
STS1240100A00L	Total Lead	04/14/1992	05/18/1992	285		MG/KG	5.7

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	8			
			NUMBER OF SAMPLES	84			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0003			
			β error	0.1%			
	For Level C:		P < alpha → →Do Not Remediate (alpha = 0.05)				

DECISION UNIT 6

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCL2110100A00L	Total Lead	05/14/1992	07/28/1992	353	J	MG/KG	5.4
SCL2110200A00L	Total Lead	05/14/1992	07/28/1992	515	J	MG/KG	5.6
SCL2114100A00L	Total Lead	03/06/1992	03/20/1992	434		MG/KG	5.8
SCL2114200A00L	Total Lead	03/06/1992	03/20/1992	414		MG/KG	6.0
SCL2116100A00L	Total Lead	04/15/1992	05/19/1992	606		MG/KG	5.8
SCL2116200A00L	Total Lead	04/15/1992	05/19/1992	262		MG/KG	5.8
SCL2126100A00L	Total Lead	03/06/1992	03/20/1992	419		MG/KG	6.0
SCL2126200A00L	Total Lead	03/06/1992	03/20/1992	550		MG/KG	5.6
SCL2128100A00L	Total Lead	03/06/1992	03/20/1992	242		MG/KG	5.3
SCL2128200A00L	Total Lead	03/06/1992	03/20/1992	334		MG/KG	5.6
SCL2134100A00L	Total Lead	04/15/1992	05/19/1992	478		MG/KG	5.8
SCL2134200A00L	Total Lead	04/15/1992	05/19/1992	447		MG/KG	5.5
SCL2138100A00L	Total Lead	04/15/1992	05/19/1992	383		MG/KG	5.5
SCL2138200A00L	Total Lead	04/15/1992	05/19/1992	499		MG/KG	5.8
SCL2140100A00L	Total Lead	04/24/1992	06/04/1992	426		MG/KG	6.2
SCL2140200A00L	Total Lead	04/24/1992	06/04/1992	427		MG/KG	5.8
SCL2156100A00L	Total Lead	03/09/1992	03/24/1992	382		MG/KG	5.8
SCL2156200A00L	Total Lead	03/09/1992	03/24/1992	638		MG/KG	5.9
SCL2158100A00L	Total Lead	04/15/1992	05/19/1992	368		MG/KG	5.5
SCL2158200A00L	Total Lead	04/15/1992	05/19/1992	542		MG/KG	6.1
SCL2160100A00L	Total Lead	03/09/1992	03/20/1992	204		MG/KG	5.7
SCL2160200A00L	Total Lead	03/09/1992	03/20/1992	70.6		MG/KG	6.2
SCL2164100A00L	Total Lead	03/09/1992	03/24/1992	528		MG/KG	6.0

DECISION UNIT 5

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE2140200C00L	Total Lead	03/04/1992	03/19/1992	157		MG/KG	5.9
SBE2148100C00L	Total Lead	11/15/1991	12/05/1991	75.1		MG/KG	7.5
SBE2148200C00L	Total Lead	11/15/1991	12/05/1991	135		MG/KG	8.5
SBE2151100C00L	Total Lead	11/22/1991	12/12/1991	48.4		MG/KG	7.1
SBE2151200C00L	Total Lead	11/22/1991	12/12/1991	63.5		MG/KG	8.1
SBE2153100C00L	Total Lead	03/02/1992	03/18/1992	54.9		MG/KG	5.8
SBE2153200C00L	Total Lead	03/02/1992	03/18/1992	186		MG/KG	5.8
SBE2157100C00L	Total Lead	11/14/1991	12/03/1991	87.6		MG/KG	6.8
SBE2157200C00L	Total Lead	11/14/1991	12/03/1991	282		MG/KG	7.7
SBE2158100C00L	Total Lead	11/14/1991	12/03/1991	60.9		MG/KG	7.4
SBE2158200C00L	Total Lead	11/14/1991	12/03/1991	257		MG/KG	7.7
SBE2163100C00L	Total Lead	11/22/1991	12/12/1991	94.8		MG/KG	6.9
SBE2163200C00L	Total Lead	11/22/1991	12/12/1991	140		MG/KG	7.6
SBE2164100C00L	Total Lead	03/02/1992	03/18/1992	51.3		MG/KG	5.2
SBE2164200C00L	Total Lead	03/02/1992	03/18/1992	162		MG/KG	5.9
SCL2101100C00L	Total Lead	05/18/1992	07/29/1992	72.9	U	MG/KG	5.3
SCL2101200C00L	Total Lead	05/18/1992	07/29/1992	37.9	U	MG/KG	5.3
SCL2121100C00L	Total Lead	03/06/1992	03/20/1992	171		MG/KG	5.5
SCL2121200C00L	Total Lead	03/06/1992	03/20/1992	60.7		MG/KG	5.5
SCL2127100C00L	Total Lead	03/06/1992	03/20/1992	113		MG/KG	5.8
SCL2127200C00L	Total Lead	03/06/1992	03/20/1992	233		MG/KG	5.9
SCL2131100C00L	Total Lead	03/06/1992	03/20/1992	86.7		MG/KG	5.8
SCL2131200C00L	Total Lead	03/06/1992	03/20/1992	176		MG/KG	5.8
SCL2133100C00L	Total Lead	04/15/1992	05/19/1992	161		MG/KG	5.5

DECISION UNIT 5
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2133200C00L	Total Lead	04/15/1992	05/19/1992	177		MG/KG	5.6
SCL2141100C00L	Total Lead	04/15/1992	05/19/1992	117		MG/KG	5.5
SCL2141200C00L	Total Lead	04/15/1992	05/19/1992	123		MG/KG	5.7
SCL2145100C00L	Total Lead	03/09/1992	03/20/1992	43.1		MG/KG	5.7
SCL2145200C00L	Total Lead	03/09/1992	03/20/1992	194		MG/KG	5.8
SCL2149100C00L	Total Lead	03/09/1992	03/24/1992	48		MG/KG	5.5
SCL2149200C00L	Total Lead	03/09/1992	03/24/1992	65.2		MG/KG	5.6
SCL2153100C00L	Total Lead	03/09/1992	03/24/1992	103		MG/KG	5.6
SCL2153200C00L	Total Lead	03/09/1992	03/24/1992	335		MG/KG	5.7
SCL2157100C00L	Total Lead	11/13/1991	12/02/1991	127		MG/KG	7.5
SCL2157200C00L	Total Lead	11/13/1991	12/02/1991	327		MG/KG	7.8
SCL2161100C00L	Total Lead	03/09/1992	03/20/1992	141		MG/KG	5.8
SCL2161200C00L	Total Lead	03/09/1992	03/20/1992	140		MG/KG	5.8

DECISION UNIT 10

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2057200B00L	Total Lead	03/06/1992	03/20/1992	420		MG/KG	5.6

NUMBER OF SAMPLES >= 500 ppm	3
NUMBER OF SAMPLES	24
CUMULATIVE BINOMIAL PROBABILITY (P)	0.12
β error	0.25 %

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 10
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SAD2034100B00L	Total Lead	11/13/1991	12/03/1991	223		MG/KG	7.2
SAD2034200B00L	Total Lead	11/13/1991	12/03/1991	217		MG/KG	7.0
SBE2020100B00L	Total Lead	03/04/1992	03/19/1992	190		MG/KG	5.6
SBE2020200B00L	Total Lead	03/04/1992	03/19/1992	404		MG/KG	5.8
SBE2024100B00L	Total Lead	04/27/1992	06/08/1992	265		MG/KG	5.4
SBE2024200B00L	Total Lead	04/27/1992	06/04/1992	409		MG/KG	5.7
SBE2028100B00L	Total Lead	08/13/1992	09/10/1992	271	J	MG/KG	5.15
SBE2028200B00L	Total Lead	08/13/1992	09/10/1992	504	J	MG/KG	5.15
SBE2032100B00L	Total Lead	03/04/1992	03/19/1992	220		MG/KG	5.4
SBE2032200B00L	Total Lead	03/04/1992	03/19/1992	348		MG/KG	5.8
SBE2034100B00L	Total Lead	03/04/1992	03/19/1992	235		MG/KG	5.2
SBE2034200B00L	Total Lead	03/04/1992	03/19/1992	245		MG/KG	5.5
SBE2038100B00L	Total Lead	12/05/1991	12/16/1991	253		MG/KG	7.4
SBE2040100B00L	Total Lead	05/11/1992	06/19/1992	752		MG/KG	5.1
SBE2040200B00L	Total Lead	05/11/1992	06/19/1992	479		MG/KG	5.2
SCL2027100B00L	Total Lead	11/14/1991	12/03/1991	263		MG/KG	7.9
SCL2029100B00L	Total Lead	11/14/1991	12/03/1991	535		MG/KG	7.1
SCL2029200B00L	Total Lead	11/14/1991	12/03/1991	104		MG/KG	7.4
SCL2053100B00L	Total Lead	05/05/1992	06/11/1992	238		MG/KG	5.3
SCL2053200B00L	Total Lead	05/05/1992	06/11/1992	11.4		MG/KG	5.7
SCL2055100B00L	Total Lead	11/14/1991	12/03/1991	235		MG/KG	7.5
SCL2055200B00L	Total Lead	11/14/1991	12/03/1991	411		MG/KG	7.4
SCL2057100B00L	Total Lead	03/06/1992	03/20/1992	286		MG/KG	5.5

DECISION UNIT 10

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL2057200C00L	Total Lead	03/06/1992	03/20/1992	203		MG/KG	5.8

NUMBER OF SAMPLES >= 500 ppm 0
NUMBER OF SAMPLES 24
CUMULATIVE BINOMIAL PROBABILITY (P) 0.001
β error 0.25 %

For Level C: P >= alpha → → Do Not Remediate
(alpha = 0.05)

DECISION UNIT 10
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 30, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SAD2034100C00L	Total Lead	11/13/1991	12/03/1991	183		MG/KG	7.3
SAD2034200C00L	Total Lead	11/13/1991	12/02/1991	119		MG/KG	6.7
SBE2020100C00L	Total Lead	03/04/1992	03/19/1992	130		MG/KG	5.3
SBE2020200C00L	Total Lead	03/04/1992	03/19/1992	84.8		MG/KG	5.4
SBE2024100C00L	Total Lead	04/27/1992	06/04/1992	116		MG/KG	5.8
SBE2024200C00L	Total Lead	04/27/1992	06/04/1992	363		MG/KG	5.6
SBE2028100C00L	Total Lead	08/13/1992	09/10/1992	95.3	J	MG/KG	4.81
SBE2028200C00L	Total Lead	08/13/1992	09/10/1992	213	J	MG/KG	5.16
SBE2032100C00L	Total Lead	03/04/1992	03/19/1992	80.9		MG/KG	5.5
SBE2032200C00L	Total Lead	03/04/1992	03/19/1992	240		MG/KG	6.0
SBE2034100C00L	Total Lead	03/04/1992	03/19/1992	150		MG/KG	5.3
SBE2034200C00L	Total Lead	03/04/1992	03/19/1992	160		MG/KG	5.5
SBE2038100C00L	Total Lead	12/05/1991	12/16/1991	209		MG/KG	7.6
SBE2040100C00L	Total Lead	05/11/1992	06/19/1992	474		MG/KG	5.3
SBE2040200C00L	Total Lead	05/11/1992	06/19/1992	383		MG/KG	5.4
SCL2027100C00L	Total Lead	11/14/1991	12/03/1991	176		MG/KG	7.9
SCL2029100C00L	Total Lead	11/14/1991	12/03/1991	155		MG/KG	7.3
SCL2029200C00L	Total Lead	11/14/1991	12/03/1991	32.3		MG/KG	6.9
SCL2053100C00L	Total Lead	05/05/1992	06/11/1992	104		MG/KG	5.7
SCL2053200C00L	Total Lead	05/05/1992	06/11/1992	92.6		MG/KG	5.9
SCL2055100C00L	Total Lead	11/14/1991	12/03/1991	289		MG/KG	7.3
SCL2055200C00L	Total Lead	11/14/1991	12/03/1991	194		MG/KG	7.5
SCL2057100C00L	Total Lead	03/06/1992	03/20/1992	100		MG/KG	5.6

DECISION UNIT 11

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
STW1311200A00L	Total Lead	12/05/1991	12/16/1991	139		MG/KG	8.0

NUMBER OF SAMPLES >= 500 ppm	15
NUMBER OF SAMPLES	24
CUMULATIVE BINOMIAL PROBABILITY (P)	0.99
β error	0.25 %

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 11
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCL2008100A00L	Total Lead	03/06/1992	03/20/1992	359		MG/KG	6.0
SCL2008200A00L	Total Lead	03/06/1992	03/20/1992	167		MG/KG	5.6
SCL2020100A00L	Total Lead	04/24/1992	06/04/1992	982		MG/KG	6.2
SCL2020200A00L	Total Lead	04/24/1992	06/04/1992	678		MG/KG	5.9
SCL2026100A00L	Total Lead	03/06/1992	03/20/1992	354		MG/KG	5.6
SCL2026200A00L	Total Lead	03/06/1992	03/20/1992	1780		MG/KG	5.7
SCL2030100A00L	Total Lead	03/06/1992	03/20/1992	754		MG/KG	6.1
SCL2030200A00L	Total Lead	03/06/1992	03/20/1992	1700		MG/KG	5.3
SCL2032100A00L	Total Lead	11/14/1991	12/03/1991	452		MG/KG	7.4
SCL2032200A00L	Total Lead	11/14/1991	12/03/1991	717		MG/KG	7.0
SCL2036100A00L	Total Lead	04/24/1992	06/04/1992	445		MG/KG	5.6
SCL2036200A00L	Total Lead	04/24/1992	06/04/1992	836		MG/KG	6.2
SDE2001100A00L	Total Lead	05/01/1992	06/11/1992	535		MG/KG	5.6
SDE2001200A00L	Total Lead	05/01/1992	06/11/1992	588		MG/KG	5.7
SDE2016100A00L	Total Lead	04/14/1992	05/18/1992	321		MG/KG	5.7
SDE2016200A00L	Total Lead	04/14/1992	05/18/1992	705		MG/KG	6.4
SDE2019100A00L	Total Lead	04/14/1992	05/18/1992	616		MG/KG	6.0
SDE2019200A00L	Total Lead	04/14/1992	05/18/1992	503		MG/KG	5.9
SDE2033200A00L	Total Lead	08/12/1992	09/10/1992	657	J	MG/KG	5.25
SDE2033100A00L	Total Lead	08/12/1992	09/10/1992	789	J	MG/KG	5.24
SED2037100A00L	Total Lead	05/14/1992	07/28/1992	462	J	MG/KG	5.3
SED2037200A00L	Total Lead	05/14/1992	07/28/1992	887	J	MG/KG	5.5
STW1311100A00L	Total Lead	12/05/1991	12/16/1991	133		MG/KG	7.8

DECISION UNIT 11

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
STW1311200B00L	Total Lead	12/05/1991	12/16/1991	68.5		MG/KG	7.9

NUMBER OF SAMPLES >= 500 ppm	7
NUMBER OF SAMPLES	24
CUMULATIVE BINOMIAL PROBABILITY (P)	0.77
β error	0.25 %

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 11

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCL2008100B00L	Total Lead	03/06/1992	03/20/1992	351		MG/KG	6.0
SCL2008200B00L	Total Lead	03/06/1992	03/20/1992	99.9		MG/KG	5.3
SCL2020100B00L	Total Lead	04/24/1992	06/04/1992	541		MG/KG	5.9
SCL2020200B00L	Total Lead	04/24/1992	06/04/1992	629		MG/KG	6.3
SCL2026100B00L	Total Lead	03/06/1992	03/20/1992	536		MG/KG	5.7
SCL2026200B00L	Total Lead	03/06/1992	03/20/1992	1610		MG/KG	5.1
SCL2030100B00L	Total Lead	03/06/1992	03/20/1992	229		MG/KG	5.9
SCL2030200B00L	Total Lead	03/06/1992	03/20/1992	604		MG/KG	5.6
SCL2032100B00L	Total Lead	11/14/1991	12/03/1991	237		MG/KG	8.0
SCL2032200B00L	Total Lead	11/14/1991	12/03/1991	345		MG/KG	7.7
SCL2036100B00L	Total Lead	04/24/1992	06/04/1992	315		MG/KG	5.6
SCL2036200B00L	Total Lead	04/24/1992	06/04/1992	689		MG/KG	5.9
SDE2001100B00L	Total Lead	05/01/1992	06/11/1992	264		MG/KG	5.5
SDE2001200B00L	Total Lead	05/01/1992	06/11/1992	1200		MG/KG	6.0
SDE2016100B00L	Total Lead	04/14/1992	05/18/1992	196		MG/KG	5.8
SDE2016200B00L	Total Lead	04/14/1992	05/18/1992	352		MG/KG	5.9
SDE2019100B00L	Total Lead	04/14/1992	05/18/1992	283		MG/KG	5.5
SDE2019200B00L	Total Lead	04/14/1992	05/18/1992	345		MG/KG	6.0
SDE2033100B00L	Total Lead	08/12/1992	09/10/1992	212	J	MG/KG	5.15
SDE2033200B00L	Total Lead	08/12/1992	09/10/1992	370	J	MG/KG	5.26
SED2037100B00L	Total Lead	05/14/1992	07/28/1992	172	J	MG/KG	5.2
SED2037200B00L	Total Lead	05/14/1992	07/28/1992	424	J	MG/KG	5.2
STW1311100B00L	Total Lead	12/05/1991	12/16/1991	27.5		MG/KG	7.8

DECISION UNIT 11

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
STW1311200C00L	Total Lead	12/05/1991	12/16/1991	85.8		MG/KG	6.8

NUMBER OF SAMPLES >= 500 ppm 0
NUMBER OF SAMPLES 24
CUMULATIVE BINOMIAL PROBABILITY (P) 0.001
β error 0.25 %

For Level C: P >= alpha → → Do Not Remediate
(alpha = 0.05)

DECISION UNIT 11
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SCL2008100C00L	Total Lead	03/06/1992	03/20/1992	309		MG/KG	5.9
SCL2008200C00L	Total Lead	03/06/1992	03/20/1992	294		MG/KG	5.4
SCL2020100C00L	Total Lead	04/24/1992	06/04/1992	234		MG/KG	5.7
SCL2020200C00L	Total Lead	04/24/1992	06/04/1992	167		MG/KG	5.5
SCL2026100C00L	Total Lead	03/06/1992	03/20/1992	192		MG/KG	5.7
SCL2026200C00L	Total Lead	03/06/1992	03/20/1992	63.9		MG/KG	5.3
SCL2030100C00L	Total Lead	03/06/1992	03/20/1992	76.8		MG/KG	5.5
SCL2030200C00L	Total Lead	03/06/1992	03/20/1992	289		MG/KG	5.6
SCL2032100C00L	Total Lead	11/14/1991	12/03/1991	55.3		MG/KG	7.7
SCL2032200C00L	Total Lead	11/14/1991	12/03/1991	90.4		MG/KG	6.8
SCL2036100C00L	Total Lead	04/24/1992	06/04/1992	141		MG/KG	5.9
SCL2036200C00L	Total Lead	04/24/1992	06/04/1992	305		MG/KG	6.1
SDE2001100C00L	Total Lead	05/01/1992	06/11/1992	150		MG/KG	5.5
SDE2001200C00L	Total Lead	05/01/1992	06/11/1992	263		MG/KG	6.0
SDE2016100C00L	Total Lead	04/14/1992	05/18/1992	148		MG/KG	5.5
SDE2016200C00L	Total Lead	04/14/1992	05/18/1992	102		MG/KG	6.0
SDE2019100C00L	Total Lead	04/14/1992	05/18/1992	153		MG/KG	5.8
SDE2019200C00L	Total Lead	04/14/1992	05/18/1992	185		MG/KG	5.5
SDE2033100C00L	Total Lead	08/12/1992	09/10/1992	118	J	MG/KG	5.18
SDE2033200C00L	Total Lead	08/12/1992	09/10/1992	121	J	MG/KG	5.41
SED2037100C00L	Total Lead	05/14/1992	07/28/1992	98.1	J	MG/KG	5.0
SED2037200C00L	Total Lead	05/14/1992	07/28/1992	244	J	MG/KG	5.3
STW1311100C00L	Total Lead	12/05/1991	12/16/1991	20.4		MG/KG	6.9

DECISION UNIT 12

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
		NUMBER OF SAMPLES >= 500 ppm		16			
		NUMBER OF SAMPLES		21			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.99			
		β error		1%			
	For Level A:	P >= alpha → → Remediate (alpha = 0.05)					

DECISION UNIT 12
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SED2000100A00L	Total Lead	05/01/1992	06/11/1992	739		MG/KG	6.4
SED2000200A00L	Total Lead	05/01/1992	06/11/1992	700		MG/KG	6.0
SED2000300A00L	Total Lead	05/01/1992	06/11/1992	840		MG/KG	5.9
SED2052100A00L	Total Lead	04/15/1992	05/19/1992	466		MG/KG	5.7
SED2052200A00L	Total Lead	04/15/1992	05/19/1992	189		MG/KG	5.1
SGR2012100A00L	Total Lead	03/09/1992	03/24/1992	541		MG/KG	5.7
SGR2012200A00L	Total Lead	03/09/1992	03/24/1992	364		MG/KG	5.5
SGR2016100A00L	Total Lead	03/09/1992	03/24/1992	614		MG/KG	5.9
SGR2016200A00L	Total Lead	03/09/1992	03/24/1992	727		MG/KG	5.8
SMA2017100A00L	Total Lead	11/14/1991	12/03/1991	1820		MG/KG	8.1
SMA2017200A00L	Total Lead	11/14/1991	12/03/1991	1350		MG/KG	8.5
SMA2021100A00L	Total Lead	11/18/1991	12/05/1991	2400		MG/KG	9.0
SMA2021200A00L	Total Lead	11/18/1991	12/05/1991	2110		MG/KG	9.2
SMA2023100A00L	Total Lead	11/14/1991	12/03/1991	375		MG/KG	7.9
SMA2023200A00L	Total Lead	11/14/1991	12/03/1991	746		MG/KG	7.6
SMA2025100A00L	Total Lead	04/22/1992	06/03/1992	851		MG/KG	6.4
SMA2025200A00L	Total Lead	04/22/1992	06/03/1992	151		MG/KG	5.0
SST2039100A00L	Total Lead	12/05/1991	12/16/1991	505		MG/KG	8.6
SST2039200A00L	Total Lead	12/05/1991	12/16/1991	789		MG/KG	7.7
SST2041100A00L	Total Lead	04/27/1992	06/08/1992	1070		MG/KG	6.0
SST2041200A00L	Total Lead	04/27/1992	06/08/1992	713		MG/KG	5.9

DECISION UNIT 12

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	11			
			NUMBER OF SAMPLES	21			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	1%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				
LEVEL C (6 – 12 inches)							
SED2000100C00L	Total Lead	05/01/1992	06/11/1992	417		MG/KG	5.8
SED2000200C00L	Total Lead	05/01/1992	06/11/1992	228		MG/KG	6.0
SED2000300C00L	Total Lead	05/01/1992	06/11/1992	201		MG/KG	5.6
SED2052100C00L	Total Lead	04/15/1992	05/19/1992	165		MG/KG	5.5
SED2052200C00L	Total Lead	04/15/1992	06/02/1992	1420		MG/KG	6.2
SGR2012100C00L	Total Lead	03/09/1992	03/24/1992	49.6		MG/KG	5.5
SGR2012200C00L	Total Lead	03/09/1992	03/24/1992	308		MG/KG	5.6
SGR2016100C00L	Total Lead	03/09/1992	03/24/1992	176		MG/KG	6.0
SGR2016200C00L	Total Lead	03/09/1992	03/24/1992	235		MG/KG	5.7
SMA2017100C00L	Total Lead	11/14/1991	12/03/1991	172		MG/KG	8.0
SMA2017200C00L	Total Lead	11/14/1991	12/03/1991	136		MG/KG	8.0
SMA2021100C00L	Total Lead	11/18/1991	12/05/1991	139		MG/KG	7.5
SMA2021200C00L	Total Lead	11/18/1991	12/05/1991	115		MG/KG	7.7
SMA2023100C00L	Total Lead	11/14/1991	12/03/1991	441		MG/KG	7.8
SMA2023200C00L	Total Lead	11/14/1991	12/03/1991	239		MG/KG	8.3
SMA2025100C00L	Total Lead	04/22/1992	06/03/1992	263		MG/KG	6.1

DECISION UNIT 12
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SED2000100B00L	Total Lead	05/01/1992	06/11/1992	625		MG/KG	5.9
SED2000200B00L	Total Lead	05/01/1992	06/11/1992	441		MG/KG	5.8
SED2000300B00L	Total Lead	05/01/1992	06/11/1992	511		MG/KG	6.0
SED2052100B00L	Total Lead	04/15/1992	05/19/1992	282		MG/KG	5.5
SED2052200B00L	Total Lead	04/15/1992	06/02/1992	1190		MG/KG	5.3
SGR2012100B00L	Total Lead	03/09/1992	03/24/1992	159		MG/KG	5.5
SGR2012200B00L	Total Lead	03/09/1992	03/24/1992	408		MG/KG	5.8
SGR2016100B00L	Total Lead	03/09/1992	03/24/1992	419		MG/KG	5.4
SGR2016200B00L	Total Lead	03/09/1992	03/24/1992	582		MG/KG	5.9
SMA2017100B00L	Total Lead	11/14/1991	12/03/1991	616		MG/KG	8.5
SMA2017200B00L	Total Lead	11/14/1991	12/03/1991	400		MG/KG	7.9
SMA2021100B00L	Total Lead	11/18/1991	12/05/1991	896		MG/KG	8.6
SMA2021200B00L	Total Lead	11/18/1991	12/05/1991	387		MG/KG	8.1
SMA2023100B00L	Total Lead	11/14/1991	12/03/1991	1050	J	MG/KG	8.1
SMA2023200B00L	Total Lead	11/14/1991	12/03/1991	770		MG/KG	8.3
SMA2025100B00L	Total Lead	04/22/1992	06/03/1992	544		MG/KG	6.1
SMA2025200B00L	Total Lead	04/22/1992	06/03/1992	262		MG/KG	5.3
SST2039100B00L	Total Lead	12/05/1991	12/16/1991	454		MG/KG	7.8
SST2039200B00L	Total Lead	12/05/1991	12/16/1991	1180		MG/KG	8.0
SST2041100B00L	Total Lead	04/27/1992	06/08/1992	1050		MG/KG	6.2
SST2041200B00L	Total Lead	04/27/1992	06/08/1992	280		MG/KG	5.9

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SWS2008100A00L	Total Lead	11/18/1991	12/05/1991	905		MG/KG	7.5
SWS2008200A00L	Total Lead	11/18/1991	12/05/1991	393		MG/KG	7.2
SWS2015100A00L	Total Lead	05/04/1992	06/11/1992	128		MG/KG	5.2
SWS2015200A00L	Total Lead	05/04/1992	06/11/1992	487		MG/KG	5.4
SWS2020100A00L	Total Lead	03/20/1992	04/07/1992	617		MG/KG	6.0
SWS2022100A00L	Total Lead	05/14/1992	07/28/1992	697	J	MG/KG	5.5
SWS2022200A00L	Total Lead	05/14/1992	07/28/1992	895	J	MG/KG	5.5
SWS2024100A00L	Total Lead	03/20/1992	04/13/1992	451		MG/KG	6.0
SWS2024200A00L	Total Lead	03/20/1992	04/13/1992	1960		MG/KG	6.2
SWS2026100A00L	Total Lead	03/20/1992	04/13/1992	1230		MG/KG	5.9
SWS2026200A00L	Total Lead	03/20/1992	04/13/1992	1320		MG/KG	6.1
SWS2027100A00L	Total Lead	11/14/1991	12/03/1991	766		MG/KG	7.9
SWS2027200A00L	Total Lead	11/14/1991	12/03/1991	670		MG/KG	7.7
SWS2033100A00L	Total Lead	11/14/1991	12/03/1991	961		MG/KG	8.3
SWS2033200A00L	Total Lead	11/14/1991	12/03/1991	276		MG/KG	7.0
SWS2034100A00L	Total Lead	03/20/1992	04/13/1992	880		MG/KG	6.0
SWS2034200A00L	Total Lead	03/20/1992	04/13/1992	2380		MG/KG	58.1
SWS2035100A00L	Total Lead	05/13/1992	06/26/1992	837		MG/KG	5.3
SWS2036100A00L	Total Lead	11/18/1991	12/05/1991	895		MG/KG	7.5
SWS2038100A00L	Total Lead	11/14/1991	12/03/1991	1790		MG/KG	8.7
SWS2038200A00L	Total Lead	11/14/1991	12/03/1991	546		MG/KG	7.6
SWS2040100A00L	Total Lead	11/14/1991	12/03/1991	377		MG/KG	8.0
SWS2040200A00L	Total Lead	11/14/1991	12/03/1991	709		MG/KG	8.6

DECISION UNIT 12

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMA2025200C00L	Total Lead	04/22/1992	06/03/1992	634		MG/KG	5.7
SST2039100C00L	Total Lead	12/05/1991	12/16/1991	195		MG/KG	8.1
SST2039200C00L	Total Lead	12/05/1991	12/16/1991	439		MG/KG	8.0
SST2041100C00L	Total Lead	04/27/1992	06/08/1992	339		MG/KG	6.1
SST2041200C00L	Total Lead	04/27/1992	06/08/1992	117		MG/KG	6.0
			NUMBER OF SAMPLES >= 500 ppm	2			
			NUMBER OF SAMPLES	21			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.075			
			β error	1%			

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	16			
			NUMBER OF SAMPLES	23			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.5%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SWS2008100B00L	Total Lead	11/18/1991	12/05/1991	1280		MG/KG	8.2
SWS2008200B00L	Total Lead	11/18/1991	12/05/1991	380		MG/KG	8.0
SWS2015100B00L	Total Lead	05/04/1992	06/11/1992	31.6		MG/KG	5.3
SWS2015200B00L	Total Lead	05/04/1992	06/11/1992	836		MG/KG	5.6
SWS2020100B00L	Total Lead	03/20/1992	04/07/1992	670		MG/KG	6.2
SWS2022100B00L	Total Lead	05/14/1992	07/28/1992	875	J	MG/KG	5.7
SWS2022200B00L	Total Lead	05/14/1992	07/28/1992	907	J	MG/KG	5.2
SWS2024100B00L	Total Lead	03/20/1992	04/13/1992	430		MG/KG	5.7
SWS2024200B00L	Total Lead	03/20/1992	04/13/1992	261		MG/KG	5.8
SWS2026100B00L	Total Lead	03/20/1992	04/13/1992	710		MG/KG	5.7
SWS2026200B00L	Total Lead	03/20/1992	04/13/1992	402		MG/KG	5.6
SWS2027100B00L	Total Lead	11/14/1991	12/03/1991	299		MG/KG	8.0
SWS2027200B00L	Total Lead	11/14/1991	12/03/1991	661		MG/KG	7.7
SWS2033100B00L	Total Lead	11/14/1991	12/03/1991	585		MG/KG	7.3
SWS2033200B00L	Total Lead	11/14/1991	12/03/1991	305		MG/KG	7.9
SWS2034100B00L	Total Lead	03/20/1992	04/13/1992	367		MG/KG	6.0
SWS2034200B00L	Total Lead	03/20/1992	04/13/1992	595		MG/KG	6.0
SWS2035100B00L	Total Lead	05/13/1992	06/26/1992	661		MG/KG	5.5
SWS2036100B00L	Total Lead	11/18/1991	12/05/1991	992		MG/KG	8.4
SWS2038100B00L	Total Lead	11/14/1991	12/03/1991	865		MG/KG	7.4
SWS2038200B00L	Total Lead	11/14/1991	12/03/1991	426		MG/KG	7.8
SWS2040100B00L	Total Lead	11/14/1991	12/03/1991	101		MG/KG	7.5
SWS2040200B00L	Total Lead	11/14/1991	12/03/1991	706		MG/KG	7.9

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	13			
			NUMBER OF SAMPLES	23			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.5%			
	For Level B:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SWS2008100C00L	Total Lead	11/18/1991	12/05/1991	167		MG/KG	7.8
SWS2008200C00L	Total Lead	11/18/1991	12/05/1991	150		MG/KG	8.3
SWS2015100C00L	Total Lead	05/04/1992	06/11/1992	16.9		MG/KG	5.6
SWS2015200C00L	Total Lead	05/04/1992	06/11/1992	877		MG/KG	5.6
SWS2020100C00L	Total Lead	03/20/1992	05/11/1992	1290		MG/KG	61.1
SWS2022100C00L	Total Lead	05/14/1992	07/28/1992	762	J	MG/KG	5.9
SWS2022200C00L	Total Lead	05/14/1992	07/28/1992	599	J	MG/KG	5.4
SWS2024100C00L	Total Lead	03/20/1992	04/13/1992	236		MG/KG	5.6
SWS2024200C00L	Total Lead	03/20/1992	04/13/1992	114		MG/KG	6.0
SWS2026100C00L	Total Lead	03/20/1992	04/13/1992	117		MG/KG	5.6
SWS2026200C00L	Total Lead	03/20/1992	04/13/1992	117		MG/KG	5.7
SWS2027100C00L	Total Lead	11/14/1991	12/03/1991	68.6		MG/KG	7.6
SWS2027200C00L	Total Lead	11/14/1991	12/03/1991	363		MG/KG	7.6
SWS2033100C00L	Total Lead	11/14/1991	12/03/1991	178		MG/KG	7.6
SWS2033200C00L	Total Lead	11/14/1991	12/03/1991	153		MG/KG	7.7
SWS2034100C00L	Total Lead	03/20/1992	04/13/1992	324		MG/KG	5.7
SWS2034200C00L	Total Lead	03/20/1992	04/13/1992	712		MG/KG	5.9
SWS2035100C00L	Total Lead	05/13/1992	06/26/1992	498		MG/KG	5.7
SWS2036100C00L	Total Lead	11/18/1991	12/05/1991	334		MG/KG	7.4
SWS2038100C00L	Total Lead	11/14/1991	12/03/1991	202		MG/KG	7.0
SWS2038200C00L	Total Lead	11/14/1991	12/03/1991	505		MG/KG	8.1
SWS2040100C00L	Total Lead	11/14/1991	12/03/1991	41.2		MG/KG	7.1
SWS2040200C00L	Total Lead	11/14/1991	12/03/1991	207		MG/KG	7.5

DECISION UNIT 13

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	6			
			NUMBER OF SAMPLES	23			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.65			
			ß error	0.5%			
		For Level C:	P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 14
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SAD1930100A00L	Total Lead	11/12/1991	11/26/1991	365		MG/KG	6.9
SAD1930200A00L	Total Lead	11/12/1991	11/26/1991	305		MG/KG	8.1
SAD1938100A00L	Total Lead	11/12/1991	11/26/1991	261		MG/KG	7.2
SAD1938200A00L	Total Lead	11/12/1991	11/26/1991	388		MG/KG	7.8
SAD1940100A00L	Total Lead	04/15/1992	05/19/1992	260		MG/KG	5.6
SAD1940200A00L	Total Lead	04/15/1992	05/19/1992	63.4		MG/KG	5.3
SAD1942100A00L	Total Lead	11/12/1991	11/26/1991	476		MG/KG	7.6
SAD1942200A00L	Total Lead	11/12/1991	11/26/1991	385		MG/KG	7.4
SBE1911100A00L	Total Lead	11/13/1991	12/02/1991	915		MG/KG	8.4
SBE1911200A00L	Total Lead	11/13/1991	12/02/1991	111		MG/KG	7.3
SBE1916100A00L	Total Lead	03/04/1992	03/19/1992	577		MG/KG	5.4
SBE1916200A00L	Total Lead	03/04/1992	03/19/1992	128		MG/KG	5.3
SBE1918100A00L	Total Lead	11/13/1991	12/02/1991	692		MG/KG	7.1
SBE1918200A00L	Total Lead	11/13/1991	12/03/1991	1110		MG/KG	8.1
SBE1920100A00L	Total Lead	04/16/1992	06/02/1992	639		MG/KG	5.7
SBE1920200A00L	Total Lead	04/16/1992	06/02/1992	686		MG/KG	5.7
SBE1922100A00L	Total Lead	03/04/1992	03/19/1992	367		MG/KG	5.7
SBE1922200A00L	Total Lead	03/04/1992	03/19/1992	709		MG/KG	5.6
SBE1926100A00L	Total Lead	03/04/1992	03/19/1992	660		MG/KG	6.1
SBE1926200A00L	Total Lead	03/04/1992	03/19/1992	415		MG/KG	5.5
SBE1927100A00L	Total Lead	11/13/1991	12/03/1991	626		MG/KG	8.2
SBE1927200A00L	Total Lead	11/13/1991	12/03/1991	916		MG/KG	9.2
SBE1928100A00L	Total Lead	11/12/1991	11/26/1991	835		MG/KG	7.4

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE1928200A00L	Total Lead	11/12/1991	11/26/1991	404		MG/KG	7.3
SBE1930100A00L	Total Lead	11/12/1991	11/26/1991	570		MG/KG	7.7
SBE1930200A00L	Total Lead	11/12/1991	11/26/1991	420		MG/KG	7.8
SBE1931100A00L	Total Lead	04/16/1992	06/02/1992	111		MG/KG	5.6
SBE1931200A00L	Total Lead	04/16/1992	06/02/1992	552		MG/KG	5.8
SBE1932100A00L	Total Lead	05/11/1992	06/19/1992	188		MG/KG	4.9
SBE1932200A00L	Total Lead	05/11/1992	06/19/1992	312		MG/KG	5.2
SBE1934100A00L	Total Lead	04/16/1992	06/02/1992	185	J	MG/KG	5.7
SBE1934200A00L	Total Lead	04/16/1992	06/02/1992	520		MG/KG	5.7
SBE1937100A00L	Total Lead	11/12/1991	11/26/1991	168		MG/KG	7.4
SBE1937200A00L	Total Lead	11/12/1991	11/26/1991	668		MG/KG	6.9
SBE1939100A00L	Total Lead	11/12/1991	11/26/1991	409		MG/KG	7.4
SBE1939200A00L	Total Lead	11/12/1991	11/26/1991	284		MG/KG	7.3
SBE1940100A00L	Total Lead	03/04/1992	03/19/1992	479		MG/KG	5.4
SBE1940200A00L	Total Lead	03/04/1992	03/19/1992	987		MG/KG	5.9
SBE1941100A00L	Total Lead	03/04/1992	03/19/1992	611		MG/KG	5.4
SBE1941200A00L	Total Lead	03/04/1992	03/19/1992	1240		MG/KG	5.6
SBE1943100A00L	Total Lead	11/12/1991	11/26/1991	520		MG/KG	8.2
SBE1943200A00L	Total Lead	11/12/1991	11/26/1991	447		MG/KG	7.6
SCL1919100A00L	Total Lead	11/13/1991	12/02/1991	1110		MG/KG	8.6
SCL1919200A00L	Total Lead	11/13/1991	12/02/1991	793		MG/KG	8.1
SCL1929100A00L	Total Lead	12/09/1991	01/01/1992	594		MG/KG	7.2
SCL1929200A00L	Total Lead	12/09/1991	01/01/1992	591		MG/KG	7.3
SCL1939100A00L	Total Lead	04/03/1992	05/14/1992	1070		MG/KG	7.1

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL1939200A00L	Total Lead	04/03/1992	05/14/1992	1050		MG/KG	5.9
		NUMBER OF SAMPLES >= 500 ppm		25			
		NUMBER OF SAMPLES		48			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.99			
			ß error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SAD1930100B00L	Total Lead	11/12/1991	11/26/1991	109		MG/KG	7.3
SAD1930200B00L	Total Lead	11/12/1991	11/26/1991	313		MG/KG	7.6
SAD1938100B00L	Total Lead	11/12/1991	11/26/1991	249		MG/KG	7.0
SAD1938200B00L	Total Lead	11/12/1991	11/26/1991	262		MG/KG	7.2
SAD1940100B00L	Total Lead	04/15/1992	05/19/1992	103		MG/KG	5.5
SAD1940200B00L	Total Lead	04/15/1992	05/19/1992	114		MG/KG	5.5
SAD1942100B00L	Total Lead	11/12/1991	11/26/1991	323		MG/KG	6.8
SAD1942200B00L	Total Lead	11/12/1991	11/26/1991	357		MG/KG	7.6
SBE1911100B00L	Total Lead	11/13/1991	12/02/1991	255		MG/KG	7.8
SBE1911200B00L	Total Lead	11/13/1991	12/02/1991	176		MG/KG	7.0
SBE1916100B00L	Total Lead	03/04/1992	03/19/1992	337		MG/KG	5.3
SBE1916200B00L	Total Lead	03/04/1992	03/19/1992	209		MG/KG	5.2
SBE1918100B00L	Total Lead	11/13/1991	12/02/1991	533		MG/KG	7.3
SBE1918200B00L	Total Lead	11/13/1991	12/03/1991	987		MG/KG	7.6
SBE1920100B00L	Total Lead	04/16/1992	06/02/1992	300		MG/KG	5.5
SBE1920200B00L	Total Lead	04/16/1992	06/02/1992	335		MG/KG	5.4
SBE1922100B00L	Total Lead	03/04/1992	03/19/1992	319		MG/KG	5.9
SBE1922200B00L	Total Lead	03/04/1992	03/19/1992	521		MG/KG	5.3
SBE1926100B00L	Total Lead	03/04/1992	03/19/1992	129		MG/KG	5.4
SBE1926200B00L	Total Lead	03/04/1992	03/19/1992	242		MG/KG	5.5
SBE1927100B00L	Total Lead	11/13/1991	12/03/1991	335		MG/KG	7.6
SBE1927200B00L	Total Lead	11/13/1991	12/03/1991	347		MG/KG	8.5
SBE1928100B00L	Total Lead	11/12/1991	11/26/1991	167		MG/KG	7.3

DECISION UNIT 14
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE1928200B00L	Total Lead	11/12/1991	11/26/1991	141		MG/KG	6.9
SBE1930100B00L	Total Lead	11/12/1991	11/26/1991	459		MG/KG	7.0
SBE1930200B00L	Total Lead	11/12/1991	11/26/1991	574		MG/KG	8.0
SBE1931100B00L	Total Lead	04/16/1992	06/02/1992	26.8		MG/KG	5.4
SBE1931200B00L	Total Lead	04/16/1992	06/02/1992	608		MG/KG	5.6
SBE1932100B00L	Total Lead	05/11/1992	06/19/1992	256		MG/KG	5.0
SBE1932200B00L	Total Lead	05/11/1992	06/19/1992	246		MG/KG	5.1
SBE1934100B00L	Total Lead	04/16/1992	06/02/1992	877		MG/KG	5.3
SBE1934200B00L	Total Lead	04/16/1992	06/02/1992	404		MG/KG	5.5
SBE1937100B00L	Total Lead	11/12/1991	11/26/1991	184		MG/KG	7.1
SBE1937200B00L	Total Lead	11/12/1991	11/26/1991	573		MG/KG	6.9
SBE1939100B00L	Total Lead	11/12/1991	11/26/1991	275		MG/KG	6.7
SBE1939200B00L	Total Lead	11/12/1991	11/26/1991	434		MG/KG	7.0
SBE1940100B00L	Total Lead	03/04/1992	03/19/1992	114		MG/KG	5.3
SBE1940200B00L	Total Lead	03/04/1992	03/19/1992	470		MG/KG	5.4
SBE1941100B00L	Total Lead	03/04/1992	03/19/1992	441		MG/KG	5.3
SBE1941200B00L	Total Lead	03/04/1992	03/19/1992	384		MG/KG	5.5
SBE1943100B00L	Total Lead	11/12/1991	11/26/1991	244		MG/KG	7.9
SBE1943200B00L	Total Lead	11/12/1991	11/26/1991	317		MG/KG	7.8
SCL1919100B00L	Total Lead	11/13/1991	12/02/1991	331		MG/KG	8.0
SCL1919200B00L	Total Lead	11/13/1991	12/03/1991	249		MG/KG	7.6
SCL1929100B00L	Total Lead	12/09/1991	01/01/1992	313		MG/KG	6.8
SCL1929200B00L	Total Lead	12/09/1991	01/01/1992	668		MG/KG	7.0
SCL1939100B00L	Total Lead	04/03/1992	05/14/1992	369		MG/KG	5.2

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL1939200B00L	Total Lead	04/03/1992	05/14/1992	940		MG/KG	6.0
		NUMBER OF SAMPLES >= 500 ppm		9			
		NUMBER OF SAMPLES		48			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.2			
		β error		0.1%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 14
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SAD1930100C00L	Total Lead	11/12/1991	11/26/1991	29		MG/KG	6.3
SAD1930200C00L	Total Lead	11/12/1991	11/26/1991	151		MG/KG	7.3
SAD1938100C00L	Total Lead	11/12/1991	11/26/1991	74.9		MG/KG	7.5
SAD1938200C00L	Total Lead	11/12/1991	11/26/1991	47		MG/KG	7.0
SAD1940100C00L	Total Lead	04/15/1992	05/19/1992	107		MG/KG	5.8
SAD1940200C00L	Total Lead	04/15/1992	05/19/1992	164		MG/KG	5.5
SAD1942100C00L	Total Lead	11/12/1991	11/26/1991	51.1		MG/KG	6.8
SAD1942200C00L	Total Lead	11/12/1991	11/26/1991	113		MG/KG	7.2
SBE1911100C00L	Total Lead	11/13/1991	12/02/1991	143		MG/KG	6.9
SBE1911200C00L	Total Lead	11/13/1991	12/02/1991	299		MG/KG	7.3
SBE1916100C00L	Total Lead	03/04/1992	03/19/1992	182		MG/KG	5.2
SBE1916200C00L	Total Lead	03/04/1992	03/19/1992	43.9		MG/KG	5.1
SBE1918100C00L	Total Lead	11/13/1991	12/02/1991	187		MG/KG	7.4
SBE1918200C00L	Total Lead	11/13/1991	12/03/1991	382		MG/KG	7.5
SBE1920100C00L	Total Lead	04/16/1992	06/02/1992	53.4		MG/KG	5.3
SBE1920200C00L	Total Lead	04/16/1992	06/02/1992	117		MG/KG	5.1
SBE1922100C00L	Total Lead	03/04/1992	03/19/1992	216		MG/KG	5.5
SBE1922200C00L	Total Lead	03/04/1992	03/19/1992	364		MG/KG	5.4
SBE1926100C00L	Total Lead	03/04/1992	03/19/1992	22.9		MG/KG	5.2
SBE1926200C00L	Total Lead	03/04/1992	03/19/1992	212		MG/KG	5.3
SBE1927100C00L	Total Lead	11/13/1991	12/03/1991	116		MG/KG	7.0
SBE1927200C00L	Total Lead	11/13/1991	12/03/1991	327		MG/KG	7.9
SBE1928100C00L	Total Lead	11/12/1991	11/26/1991	45.2		MG/KG	7.0

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SBE1928200C00L	Total Lead	11/12/1991	11/26/1991	32.5		MG/KG	6.7
SBE1930100C00L	Total Lead	11/12/1991	11/26/1991	183		MG/KG	7.1
SBE1930200C00L	Total Lead	11/12/1991	11/26/1991	136		MG/KG	6.5
SBE1931100C00L	Total Lead	04/16/1992	06/02/1992	34.5		MG/KG	5.6
SBE1931200C00L	Total Lead	04/16/1992	06/02/1992	354		MG/KG	5.7
SBE1932100C00L	Total Lead	05/11/1992	06/19/1992	81.6		MG/KG	4.8
SBE1932200C00L	Total Lead	05/11/1992	06/19/1992	361		MG/KG	5.1
SBE1934100C00L	Total Lead	04/16/1992	06/02/1992	257		MG/KG	5.3
SBE1934200C00L	Total Lead	04/16/1992	06/02/1992	318		MG/KG	5.4
SBE1937100C00L	Total Lead	11/12/1991	11/26/1991	135		MG/KG	6.7
SBE1937200C00L	Total Lead	11/12/1991	11/26/1991	180		MG/KG	7.3
SBE1939100C00L	Total Lead	11/12/1991	11/26/1991	121		MG/KG	6.4
SBE1939200C00L	Total Lead	11/12/1991	11/26/1991	298		MG/KG	8.2
SBE1940100C00L	Total Lead	03/04/1992	03/19/1992	47.9		MG/KG	5.3
SBE1940200C00L	Total Lead	03/04/1992	03/19/1992	252		MG/KG	5.4
SBE1941100C00L	Total Lead	03/04/1992	03/19/1992	81.4		MG/KG	5.3
SBE1941200C00L	Total Lead	03/04/1992	03/19/1992	215		MG/KG	5.5
SBE1943100C00L	Total Lead	11/12/1991	11/26/1991	43		MG/KG	6.9
SBE1943200C00L	Total Lead	11/12/1991	11/26/1991	115		MG/KG	7.7
SCL1919100C00L	Total Lead	11/13/1991	12/02/1991	35.3		MG/KG	7.5
SCL1919200C00L	Total Lead	11/13/1991	12/03/1991	62.4		MG/KG	6.8
SCL1929100C00L	Total Lead	12/09/1991	01/01/1992	146		MG/KG	7.5
SCL1929200C00L	Total Lead	12/09/1991	01/01/1992	615		MG/KG	7.5
SCL1939100C00L	Total Lead	04/03/1992	05/14/1992	58.1		MG/KG	5.7

DECISION UNIT 14

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCL1939200C00L	Total Lead	04/03/1992	05/14/1992	646		MG/KG	5.6
		NUMBER OF SAMPLES >= 500 ppm		2			
		NUMBER OF SAMPLES		48			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.00014			
			β error	0.1%			
	For Level C:	P < alpha → → Do Not Remediate (alpha = 0.05)					

DECISION UNIT 15

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SNI1241100A00L	Total Lead	05/01/1992	06/11/1992	207		MG/KG	5.2
SNI1241200A00L	Total Lead	05/01/1992	06/11/1992	90.7		MG/KG	6.0
SNI1255100A00L	Total Lead	11/13/1991	12/03/1991	290		MG/KG	8.0
SNI1255200A00L	Total Lead	11/13/1991	12/03/1991	696		MG/KG	8.0
SNI1247100A00L	Total Lead	12/05/1991	12/16/1991	341		MG/KG	7.7
SNI1247200A00L	Total Lead	12/05/1991	12/16/1991	714		MG/KG	7.7
SNI1319100A00L	Total Lead	05/01/1992	06/09/1992	115		MG/KG	6.0
SNI1319200A00L	Total Lead	05/01/1992	06/09/1992	293		MG/KG	5.9
SNI1319300A00L	Total Lead	05/01/1992	06/09/1992	92.2		MG/KG	6.1
SNI1319400A00L	Total Lead	05/01/1992	06/11/1992	202		MG/KG	6.1
SNI1319500A00L	Total Lead	05/01/1992	06/11/1992	292		MG/KG	5.5
SCL1930100A00L	Total Lead	11/13/1991	12/02/1991	466		MG/KG	8.1
SCL1930200A00L	Total Lead	11/13/1991	12/02/1991	598		MG/KG	7.0
SCL1934100A00L	Total Lead	11/13/1991	12/02/1991	10.5		MG/KG	6.9
SCL1934200A00L	Total Lead	11/13/1991	12/02/1991	73.8		MG/KG	7.1
SCL1938100A00L	Total Lead	11/13/1991	12/02/1991	55.5		MG/KG	7.4
SCL1938200A00L	Total Lead	11/13/1991	12/02/1991	20.8		MG/KG	7.0
SCL1940100A00L	Total Lead	04/24/1992	06/04/1992	447		MG/KG	6.1
SCL1940200A00L	Total Lead	04/24/1992	06/04/1992	494		MG/KG	6.0

DECISION UNIT 15

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	3			
			NUMBER OF SAMPLES	19			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.26			
			ß error	2.5%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 15
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SNI1241100B00L	Total Lead	05/01/1992	06/11/1992	102		MG/KG	5.7
SNI1241200B00L	Total Lead	05/01/1992	06/11/1992	38.7		MG/KG	6.1
SNI1255100B00L	Total Lead	11/13/1991	12/03/1991	225		MG/KG	7.6
SNI1255200B00L	Total Lead	11/13/1991	12/03/1991	377		MG/KG	7.7
SNI1247100B00L	Total Lead	12/05/1991	12/16/1991	175		MG/KG	7.5
SNI1247200B00L	Total Lead	12/05/1991	12/16/1991	323		MG/KG	6.9
SNI1319100B00L	Total Lead	05/01/1992	06/09/1992	83.2		MG/KG	5.4
SNI1319200B00L	Total Lead	05/01/1992	06/09/1992	30.6		MG/KG	5.9
SNI1319300B00L	Total Lead	05/01/1992	06/09/1992	52.4	J	MG/KG	5.7
SNI1319400B00L	Total Lead	05/01/1992	06/11/1992	147		MG/KG	5.9
SNI1319500B00L	Total Lead	05/01/1992	06/11/1992	195		MG/KG	5.6
SCL1930100B00L	Total Lead	11/13/1991	12/02/1991	374		MG/KG	6.9
SCL1930200B00L	Total Lead	11/13/1991	12/02/1991	378		MG/KG	7.3
SCL1934100B00L	Total Lead	11/13/1991	12/02/1991	16.9		MG/KG	7.0
SCL1934200B00L	Total Lead	11/13/1991	12/02/1991	138		MG/KG	7.2
SCL1938100B00L	Total Lead	11/13/1991	12/02/1991	60.6		MG/KG	7.0
SCL1938200B00L	Total Lead	11/13/1991	12/02/1991	13.9		MG/KG	7.0
SCL1940100B00L	Total Lead	04/24/1992	06/04/1992	225		MG/KG	5.7
SCL1940200B00L	Total Lead	04/24/1992	06/04/1992	571		MG/KG	5.8

DECISION UNIT 15

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	1			
			NUMBER OF SAMPLES	19			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.031			
			β error	2.5%			
	For Level B:		P < alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 15

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SNI1241100C00L	Total Lead	05/01/1992	06/11/1992	47.5		MG/KG	5.8
SNI1241200C00L	Total Lead	05/01/1992	06/11/1992	23.7		MG/KG	5.6
SNI1255100C00L	Total Lead	11/13/1991	12/03/1991	48		MG/KG	7.4
SNI1255200C00L	Total Lead	11/13/1991	12/03/1991	76.6		MG/KG	7.3
SNI1247100C00L	Total Lead	12/05/1991	12/16/1991	42.7		MG/KG	7.5
SNI1247200C00L	Total Lead	12/05/1991	12/16/1991	27.1		MG/KG	7.2
SNI1319100C00L	Total Lead	05/01/1992	06/09/1992	255		MG/KG	5.5
SNI1319200C00L	Total Lead	05/01/1992	06/09/1992	143		MG/KG	5.9
SNI1319300C00L	Total Lead	05/01/1992	06/11/1992	61.3		MG/KG	5.2
SNI1319400C00L	Total Lead	05/01/1992	06/11/1992	59.4		MG/KG	5.0
SNI1319500C00L	Total Lead	05/01/1992	06/11/1992	105		MG/KG	5.9
SCL1930100C00L	Total Lead	11/13/1991	12/02/1991	135		MG/KG	7.1
SCL1930200C00L	Total Lead	11/13/1991	12/02/1991	107		MG/KG	7.5
SCL1934100C00L	Total Lead	11/13/1991	12/02/1991	105		MG/KG	7.8
SCL1934200C00L	Total Lead	11/13/1991	12/02/1991	113		MG/KG	7.3
SCL1938100C00L	Total Lead	11/13/1991	12/02/1991	13.6		MG/KG	7.1
SCL1938200C00L	Total Lead	11/13/1991	12/02/1991	76.1		MG/KG	6.4
SCL1940100C00L	Total Lead	04/24/1992	06/04/1992	86.3		MG/KG	5.7
SCL1940200C00L	Total Lead	04/24/1992	06/04/1992	197		MG/KG	5.7

DECISION UNIT 15

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 27, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	0			
			NUMBER OF SAMPLES	19			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0042			
			ß error	2.5%			
	For Level C:		P < alpha → → Do Not Remediate (alpha = 0.05)				

DECISION UNIT 16

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SGR1918100A00L	Total Lead	11/14/1991	12/03/1991	628		MG/KG	8.0
SGR1918200A00L	Total Lead	11/14/1991	12/03/1991	655		MG/KG	8.3
SGR1919100A00L	Total Lead	03/09/1992	03/24/1992	1240		MG/KG	6.5
SGR1919200A00L	Total Lead	03/09/1992	03/24/1992	726		MG/KG	6.1
SGR1923100A00L	Total Lead	11/18/1991	12/05/1991	1250		MG/KG	7.7
SGR1923200A00L	Total Lead	11/18/1991	12/05/1991	759		MG/KG	8.1
SGR1924100A00L	Total Lead	08/12/1992	09/10/1992	650	J	MG/KG	5.58
SGR1924200A00L	Total Lead	08/12/1992	09/10/1992	993	J	MG/KG	5.51
SGR1929100A00L	Total Lead	03/09/1992	03/24/1992	655		MG/KG	6.2
SGR1933100A00L	Total Lead	08/12/1992	09/10/1992	464	J	MG/KG	5.17
SGR1937100A00L	Total Lead	03/09/1992	03/24/1992	542		MG/KG	6.4
SGR1937200A00L	Total Lead	03/09/1992	03/24/1992	805		MG/KG	6.0

NUMBER OF SAMPLES >= 500 ppm 11
NUMBER OF SAMPLES 12
CUMULATIVE BINOMIAL PROBABILITY (P) 1.0
β error 30 %

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 16

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SGR1918100B00L	Total Lead	11/14/1991	12/03/1991	419		MG/KG	8.0
SGR1918200B00L	Total Lead	11/14/1991	12/03/1991	524		MG/KG	7.7
SGR1919100B00L	Total Lead	03/09/1992	03/24/1992	872		MG/KG	5.8
SGR1919200B00L	Total Lead	03/09/1992	03/24/1992	738		MG/KG	6.1
SGR1923100B00L	Total Lead	11/18/1991	12/05/1991	1330		MG/KG	7.9
SGR1923200B00L	Total Lead	11/18/1991	12/05/1991	446		MG/KG	8.0
SGR1924100B00L	Total Lead	08/12/1992	09/10/1992	498	J	MG/KG	5.39
SGR1924200B00L	Total Lead	08/12/1992	09/10/1992	489	J	MG/KG	5.62
SGR1929100B00L	Total Lead	03/09/1992	03/24/1992	583		MG/KG	5.8
SGR0933100B00L	Total Lead	08/12/1992	09/10/1992	465	J	MG/KG	5.24
SGR1937100B00L	Total Lead	03/09/1992	03/24/1992	453		MG/KG	5.8
SGR1937200B00L	Total Lead	03/09/1992	03/24/1992	2050		MG/KG	5.8

NUMBER OF SAMPLES >= 500 ppm 6
NUMBER OF SAMPLES 12
CUMULATIVE BINOMIAL PROBABILITY (P) 0.98
ß error 30 %

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 16

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SGR1918100C00L	Total Lead	11/14/1991	12/03/1991	219		MG/KG	8.6
SGR1918200C00L	Total Lead	11/14/1991	12/03/1991	346		MG/KG	8.0
SGR1919100C00L	Total Lead	03/09/1992	03/24/1992	485		MG/KG	6.0
SGR1919200C00L	Total Lead	03/09/1992	03/24/1992	342		MG/KG	5.9
SGR1923100C00L	Total Lead	11/18/1991	12/05/1991	797		MG/KG	8.3
SGR1923200C00L	Total Lead	11/18/1991	12/05/1991	214		MG/KG	8.1
SGR1924100C00L	Total Lead	08/12/1992	09/10/1992	243	J	MG/KG	5.50
SGR1924200C00L	Total Lead	08/12/1992	09/10/1992	316	J	MG/KG	5.93
SGR1929100C00L	Total Lead	03/09/1992	03/24/1992	194		MG/KG	5.6
SGR1933100C00L	Total Lead	08/12/1992	09/10/1992	236	J	MG/KG	5.19
SGR1937100C00L	Total Lead	03/09/1992	03/24/1992	467		MG/KG	5.6
SGR1937200C00L	Total Lead	03/09/1992	03/24/1992	291	J	MG/KG	5.8

NUMBER OF SAMPLES >= 500 ppm 1

NUMBER OF SAMPLES 12

CUMULATIVE BINOMIAL PROBABILITY (P) 0.16

β error 30 %

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 17

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SNT1300100A00L	Total Lead	05/01/1992	06/11/1992	133		MG/KG	5.6
SNT1300200A00L	Total Lead	05/01/1992	06/11/1992	220		MG/KG	5.6
			NUMBER OF SAMPLES >= 500 ppm	0			
			NUMBER OF SAMPLES	2			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.56			
			ß error	> 50 %			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 17

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SNT1300100B00L	Total Lead	05/01/1992	06/11/1992	29.8		MG/KG	5.1
SNT1300200B00L	Total Lead	05/01/1992	06/11/1992	65.5		MG/KG	5.6
			NUMBER OF SAMPLES >= 500 ppm	0			
			NUMBER OF SAMPLES	2			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.56			
			β error	> 50 %			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 17

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SNT1300100C00L	Total Lead	05/01/1992	06/11/1992	26.9		MG/KG	5.6
SNT1300200C00L	Total Lead	05/01/1992	06/11/1992	24.9		MG/KG	5.4
		NUMBER OF SAMPLES >= 500 ppm		0			
		NUMBER OF SAMPLES		2			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.56			
			ß error	> 50 %			
	For Level C:	P >= alpha → → Remediate (alpha = 0.05)					

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCL1704100A00L	Total Lead	11/12/1991	11/26/1991	512		MG/KG	7.7
SCL1704200A00L	Total Lead	11/12/1991	11/26/1991	110		MG/KG	7.9
SCL1708100A00L	Total Lead	11/12/1991	11/26/1991	1390		MG/KG	7.8
SCL1708200A00L	Total Lead	11/12/1991	12/02/1991	102		MG/KG	8.8
SCL1710100A00L	Total Lead	11/12/1991	12/02/1991	1230		MG/KG	7.3
SCL1710200A00L	Total Lead	11/12/1991	12/02/1991	1350		MG/KG	8.4
SCL1712100A00L	Total Lead	08/12/1992	09/10/1992	930	J	MG/KG	5.21
SCL1712200A00L	Total Lead	08/12/1992	09/10/1992	877	J	MG/KG	5.30
SCL1720100A00L	Total Lead	05/05/1992	06/11/1992	1560	J	MG/KG	5.1
SCL1720200A00L	Total Lead	05/05/1992	06/11/1992	1840		MG/KG	4.9
SCL1726100A00L	Total Lead	03/06/1992	03/20/1992	1150		MG/KG	6.1
SCL1726200A00L	Total Lead	03/06/1992	03/20/1992	581		MG/KG	6.2
SCL1728100A00L	Total Lead	05/05/1992	06/11/1992	1490		MG/KG	5.3
SCL1728200A00L	Total Lead	05/05/1992	06/11/1992	2260		MG/KG	5.6
SCL1736100A00L	Total Lead	05/05/1992	06/11/1992	1060		MG/KG	5.8
SCL1736200A00L	Total Lead	05/05/1992	06/11/1992	1130		MG/KG	6.1
SDE1700100A00L	Total Lead	05/05/1992	06/11/1992	1910	J	MG/KG	5.3
SDE1700200A00L	Total Lead	05/05/1992	06/11/1992	299		MG/KG	5.2
SDE1703100A00L	Total Lead	11/12/1991	12/02/1991	956		MG/KG	8.0
SDE1703200A00L	Total Lead	11/12/1991	12/02/1991	1270		MG/KG	7.7
SDE1704100A00L	Total Lead	11/12/1991	12/02/1991	1420		MG/KG	8.0
SDE1704200A00L	Total Lead	11/12/1991	12/02/1991	907		MG/KG	7.3
SDE1707100A00L	Total Lead	11/12/1991	12/02/1991	1460		MG/KG	8.1

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1707200A00L	Total Lead	11/12/1991	12/02/1991	1090		MG/KG	7.8
SDE1715100A00L	Total Lead	03/03/1992	03/18/1992	1270		MG/KG	6.1
SDE1715200A00L	Total Lead	03/03/1992	03/18/1992	2130		MG/KG	6.1
SDE1717100A00L	Total Lead	11/12/1991	12/02/1991	1510		MG/KG	7.9
SDE1717200A00L	Total Lead	11/12/1991	12/02/1991	1130		MG/KG	7.8
SDE1718100A00L	Total Lead	04/14/1992	05/18/1992	1190		MG/KG	5.9
SDE1718200A00L	Total Lead	04/14/1992	05/18/1992	1390		MG/KG	5.8
SDE1723100A00L	Total Lead	05/05/1992	06/11/1992	2030		MG/KG	6.1
SDE1723200A00L	Total Lead	05/05/1992	06/11/1992	1170		MG/KG	5.4
SDE1725100A00L	Total Lead	03/03/1992	03/18/1992	1720		MG/KG	6.2
SDE1725200A00L	Total Lead	03/03/1992	03/18/1992	1550		MG/KG	6.5
SDE1726100A00L	Total Lead	03/03/1992	03/18/1992	1440		MG/KG	6.0
SDE1726200A00L	Total Lead	03/03/1992	03/18/1992	1480		MG/KG	6.1
SDE1728100A00L	Total Lead	11/12/1991	12/02/1991	946		MG/KG	7.5
SDE1728200A00L	Total Lead	11/12/1991	12/02/1991	1340		MG/KG	8.5
SDE1729100A00L	Total Lead	04/14/1992	05/18/1992	739		MG/KG	5.7
SDE1729200A00L	Total Lead	04/14/1992	06/09/1992	590		MG/KG	5.8
SDE1732100A00L	Total Lead	12/06/1991	12/16/1991	605		MG/KG	7.7
SDE1732200A00L	Total Lead	12/06/1991	12/16/1991	683		MG/KG	7.7
SDE1737100A00L	Total Lead	03/03/1992	03/18/1992	1960		MG/KG	6.0
SDE1737200A00L	Total Lead	03/03/1992	03/18/1992	1120		MG/KG	5.8
SDE1747100A00L	Total Lead	11/13/1991	12/02/1991	899		MG/KG	8.3
SED1701100A00L	Total Lead	03/19/1992	04/07/1992	971		MG/KG	6.0
SED1701200A00L	Total Lead	03/19/1992	04/07/1992	881		MG/KG	6.0

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1707100A00L	Total Lead	12/05/1991	12/16/1991	1100		MG/KG	8.5
SED1709100A00L	Total Lead	11/13/1991	12/02/1991	970		MG/KG	7.6
SED1709200A00L	Total Lead	11/13/1991	12/02/1991	980		MG/KG	8.1
SED1715100A00L	Total Lead	11/13/1991	12/02/1991	1260		MG/KG	7.9
SED1715200A00L	Total Lead	11/13/1991	12/02/1991	940		MG/KG	8.4
SED1717100A00L	Total Lead	12/05/1991	12/16/1991	739		MG/KG	7.4
SED1717200A00L	Total Lead	12/05/1991	12/16/1991	1460		MG/KG	8.5
SED1723100A00L	Total Lead	03/19/1992	04/07/1992	561		MG/KG	6.0
SED1729100A00L	Total Lead	05/06/1992	06/11/1992	1530		MG/KG	5.3
SED1729200A00L	Total Lead	05/06/1992	06/11/1992	646		MG/KG	5.5
SED1733100A00L	Total Lead	05/06/1992	06/11/1992	1080		MG/KG	5.8
SED1733200A00L	Total Lead	05/06/1992	06/11/1992	1530		MG/KG	5.7
SET1310100A00L	Total Lead	05/12/1992	06/26/1992	1280		MG/KG	5.6
SET1310200A00L	Total Lead	05/12/1992	06/26/1992	546		MG/KG	5.2
SET1312100A00L	Total Lead	05/19/1992	07/29/1992	515	J	MG/KG	5.5
SET1312200A00L	Total Lead	05/19/1992	07/29/1992	1380	J	MG/KG	5.5

NUMBER OF SAMPLES >= 500 ppm	60
NUMBER OF SAMPLES	63
CUMULATIVE BINOMIAL PROBABILITY (P)	0.99
β error	0.1 %

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCL1704100B00L	Total Lead	11/12/1991	11/26/1991	250		MG/KG	7.4
SCL1704200B00L	Total Lead	11/12/1991	11/26/1991	76.1		MG/KG	7.7
SCL1708100B00L	Total Lead	11/12/1991	11/26/1991	1110		MG/KG	8.2
SCL1708200B00L	Total Lead	11/12/1991	12/02/1991	846		MG/KG	7.9
SCL1710100B00L	Total Lead	11/12/1991	12/02/1991	432		MG/KG	7.7
SCL1710200B00L	Total Lead	11/12/1991	12/02/1991	662		MG/KG	7.7
SCL1712100B00L	Total Lead	08/12/1992	09/10/1992	260	J	MG/KG	5.31
SCL1712200B00L	Total Lead	08/12/1992	09/10/1992	386	J	MG/KG	5.34
SCL1720100B00L	Total Lead	05/05/1992	06/11/1992	1390		MG/KG	5.3
SCL1720200B00L	Total Lead	05/05/1992	06/11/1992	508		MG/KG	4.9
SCL1726100B00L	Total Lead	03/06/1992	03/20/1992	497		MG/KG	5.6
SCL1726200B00L	Total Lead	03/06/1992	03/20/1992	345		MG/KG	5.9
SCL1728100B00L	Total Lead	05/05/1992	06/11/1992	1210		MG/KG	5.5
SCL1728200B00L	Total Lead	05/05/1992	06/11/1992	1100		MG/KG	5.7
SCL1736100B00L	Total Lead	05/05/1992	06/11/1992	337		MG/KG	5.7
SCL1736200B00L	Total Lead	05/05/1992	06/11/1992	647		MG/KG	5.7
SDE1700100B00L	Total Lead	05/05/1992	06/11/1992	2020		MG/KG	5.1
SDE1700200B00L	Total Lead	05/05/1992	06/11/1992	974		MG/KG	5.7
SDE1703100B00L	Total Lead	11/12/1991	12/02/1991	826		MG/KG	8.0
SDE1703200B00L	Total Lead	11/12/1991	12/02/1991	650		MG/KG	8.4
SDE1704100B00L	Total Lead	11/12/1991	12/02/1991	348		MG/KG	7.6
SDE1704200B00L	Total Lead	11/12/1991	12/02/1991	626		MG/KG	7.9
SDE1707100B00L	Total Lead	11/12/1991	12/02/1991	96.6		MG/KG	8.0

DECISION UNIT 18
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1707200B00L	Total Lead	11/12/1991	12/02/1991	1280		MG/KG	8.4
SDE1715100B00L	Total Lead	03/03/1992	03/18/1992	1010		MG/KG	6.3
SDE1715200B00L	Total Lead	03/03/1992	03/18/1992	1150		MG/KG	5.6
SDE1717100B00L	Total Lead	11/12/1991	12/02/1991	560		MG/KG	8.3
SDE1717200B00L	Total Lead	11/12/1991	12/02/1991	708	J	MG/KG	8.3
SDE1718100B00L	Total Lead	04/14/1992	05/18/1992	616		MG/KG	5.5
SDE1718200B00L	Total Lead	04/14/1992	05/18/1992	1140		MG/KG	6.1
SDE1723100B00L	Total Lead	05/05/1992	06/11/1992	703		MG/KG	6.0
SDE1723200B00L	Total Lead	05/05/1992	06/11/1992	906		MG/KG	5.7
SDE1725100B00L	Total Lead	03/03/1992	03/18/1992	1230		MG/KG	6.5
SDE1725200B00L	Total Lead	03/03/1992	03/18/1992	1870		MG/KG	6.4
SDE1726100B00L	Total Lead	03/03/1992	03/18/1992	556		MG/KG	5.7
SDE1726200B00L	Total Lead	03/03/1992	03/18/1992	424		MG/KG	6.2
SDE1728100B00L	Total Lead	11/12/1991	12/02/1991	557		MG/KG	7.9
SDE1728200B00L	Total Lead	11/12/1991	12/02/1991	1080		MG/KG	7.8
SDE1729100B00L	Total Lead	04/14/1992	05/18/1992	583		MG/KG	6.5
SDE1729200B00L	Total Lead	04/14/1992	06/09/1992	397		MG/KG	6.0
SDE1732100B00L	Total Lead	12/06/1991	12/16/1991	320		MG/KG	7.1
SDE1732200B00L	Total Lead	12/06/1991	12/16/1991	640		MG/KG	7.1
SDE1737100B00L	Total Lead	03/03/1992	05/11/1992	3530		MG/KG	58.9
SDE1737200B00L	Total Lead	03/03/1992	03/18/1992	1600		MG/KG	6.0
SDE1747100B00L	Total Lead	11/13/1991	12/02/1991	1510		MG/KG	7.6
SED1701100B00L	Total Lead	03/19/1992	04/07/1992	789		MG/KG	6.1
SED1701200B00L	Total Lead	03/19/1992	04/07/1992	560		MG/KG	6.0

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1707100B00L	Total Lead	12/05/1991	12/16/1991	571		MG/KG	7.9
SED1709100B00L	Total Lead	11/13/1991	12/02/1991	449		MG/KG	8.0
SED1709200B00L	Total Lead	11/13/1991	12/02/1991	1010		MG/KG	7.6
SED1715100B00L	Total Lead	11/13/1991	12/02/1991	1060		MG/KG	7.3
SED1715200B00L	Total Lead	11/13/1991	12/02/1991	1250		MG/KG	8.0
SED1717100B00L	Total Lead	12/05/1991	12/16/1991	985		MG/KG	8.2
SED1717200B00L	Total Lead	12/05/1991	12/16/1991	1720		MG/KG	7.8
SED1723100B00L	Total Lead	03/19/1992	04/07/1992	429		MG/KG	6.0
SED1729100B00L	Total Lead	05/06/1992	06/11/1992	726		MG/KG	5.4
SED1729200B00L	Total Lead	05/06/1992	06/11/1992	600		MG/KG	5.6
SED1733100B00L	Total Lead	05/06/1992	06/11/1992	381		MG/KG	5.4
SED1733200B00L	Total Lead	05/06/1992	06/11/1992	958		MG/KG	5.9
SET1310100B00L	Total Lead	05/12/1992	06/26/1992	14300		MG/KG	54.6
SET1310200B00L	Total Lead	05/12/1992	06/26/1992	286		MG/KG	5.7
SET1312100B00L	Total Lead	05/19/1992	07/29/1992	261	J	MG/KG	5.5

NUMBER OF SAMPLES >= 500 ppm 44
NUMBER OF SAMPLES 62
CUMULATIVE BINOMIAL PROBABILITY (P) 0.99
ß error 0.1 %

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SCL1704100C00L	Total Lead	11/12/1991	11/26/1991	768		MG/KG	7.9
SCL1704200C00L	Total Lead	11/12/1991	11/26/1991	307		MG/KG	6.9
SCL1708100C00L	Total Lead	11/12/1991	11/26/1991	887	J	MG/KG	6.9
SCL1708200C00L	Total Lead	11/12/1991	12/02/1991	695		MG/KG	7.5
SCL1710100C00L	Total Lead	11/12/1991	12/02/1991	152		MG/KG	7.2
SCL1710200C00L	Total Lead	11/12/1991	12/02/1991	177		MG/KG	7.7
SCL1712100C00L	Total Lead	08/12/1992	09/10/1992	118	J	MG/KG	5.41
SCL1712200C00L	Total Lead	08/12/1992	09/10/1992	887	J	MG/KG	5.51
SCL1720100C00L	Total Lead	05/05/1992	06/11/1992	920		MG/KG	5.3
SCL1720200C00L	Total Lead	05/05/1992	06/11/1992	581		MG/KG	5.2
SCL1726100C00L	Total Lead	03/06/1992	03/20/1992	452		MG/KG	5.6
SCL1726200C00L	Total Lead	03/06/1992	03/20/1992	577	J	MG/KG	6.0
SCL1728100C00L	Total Lead	05/05/1992	06/11/1992	926		MG/KG	5.7
SCL1728200C00L	Total Lead	05/05/1992	06/11/1992	485		MG/KG	5.9
SCL1736100C00L	Total Lead	05/05/1992	06/11/1992	243		MG/KG	5.8
SCL1736200C00L	Total Lead	05/05/1992	06/11/1992	213		MG/KG	5.8
SDE1700100C00L	Total Lead	05/05/1992	06/11/1992	606		MG/KG	5.3
SDE1700200C00L	Total Lead	05/05/1992	06/11/1992	914		MG/KG	5.8
SDE1703100C00L	Total Lead	11/12/1991	12/02/1991	397		MG/KG	8.2
SDE1703200C00L	Total Lead	11/12/1991	12/02/1991	233		MG/KG	8.4
SDE1704100C00L	Total Lead	11/12/1991	12/02/1991	155		MG/KG	7.9
SDE1704200C00L	Total Lead	11/12/1991	12/02/1991	265		MG/KG	7.1
SDE1707100C00L	Total Lead	11/12/1991	12/02/1991	169		MG/KG	8.3

DECISION UNIT 18
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1707200C00L	Total Lead	11/12/1991	12/02/1991	463		MG/KG	8.1
SDE1715100C00L	Total Lead	03/03/1992	03/18/1992	203		MG/KG	6.2
SDE1715200C00L	Total Lead	03/03/1992	03/18/1992	766		MG/KG	5.8
SDE1717100C00L	Total Lead	11/12/1991	12/02/1991	243		MG/KG	7.2
SDE1717200C00L	Total Lead	11/12/1991	12/02/1991	211		MG/KG	7.3
SDE1718100C00L	Total Lead	04/14/1992	05/18/1992	254		MG/KG	6.1
SDE1718200C00L	Total Lead	04/14/1992	05/18/1992	902		MG/KG	6.0
SDE1723100C00L	Total Lead	05/05/1992	06/11/1992	375		MG/KG	5.7
SDE1723200C00L	Total Lead	05/05/1992	06/11/1992	633		MG/KG	5.6
SDE1725100C00L	Total Lead	03/03/1992	03/18/1992	1220		MG/KG	6.3
SDE1725200C00L	Total Lead	03/03/1992	03/18/1992	314		MG/KG	6.9
SDE1726100C00L	Total Lead	03/03/1992	03/18/1992	197		MG/KG	6.3
SDE1726200C00L	Total Lead	03/03/1992	03/18/1992	441		MG/KG	5.8
SDE1728100C00L	Total Lead	11/12/1991	12/02/1991	262		MG/KG	7.9
SDE1728200C00L	Total Lead	11/12/1991	12/02/1991	295		MG/KG	6.7
SDE1729100C00L	Total Lead	04/14/1992	05/18/1992	256		MG/KG	5.7
SDE1729200C00L	Total Lead	04/14/1992	06/09/1992	358		MG/KG	5.5
SDE1732100C00L	Total Lead	12/06/1991	12/16/1991	146		MG/KG	6.6
SDE1732200C00L	Total Lead	12/06/1991	12/16/1991	137		MG/KG	7.6
SDE1737100C00L	Total Lead	03/03/1992	03/18/1992	830		MG/KG	6.1
SDE1737200C00L	Total Lead	03/03/1992	03/18/1992	707		MG/KG	6.1
SDE1747100C00L	Total Lead	11/13/1991	12/02/1991	239		MG/KG	7.8
SED1701100C00L	Total Lead	03/19/1992	04/07/1992	1130		MG/KG	5.9
SED1701200C00L	Total Lead	03/19/1992	04/07/1992	304		MG/KG	6.5

DECISION UNIT 18

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1707100C00L	Total Lead	12/05/1991	12/16/1991	305		MG/KG	8.4
SED1709100C00L	Total Lead	11/13/1991	12/02/1991	147		MG/KG	8.0
SED1709200C00L	Total Lead	11/13/1991	12/02/1991	422		MG/KG	8.1
SED1715100C00L	Total Lead	11/13/1991	12/02/1991	422	J	MG/KG	7.4
SED1715200C00L	Total Lead	11/13/1991	12/02/1991	452		MG/KG	8.0
SED1717100C00L	Total Lead	12/05/1991	12/16/1991	533		MG/KG	7.6
SED1717200C00L	Total Lead	12/05/1991	12/16/1991	381		MG/KG	8.2
SED1723100C00L	Total Lead	03/19/1992	04/07/1992	257		MG/KG	5.9
SED1729100C00L	Total Lead	05/06/1992	06/11/1992	1030		MG/KG	5.3
SED1729200C00L	Total Lead	05/06/1992	06/11/1992	439		MG/KG	5.7
SED1733100C00L	Total Lead	05/06/1992	06/11/1992	654		MG/KG	5.4
SED1733200C00L	Total Lead	05/06/1992	06/11/1992	616		MG/KG	5.9
SET1310100C00L	Total Lead	05/12/1992	06/26/1992	372		MG/KG	5.5
SET1310200C00L	Total Lead	05/12/1992	06/26/1992	121		MG/KG	5.7

NUMBER OF SAMPLES >= 500 ppm 21
NUMBER OF SAMPLES 61
CUMULATIVE BINOMIAL PROBABILITY (P) 0.96
β error 0.1 %

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 19

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SED1700100A00L	Total Lead	03/19/1992	04/06/1992	1130		MG/KG	6.7
SED1700200A00L	Total Lead	03/19/1992	05/11/1992	1260		MG/KG	6.1
SED1704100A00L	Total Lead	11/13/1991	12/02/1991	2330		MG/KG	8.0
SED1704200A00L	Total Lead	11/13/1991	12/02/1991	944		MG/KG	8.3
SED1708100A00L	Total Lead	03/19/1992	04/07/1992	1120		MG/KG	6.3
SED1708100A00L	Total Lead	04/15/1992	05/19/1992	1290		MG/KG	6.2
SED1708200A00L	Total Lead	03/19/1992	04/07/1992	993		MG/KG	6.0
SED1708200A00L	Total Lead	04/15/1992	05/19/1992	743		MG/KG	5.3
SED1718100A00L	Total Lead	05/06/1992	06/11/1992	1030		MG/KG	6.0
SED1718200A00L	Total Lead	05/06/1992	06/11/1992	<5.1		MG/KG	5.1
SED1720100A00L	Total Lead	03/19/1992	04/07/1992	907		MG/KG	6.3
SED1720200A00L	Total Lead	03/19/1992	04/07/1992	1130		MG/KG	6.4
SED1726100A00L	Total Lead	05/06/1992	06/11/1992	1230		MG/KG	5.8
SED1726200A00L	Total Lead	05/06/1992	06/11/1992	294		MG/KG	5.5
SED1734100A00L	Total Lead	03/19/1992	04/07/1992	1480		MG/KG	6.3
SED1734200A00L	Total Lead	03/19/1992	04/07/1992	1120		MG/KG	6.6
SGR1714100A00L	Total Lead	03/17/1992	03/25/1992	876		MG/KG	5.8
SGR1714200A00L	Total Lead	04/23/1992	06/03/1992	731		MG/KG	6.2
SGR1734100A00L	Total Lead	05/06/1992	06/12/1992	1240		MG/KG	5.9
SGR1734200A00L	Total Lead	05/06/1992	06/12/1992	1070		MG/KG	5.6
SST1705100A00L	Total Lead	12/05/1991	12/16/1991	928		MG/KG	7.6
SST1705200A00L	Total Lead	12/05/1991	12/16/1991	475		MG/KG	7.7
SST1710100A00L	Total Lead	04/03/1992	05/14/1992	1370		MG/KG	6.4

DECISION UNIT 19

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST1710200A00L	Total Lead	04/03/1992	05/14/1992	1530		MG/KG	6.3
SST1716100A00L	Total Lead	05/11/1992	06/26/1992	477		MG/KG	4.8
SST1725100A00L	Total Lead	04/03/1992	05/14/1992	1330		MG/KG	6.3
SST1725200A00L	Total Lead	04/03/1992	05/14/1992	729		MG/KG	6.6
			NUMBER OF SAMPLES >= 500 ppm	23			
			NUMBER OF SAMPLES	27			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			ß error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 19

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SED1700100B00L	Total Lead	03/19/1992	05/11/1992	1380		MG/KG	6.2
SED1700200B00L	Total Lead	03/19/1992	04/07/1992	705		MG/KG	6.4
SED1704100B00L	Total Lead	11/13/1991	12/02/1991	434		MG/KG	7.5
SED1704200B00L	Total Lead	11/13/1991	12/02/1991	776		MG/KG	7.8
SED1708100B00L	Total Lead	03/19/1992	04/06/1992	838		MG/KG	6.1
SED1708100B00L	Total Lead	04/15/1992	05/19/1992	137		MG/KG	6.2
SED1708200B00L	Total Lead	03/19/1992	04/07/1992	1800		MG/KG	6.2
SED1708200B00L	Total Lead	04/15/1992	05/19/1992	486		MG/KG	6.1
SED1718100B00L	Total Lead	05/06/1992	06/11/1992	1270		MG/KG	5.4
SED1718200B00L	Total Lead	05/06/1992	06/11/1992	<5.2		MG/KG	5.2
SED1720100B00L	Total Lead	03/19/1992	04/07/1992	922		MG/KG	6.1
SED1720200B00L	Total Lead	03/19/1992	04/07/1992	776		MG/KG	6.3
SED1726100B00L	Total Lead	05/06/1992	06/11/1992	297		MG/KG	5.6
SED1726200B00L	Total Lead	05/06/1992	06/11/1992	516	J	MG/KG	5.5
SED1734100B00L	Total Lead	03/19/1992	04/07/1992	619		MG/KG	5.7
SED1734200B00L	Total Lead	03/19/1992	04/07/1992	919		MG/KG	5.9
SGR1714100B00L	Total Lead	03/17/1992	03/25/1992	765		MG/KG	6.1
SGR1714200B00L	Total Lead	04/23/1992	06/03/1992	591		MG/KG	6.2
SGR1734100B00L	Total Lead	05/06/1992	06/12/1992	1470		MG/KG	5.5
SGR1734200B00L	Total Lead	05/06/1992	06/12/1992	950		MG/KG	5.6
SST1705100B00L	Total Lead	12/05/1991	12/16/1991	751		MG/KG	7.7
SST1705200B00L	Total Lead	12/05/1991	12/16/1991	258		MG/KG	7.4
SST1710100B00L	Total Lead	04/03/1992	05/14/1992	943		MG/KG	5.5

DECISION UNIT 19

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST1710200B00L	Total Lead	04/03/1992	05/14/1992	321		MG/KG	6.2
SST1716100B00L	Total Lead	05/11/1992	06/26/1992	184		MG/KG	5.1
SST1725100B00L	Total Lead	04/03/1992	05/14/1992	730		MG/KG	6.2
SST1725200B00L	Total Lead	04/03/1992	05/14/1992	640		MG/KG	6.2
			NUMBER OF SAMPLES >= 500 ppm	19			
			NUMBER OF SAMPLES	27			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 19
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SED1700100C00L	Total Lead	03/19/1992	05/11/1992	515		MG/KG	6.1
SED1700200C00L	Total Lead	03/19/1992	04/07/1992	400		MG/KG	6.1
SED1704100C00L	Total Lead	11/13/1991	12/02/1991	245		MG/KG	7.0
SED1704200C00L	Total Lead	11/13/1991	12/02/1991	201		MG/KG	7.2
SED1708100C00L	Total Lead	03/19/1992	04/07/1992	217		MG/KG	6.0
SED1708100C00L	Total Lead	04/15/1992	05/19/1992	310		MG/KG	6.5
SED1708200C00L	Total Lead	03/19/1992	04/07/1992	1020		MG/KG	6.3
SED1708200C00L	Total Lead	04/15/1992	05/19/1992	581		MG/KG	5.8
SED1718100C00L	Total Lead	05/06/1992	06/11/1992	277		MG/KG	5.6
SED1718200C00L	Total Lead	05/06/1992	06/11/1992	63.9		MG/KG	5.3
SED1720100C00L	Total Lead	03/19/1992	04/07/1992	433		MG/KG	6.2
SED1720200C00L	Total Lead	03/19/1992	04/07/1992	695		MG/KG	6.0
SED1726100C00L	Total Lead	05/06/1992	06/11/1992	1350		MG/KG	5.6
SED1726200C00L	Total Lead	05/06/1992	06/12/1992	183		MG/KG	5.5
SED1734100C00L	Total Lead	03/19/1992	04/07/1992	747		MG/KG	5.9
SED1734200C00L	Total Lead	03/19/1992	04/07/1992	762		MG/KG	5.8
SGR1714100C00L	Total Lead	03/17/1992	03/25/1992	449		MG/KG	6.0
SGR1714200C00L	Total Lead	04/23/1992	06/03/1992	552		MG/KG	6.2
SGR1734100C00L	Total Lead	05/06/1992	06/12/1992	1330		MG/KG	5.5
SGR1734200C00L	Total Lead	05/06/1992	06/12/1992	894		MG/KG	5.8
SST1705100C00L	Total Lead	12/05/1991	12/16/1991	309		MG/KG	7.4
SST1705200C00L	Total Lead	12/05/1991	12/16/1991	505		MG/KG	7.5
SST1710100C00L	Total Lead	04/03/1992	05/14/1992	421		MG/KG	5.7

DECISION UNIT 19

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SST1710200C00L	Total Lead	04/03/1992	05/14/1992	1540		MG/KG	6.2
SST1716100C00L	Total Lead	05/11/1992	06/26/1992	272		MG/KG	5.1
SST1725100C00L	Total Lead	04/03/1992	05/14/1992	244		MG/KG	6.0
SST1725200C00L	Total Lead	04/03/1992	05/14/1992	445		MG/KG	5.9
			NUMBER OF SAMPLES >= 500 ppm	12			
			NUMBER OF SAMPLES	27			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 20
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCL1624100A00L	Total Lead	03/06/1992	05/11/1992	4790		MG/KG	60.7
SCL1624200A00L	Total Lead	03/06/1992	03/20/1992	1830		MG/KG	5.8
SCL1628100A00L	Total Lead	03/06/1992	03/20/1992	2160		MG/KG	6.0
SCL1628200A00L	Total Lead	03/06/1992	03/20/1992	2050		MG/KG	5.7
SCL1630100A00L	Total Lead	05/05/1992	06/11/1992	2120		MG/KG	5.6
SCL1630200A00L	Total Lead	05/05/1992	06/11/1992	1610		MG/KG	5.6
SCL1634100A00L	Total Lead	04/27/1992	06/08/1992	2540		MG/KG	6.2
SCL1634200A00L	Total Lead	04/27/1992	06/08/1992	1850		MG/KG	5.7
SCL1640100A00L	Total Lead	04/27/1992	06/08/1992	2270		MG/KG	6.2
SCL1640200A00L	Total Lead	04/27/1992	06/08/1992	1180		MG/KG	5.9
SCL1642100A00L	Total Lead	11/11/1991	11/26/1991	1220		MG/KG	8.2
SCL1642200A00L	Total Lead	11/11/1991	11/26/1991	1010		MG/KG	8.3
SDE1619100A00L	Total Lead	03/03/1992	05/11/1992	3340		MG/KG	60.2
SDE1619200A00L	Total Lead	03/03/1992	05/11/1992	2700		MG/KG	58.5
SDE1627100A00L	Total Lead	05/05/1992	06/11/1992	3490		MG/KG	29.7
SDE1627200A00L	Total Lead	05/05/1992	06/11/1992	3110		MG/KG	29.3
SDE1633100A00L	Total Lead	04/15/1992	05/19/1992	2260		MG/KG	5.6
SDE1633200A00L	Total Lead	04/15/1992	05/19/1992	1890		MG/KG	5.8
SDE1637100A00L	Total Lead	03/03/1992	03/18/1992	1850		MG/KG	5.7
SDE1637200A00L	Total Lead	03/03/1992	03/18/1992	485		MG/KG	6.1
SDE1641100A00L	Total Lead	04/27/1992	06/04/1992	1840		MG/KG	5.7
SDE1641200A00L	Total Lead	04/27/1992	06/08/1992	1100		MG/KG	5.7
SDE1643100A00L	Total Lead	11/12/1991	12/02/1991	1150		MG/KG	8.3

DECISION UNIT 20

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1643200A00L	Total Lead	11/12/1991	12/02/1991	1100		MG/KG	8.0
	NUMBER OF SAMPLES >= 500 ppm			23			
	NUMBER OF SAMPLES			24			
	CUMULATIVE BINOMIAL PROBABILITY (P)			0.99			
	ß error			0.25%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 20

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCL1624100B00L	Total Lead	03/06/1992	03/20/1992	2490		MG/KG	6.3
SCL1624200B00L	Total Lead	03/06/1992	03/20/1992	1390		MG/KG	5.8
SCL1628100B00L	Total Lead	03/06/1992	03/20/1992	990		MG/KG	6.0
SCL1628200B00L	Total Lead	03/06/1992	03/20/1992	992		MG/KG	6.1
SCL1630100B00L	Total Lead	05/05/1992	06/11/1992	757		MG/KG	5.1
SCL1630200B00L	Total Lead	05/05/1992	06/11/1992	629		MG/KG	6.1
SCL1634100B00L	Total Lead	04/27/1992	06/08/1992	1500		MG/KG	5.6
SCL1634200B00L	Total Lead	04/27/1992	06/08/1992	1160		MG/KG	5.6
SCL1640100B00L	Total Lead	04/27/1992	06/08/1992	623		MG/KG	6.0
SCL1640200B00L	Total Lead	04/27/1992	06/08/1992	1100		MG/KG	5.9
SCL1642100B00L	Total Lead	11/11/1991	11/26/1991	1180		MG/KG	7.1
SCL1642200B00L	Total Lead	11/11/1991	11/26/1991	995		MG/KG	8.3
SDE1619100B00L	Total Lead	03/03/1992	03/18/1992	1410		MG/KG	5.8
SDE1619200B00L	Total Lead	03/03/1992	03/18/1992	774		MG/KG	5.8
SDE1627100B00L	Total Lead	05/05/1992	06/11/1992	962		MG/KG	5.4
SDE1627200B00L	Total Lead	05/05/1992	06/11/1992	2570		MG/KG	6.0
SDE1633100B00L	Total Lead	04/15/1992	05/19/1992	1400		MG/KG	5.5
SDE1633200B00L	Total Lead	04/15/1992	05/19/1992	1080		MG/KG	6.0
SDE1637100B00L	Total Lead	03/03/1992	03/18/1992	272		MG/KG	6.0
SDE1637200B00L	Total Lead	03/03/1992	03/18/1992	378		MG/KG	6.0
SDE1641100B00L	Total Lead	04/27/1992	06/04/1992	949		MG/KG	5.5
SDE1641200B00L	Total Lead	04/27/1992	06/08/1992	893		MG/KG	5.6
SDE1643100B00L	Total Lead	11/12/1991	12/02/1991	279		MG/KG	8.0

DECISION UNIT 20

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1643200B00L	Total Lead	11/12/1991	12/02/1991	450		MG/KG	7.6
		NUMBER OF SAMPLES >= 500 ppm		20			
		NUMBER OF SAMPLES		24			
		CUMULATIVE BINOMIAL PROBABILITY (P)		0.99			
		β error		0.25%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 20
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SCL1624100C00L	Total Lead	03/06/1992	03/20/1992	1030		MG/KG	6.0
SCL1624200C00L	Total Lead	03/06/1992	03/20/1992	452		MG/KG	5.5
SCL1628100C00L	Total Lead	03/06/1992	03/20/1992	787		MG/KG	6.0
SCL1628200C00L	Total Lead	03/06/1992	03/20/1992	382		MG/KG	5.9
SCL1630100C00L	Total Lead	05/05/1992	06/11/1992	242		MG/KG	5.6
SCL1630200C00L	Total Lead	05/05/1992	06/11/1992	1170		MG/KG	5.5
SCL1634100C00L	Total Lead	04/27/1992	06/08/1992	404		MG/KG	5.6
SCL1634200C00L	Total Lead	04/27/1992	06/08/1992	743		MG/KG	5.9
SCL1640100C00L	Total Lead	04/27/1992	06/08/1992	463		MG/KG	5.6
SCL1640200C00L	Total Lead	04/27/1992	06/08/1992	404		MG/KG	6.0
SCL1642100C00L	Total Lead	11/11/1991	11/26/1991	1700		MG/KG	8.9
SCL1642200C00L	Total Lead	11/11/1991	11/26/1991	763		MG/KG	7.9
SDE1619100C00L	Total Lead	03/03/1992	03/18/1992	917		MG/KG	6.1
SDE1619200C00L	Total Lead	03/03/1992	03/18/1992	626		MG/KG	5.9
SDE1627100C00L	Total Lead	05/05/1992	06/11/1992	455		MG/KG	5.8
SDE1627200C00L	Total Lead	05/05/1992	06/11/1992	1320		MG/KG	6.1
SDE1633100C00L	Total Lead	04/15/1992	05/19/1992	427		MG/KG	5.9
SDE1633200C00L	Total Lead	04/15/1992	05/19/1992	367		MG/KG	5.9
SDE1637100C00L	Total Lead	03/03/1992	03/18/1992	526		MG/KG	5.6
SDE1637200C00L	Total Lead	03/03/1992	03/18/1992	338		MG/KG	5.7
SDE1641100C00L	Total Lead	04/27/1992	06/08/1992	357		MG/KG	5.3
SDE1641200C00L	Total Lead	04/27/1992	06/08/1992	316		MG/KG	5.4
SDE1643100C00L	Total Lead	11/12/1991	12/02/1991	46.7		MG/KG	7.0

DECISION UNIT 20

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SDE1643200C00L	Total Lead	11/12/1991	12/02/1991	235		MG/KG	7.1
	NUMBER OF SAMPLES >= 500 ppm			10			
	NUMBER OF SAMPLES			24			
	CUMULATIVE BINOMIAL PROBABILITY (P)			0.98			
	β error			0.25%			
	For Level C:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 21
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SDE1624100A00L	Total Lead	11/11/1991	11/26/1991	1460		MG/KG	7.3
SDE1624200A00L	Total Lead	11/11/1991	11/26/1991	2570		MG/KG	8.3
SDE1628100A00L	Total Lead	03/03/1992	03/18/1992	1620		MG/KG	5.9
SDE1628200A00L	Total Lead	03/03/1992	03/18/1992	1250		MG/KG	6.2
SDE1630100A00L	Total Lead	05/18/1992	07/28/1992	2280	J	MG/KG	5.8
SDE1630200A00L	Total Lead	05/18/1992	07/28/1992	1390	J	MG/KG	5.9
SDE1636100A00L	Total Lead	03/03/1992	03/18/1992	1320		MG/KG	6.0
SDE1636200A00L	Total Lead	03/03/1992	03/18/1992	1350		MG/KG	6.0
SDE1638100A00L	Total Lead	03/03/1992	03/18/1992	1300		MG/KG	5.8
SDE1638200A00L	Total Lead	03/03/1992	05/11/1992	7240		MG/KG	59.1
SDE1644100A00L	Total Lead	11/12/1991	12/02/1991	970		MG/KG	7.2
SDE1644200A00L	Total Lead	11/12/1991	12/02/1991	899		MG/KG	7.9
SED1621100A00L	Total Lead	05/06/1992	06/12/1992	2260		MG/KG	5.5
SED1621200A00L	Total Lead	05/06/1992	06/12/1992	2150		MG/KG	5.4
SED1627100A00L	Total Lead	11/18/1991	12/05/1991	2070		MG/KG	8.0
SED1627200A00L	Total Lead	11/18/1991	12/05/1991	1050		MG/KG	7.8
SED1635100A00L	Total Lead	11/18/1991	12/05/1991	2640		MG/KG	8.5
SED1635200A00L	Total Lead	11/18/1991	12/05/1991	1910		MG/KG	8.3
SED1638100A00L	Total Lead	05/06/1992	06/12/1992	2470		MG/KG	28.0
SED1638200A00L	Total Lead	05/06/1992	06/12/1992	1100		MG/KG	5.3
SED1639100A00L	Total Lead	11/18/1991	12/05/1991	1280		MG/KG	8.8
SED1639200A00L	Total Lead	11/18/1991	12/05/1991	1520		MG/KG	8.0
SED1642100A00L	Total Lead	03/19/1992	04/06/1992	1310		MG/KG	6.8

DECISION UNIT 21

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1642200A00L	Total Lead	03/19/1992	04/06/1992	598		MG/KG	5.9
SED1643100A00L	Total Lead	05/06/1992	06/12/1992	1630		MG/KG	6.0
SED1643200A00L	Total Lead	05/06/1992	06/12/1992	1350		MG/KG	5.1
			NUMBER OF SAMPLES >= 500 ppm	26			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	1.0			
			β error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 21
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SDE1624100B00L	Total Lead	11/11/1991	11/26/1991	830		MG/KG	7.8
SDE1624200B00L	Total Lead	11/11/1991	11/26/1991	2950		MG/KG	8.3
SDE1628100B00L	Total Lead	03/03/1992	03/18/1992	722		MG/KG	5.7
SDE1628200B00L	Total Lead	03/03/1992	03/18/1992	833		MG/KG	6.3
SDE1630100B00L	Total Lead	05/18/1992	07/28/1992	1460	J	MG/KG	5.8
SDE1630200B00L	Total Lead	05/18/1992	07/28/1992	1360	J	MG/KG	5.8
SDE1636100B00L	Total Lead	03/03/1992	03/18/1992	881		MG/KG	5.8
SDE1636200B00L	Total Lead	03/03/1992	03/18/1992	1090		MG/KG	5.8
SDE1638100B00L	Total Lead	03/03/1992	03/18/1992	819		MG/KG	5.7
SDE1638200B00L	Total Lead	03/03/1992	03/18/1992	1040		MG/KG	6.0
SDE1644100B00L	Total Lead	11/12/1991	12/02/1991	298		MG/KG	6.9
SDE1644200B00L	Total Lead	11/12/1991	12/02/1991	95.2		MG/KG	6.7
SED1621100B00L	Total Lead	05/06/1992	06/12/1992	972		MG/KG	5.9
SED1621200B00L	Total Lead	05/06/1992	06/12/1992	2480		MG/KG	26.7
SED1627100B00L	Total Lead	11/18/1991	12/05/1991	1280		MG/KG	7.8
SED1627200B00L	Total Lead	11/18/1991	12/05/1991	1040		MG/KG	7.8
SED1635100B00L	Total Lead	11/18/1991	12/05/1991	1910		MG/KG	8.2
SED1635200B00L	Total Lead	11/18/1991	12/05/1991	1010		MG/KG	8.5
SED1638100B00L	Total Lead	05/06/1992	06/12/1992	1490		MG/KG	5.4
SED1638200B00L	Total Lead	05/06/1992	06/12/1992	1220		MG/KG	5.6
SED1639100B00L	Total Lead	11/18/1991	12/05/1991	843		MG/KG	8.6
SED1639200B00L	Total Lead	11/18/1991	12/05/1991	467	J	MG/KG	7.8
SED1642100B00L	Total Lead	03/19/1992	04/06/1992	1060		MG/KG	6.5

DECISION UNIT 21

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1642200B00L	Total Lead	03/19/1992	04/06/1992	1340		MG/KG	6.4
SED1643100B00L	Total Lead	05/06/1992	06/12/1992	1400		MG/KG	5.5
SED1643200B00L	Total Lead	05/06/1992	06/12/1992	345		MG/KG	5.3
			NUMBER OF SAMPLES >= 500 ppm	22			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 21
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SDE1624100C00L	Total Lead	11/11/1991	11/26/1991	690		MG/KG	7.7
SDE1624200C00L	Total Lead	11/11/1991	11/26/1991	983		MG/KG	6.9
SDE1628100C00L	Total Lead	03/03/1992	03/18/1992	278		MG/KG	5.7
SDE1628200C00L	Total Lead	03/03/1992	03/18/1992	107		MG/KG	6.4
SDE1630100C00L	Total Lead	05/18/1992	07/28/1992	760	J	MG/KG	5.5
SDE1630200C00L	Total Lead	05/18/1992	07/28/1992	307	J	MG/KG	5.7
SDE1636100C00L	Total Lead	03/03/1992	03/18/1992	566		MG/KG	5.5
SDE1636200C00L	Total Lead	03/03/1992	03/18/1992	584		MG/KG	5.8
SDE1638100C00L	Total Lead	03/03/1992	03/18/1992	256		MG/KG	5.7
SDE1638200C00L	Total Lead	03/03/1992	03/18/1992	516		MG/KG	6.5
SDE1644100C00L	Total Lead	11/12/1991	12/02/1991	497		MG/KG	7.3
SDE1644200C00L	Total Lead	11/12/1991	12/02/1991	162		MG/KG	7.5
SED1621100C00L	Total Lead	05/06/1992	06/12/1992	498		MG/KG	5.8
SED1621200C00L	Total Lead	05/06/1992	06/12/1992	1230		MG/KG	5.7
SED1627100C00L	Total Lead	11/18/1991	12/05/1991	426		MG/KG	7.6
SED1627200C00L	Total Lead	11/18/1991	12/05/1991	630		MG/KG	7.3
SED1635100C00L	Total Lead	11/18/1991	12/05/1991	953		MG/KG	7.3
SED1635200C00L	Total Lead	11/18/1991	12/05/1991	246		MG/KG	7.8
SED1638100C00L	Total Lead	05/06/1992	06/12/1992	922		MG/KG	5.7
SED1638200C00L	Total Lead	05/06/1992	06/12/1992	943		MG/KG	5.5
SED1639100C00L	Total Lead	11/18/1991	12/05/1991	210		MG/KG	8.4
SED1639200C00L	Total Lead	11/18/1991	12/06/1991	136		MG/KG	7.5
SED1642100C00L	Total Lead	03/19/1992	04/06/1992	317		MG/KG	6.2

DECISION UNIT 21

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 28, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SED1642200C00L	Total Lead	03/19/1992	04/06/1992	791		MG/KG	5.9
SED1643100C00L	Total Lead	05/06/1992	06/12/1992	454		MG/KG	6.0
SED1643200C00L	Total Lead	05/06/1992	06/12/1992	262		MG/KG	5.6
			NUMBER OF SAMPLES >= 500 ppm	12			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 22

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SDV2503100A00L	Total Lead	04/08/1992	05/15/1992	349		MG/KG	6.1
SDV2503200A00L	Total Lead	04/08/1992	05/15/1992	250	J	MG/KG	5.7
SDV2505100A00L	Total Lead	05/07/1992	06/19/1992	631		MG/KG	5.1
SDV2505200A00L	Total Lead	05/07/1992	06/19/1992	630		MG/KG	5.5
SDV2507100A00L	Total Lead	04/08/1992	05/15/1992	317		MG/KG	6.0
SDV2507200A00L	Total Lead	04/08/1992	05/15/1992	536		MG/KG	6.1
SDV2619100A00L	Total Lead	04/08/1992	05/15/1992	400		MG/KG	6.0
SDV2619200A00L	Total Lead	04/08/1992	05/15/1992	229		MG/KG	5.8
SJF2002100A00L	Total Lead	12/06/1991	12/16/1991	335		MG/KG	7.3
SJF2002200A00L	Total Lead	12/06/1991	12/16/1991	381		MG/KG	7.7
SRR2009100A00L	Total Lead	04/08/1992	05/15/1992	288		MG/KG	5.3
SRR2009200A00L	Total Lead	04/08/1992	05/15/1992	571		MG/KG	6.1
SWT2504100A00L	Total Lead	12/06/1991	12/16/1991	373		MG/KG	7.2
SWT2504200A00L	Total Lead	12/06/1991	12/16/1991	807		MG/KG	7.5
SWT2508100A00L	Total Lead	12/06/1991	12/16/1991	396		MG/KG	7.8
SWT2508200A00L	Total Lead	12/06/1991	12/16/1991	211		MG/KG	8.1
SWT2510100A00L	Total Lead	12/06/1991	12/16/1991	586		MG/KG	8.1
SWT2510200A00L	Total Lead	12/06/1991	12/16/1991	943		MG/KG	7.8
SWT2606100A00L	Total Lead	04/08/1992	05/15/1992	302		MG/KG	5.0
SWT2606200A00L	Total Lead	04/08/1992	05/15/1992	284		MG/KG	5.5
SWT2610100A00L	Total Lead	05/07/1992	06/12/1992	581		MG/KG	5.4
SWT2610200A00L	Total Lead	05/07/1992	06/12/1992	186		MG/KG	5.7
SWT2612100A00L	Total Lead	12/06/1991	12/16/1991	738		MG/KG	8.4

DECISION UNIT 22

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SWT2612200A00L	Total Lead	12/06/1991	12/16/1991	232		MG/KG	8.2
SWT2636100A00L	Total Lead	04/08/1992	05/15/1992	310		MG/KG	5.7
SWT2636200A00L	Total Lead	04/08/1992	05/15/1992	209		MG/KG	5.9
			NUMBER OF SAMPLES >= 500 ppm	9			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.9			
			β error	0.1%			

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 22
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SDV2503100B00L	Total Lead	04/08/1992	05/15/1992	442		MG/KG	6.2
SDV2503200B00L	Total Lead	04/08/1992	05/15/1992	679		MG/KG	6.1
SDV2505100B00L	Total Lead	05/07/1992	06/19/1992	280		MG/KG	5.3
SDV2505200B00L	Total Lead	05/07/1992	06/19/1992	564		MG/KG	5.9
SDV2507100B00L	Total Lead	04/08/1992	05/15/1992	161		MG/KG	5.6
SDV2507200B00L	Total Lead	04/08/1992	05/15/1992	705		MG/KG	5.5
SDV2619100B00L	Total Lead	04/08/1992	05/15/1992	494		MG/KG	5.5
SDV2619200B00L	Total Lead	04/08/1992	05/15/1992	241		MG/KG	5.9
SJF2002100B00L	Total Lead	12/06/1991	12/16/1991	217		MG/KG	7.4
SJF2002200B00L	Total Lead	12/06/1991	12/16/1991	364		MG/KG	8.0
SRR2009100B00L	Total Lead	04/08/1992	05/15/1992	203		MG/KG	5.3
SRR2009200B00L	Total Lead	04/08/1992	05/15/1992	319		MG/KG	5.8
SWT2504100B00L	Total Lead	12/06/1991	12/16/1991	416		MG/KG	6.9
SWT2504200B00L	Total Lead	12/06/1991	12/16/1991	1150		MG/KG	7.8
SWT2508100B00L	Total Lead	12/06/1991	12/16/1991	360		MG/KG	7.9
SWT2508200B00L	Total Lead	12/06/1991	12/16/1991	462		MG/KG	7.9
SWT2510100B00L	Total Lead	12/06/1991	12/16/1991	424		MG/KG	7.1
SWT2510200B00L	Total Lead	12/06/1991	12/16/1991	807		MG/KG	7.3
SWT2606100B00L	Total Lead	04/08/1992	05/15/1992	117		MG/KG	5.5
SWT2606200B00L	Total Lead	04/08/1992	05/15/1992	137		MG/KG	5.7
SWT2610100B00L	Total Lead	05/07/1992	06/12/1992	423		MG/KG	5.3
SWT2610200B00L	Total Lead	05/07/1992	06/12/1992	187		MG/KG	5.7
SWT2612100B00L	Total Lead	12/06/1991	12/16/1991	183		MG/KG	8.1

DECISION UNIT 22

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SWT2612200B00L	Total Lead	12/06/1991	12/16/1991	215		MG/KG	6.7
SWT2636100B00L	Total Lead	04/08/1992	05/15/1992	304	J	MG/KG	5.9
SWT2636200B00L	Total Lead	04/08/1992	05/15/1992	167		MG/KG	5.9
			NUMBER OF SAMPLES >= 500 ppm	5			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.34			
			β error	0.1%			

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 22
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SDV2503100C00L	Total Lead	04/08/1992	05/15/1992	623		MG/KG	5.7
SDV2503200C00L	Total Lead	04/08/1992	05/15/1992	485		MG/KG	5.9
SDV2505100C00L	Total Lead	05/07/1992	06/19/1992	142		MG/KG	5.3
SDV2505200C00L	Total Lead	05/07/1992	06/19/1992	324		MG/KG	5.9
SDV2507100C00L	Total Lead	04/08/1992	05/15/1992	71.6		MG/KG	5.7
SDV2507200C00L	Total Lead	04/08/1992	05/15/1992	481		MG/KG	5.8
SDV2619100C00L	Total Lead	04/08/1992	05/15/1992	118		MG/KG	5.9
SDV2619200C00L	Total Lead	04/08/1992	05/15/1992	143		MG/KG	5.8
SJF2002100C00L	Total Lead	12/06/1991	12/16/1991	220		MG/KG	6.8
SJF2002200C00L	Total Lead	12/06/1991	12/16/1991	129		MG/KG	7.2
SRR2009100C00L	Total Lead	04/08/1992	05/15/1992	355		MG/KG	5.7
SRR2009200C00L	Total Lead	04/08/1992	05/15/1992	173		MG/KG	5.2
SWT2504100C00L	Total Lead	12/06/1991	12/16/1991	423		MG/KG	6.5
SWT2504200C00L	Total Lead	12/06/1991	12/16/1991	740		MG/KG	8.2
SWT2508100C00L	Total Lead	12/06/1991	12/16/1991	253		MG/KG	7.7
SWT2508200C00L	Total Lead	12/06/1991	12/16/1991	525		MG/KG	7.0
SWT2510100C00L	Total Lead	12/06/1991	12/16/1991	108		MG/KG	7.9
SWT2510200C00L	Total Lead	12/06/1991	12/16/1991	399		MG/KG	7.5
SWT2606100C00L	Total Lead	04/08/1992	05/15/1992	60.6		MG/KG	5.2
SWT2606200C00L	Total Lead	04/08/1992	05/15/1992	101		MG/KG	5.5
SWT2610100C00L	Total Lead	05/07/1992	06/12/1992	212		MG/KG	5.5
SWT2610200C00L	Total Lead	05/07/1992	06/12/1992	175		MG/KG	5.7
SWT2612100C00L	Total Lead	12/06/1991	12/16/1991	181		MG/KG	8.0

DECISION UNIT 22

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SWT2612200C00L	Total Lead	12/06/1991	12/16/1991	111		MG/KG	7.0
SWT2636100C00L	Total Lead	04/08/1992	05/15/1992	278		MG/KG	6.0
SWT2636200C00L	Total Lead	04/08/1992	05/15/1992	137		MG/KG	6.1
			NUMBER OF SAMPLES >= 500 ppm	3			
			NUMBER OF SAMPLES	26			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.08			
			β error	0.1%			

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 23
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SBR2011100A00L	Total Lead	05/07/1992	06/19/1992	842		MG/KG	5.3
SBR2011200A00L	Total Lead	05/07/1992	06/19/1992	1090		MG/KG	5.3
SBR2014100A00L	Total Lead	12/06/1991	12/16/1991	646		MG/KG	7.7
SBR2014200A00L	Total Lead	12/06/1991	12/16/1991	635		MG/KG	8.4
SBR2023100A00L	Total Lead	12/06/1991	12/16/1991	600		MG/KG	8.6
SBR2023200A00L	Total Lead	12/06/1991	12/16/1991	1270		MG/KG	8.1
SBR2025100A00L	Total Lead	04/08/1992	05/15/1992	410		MG/KG	7.6
SBR2027100A00L	Total Lead	08/13/1992	09/10/1992	1330	J	MG/KG	5.31
SBR2029100A00L	Total Lead	05/07/1992	06/19/1992	395		MG/KG	5.4
SBR2029200A00L	Total Lead	05/07/1992	06/19/1992	693		MG/KG	5.3
SBR2035100A00L	Total Lead	04/08/1992	05/15/1992	143		MG/KG	5.6
SBR2035200A00L	Total Lead	04/08/1992	05/15/1992	250		MG/KG	5.6
SBR2037100A00L	Total Lead	04/08/1992	05/15/1992	475		MG/KG	5.8
SBR2037200A00L	Total Lead	04/08/1992	05/15/1992	559		MG/KG	5.7
SOH2014100A00L	Total Lead	12/06/1991	12/16/1991	512		MG/KG	7.7
SOH2014200A00L	Total Lead	12/06/1991	12/16/1991	910		MG/KG	7.5
SOH2018100A00L	Total Lead	12/06/1991	12/16/1991	1010		MG/KG	8.3
SOH2018200A00L	Total Lead	12/06/1991	12/16/1991	764		MG/KG	9.2
SOH2025100A00L	Total Lead	05/13/1992	06/26/1992	291		MG/KG	5.4
SOH2025200A00L	Total Lead	05/13/1992	06/26/1992	384		MG/KG	5.3
SOH2025300A00L	Total Lead	05/13/1992	06/26/1992	390		MG/KG	5.4
SOH2025400A00L	Total Lead	05/13/1992	06/26/1992	377		MG/KG	5.4
SOH2025500A00L	Total Lead	05/13/1992	06/26/1992	348		MG/KG	5.4

DECISION UNIT 23

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOH2025600A00L	Total Lead	05/13/1992	07/28/1992	384	J	MG/KG	5.7
SOH2025700A00L	Total Lead	05/13/1992	07/28/1992	874	J	MG/KG	5.3
SOH2025800A00L	Total Lead	05/13/1992	07/28/1992	286	J	MG/KG	5.7
SOH2025900A00L	Total Lead	05/13/1992	07/28/1992	398	J	MG/KG	5.5
SOH2026100A00L	Total Lead	04/08/1992	05/15/1992	697		MG/KG	6.2
SOH2026200A00L	Total Lead	04/08/1992	05/15/1992	1110		MG/KG	7.7
SOH2028100A00L	Total Lead	04/08/1992	05/15/1992	481		MG/KG	5.5
SOH2028200A00L	Total Lead	04/08/1992	05/15/1992	442		MG/KG	5.8
SRR2009100A00L	Total Lead	04/08/1992	05/15/1992	288		MG/KG	5.3
SRR2009200A00L	Total Lead	04/08/1992	05/15/1992	571		MG/KG	6.1

NUMBER OF SAMPLES >= 500 ppm 17
NUMBER OF SAMPLES 33
CUMULATIVE BINOMIAL PROBABILITY (P) 0.99
β error 0.1

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 23
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SBR2011100B00L	Total Lead	05/07/1992	06/19/1992	869	U	MG/KG	5.2
SBR2011200B00L	Total Lead	05/07/1992	06/19/1992	1290		MG/KG	5.5
SBR2014100B00L	Total Lead	12/06/1991	12/16/1991	471		MG/KG	7.2
SBR2014200B00L	Total Lead	12/06/1991	12/16/1991	514		MG/KG	7.9
SBR2023100B00L	Total Lead	12/06/1991	12/16/1991	452		MG/KG	8.0
SBR2023200B00L	Total Lead	12/06/1991	12/16/1991	673		MG/KG	7.7
SBR2025100B00L	Total Lead	04/08/1992	05/15/1992	248		MG/KG	5.5
SBR2027100B00L	Total Lead	08/13/1992	09/10/1992	2700	J	MG/KG	26.3
SBR2029100B00L	Total Lead	05/07/1992	06/19/1992	361		MG/KG	5.5
SBR2029200B00L	Total Lead	05/07/1992	06/19/1992	677		MG/KG	5.3
SBR2035100B00L	Total Lead	04/08/1992	05/15/1992	107		MG/KG	5.9
SBR2035200B00L	Total Lead	04/08/1992	05/15/1992	214		MG/KG	5.1
SBR2037100B00L	Total Lead	04/08/1992	05/15/1992	564		MG/KG	5.5
SBR2037200B00L	Total Lead	04/08/1992	05/15/1992	589		MG/KG	6.0
SOH2014100B00L	Total Lead	12/06/1991	12/16/1991	300		MG/KG	6.7
SOH2014200B00L	Total Lead	12/06/1991	12/16/1991	739		MG/KG	8.0
SOH2018100B00L	Total Lead	12/06/1991	12/16/1991	739		MG/KG	7.2
SOH2018200B00L	Total Lead	12/06/1991	12/16/1991	515		MG/KG	8.0
SOH2025100B00L	Total Lead	05/13/1992	06/26/1992	241		MG/KG	5.4
SOH2025200B00L	Total Lead	05/13/1992	06/26/1992	331		MG/KG	5.4
SOH2025300B00L	Total Lead	05/13/1992	06/26/1992	354		MG/KG	5.5
SOH2025400B00L	Total Lead	05/13/1992	06/26/1992	303		MG/KG	5.4
SOH2025500B00L	Total Lead	05/13/1992	07/28/1992	298	J	MG/KG	5.0

DECISION UNIT 23

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOH2025600B00L	Total Lead	05/13/1992	07/28/1992	308	J	MG/KG	5.6
SOH2025700B00L	Total Lead	05/13/1992	07/28/1992	200	J	MG/KG	5.0
SOH2025800B00L	Total Lead	05/13/1992	07/28/1992	268	J	MG/KG	5.8
SOH2025900B00L	Total Lead	05/13/1992	07/28/1992	411	J	MG/KG	5.5
SOH2026100B00L	Total Lead	04/08/1992	05/15/1992	564		MG/KG	5.8
SOH2026200B00L	Total Lead	04/08/1992	05/15/1992	743		MG/KG	5.9
SOH2028100B00L	Total Lead	04/08/1992	05/15/1992	200		MG/KG	5.6
SOH2028200B00L	Total Lead	04/08/1992	05/15/1992	305		MG/KG	5.9
SRR2009100B00L	Total Lead	04/08/1992	05/15/1992	203		MG/KG	5.3
SRR2009200B00L	Total Lead	04/08/1992	05/15/1992	319		MG/KG	5.8

NUMBER OF SAMPLES >= 500 ppm	13
NUMBER OF SAMPLES	33
CUMULATIVE BINOMIAL PROBABILITY (P)	0.98
β error	0.1

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 23
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SBR2011100C00L	Total Lead	05/07/1992	06/19/1992	1140		MG/KG	4.9
SBR2011200C00L	Total Lead	05/07/1992	06/19/1992	199		MG/KG	5.1
SBR2014100C00L	Total Lead	12/06/1991	12/16/1991	294		MG/KG	7.0
SBR2014200C00L	Total Lead	12/06/1991	12/16/1991	275		MG/KG	7.4
SBR2023100C00L	Total Lead	12/06/1991	12/16/1991	135		MG/KG	6.4
SBR2023200C00L	Total Lead	12/06/1991	12/16/1991	556		MG/KG	7.7
SBR2025100C00L	Total Lead	04/08/1992	05/15/1992	297		MG/KG	5.6
SBR2027100C00L	Total Lead	08/13/1992	09/10/1992	545		MG/KG	1.91
SBR2029100C00L	Total Lead	05/07/1992	06/19/1992	348		MG/KG	5.3
SBR2029200C00L	Total Lead	05/07/1992	06/19/1992	531		MG/KG	5.3
SBR2035100C00L	Total Lead	04/08/1992	05/15/1992	105		MG/KG	5.9
SBR2035200C00L	Total Lead	04/08/1992	05/15/1992	170		MG/KG	5.6
SBR2037100C00L	Total Lead	04/08/1992	05/15/1992	587		MG/KG	5.4
SBR2037200C00L	Total Lead	04/08/1992	05/15/1992	318		MG/KG	5.7
SOH2014100C00L	Total Lead	12/06/1991	12/16/1991	187		MG/KG	7.1
SOH2014200C00L	Total Lead	12/06/1991	12/16/1991	568		MG/KG	7.3
SOH2018100C00L	Total Lead	12/06/1991	12/16/1991	305		MG/KG	7.8
SOH2018200C00L	Total Lead	12/06/1991	12/16/1991	202		MG/KG	6.9
SOH2025100C00L	Total Lead	05/13/1992	06/26/1992	193		MG/KG	5.5
SOH2025200C00L	Total Lead	05/13/1992	06/26/1992	238		MG/KG	5.5
SOH2025300C00L	Total Lead	05/13/1992	06/26/1992	282		MG/KG	5.5
SOH2025400C00L	Total Lead	05/13/1992	06/26/1992	217		MG/KG	5.5
SOH2025500C00L	Total Lead	05/13/1992	07/28/1992	241	J	MG/KG	5.4

DECISION UNIT 23

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Sep 16, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOH2025600C00L	Total Lead	05/13/1992	07/28/1992	206	J	MG/KG	5.6
SOH2025700C00L	Total Lead	05/13/1992	07/28/1992	102	J	MG/KG	5.1
SOH2025800C00L	Total Lead	05/13/1992	07/28/1992	220	J	MG/KG	5.8
SOH2025900C00L	Total Lead	05/13/1992	07/28/1992	224	J	MG/KG	5.6
SOH2026100C00L	Total Lead	04/08/1992	05/15/1992	359		MG/KG	5.8
SOH2026200C00L	Total Lead	04/08/1992	05/15/1992	146		MG/KG	5.7
SOH2028100C00L	Total Lead	04/08/1992	05/15/1992	85.5		MG/KG	5.9
SOH2028200C00L	Total Lead	04/08/1992	05/15/1992	379		MG/KG	5.6
SRR2009100C00L	Total Lead	04/08/1992	05/15/1992	355		MG/KG	5.7
SRR2009200C00L	Total Lead	04/08/1992	05/15/1992	173		MG/KG	5.2

NUMBER OF SAMPLES >= 500 ppm	6
NUMBER OF SAMPLES	33
CUMULATIVE BINOMIAL PROBABILITY (P)	0.25
β error	0.1

For Level C: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SMP1708100A00L	Total Lead	05/04/1992	06/11/1992	301		MG/KG	5.2
SMP1708200A00L	Total Lead	05/04/1992	06/11/1992	659		MG/KG	5.3
SMP1709100A00L	Total Lead	03/25/1992	04/13/1992	211		MG/KG	5.9
SMP1713100A00L	Total Lead	11/04/1991	11/22/1991	156		MG/KG	7.4
SMP1713200A00L	Total Lead	11/04/1991	11/22/1991	423		MG/KG	10.7
SMP1716100A00L	Total Lead	11/04/1991	11/22/1991	556		MG/KG	11.0
SMP1716200A00L	Total Lead	11/04/1991	11/22/1991	60.6		MG/KG	8.0
SMP1720100A00L	Total Lead	11/04/1991	11/22/1991	901		MG/KG	7.6
SMP1720200A00L	Total Lead	11/04/1991	11/22/1991	300		MG/KG	7.5
SMP1722100A00L	Total Lead	03/25/1992	04/13/1992	422		MG/KG	5.8
SMP1722200A00L	Total Lead	03/25/1992	04/13/1992	743		MG/KG	6.4
SMP1727100A00L	Total Lead	05/04/1992	06/11/1992	426		MG/KG	5.4
SMP1727200A00L	Total Lead	05/04/1992	06/11/1992	638		MG/KG	5.7
SMP1729100A00L	Total Lead	05/04/1992	06/11/1992	394		MG/KG	5.5
SMP1730100A00L	Total Lead	11/05/1991	11/25/1991	979		MG/KG	8.0
SMP1730200A00L	Total Lead	11/11/1991	11/25/1991	475		MG/KG	7.8
SMP1731100A00L	Total Lead	03/25/1992	04/13/1992	1080		MG/KG	6.7
SMP1731200A00L	Total Lead	03/25/1992	04/13/1992	534		MG/KG	6.5
SMP1733100A00L	Total Lead	05/04/1992	06/11/1992	262		MG/KG	5.6
SMP1733200A00L	Total Lead	05/04/1992	06/11/1992	755		MG/KG	5.8
SMP1737100A00L	Total Lead	05/04/1992	06/11/1992	448		MG/KG	5.4
SMP1737200A00L	Total Lead	05/04/1992	06/11/1992	362		MG/KG	5.3
SMP1738100A00L	Total Lead	11/05/1991	11/25/1991	339		MG/KG	8.4

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1738200A00L	Total Lead	11/05/1991	11/25/1991	303		MG/KG	8.1
SMP1739100A00L	Total Lead	11/05/1991	11/25/1991	569		MG/KG	8.0
SMP1739200A00L	Total Lead	11/05/1991	11/25/1991	340		MG/KG	7.8
SMP1741100A00L	Total Lead	11/05/1991	11/25/1991	392		MG/KG	8.5
SMP1741200A00L	Total Lead	11/05/1991	11/26/1991	477		MG/KG	8.3
SMP1742100A00L	Total Lead	11/05/1991	11/26/1991	341		MG/KG	7.9
SMP1742200A00L	Total Lead	11/05/1991	11/26/1991	180		MG/KG	7.6
SMP1744100A00L	Total Lead	11/06/1991	11/26/1991	503		MG/KG	8.0
SMP1744200A00L	Total Lead	11/06/1991	11/25/1991	435		MG/KG	8.4
SMP1747100A00L	Total Lead	11/05/1991	11/26/1991	351		MG/KG	8.3
SMP1747200A00L	Total Lead	11/05/1991	11/26/1991	461		MG/KG	8.2
SMP1748100A00L	Total Lead	05/04/1992	06/11/1992	679		MG/KG	5.2
SMP1748200A00L	Total Lead	05/04/1992	06/11/1992	399		MG/KG	5.4
SOL1713100A00L	Total Lead	11/06/1991	11/25/1991	417		MG/KG	7.6
SOL1713200A00L	Total Lead	11/06/1991	11/25/1991	323		MG/KG	8.1
SOL1717100A00L	Total Lead	11/06/1991	11/25/1991	454		MG/KG	7.8
SOL1717200A00L	Total Lead	11/06/1991	11/25/1991	258		MG/KG	7.8
SOL1719100A00L	Total Lead	11/11/1991	11/27/1991	508		MG/KG	7.9
SOL1719200A00L	Total Lead	11/11/1991	11/27/1991	302		MG/KG	7.3
SOL1721100A00L	Total Lead	11/11/1991	11/27/1991	369		MG/KG	8.1
SOL1721200A00L	Total Lead	11/11/1991	11/27/1991	1370		MG/KG	8.2
SOL1725100A00L	Total Lead	03/02/1992	03/18/1992	269		MG/KG	5.5
SOL1725200A00L	Total Lead	03/02/1992	03/18/1992	1050		MG/KG	5.7
SOL1729100A00L	Total Lead	03/02/1992	03/18/1992	815		MG/KG	5.9

DECISION UNIT 24
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1729200A00L	Total Lead	03/02/1992	03/18/1992	613		MG/KG	6.1
SOL1735100A00L	Total Lead	03/25/1992	04/13/1992	680		MG/KG	5.7
SOL1735200A00L	Total Lead	03/25/1992	04/13/1992	737		MG/KG	6.5
SOL1739100A00L	Total Lead	03/25/1992	04/13/1992	467		MG/KG	6.1
SOL1739200A00L	Total Lead	03/25/1992	04/13/1992	402		MG/KG	6.5
SOL1747100A00L	Total Lead	05/06/1992	06/12/1992	831		MG/KG	5.6
SOL1747200A00L	Total Lead	05/06/1992	06/12/1992	1020		MG/KG	5.2
SOL1751100A00L	Total Lead	05/06/1992	06/12/1992	788		MG/KG	5.2
SOL1751200A00L	Total Lead	05/06/1992	06/12/1992	504		MG/KG	5.4
SSP1732100A00L	Total Lead	11/11/1991	11/27/1991	637		MG/KG	7.9
SSP1732200A00L	Total Lead	11/11/1991	11/27/1991	469		MG/KG	8.8
SSP1734100A00L	Total Lead	03/25/1992	04/13/1992	522		MG/KG	6.3
SSP1734200A00L	Total Lead	03/25/1992	04/13/1992	265		MG/KG	6.1
SSP1744100A00L	Total Lead	11/11/1991	11/27/1991	282		MG/KG	7.5
SSP1744200A00L	Total Lead	11/11/1991	11/27/1991	268		MG/KG	8.3
SSP1750100A00L	Total Lead	03/25/1992	04/13/1992	559		MG/KG	6.3
SSP1750200A00L	Total Lead	03/25/1992	04/13/1992	599		MG/KG	6.2
SSP1754100A00L	Total Lead	11/11/1991	11/27/1991	309		MG/KG	8.0
SSP1754200A00L	Total Lead	11/11/1991	11/27/1991	463		MG/KG	7.2

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	27			
			NUMBER OF SAMPLES	66			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.99			
			β error	0.1%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 24
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SMP1708100B00L	Total Lead	05/04/1992	06/11/1992	285		MG/KG	5.6
SMP1708200B00L	Total Lead	05/04/1992	06/11/1992	673		MG/KG	5.6
SMP1709100B00L	Total Lead	03/25/1992	04/13/1992	196		MG/KG	5.7
SMP1713100B00L	Total Lead	11/04/1991	11/22/1991	446		MG/KG	10.2
SMP1713200B00L	Total Lead	11/04/1991	11/22/1991	660		MG/KG	10.7
SMP1716100B00L	Total Lead	11/04/1991	11/22/1991	296		MG/KG	7.9
SMP1716200B00L	Total Lead	11/04/1991	11/22/1991	85.8		MG/KG	10.9
SMP1720100B00L	Total Lead	11/04/1991	11/22/1991	778		MG/KG	7.8
SMP1720200B00L	Total Lead	11/04/1991	11/22/1991	290		MG/KG	7.6
SMP1722100B00L	Total Lead	03/25/1992	04/13/1992	340		MG/KG	5.6
SMP1722200B00L	Total Lead	03/25/1992	04/13/1992	482		MG/KG	6.1
SMP1727100B00L	Total Lead	05/04/1992	06/11/1992	304		MG/KG	5.9
SMP1727200B00L	Total Lead	05/04/1992	06/11/1992	632		MG/KG	5.7
SMP1729100B00L	Total Lead	05/04/1992	06/11/1992	239		MG/KG	5.3
SMP1730100B00L	Total Lead	11/05/1991	11/25/1991	831		MG/KG	8.1
SMP1730200B00L	Total Lead	11/05/1991	11/25/1991	266		MG/KG	7.5
SMP1731100B00L	Total Lead	03/25/1992	04/13/1992	458		MG/KG	6.2
SMP1731200B00L	Total Lead	03/25/1992	04/13/1992	786		MG/KG	6.1
SMP1733100B00L	Total Lead	05/04/1992	06/11/1992	315		MG/KG	5.6
SMP1733200B00L	Total Lead	05/04/1992	06/11/1992	720		MG/KG	5.6
SMP1737100B00L	Total Lead	05/04/1992	06/11/1992	324		MG/KG	5.7
SMP1737200B00L	Total Lead	05/04/1992	06/11/1992	324		MG/KG	5.3
SMP1738100B00L	Total Lead	11/05/1991	11/25/1991	284		MG/KG	8.2

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1738200B00L	Total Lead	11/05/1991	11/25/1991	997		MG/KG	8.0
SMP1739100B00L	Total Lead	11/05/1991	11/25/1991	179		MG/KG	7.4
SMP1739200B00L	Total Lead	11/05/1991	11/25/1991	126		MG/KG	7.9
SMP1741100B00L	Total Lead	11/05/1991	11/26/1991	242		MG/KG	8.3
SMP1741200B00L	Total Lead	11/05/1991	11/26/1991	452		MG/KG	7.7
SMP1742100B00L	Total Lead	11/05/1991	11/26/1991	305		MG/KG	8.0
SMP1742200B00L	Total Lead	11/05/1991	11/26/1991	105		MG/KG	7.4
SMP1744100B00L	Total Lead	11/06/1991	12/02/1991	373		MG/KG	7.6
SMP1744200B00L	Total Lead	11/06/1991	11/25/1991	392		MG/KG	8.1
SMP1747100B00L	Total Lead	11/05/1991	11/26/1991	276		MG/KG	8.2
SMP1747200B00L	Total Lead	11/05/1991	11/26/1991	439		MG/KG	8.1
SMP1748100B00L	Total Lead	05/04/1992	06/11/1992	458		MG/KG	5.3
SMP1748200B00L	Total Lead	05/04/1992	06/11/1992	339		MG/KG	5.4
SOL1713100B00L	Total Lead	11/06/1991	11/25/1991	356		MG/KG	7.5
SOL1713200B00L	Total Lead	11/06/1991	11/25/1991	235		MG/KG	7.7
SOL1717100B00L	Total Lead	11/06/1991	11/25/1991	476		MG/KG	7.5
SOL1717200B00L	Total Lead	11/06/1991	11/25/1991	203		MG/KG	7.2
SOL1719100B00L	Total Lead	11/11/1991	11/27/1991	383		MG/KG	6.9
SOL1719200B00L	Total Lead	11/11/1991	11/27/1991	333		MG/KG	7.2
SOL1721100B00L	Total Lead	11/11/1991	11/27/1991	444		MG/KG	7.2
SOL1721200B00L	Total Lead	11/11/1991	11/27/1991	1350		MG/KG	8.8
SOL1725100B00L	Total Lead	03/02/1992	03/18/1992	211		MG/KG	6.0
SOL1725200B00L	Total Lead	03/02/1992	03/18/1992	557		MG/KG	6.0
SOL1729100B00L	Total Lead	03/02/1992	03/18/1992	302		MG/KG	5.4

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1729200B00L	Total Lead	03/02/1992	03/18/1992	498		MG/KG	6.1
SOL1735100B00L	Total Lead	03/25/1992	04/13/1992	405		MG/KG	6.0
SOL1735200B00L	Total Lead	03/25/1992	04/13/1992	595		MG/KG	6.3
SOL1739100B00L	Total Lead	03/25/1992	04/13/1992	413		MG/KG	5.9
SOL1739200B00L	Total Lead	03/25/1992	04/13/1992	362		MG/KG	6.3
SOL1747100B00L	Total Lead	05/06/1992	06/12/1992	406		MG/KG	5.4
SOL1747200B00L	Total Lead	05/06/1992	06/12/1992	467		MG/KG	5.1
SOL1751100B00L	Total Lead	05/06/1992	06/12/1992	229		MG/KG	5.5
SOL1751200B00L	Total Lead	05/06/1992	06/12/1992	259		MG/KG	5.2
SSP1732100B00L	Total Lead	11/11/1991	11/27/1991	557		MG/KG	8.0
SSP1732200B00L	Total Lead	11/11/1991	11/27/1991	434		MG/KG	7.4
SSP1734100B00L	Total Lead	03/25/1992	04/13/1992	260		MG/KG	6.2
SSP1734200B00L	Total Lead	03/25/1992	04/13/1992	235		MG/KG	5.8
SSP1744100B00L	Total Lead	11/11/1991	11/27/1991	260		MG/KG	7.9
SSP1744200B00L	Total Lead	11/11/1991	11/27/1991	263		MG/KG	7.1
SSP1750100B00L	Total Lead	03/25/1992	04/13/1992	331		MG/KG	5.9
SSP1750200B00L	Total Lead	03/25/1992	04/13/1992	620		MG/KG	6.4
SSP1754100B00L	Total Lead	11/11/1991	11/27/1991	221		MG/KG	8.7
SSP1754200B00L	Total Lead	11/11/1991	11/27/1991	254		MG/KG	8.5

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	13			
			NUMBER OF SAMPLES	66			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.2			
			β error	0.1%			
		For Level B:	P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 24
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SMP1708100C00L	Total Lead	05/04/1992	06/11/1992	314		MG/KG	5.3
SMP1708200C00L	Total Lead	05/04/1992	06/11/1992	639		MG/KG	5.9
SMP1709100C00L	Total Lead	03/25/1992	04/13/1992	105		MG/KG	6.0
SMP1713100C00L	Total Lead	11/04/1991	11/22/1991	381		MG/KG	9.7
SMP1713200C00L	Total Lead	11/04/1991	11/22/1991	328		MG/KG	10.9
SMP1716100C00L	Total Lead	11/04/1991	11/22/1991	198		MG/KG	7.4
SMP1716200C00L	Total Lead	11/04/1991	11/22/1991	211		MG/KG	8.3
SMP1720100C00L	Total Lead	11/04/1991	11/22/1991	402		MG/KG	7.5
SMP1720200C00L	Total Lead	11/04/1991	11/22/1991	77.2		MG/KG	7.8
SMP1722100C00L	Total Lead	03/25/1992	04/13/1992	1420		MG/KG	5.7
SMP1722200C00L	Total Lead	03/25/1992	04/13/1992	293		MG/KG	5.9
SMP1727100C00L	Total Lead	05/04/1992	06/11/1992	166		MG/KG	5.5
SMP1727200C00L	Total Lead	05/04/1992	06/11/1992	452		MG/KG	5.9
SMP1729100C00L	Total Lead	05/04/1992	06/11/1992	142		MG/KG	5.3
SMP1730100C00L	Total Lead	11/05/1991	11/25/1991	774		MG/KG	7.8
SMP1730200C00L	Total Lead	11/05/1991	11/25/1991	159		MG/KG	7.3
SMP1731100C00L	Total Lead	03/25/1992	04/13/1992	242		MG/KG	5.9
SMP1731200C00L	Total Lead	03/25/1992	04/13/1992	266		MG/KG	6.3
SMP1733100C00L	Total Lead	05/04/1992	06/11/1992	220		MG/KG	5.5
SMP1733200C00L	Total Lead	05/04/1992	06/11/1992	626		MG/KG	5.7
SMP1737100C00L	Total Lead	05/04/1992	06/11/1992	110		MG/KG	5.6
SMP1737200C00L	Total Lead	05/04/1992	06/11/1992	253		MG/KG	5.6
SMP1738100C00L	Total Lead	11/05/1991	11/25/1991	370		MG/KG	7.5

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1738200C00L	Total Lead	11/05/1991	11/25/1991	277		MG/KG	7.7
SMP1739100C00L	Total Lead	11/05/1991	11/25/1991	104		MG/KG	7.3
SMP1739200C00L	Total Lead	11/05/1991	11/25/1991	181		MG/KG	8.3
SMP1741100C00L	Total Lead	11/05/1991	11/26/1991	86.3		MG/KG	7.8
SMP1741200C00L	Total Lead	11/05/1991	11/26/1991	312		MG/KG	8.0
SMP1742100C00L	Total Lead	11/05/1991	11/26/1991	142		MG/KG	8.0
SMP1742200C00L	Total Lead	11/05/1991	11/26/1991	75.8		MG/KG	7.2
SMP1744100C00L	Total Lead	11/06/1991	11/26/1991	205		MG/KG	7.7
SMP1744200C00L	Total Lead	11/06/1991	11/25/1991	303		MG/KG	7.8
SMP1747100C00L	Total Lead	11/05/1991	11/26/1991	137		MG/KG	7.6
SMP1747200C00L	Total Lead	11/05/1991	11/26/1991	342		MG/KG	7.9
SMP1748100C00L	Total Lead	05/04/1992	06/11/1992	230		MG/KG	5.8
SMP1748200C00L	Total Lead	05/04/1992	06/11/1992	224		MG/KG	5.5
SOL1713100C00L	Total Lead	11/06/1991	11/25/1991	88.8		MG/KG	7.5
SOL1713200C00L	Total Lead	11/06/1991	11/25/1991	51.6		MG/KG	7.9
SOL1717100C00L	Total Lead	11/06/1991	11/25/1991	189		MG/KG	7.2
SOL1717200C00L	Total Lead	11/06/1991	11/25/1991	279		MG/KG	7.0
SOL1719100C00L	Total Lead	11/11/1991	11/27/1991	206		MG/KG	7.7
SOL1719200C00L	Total Lead	11/11/1991	11/27/1991	166		MG/KG	7.6
SOL1721100C00L	Total Lead	11/11/1991	11/27/1991	153		MG/KG	7.6
SOL1721200C00L	Total Lead	11/11/1991	11/27/1991	654	J	MG/KG	8.5
SOL1725100C00L	Total Lead	03/02/1992	03/18/1992	318		MG/KG	5.6
SOL1725200C00L	Total Lead	03/02/1992	03/18/1992	481		MG/KG	6.0
SOL1729100C00L	Total Lead	03/02/1992	03/18/1992	222		MG/KG	5.6

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1729200C00L	Total Lead	03/02/1992	03/18/1992	493		MG/KG	6.2
SOL1735100C00L	Total Lead	03/25/1992	04/13/1992	285		MG/KG	5.8
SOL1735200C00L	Total Lead	03/25/1992	04/13/1992	325		MG/KG	6.1
SOL1739100C00L	Total Lead	03/25/1992	04/13/1992	291		MG/KG	5.9
SOL1739200C00L	Total Lead	03/25/1992	04/13/1992	206		MG/KG	6.0
SOL1747100C00L	Total Lead	05/06/1992	06/12/1992	302		MG/KG	5.7
SOL1747200C00L	Total Lead	05/06/1992	06/12/1992	413		MG/KG	5.2
SOL1751100C00L	Total Lead	05/06/1992	06/12/1992	103		MG/KG	5.0
SOL1751200C00L	Total Lead	05/06/1992	06/12/1992	149		MG/KG	5.3
SSP1732100C00L	Total Lead	11/11/1991	11/27/1991	482		MG/KG	7.8
SSP1732200C00L	Total Lead	11/11/1991	11/27/1991	216		MG/KG	8.4
SSP1734100C00L	Total Lead	03/25/1992	04/13/1992	167		MG/KG	6.2
SSP1734200C00L	Total Lead	03/25/1992	04/13/1992	68.5		MG/KG	5.5
SSP1744100C00L	Total Lead	11/11/1991	11/27/1991	230		MG/KG	7.4
SSP1744200C00L	Total Lead	11/11/1991	11/27/1991	235		MG/KG	8.3
SSP1750100C00L	Total Lead	03/25/1992	04/13/1992	274		MG/KG	5.9
SSP1750200C00L	Total Lead	03/25/1992	04/13/1992	665		MG/KG	6.1
SSP1754100C00L	Total Lead	11/11/1991	11/27/1991	100		MG/KG	8.7
SSP1754200C00L	Total Lead	11/11/1991	11/27/1991	88.3		MG/KG	7.6

DECISION UNIT 24

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
		NUMBER OF SAMPLES >= 500 ppm		6			
	NUMBER OF	NUMBER OF SAMPLES		66			
	CUMULATIVE BINOMIAL PROBABILITY (P)			0.00098			
			β error	0.1%			
	For Level C:	P < alpha → → Do Not Remediate (alpha = 0.05)					

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SMP1602100A00L	Total Lead	11/04/1991	11/22/1991	308		MG/KG	7.7
SMP1602200A00L	Total Lead	11/04/1991	11/22/1991	316		MG/KG	8.0
SMP1603100A00L	Total Lead	03/05/1992	03/19/1992	180		MG/KG	5.4
SMP1603200A00L	Total Lead	03/05/1992	03/19/1992	710		MG/KG	5.6
SMP1607100A00L	Total Lead	11/11/1991	11/27/1991	460		MG/KG	6.8
SMP1607200A00L	Total Lead	11/11/1991	11/27/1991	578		MG/KG	7.6
SMP1610100A00L	Total Lead	11/04/1991	11/22/1991	542		MG/KG	7.8
SMP1610200A00L	Total Lead	11/04/1991	11/22/1991	413		MG/KG	7.8
SMP1611100A00L	Total Lead	05/07/1992	06/12/1992	598		MG/KG	5.4
SMP1611200A00L	Total Lead	05/07/1992	06/12/1992	355		MG/KG	5.1
SMP1614100A00L	Total Lead	05/07/1992	06/12/1992	528		MG/KG	5.8
SMP1614200A00L	Total Lead	05/07/1992	06/12/1992	951	U	MG/KG	5.9
SMP1617100A00L	Total Lead	03/05/1992	03/20/1992	587		MG/KG	5.7
SMP1617200A00L	Total Lead	03/05/1992	03/20/1992	452		MG/KG	5.6
SMP1618100A00L	Total Lead	03/05/1992	03/20/1992	590		MG/KG	6.1
SMP1618200A00L	Total Lead	03/05/1992	03/20/1992	1910		MG/KG	5.9
SMP1619100A00L	Total Lead	03/05/1992	03/20/1992	392		MG/KG	5.6
SMP1619200A00L	Total Lead	03/05/1992	03/20/1992	365	J	MG/KG	6.0
SMP1622100A00L	Total Lead	11/04/1991	11/22/1991	271		MG/KG	7.4
SMP1622200A00L	Total Lead	11/04/1991	11/22/1991	251		MG/KG	7.7
SMP1627100A00L	Total Lead	05/07/1992	06/12/1992	2470		MG/KG	5.5
SMP1627200A00L	Total Lead	05/07/1992	06/12/1992	439		MG/KG	5.8
SMP1632100A00L	Total Lead	03/05/1992	03/19/1992	417		MG/KG	5.8

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1632200A00L	Total Lead	03/05/1992	03/20/1992	900		MG/KG	5.5
SMP1633100A00L	Total Lead	03/05/1992	03/19/1992	747		MG/KG	5.2
SMP1633200A00L	Total Lead	03/05/1992	03/19/1992	640		MG/KG	5.8
SMP1635100A00L	Total Lead	03/05/1992	03/19/1992	721		MG/KG	5.9
SMP1635200A00L	Total Lead	03/05/1992	03/19/1992	593		MG/KG	5.6
SMP1637100A00L	Total Lead	05/07/1992	06/12/1992	420		MG/KG	5.6
SMP1637200A00L	Total Lead	05/07/1992	06/12/1992	435		MG/KG	5.3
SMP1640100A00L	Total Lead	11/04/1991	11/22/1991	317		MG/KG	7.3
SMP1640200A00L	Total Lead	11/04/1991	11/22/1991	368		MG/KG	8.1
SMP1641100A00L	Total Lead	03/05/1992	03/19/1992	498		MG/KG	5.7
SMP1641200A00L	Total Lead	03/05/1992	03/19/1992	1110		MG/KG	6.0
SMP1642100A00L	Total Lead	03/05/1992	03/19/1992	1350		MG/KG	5.7
SMP1642200A00L	Total Lead	03/05/1992	03/19/1992	852		MG/KG	5.8
SMP1643100A00L	Total Lead	11/05/1991	11/22/1991	506		MG/KG	7.9
SMP1643200A00L	Total Lead	11/05/1991	11/22/1991	231		MG/KG	7.3
SMP1644100A00L	Total Lead	11/05/1991	11/22/1991	299		MG/KG	7.5
SMP1644200A00L	Total Lead	11/05/1991	11/22/1991	2420		MG/KG	8.4
SMP1647100A00L	Total Lead	11/05/1991	11/22/1991	321		MG/KG	7.6
SMP1648100A00L	Total Lead	11/05/1991	11/22/1991	396		MG/KG	7.8
SMP1648200A00L	Total Lead	11/05/1991	11/22/1991	1470		MG/KG	9.6
SMP1649100A00L	Total Lead	05/07/1992	06/12/1992	1620		MG/KG	5.2
SMP1649200A00L	Total Lead	05/07/1992	06/12/1992	2040		MG/KG	5.7
SOL1601100A00L	Total Lead	11/05/1991	11/22/1991	498		MG/KG	8.0
SOL1601200A00L	Total Lead	11/05/1991	11/22/1991	398		MG/KG	7.9

DECISION UNIT 25
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1625100A00L	Total Lead	11/05/1991	11/22/1991	126		MG/KG	7.9
SOL1625200A00L	Total Lead	11/05/1991	11/22/1991	665		MG/KG	8.1
SOL1629100A00L	Total Lead	11/05/1991	11/22/1991	560		MG/KG	7.8
SOL1629200A00L	Total Lead	11/05/1991	11/22/1991	344		MG/KG	8.2
SOL1631100A00L	Total Lead	03/20/1992	04/13/1992	2300		MG/KG	6.0
SOL1633100A00L	Total Lead	03/20/1992	04/13/1992	502		MG/KG	5.9
SOL1633200A00L	Total Lead	03/20/1992	04/13/1992	135		MG/KG	6.3
SOL1635100A00L	Total Lead	03/20/1992	04/13/1992	734		MG/KG	6.0
SOL1635200A00L	Total Lead	03/20/1992	04/13/1992	1250		MG/KG	6.0
SOL1639100A00L	Total Lead	11/06/1991	11/25/1991	259		MG/KG	6.7
SOL1639200A00L	Total Lead	11/06/1991	11/25/1991	252		MG/KG	7.0
SOL1647100A00L	Total Lead	12/06/1991	12/31/1991	316		MG/KG	7.1
SOL1651100A00L	Total Lead	05/06/1992	06/12/1992	594		MG/KG	5.3
SOL1651200A00L	Total Lead	05/06/1992	06/12/1992	350		MG/KG	5.1
SSP1602100A00L	Total Lead	12/06/1991	12/31/1991	265		MG/KG	7.5
SSP1602200A00L	Total Lead	12/06/1991	12/31/1991	388		MG/KG	7.7
SSP1610100A00L	Total Lead	05/06/1992	06/12/1992	402		MG/KG	5.6
SSP1610200A00L	Total Lead	05/06/1992	06/12/1992	329		MG/KG	5.9
SSP1614100A00L	Total Lead	12/06/1991	12/31/1991	360		MG/KG	7.5
SSP1614200A00L	Total Lead	12/06/1991	12/31/1991	431		MG/KG	8.3
SSP1618100A00L	Total Lead	03/25/1992	04/13/1992	1690		MG/KG	6.0
SSP1618200A00L	Total Lead	03/25/1992	04/13/1992	74.8		MG/KG	5.8
SSP1626100A00L	Total Lead	11/07/1991	11/27/1991	1520		MG/KG	7.8
SSP1626200A00L	Total Lead	11/07/1991	11/27/1991	277		MG/KG	7.3

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SSP1634100A00L	Total Lead	11/07/1991	11/27/1991	387		MG/KG	7.0
SSP1634200A00L	Total Lead	11/07/1991	11/27/1991	653		MG/KG	7.5
SSP1638100A00L	Total Lead	11/07/1991	11/27/1991	390		MG/KG	8.1
SSP1638200A00L	Total Lead	11/07/1991	11/27/1991	255		MG/KG	8.4
SSP1642100A00L	Total Lead	03/25/1992	04/13/1992	185		MG/KG	6.2
SSP1642200A00L	Total Lead	03/25/1992	04/13/1992	377		MG/KG	5.9
SSP1646100A00L	Total Lead	05/06/1992	06/12/1992	398		MG/KG	5.2
SSP1646200A00L	Total Lead	05/06/1992	06/12/1992	746		MG/KG	5.6
SSP1648100A00L	Total Lead	11/07/1991	11/27/1991	271		MG/KG	7.3
SSP1648200A00L	Total Lead	11/07/1991	11/27/1991	422		MG/KG	8.0

NUMBER OF SAMPLES >= 500 ppm 34

NUMBER OF SAMPLES 81

CUMULATIVE BINOMIAL PROBABILITY (P) 0.99

β error 0.1%

For Level A: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SMP1602100B00L	Total Lead	11/04/1991	11/22/1991	314		MG/KG	7.7
SMP1602200B00L	Total Lead	11/04/1991	11/22/1991	215		MG/KG	8.0
SMP1603100B00L	Total Lead	03/05/1992	03/19/1992	264		MG/KG	5.7
SMP1603200B00L	Total Lead	03/05/1992	05/11/1992	14300		MG/KG	54.8
SMP1607100B00L	Total Lead	11/11/1991	11/27/1991	342		MG/KG	6.5
SMP1607200B00L	Total Lead	11/11/1991	11/26/1991	436		MG/KG	7.2
SMP1610100B00L	Total Lead	11/04/1991	11/22/1991	350		MG/KG	7.2
SMP1610200B00L	Total Lead	11/04/1991	11/22/1991	644		MG/KG	7.3
SMP1611100B00L	Total Lead	05/07/1992	06/12/1992	872		MG/KG	5.3
SMP1611200B00L	Total Lead	05/07/1992	06/12/1992	431		MG/KG	5.3
SMP1614100B00L	Total Lead	05/07/1992	06/12/1992	488		MG/KG	5.5
SMP1614200B00L	Total Lead	05/07/1992	06/12/1992	391		MG/KG	5.8
SMP1617100B00L	Total Lead	03/05/1992	03/20/1992	414		MG/KG	5.6
SMP1617200B00L	Total Lead	03/05/1992	03/20/1992	250		MG/KG	6.2
SMP1618100B00L	Total Lead	03/05/1992	03/20/1992	491		MG/KG	5.8
SMP1618200B00L	Total Lead	03/05/1992	03/20/1992	533		MG/KG	5.5
SMP1619100B00L	Total Lead	03/05/1992	03/20/1992	369		MG/KG	6.0
SMP1619200B00L	Total Lead	03/05/1992	03/20/1992	272		MG/KG	5.8
SMP1622100B00L	Total Lead	11/04/1991	11/22/1991	183		MG/KG	7.5
SMP1622200B00L	Total Lead	11/04/1991	11/22/1991	239		MG/KG	7.6
SMP1627100B00L	Total Lead	05/07/1992	06/12/1992	585		MG/KG	5.2
SMP1627200B00L	Total Lead	05/07/1992	06/12/1992	328		MG/KG	5.4
SMP1632100B00L	Total Lead	03/05/1992	03/19/1992	414		MG/KG	5.8

DECISION UNIT 25
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1632200B00L	Total Lead	03/05/1992	03/20/1992	611		MG/KG	5.3
SMP1633100B00L	Total Lead	03/05/1992	03/19/1992	372		MG/KG	5.3
SMP1633200B00L	Total Lead	03/05/1992	03/19/1992	444		MG/KG	5.5
SMP1635100B00L	Total Lead	03/05/1992	03/19/1992	365		MG/KG	5.6
SMP1635200B00L	Total Lead	03/05/1992	03/19/1992	475		MG/KG	5.7
SMP1637100B00L	Total Lead	05/07/1992	06/12/1992	397		MG/KG	5.1
SMP1637200B00L	Total Lead	05/07/1992	06/12/1992	489		MG/KG	5.6
SMP1640100B00L	Total Lead	11/04/1991	11/22/1991	1790		MG/KG	6.9
SMP1640200B00L	Total Lead	11/04/1991	11/22/1991	295		MG/KG	7.9
SMP1641100B00L	Total Lead	03/05/1992	03/19/1992	966		MG/KG	6.1
SMP1641200B00L	Total Lead	03/05/1992	03/19/1992	639		MG/KG	5.5
SMP1642100B00L	Total Lead	03/05/1992	03/19/1992	917		MG/KG	5.6
SMP1642200B00L	Total Lead	03/05/1992	03/19/1992	898		MG/KG	5.6
SMP1643100B00L	Total Lead	11/05/1991	11/22/1991	326		MG/KG	7.6
SMP1643200B00L	Total Lead	11/05/1991	11/22/1991	320		MG/KG	7.2
SMP1644100B00L	Total Lead	11/05/1991	11/22/1991	151		MG/KG	7.4
SMP1644200B00L	Total Lead	11/05/1991	11/22/1991	819		MG/KG	8.0
SMP1647100B00L	Total Lead	11/05/1991	11/22/1991	318		MG/KG	7.6
SMP1648100B00L	Total Lead	11/05/1991	11/22/1991	397		MG/KG	7.6
SMP1648200B00L	Total Lead	11/05/1991	11/22/1991	569		MG/KG	8.3
SMP1649100B00L	Total Lead	05/07/1992	06/12/1992	514		MG/KG	5.5
SMP1649200B00L	Total Lead	05/07/1992	06/12/1992	5240		MG/KG	62.6
SOL1601100B00L	Total Lead	11/05/1991	11/22/1991	297		MG/KG	7.8
SOL1601200B00L	Total Lead	11/05/1991	11/22/1991	378		MG/KG	7.7

DECISION UNIT 25
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1625100B00L	Total Lead	11/05/1991	11/22/1991	41.8		MG/KG	7.6
SOL1625200B00L	Total Lead	11/05/1991	11/22/1991	447		MG/KG	8.5
SOL1629100B00L	Total Lead	11/05/1991	11/22/1991	328		MG/KG	7.7
SOL1629200B00L	Total Lead	11/05/1991	11/22/1991	238	J	MG/KG	7.9
SOL1631100B00L	Total Lead	03/20/1992	04/13/1992	849		MG/KG	6.4
SOL1633100B00L	Total Lead	03/20/1992	04/13/1992	209		MG/KG	5.6
SOL1633200B00L	Total Lead	03/20/1992	04/13/1992	50.4		MG/KG	6.0
SOL1635100B00L	Total Lead	03/20/1992	04/13/1992	1010		MG/KG	5.9
SOL1635200B00L	Total Lead	03/20/1992	04/13/1992	779		MG/KG	5.8
SOL1639100B00L	Total Lead	11/06/1991	11/25/1991	220		MG/KG	6.3
SOL1639200B00L	Total Lead	11/06/1991	11/25/1991	251		MG/KG	7.6
SOL1647100B00L	Total Lead	12/06/1991	12/31/1991	258		MG/KG	7.1
SOL1651100B00L	Total Lead	05/06/1992	06/12/1992	448		MG/KG	5.2
SOL1651200B00L	Total Lead	05/06/1992	06/12/1992	161		MG/KG	5.2
SSP1602100B00L	Total Lead	12/06/1991	12/31/1991	273		MG/KG	7.2
SSP1602200B00L	Total Lead	12/06/1991	12/31/1991	389		MG/KG	7.3
SSP1610100B00L	Total Lead	05/06/1992	06/12/1992	255		MG/KG	5.7
SSP1610200B00L	Total Lead	05/06/1992	06/12/1992	250		MG/KG	5.6
SSP1614100B00L	Total Lead	12/06/1991	12/31/1991	257		MG/KG	8.0
SSP1614200B00L	Total Lead	12/06/1991	12/31/1991	403		MG/KG	8.0
SSP1618100B00L	Total Lead	03/25/1992	04/13/1992	403		MG/KG	5.6
SSP1618200B00L	Total Lead	03/25/1992	04/13/1992	36.3		MG/KG	5.5
SSP1626100B00L	Total Lead	11/07/1991	11/27/1991	194		MG/KG	7.4
SSP1626200B00L	Total Lead	11/07/1991	11/27/1991	240		MG/KG	6.8

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SSP1634100B00L	Total Lead	11/07/1991	11/27/1991	404		MG/KG	7.8
SSP1634200B00L	Total Lead	11/07/1991	11/27/1991	741		MG/KG	7.7
SSP1638100B00L	Total Lead	11/07/1991	11/27/1991	250		MG/KG	7.6
SSP1638200B00L	Total Lead	11/07/1991	11/27/1991	433		MG/KG	7.7
SSP1642100B00L	Total Lead	03/25/1992	04/13/1992	204		MG/KG	5.5
SSP1642200B00L	Total Lead	03/25/1992	04/13/1992	480		MG/KG	6.0
SSP1646100B00L	Total Lead	05/06/1992	06/12/1992	234		MG/KG	5.7
SSP1646200B00L	Total Lead	05/06/1992	06/12/1992	771		MG/KG	5.6
SSP1648100B00L	Total Lead	11/07/1991	11/27/1991	170		MG/KG	7.7
SSP1648200B00L	Total Lead	11/07/1991	11/27/1991	283		MG/KG	7.2

NUMBER OF SAMPLES >= 500 ppm	20
NUMBER OF SAMPLES	81
CUMULATIVE BINOMIAL PROBABILITY (P)	0.53
B error	0.1%

For Level B: P >= alpha → → Remediate
(alpha = 0.05)

DECISION UNIT 25
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL C (6 – 12 inches)							
SMP1602100C00L	Total Lead	11/04/1991	11/22/1991	460		MG/KG	7.9
SMP1602200C00L	Total Lead	11/04/1991	11/22/1991	160		MG/KG	7.5
SMP1603100C00L	Total Lead	03/05/1992	03/19/1992	176		MG/KG	5.6
SMP1603200C00L	Total Lead	03/05/1992	03/19/1992	493		MG/KG	5.5
SMP1607100C00L	Total Lead	11/11/1991	11/27/1991	88.4		MG/KG	7.4
SMP1607200C00L	Total Lead	11/11/1991	11/26/1991	307		MG/KG	7.7
SMP1610100C00L	Total Lead	11/04/1991	11/22/1991	122		MG/KG	7.2
SMP1610200C00L	Total Lead	11/04/1991	11/22/1991	203		MG/KG	7.4
SMP1611100C00L	Total Lead	05/07/1992	06/12/1992	268		MG/KG	5.4
SMP1611200C00L	Total Lead	05/07/1992	06/12/1992	362		MG/KG	5.2
SMP1614100C00L	Total Lead	05/07/1992	06/12/1992	197		MG/KG	5.7
SMP1614200C00L	Total Lead	05/07/1992	06/12/1992	237		MG/KG	5.4
SMP1617100C00L	Total Lead	03/05/1992	03/20/1992	241		MG/KG	5.5
SMP1617200C00L	Total Lead	03/05/1992	03/20/1992	276		MG/KG	6.0
SMP1618100C00L	Total Lead	03/05/1992	03/20/1992	248		MG/KG	5.4
SMP1618200C00L	Total Lead	03/05/1992	03/20/1992	279		MG/KG	5.7
SMP1619100C00L	Total Lead	03/05/1992	03/20/1992	323		MG/KG	6.0
SMP1619200C00L	Total Lead	03/05/1992	03/20/1992	251		MG/KG	5.8
SMP1622100C00L	Total Lead	11/04/1991	11/22/1991	139		MG/KG	7.0
SMP1622200C00L	Total Lead	11/04/1991	11/22/1991	128		MG/KG	7.6
SMP1627100C00L	Total Lead	05/07/1992	06/12/1992	283		MG/KG	5.3
SMP1627200C00L	Total Lead	05/07/1992	06/12/1992	228		MG/KG	5.5
SMP1632100C00L	Total Lead	03/05/1992	03/20/1992	200		MG/KG	5.1

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SMP1632200C00L	Total Lead	03/05/1992	03/20/1992	382		MG/KG	4.9
SMP1633100C00L	Total Lead	03/05/1992	03/19/1992	122		MG/KG	5.4
SMP1633200C00L	Total Lead	03/05/1992	03/19/1992	261		MG/KG	5.4
SMP1635100C00L	Total Lead	03/05/1992	03/19/1992	148		MG/KG	5.3
SMP1635200C00L	Total Lead	03/05/1992	03/19/1992	261		MG/KG	5.8
SMP1637100C00L	Total Lead	05/07/1992	06/12/1992	370		MG/KG	5.4
SMP1637200C00L	Total Lead	05/07/1992	06/12/1992	798		MG/KG	5.9
SMP1640100C00L	Total Lead	11/04/1991	11/22/1991	231		MG/KG	9.6
SMP1640200C00L	Total Lead	11/04/1991	11/22/1991	76.5		MG/KG	7.9
SMP1641100C00L	Total Lead	03/05/1992	03/19/1992	432		MG/KG	5.6
SMP1641200C00L	Total Lead	03/05/1992	03/19/1992	356		MG/KG	5.8
SMP1642100C00L	Total Lead	03/05/1992	03/19/1992	499		MG/KG	6.1
SMP1642200C00L	Total Lead	03/05/1992	03/19/1992	598	J	MG/KG	6.0
SMP1643100C00L	Total Lead	11/05/1991	11/22/1991	183		MG/KG	7.7
SMP1643200C00L	Total Lead	11/05/1991	11/22/1991	92.1		MG/KG	7.8
SMP1644100C00L	Total Lead	11/05/1991	11/22/1991	167		MG/KG	7.1
SMP1644200C00L	Total Lead	11/05/1991	11/22/1991	487		MG/KG	7.5
SMP1647100C00L	Total Lead	11/05/1991	11/22/1991	227		MG/KG	7.6
SMP1648100C00L	Total Lead	11/05/1991	11/22/1991	504	J	MG/KG	7.3
SMP1648200C00L	Total Lead	11/05/1991	11/22/1991	316		MG/KG	7.7
SMP1649100C00L	Total Lead	05/07/1992	06/12/1992	413		MG/KG	6.0
SMP1649200C00L	Total Lead	05/07/1992	06/12/1992	2050		MG/KG	6.2
SOL1601100C00L	Total Lead	11/05/1991	11/22/1991	105		MG/KG	7.9
SOL1601200C00L	Total Lead	11/05/1991	11/22/1991	83.7		MG/KG	7.4

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1625100C00L	Total Lead	11/05/1991	11/22/1991	246		MG/KG	7.5
SOL1625200C00L	Total Lead	11/05/1991	11/22/1991	2600		MG/KG	7.8
SOL1629100C00L	Total Lead	11/05/1991	11/22/1991	80.4		MG/KG	7.5
SOL1629200C00L	Total Lead	11/05/1991	11/25/1991	125		MG/KG	7.5
SOL1631100C00L	Total Lead	03/20/1992	04/13/1992	293		MG/KG	6.1
SOL1633100C00L	Total Lead	03/20/1992	04/13/1992	151		MG/KG	5.8
SOL1633200C00L	Total Lead	03/20/1992	04/13/1992	60.7		MG/KG	5.7
SOL1635100C00L	Total Lead	03/20/1992	04/13/1992	312		MG/KG	5.9
SOL1635200C00L	Total Lead	03/20/1992	04/13/1992	1430		MG/KG	6.1
SOL1639100C00L	Total Lead	11/06/1991	11/25/1991	320		MG/KG	7.3
SOL1639200C00L	Total Lead	11/06/1991	11/25/1991	87.5		MG/KG	7.9
SOL1647100C00L	Total Lead	12/06/1991	12/31/1991	438		MG/KG	7.9
SOL1651100C00L	Total Lead	05/06/1992	06/12/1992	133		MG/KG	5.1
SOL1651200C00L	Total Lead	05/06/1992	06/12/1992	194		MG/KG	5.2
SSP1602100C00L	Total Lead	12/06/1991	12/31/1991	142		MG/KG	7.5
SSP1602200C00L	Total Lead	12/06/1991	12/31/1991	601		MG/KG	7.5
SSP1610100C00L	Total Lead	05/06/1992	06/12/1992	110		MG/KG	6.0
SSP1610200C00L	Total Lead	05/06/1992	06/12/1992	114		MG/KG	6.0
SSP1614100C00L	Total Lead	12/06/1991	12/31/1991	128		MG/KG	7.6
SSP1614200C00L	Total Lead	12/06/1991	12/31/1991	327		MG/KG	8.3
SSP1618100C00L	Total Lead	03/25/1992	04/13/1992	173		MG/KG	5.7
SSP1618200C00L	Total Lead	03/25/1992	04/13/1992	10.3		MG/KG	5.7
SSP1626100C00L	Total Lead	11/07/1991	11/27/1991	66.6		MG/KG	7.3
SSP1626200C00L	Total Lead	11/07/1991	11/27/1991	118		MG/KG	7.7

DECISION UNIT 25

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SSP1634100C00L	Total Lead	11/07/1991	11/27/1991	40.9		MG/KG	6.6
SSP1634200C00L	Total Lead	11/07/1991	11/27/1991	292		MG/KG	7.7
SSP1638100C00L	Total Lead	11/07/1991	11/27/1991	24.4		MG/KG	7.9
SSP1638200C00L	Total Lead	11/07/1991	11/27/1991	860		MG/KG	7.7
SSP1642100C00L	Total Lead	03/25/1992	04/13/1992	273		MG/KG	5.7
SSP1642200C00L	Total Lead	03/25/1992	04/13/1992	573		MG/KG	6.1
SSP1646100C00L	Total Lead	05/06/1992	06/12/1992	97.9		MG/KG	5.7
SSP1648100C00L	Total Lead	11/07/1991	11/27/1991	44		MG/KG	6.6
SSP1648200C00L	Total Lead	11/07/1991	11/27/1991	104		MG/KG	7.4
			NUMBER OF SAMPLES >= 500 ppm	9			
			NUMBER OF SAMPLES	80			
			CUMULATIVE BINOMIAL PROBABILITY (P)	0.0015			
			β error	0.1%			

For Level C: P < alpha → → Do Not Remediate
(alpha = 0.05)

DECISION UNIT 26

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL A (0 – 3 inches)							
SCH1712100A00L	Total Lead	03/24/1992	04/13/1992	505		MG/KG	6.2
SCH1714100A00L	Total Lead	11/07/1991	11/27/1991	610		MG/KG	7.8
SCH1714200A00L	Total Lead	11/07/1991	11/27/1991	714		MG/KG	8.2
SCH1715100A00L	Total Lead	11/07/1991	11/27/1991	598		MG/KG	7.6
SCH1715200A00L	Total Lead	11/07/1991	11/27/1991	644		MG/KG	7.7
SCH1716100A00L	Total Lead	03/24/1992	04/13/1992	398		MG/KG	5.9
SCH1716200A00L	Total Lead	03/24/1992	04/13/1992	1240		MG/KG	5.7
SCH1718100A00L	Total Lead	11/07/1991	11/27/1991	13.4		MG/KG	7.4
SCH1718200A00L	Total Lead	11/07/1991	11/27/1991	16.1		MG/KG	6.9
SCH1719100A00L	Total Lead	11/07/1991	11/27/1991	314		MG/KG	7.2
SCH1719200A00L	Total Lead	11/07/1991	11/27/1991	485		MG/KG	8.2
SCH1723100A00L	Total Lead	11/09/1991	11/26/1991	337		MG/KG	7.3
SCH1723200A00L	Total Lead	11/11/1991	11/26/1991	413		MG/KG	8.1
SCH1728100A00L	Total Lead	11/06/1991	11/27/1991	500		MG/KG	6.5
SCH1728200A00L	Total Lead	11/06/1991	11/27/1991	305		MG/KG	7.8
SCH1731100A00L	Total Lead	11/06/1991	11/25/1991	592		MG/KG	8.2
SCH1731200A00L	Total Lead	11/06/1991	11/25/1991	1260		MG/KG	7.9
SCH1732100A00L	Total Lead	05/15/1992	07/28/1992	912	J	MG/KG	5.5
SCH1732200A00L	Total Lead	05/15/1992	07/28/1992	1100	J	MG/KG	5.9
SCH1735100A00L	Total Lead	11/06/1991	11/25/1991	407		MG/KG	7.0
SCH1735200A00L	Total Lead	11/06/1991	11/25/1991	420		MG/KG	7.9
SCH1739100A00L	Total Lead	11/06/1991	11/27/1991	821		MG/KG	7.3
SCH1739200A00L	Total Lead	11/06/1991	11/27/1991	774		MG/KG	7.8

DECISION UNIT 26

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCH1743100A00L	Total Lead	11/11/1991	11/26/1991	544		MG/KG	7.8
SCH1743200A00L	Total Lead	11/11/1991	11/26/1991	326		MG/KG	8.4
SCH1747100A00L	Total Lead	11/11/1991	11/26/1991	455		MG/KG	8.1
SCH1747200A00L	Total Lead	11/11/1991	11/26/1991	816		MG/KG	7.4
SCH1750100A00L	Total Lead	11/11/1991	11/26/1991	505		MG/KG	7.3
SCH1750200A00L	Total Lead	11/11/1991	11/26/1991	553		MG/KG	8.6
SCH1751100A00L	Total Lead	03/24/1992	04/13/1992	645		MG/KG	5.5
SCH1751200A00L	Total Lead	03/24/1992	04/13/1992	973		MG/KG	5.9
SCH1753100A00L	Total Lead	03/24/1992	04/13/1992	615		MG/KG	5.8
SCH1753200A00L	Total Lead	03/24/1992	04/13/1992	375		MG/KG	5.8
SCH1754100A00L	Total Lead	03/24/1992	04/13/1992	704		MG/KG	6.2
SCH1754200A00L	Total Lead	03/24/1992	04/13/1992	1500		MG/KG	6.5
SOL1712100A00L	Total Lead	11/06/1991	11/25/1991	353		MG/KG	7.7
SOL1712200A00L	Total Lead	11/06/1991	11/25/1991	659		MG/KG	7.7
SOL1716100A00L	Total Lead	03/02/1992	03/18/1992	694		MG/KG	6.2
SOL1716200A00L	Total Lead	03/02/1992	03/18/1992	322		MG/KG	5.3
SOL1720100A00L	Total Lead	11/11/1991	11/27/1991	175		MG/KG	7.4
SOL1720200A00L	Total Lead	11/11/1991	11/27/1991	114		MG/KG	7.7
SOL1724100A00L	Total Lead	03/02/1992	03/18/1992	697		MG/KG	6.0
SOL1724200A00L	Total Lead	03/24/1992	04/13/1992	725		MG/KG	5.9
SOL1732100A00L	Total Lead	03/25/1992	04/13/1992	611		MG/KG	5.8
SOL1732200A00L	Total Lead	03/25/1992	04/13/1992	398		MG/KG	5.8
SOL1734100A00L	Total Lead	11/06/1991	11/25/1991	537		MG/KG	7.5
SOL1734200A00L	Total Lead	11/06/1991	11/25/1991	656		MG/KG	7.3

DECISION UNIT 26

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1738100A00L	Total Lead	05/06/1992	06/12/1992	506		MG/KG	5.5
SOL1738200A00L	Total Lead	05/06/1992	06/12/1992	600		MG/KG	5.5
SOL1744100A00L	Total Lead	11/06/1991	11/25/1991	574		MG/KG	7.7
SOL1744200A00L	Total Lead	11/06/1991	11/25/1991	579		MG/KG	8.0
SWA1711100A00L	Total Lead	03/24/1992	04/13/1992	253		MG/KG	6.1
SWA1711200A00L	Total Lead	03/24/1992	04/13/1992	2100		MG/KG	6.6
SWA1713100A00L	Total Lead	03/24/1992	05/11/1992	3070		MG/KG	61.2
SWA1713200A00L	Total Lead	03/24/1992	04/13/1992	1220		MG/KG	6.1
SWA1717100A00L	Total Lead	11/11/1991	11/26/1991	1520		MG/KG	7.8
SWA1717200A00L	Total Lead	11/11/1991	11/26/1991	693		MG/KG	7.7
SWA1721100A00L	Total Lead	11/11/1991	11/26/1991	1420		MG/KG	8.1
SWA1721200A00L	Total Lead	11/11/1991	11/26/1991	1000		MG/KG	8.2
SWA1741100A00L	Total Lead	05/15/1992	07/28/1992	933	J	MG/KG	5.8
SWA1741200A00L	Total Lead	05/15/1992	07/28/1992	467	J	MG/KG	5.4
SWA1745100A00L	Total Lead	03/24/1992	04/13/1992	912		MG/KG	5.9
SWA1747100A00L	Total Lead	05/15/1992	07/28/1992	424	J	MG/KG	6.0
SWA1747200A00L	Total Lead	05/15/1992	07/28/1992	668	J	MG/KG	5.4
SWA1751100A00L	Total Lead	03/24/1992	04/13/1992	457		MG/KG	6.2
SWA1751200A00L	Total Lead	03/24/1992	04/13/1992	855		MG/KG	5.7

DECISION UNIT 26

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
			NUMBER OF SAMPLES >= 500 ppm	44			
			NUMBER OF SAMPLES	66			
			CUMULATIVE BINOMIAL PROBABILITY (P)	1.0			
			β error	0.1%			
	For Level A:		P >= alpha → → Remediate (alpha = 0.05)				

DECISION UNIT 26
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
LEVEL B (3 – 6 inches)							
SCH1712100B00L	Total Lead	03/24/1992	04/13/1992	666		MG/KG	5.8
SCH1714100B00L	Total Lead	11/07/1991	11/27/1991	347		MG/KG	7.7
SCH1714200B00L	Total Lead	11/07/1991	11/27/1991	598		MG/KG	8.0
SCH1715100B00L	Total Lead	11/07/1991	11/27/1991	311		MG/KG	7.8
SCH1715200B00L	Total Lead	11/07/1991	11/27/1991	852		MG/KG	8.3
SCH1716100B00L	Total Lead	03/24/1992	04/13/1992	242		MG/KG	5.7
SCH1716200B00L	Total Lead	03/24/1992	04/13/1992	1560		MG/KG	6.1
SCH1718100B00L	Total Lead	11/07/1991	11/27/1991	13		MG/KG	7.2
SCH1718200B00L	Total Lead	11/07/1991	11/27/1991	56.3		MG/KG	7.1
SCH1719100B00L	Total Lead	11/07/1991	11/27/1991	269		MG/KG	7.4
SCH1719200B00L	Total Lead	11/07/1991	11/27/1991	338		MG/KG	7.7
SCH1723100B00L	Total Lead	11/11/1991	11/26/1991	371		MG/KG	7.8
SCH1723200B00L	Total Lead	11/11/1991	11/26/1991	392		MG/KG	8.0
SCH1728100B00L	Total Lead	11/06/1991	11/27/1991	208		MG/KG	7.2
SCH1728200B00L	Total Lead	11/06/1991	11/27/1991	317		MG/KG	7.9
SCH1731100B00L	Total Lead	11/06/1991	11/25/1991	498		MG/KG	7.5
SCH1731200B00L	Total Lead	11/06/1991	11/25/1991	1000		MG/KG	7.2
SCH1732100B00L	Total Lead	05/15/1992	07/28/1992	813	J	MG/KG	5.5
SCH1732200B00L	Total Lead	05/15/1992	07/28/1992	623	J	MG/KG	5.8
SCH1735100B00L	Total Lead	11/06/1991	11/25/1991	287		MG/KG	7.2
SCH1735200B00L	Total Lead	11/06/1991	11/25/1991	396		MG/KG	7.7
SCH1739100B00L	Total Lead	11/06/1991	11/27/1991	559		MG/KG	7.8
SCH1739200B00L	Total Lead	11/06/1991	11/27/1991	633		MG/KG	7.3

DECISION UNIT 26

ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SCH1743100B00L	Total Lead	11/11/1991	11/26/1991	250		MG/KG	7.8
SCH1743200B00L	Total Lead	11/11/1991	11/26/1991	503		MG/KG	7.5
SCH1747100B00L	Total Lead	11/11/1991	11/26/1991	372		MG/KG	7.1
SCH1747200B00L	Total Lead	11/11/1991	11/26/1991	508		MG/KG	7.4
SCH1750100B00L	Total Lead	11/11/1991	11/26/1991	407		MG/KG	8.0
SCH1750200B00L	Total Lead	11/11/1991	11/26/1991	411		MG/KG	8.2
SCH1751100B00L	Total Lead	03/24/1992	04/13/1992	346		MG/KG	5.4
SCH1751200B00L	Total Lead	03/24/1992	04/13/1992	351		MG/KG	6.1
SCH1753100B00L	Total Lead	03/24/1992	04/13/1992	644		MG/KG	6.0
SCH1753200B00L	Total Lead	03/24/1992	04/13/1992	318		MG/KG	5.7
SCH1754100B00L	Total Lead	03/24/1992	04/13/1992	487		MG/KG	5.7
SCH1754200B00L	Total Lead	03/24/1992	04/13/1992	1230		MG/KG	6.2
SOL1712100B00L	Total Lead	11/06/1991	11/25/1991	216		MG/KG	8.0
SOL1712200B00L	Total Lead	11/06/1991	11/25/1991	335		MG/KG	7.8
SOL1716100B00L	Total Lead	03/02/1992	03/18/1992	699		MG/KG	5.9
SOL1716200B00L	Total Lead	03/02/1992	03/18/1992	113		MG/KG	5.6
SOL1720100B00L	Total Lead	11/11/1991	11/27/1991	415		MG/KG	7.4
SOL1720200B00L	Total Lead	11/11/1991	11/27/1991	426		MG/KG	7.2
SOL1724100B00L	Total Lead	03/02/1992	03/18/1992	537		MG/KG	5.9
SOL1724200B00L	Total Lead	03/24/1992	04/13/1992	744		MG/KG	5.7
SOL1732100B00L	Total Lead	03/25/1992	04/13/1992	374		MG/KG	5.8
SOL1732200B00L	Total Lead	03/25/1992	04/13/1992	432		MG/KG	5.7
SOL1734100B00L	Total Lead	11/06/1991	11/25/1991	470		MG/KG	7.8
SOL1734200B00L	Total Lead	11/06/1991	11/25/1991	633		MG/KG	7.6

DECISION UNIT 26
ANALYTICAL DATA AND STATISTICAL EVALUATION

NL/TARACORP 89MC114V ANALYTICAL REPORT GENERATED: Aug 31, 1992

SAMPLE ID	PARAMETER	SAMPLE COLLECTION DATE	ANALYSIS DATE	RESULT (ppm)	QUALIFIER	UNITS	REPORTING DETECTION LIMIT
SOL1738100B00L	Total Lead	05/06/1992	06/12/1992	500		MG/KG	5.3
SOL1738200B00L	Total Lead	05/06/1992	06/12/1992	642		MG/KG	5.8
SOL1744100B00L	Total Lead	11/06/1991	11/25/1991	435		MG/KG	7.1
SOL1744200B00L	Total Lead	11/06/1991	11/25/1991	559		MG/KG	8.0
SWA1711100B00L	Total Lead	03/24/1992	04/13/1992	985		MG/KG	5.7
SWA1711200B00L	Total Lead	03/24/1992	04/13/1992	1300		MG/KG	6.2
SWA1713100B00L	Total Lead	03/24/1992	04/13/1992	570		MG/KG	5.5
SWA1713200B00L	Total Lead	03/24/1992	04/13/1992	726		MG/KG	6.0
SWA1717100B00L	Total Lead	11/11/1991	11/26/1991	1260		MG/KG	7.8
SWA1717200B00L	Total Lead	11/11/1991	11/26/1991	524		MG/KG	8.3
SWA1721100B00L	Total Lead	11/11/1991	11/26/1991	979		MG/KG	7.0
SWA1721200B00L	Total Lead	11/11/1991	11/26/1991	924		MG/KG	8.5
SWA1741100B00L	Total Lead	05/15/1992	07/28/1992	584	J	MG/KG	5.6
SWA1741200B00L	Total Lead	05/15/1992	07/28/1992	423	J	MG/KG	5.5
SWA1745100B00L	Total Lead	03/24/1992	04/13/1992	563		MG/KG	5.8
SWA1747100B00L	Total Lead	05/15/1992	07/28/1992	297	J	MG/KG	5.5
SWA1747200B00L	Total Lead	05/15/1992	07/28/1992	866	J	MG/KG	5.6
SWA1751100B00L	Total Lead	03/24/1992	04/13/1992	432		MG/KG	6.0
SWA1751200B00L	Total Lead	03/24/1992	04/13/1992	823		MG/KG	5.4

FINAL REPORT
APPENDIX H, I, & J

NL/TARACORP SUPERFUND SITE GRANITE CITY, ILLINOIS

Prepared for

U.S. Envrionmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

March, 1993

U.S. Department of the Army
Corps of Engineers, Omaha District
Omaha, Nebraska

SURDEX CORPORATION 520 Spirit of St. Louis Blvd. • Spirit of St. Louis Airport • Chesterfield, MO 63005-1095

SURDEX FLIGHT REPORT

DATE: 19 September 1991

PROJECT: Woodward-Clyde - Taracorp - Granite City, IL
4301/349

AIRCRAFT: Cessna 310 - N2737U

PILOT: Jack Burnside

PHOTOGRAPHER: Sherry Rodberg

All Photography was Acquired on this Date and Under the Following Conditions:

Altitude: 2400 Feet Above MSL
Camera: 269157 D
Magazine: 269006 B
F-Stop: 6.8
Shutter Speed: 1/475 Sec.

ADDITIONAL DATA BY FLIGHT LINE

FLIGHT LINE NUMBER	FIRST EXPOSURE NO.	FIRST EXPOSURE TIME	LAST EXPOSURE NO.	LAST EXPOSURE TIME
6	1	9:38	17	9:40
5	18	9:46	34	9:48
4	35	10:11	50	10:13
3	51	10:18	65	10:20
2	66	10:22	81	10:24
1	82	10:25	97	10:27

COMMENTS: None

Pilot

Telephone: 314-532-3427
FAX: 314-537-9638

GROUND CONTROL SURVEY NOTES FOR PLANIMETRIC MAPPING

October, 1991

(6) 89MC114V-50

Oct. 4, 1991

Stu Schwartz

Lester Suels

Joe Estes

Partly Cloudy 70°

π Wild No. 2000

INDUSWARE - CLYDE CONSULTANTS

GRANITE CITY, ILL

Sta	BS	HI	FS	Elev.	
Pt. 2	5.413			420.179	
113	5.259		4.983	420.604	
114	6.396		4.673	421.189	
115	5.954		4.787	422.797	
V-22112	5.972		5.544	423.200	423.213
117	2.15		7.325	421.855	
118	4.265		7.603	416.402	
119	5.262		6.542	414.665	
120	[illegible]		7.471	412.456	
121	[illegible]		4.735	415.777	
122	7.897		4.15	414.032	
123	5.174		5.342	416.589	
V-22113 124	6.144	423.918	4.489	417.373	417.281
BM on rocks 125	-		5.19	417.938	EGG
125	6.174		3.74	419.673	
126	5.249		6.881	418.97	
[illegible]	[illegible]		4.922	419.396	419.405

Survey Notes for 89MC114V-50

Ground Control for Planametric Mapping

Received by WCC - ST Louis from Surdex 1-29-92

EG: sidewalks north & Iron

℄ TRACKS AT Switch

1926 Elev. 419.009 Plot El. 104.683

Brass cap in con (AT RR Scales) East of Hwy 203

℄ TRACKS AT Switch

(7)

PI 129	5.689		6.089	419.202		
PI 129 V-22111	5.669		5.915	417.976	417.986	℄ TRACKS AT Switch
PI 130	5.77		5.451	418.193		
PI 131	5.539		5.255	418.708		
132	5.422		4.702	419.552		
133	5.302		6.302	418.673		
134	4.502		6.817	416.66		
135	4.25		4.904	416.259		
136	5.567		4.629	415.878		
137	5.118		5.022	415.619		
138	6.048		5.295	415.446		
139	6.[illegible]		4.834	416.66		
V-22163 140	[illegible]		4.999	418.582	418.596	℄ TRACKS AT Switch
141	5.401		5.291	418.535		
142	7.011		4.917	419.018		
143	4059		6.35	415.48		
144	~~4.815~~ 5.515		6.443	413.096		
145	6.305		8.298	409.313		
146	7.665		2.352	413.267		
V-22203 147	6.014		8.051	412.881	412.897	℄ ℄ Streets 4th & McNair
148	4.779		3.638	415.256		
149	5.558		4.247	415.786		
150	5.59		5.765	415.38		
151	5.663		6.33	414.[illegible]		
152	[illegible]		4.[illegible]	414.897		

(E)

[illegible]	[illegible]		4.945			
[illegible]	5.785		8.079	410.928		
[illegible] 473	8.014		4.936	411.679	411.698	⊥ & Sidewalks SEcor Lee & 8th St.
[illegible]	5.453		4.265	415.439		
[illegible]	5.0[illegible]		6.022	[illegible]		
[illegible]	7.36		5.826	416.509		
[illegible]	5.426		5.091	[illegible]		
160	5.716		5.798	416.405		
161	6.126		5.505	416.526		
0.21633 162	4.753		5.04	416.913	416.832	⊥ Tracks at Switch
163	4.909		6.959	416.607		
164	4.742		6.721	412.875		
165	6.497		4.466			
166	7.131		4.092	414.656		
167	[illegible]		6.617	415.359		
168	5.645		5.774	414.381		
0.00683 169	6.067		5.377	414.69	414.715	⊥ Sidewalks
170	5.562		5.056	415.641		
[illegible]	[illegible]		[illegible]	[illegible]		
[illegible]	[illegible]		[illegible]	411.648		
[illegible]	[illegible]		1.661	417.741		
[illegible]	[illegible]		7.724	418.64	418.664	Westside Hwy 3 by Mile Post 2 Sign
[illegible]	[illegible]		[illegible]	[illegible]		
[illegible]	[illegible]		[illegible]	[illegible]		

(9)

Sta	BS	HI	FS	Elev.	
177	4.903		[illegible]	416.261	
V-22932			8.25	412.414	412.439
178	4.823		5.587	415.577	
V-22932	—		7.98	412.42	
179	4.176		6.513	413.828	
180	5.709		4.34	413.663	
181	5.407		4.825	414.541	
182	5.731		5.137	414.814	
183	[illegible]		4.865	415.679	
184	[illegible]		4.506	416.[illegible]	
185	[illegible]		1.669	[illegible]	
[illegible]	[illegible]		[illegible]	430.245	
187	7.604		1.455	[illegible]	
188	1.988		8.691	438.976	
189	1.023		[illegible]	[illegible]	
190	[illegible]		[illegible]	416.125	
1-1	[illegible]		2.646	413.267	413.293
~~122~~ 98			[illegible]	412.263	412.289
				412.336	

℄ Road at Gate

" Island Entrance to MP Military Base

Error 0.03'

(10)

V-22932	5.209			412.42	412.435
192	5.798		4.706	412.922	
193 V-22933	5.691		5.722	412.799	413.01'
192	4.734		5.77	412.919	
V-22933			5.233	412.42	
				Error = 0.00'	
92	5.111			411.262	411.193
194	6.799		4.109	412.245	
195	5.191		6.024	413.02	
196	5.674		6.159	412.050	
197	5.193		6.566	411.16	411.67
V-22773 198	4.129		4.628	411.725	411.677
197	5.862		4.991	411.163	
199	5.02		4.806	412.218	
200	6.166		4.911	412.328	
201	4.686		4.507	413.987	
202	6.103		5.319	413.264	
203	7.211		6.30	413.156	
204	5.318		5.979	414.388	413.71
V-32543 205	6.469		5.938	413.768	413.72
206	4.578		6.069	414.168	
207	7.205		5.113	413.634	
209	6.186		9.717	417.711	

(11)

Tracks app P/P

E E Side walks

E E Side walks

(11)

209	4.921		3.798	420.04	
210	4.879		6.355	418.605	417.51
U-22393 211	5.662		5.909	417.575	417.52
210	7.224		4.631	418.606	
212	5.779		5.792	420.047	
213	7.155		5.729	420.097	
214	6.697		4.315	422.937	
215			5.169	424.465	424.419

(3)

EE Sidewalks

Nail in PP at R/R

(12)

Oct 16, 1991
STU Schwartz
MARK Lady
Lester Surls
Clear 60°

STA	BS	HI	FS	Elev.	
215	4.823			424.465	424.419
V-22392 216	4.878		6.159	423.129	423.06 / 423.083
217	5.669		6.277	421.73	
218	5.429		6.176	421.223	
V-22391 219	5.799		6.043	420.607	420.54 / 420.56
220	6.043		5.213	421.193	
221	5.184		6.525	420.711	
V-22390a 222	6.012		5.421	420.474	420.40 / 420.42
223	5.971		6.799	419.687	
224	5.791		5.962	419.697	
225	5.53		6.209	418.779	
V-22053 226	5.163		5.119	419.21	419.14 / 419.163
227	5.021		6.153	418.221	
228	6.203		5.803	417.439	
229	5.19		5.565	418.077	
V-22042			5.178	418.089	418.048 / 418.016

ERROR .023

(13)

℄ Tracks ℄ Street

℄ ℄ Sidewalks

℄ ℄ Sidewalks

℄ ℄ Sidewalks

(13)

214	4.202			422.937	422.887	
230	6.869		6.632	420.507		
V-22551 231	5.683		5.072	421.505	421.95	℄ Miles ℄ Street
230	6.789		6.696	420.491		
214			9.356	422.925		
				Error = 0.012'		
207	7.226			413.634	413.58	
V-22562	4.723		4.074	415.286	415.93	℄ ℄ Sidewalks
207			7.074	413.635		
				Error = 0.001'		
203	5.142			413.156	413.10	
232	6.089		5.204	413.094		
V-22761 232	5.479		5.912	413.27	413.21	℄ ℄ Sidewalks
234	5.286		5.464	413.286		
V-22762 235	4.457		5.503	413.069	413.01	℄ ℄ Sidewalk
236	6.087	4 17968	5.675	411.881		
~~236~~ 195			4.935	413.033	413.02	
				Error = 0.013'		
195	5.211			413.02	412.97	
V-22763	6.621		6.152	412.079	412.03	℄ ℄ Sidewalks
195			5.069	413.031		
				Error = 0.011'		

106	4.049			427.037	426.98	
237	5.117		6.149	424.937		
238	4.729		5.627	424.428	423.39	
U-22583 ~~234~~	5.639		5.725	423.432	423.374	℄ Track at Switch
238	6.356		4.641	424.429		
239	2.33		6.023	424.762		
240	2.967		6.146	420.946	419.55	
U-22582 241	4.165		4.341	419.573	419.574	℄ & Sidewalks
242	3.747		6.038	417.705		
243	5.319		6.276	415.176		
244	5.519		6.499	413.996		
245	6.61		5.614	413.901		
246	5.539		5.92	414.591		
247	4.864		5.663	414.467	414.30	
U-32443 248	5.095		5.032	414.299	414.23	℄ & Sidewalks
249	4.418		4.157	415.237		
250	6.967		6.002	413.653		
251	4.398		5.246	415.376	414.01	
U-22602 252	6.176		5.049	413.922	413.86	Center of Drop inlet
253	5.67		5.691	414.407		
254	5.575		4.982	415.095	415.166	
255	6.301		6.197	414.474		
256	6.235		5.14	415.714		
159			5.202	416.746	416.605 416.796	
				Error =	0.031' 0.107	

(15)

254	7.929			415.095	415.166
257	5.088		6.455	416.569	
250	5.764		6.457	415.20	
V-22603 259	5.04		5.844	415.12	415.19
260	5.028		5.04	415.12	
261	5.228		5.303	414.845	
V-22713	4.718		4.91	415.162	415.23
261	5.249		5.031	414.849	
260	4.996		4.971	415.127	
259	5.681		4.993	415.129	
258	6.563		5.602	415.208	
257	6.477		5.199	416.572	
254			7.949	415.10	415.166
				Error =	0.005'
164	5.702			412.875	412.895
V-22682 263	4.975		5.12		413.477
164			5.559		412.843
V-22203 147	5.937			412.897	
264	4.831		4.839	413.795	
265	4.516		6.312	412.564	
V-20471	5.155		5.166	411.914	411.91

℄ Tracks at Power Pole.

℄ Tracks at Switch

℄ McNair St. ℄ Stacy St.

(16)

267	8.904		5.49	411.592	
268	5.515		4.237	416.159	
V-22472 269	5.934		5.397	416.277	416.28
270	4.704		5.657	416.554	
271	5.699		4.303	417.036	
272	5.694		6.714	416.022	
152			6.813	414.903	414.897
				Error =	0.006'
152	6.197			414.903	414.916
274	4.816		4.398	46.701	
275	5.665		7.136	414.381	
V-22632	5.334		5.512	414.634	414.55
275	6.217		5.487	414.381	
276	6.296		5.605	414.992	
277	3.539		6.162	415.127	
V-22473	4.843	416.889	6.609	412.056	412.07
154			6.07	410.929	410.918
					Error = 0.011'

(17)

C&G Sidewalks

C&G Sidewalks

C&G Sidewalks SW Cor. Lea & 8th St (Correct)

(17)

124	5.321			417.291	
270	5.507		4.193	410.409	
279	4.672		8.391	415.525	
280	4.321		7.456	412.741	
281	4.604		5.514	411.548	
V-22233	4.42		4.616	411.536	411.54
281	5.506		4.406	411.55	
280	7.511		4.317	412.74	
279	8.166		4.728	415.529	
278	4.107		5.283	418.412	
124			5.243	417.275	

E& Steels (No Photo)

(18) THURSDAY OCTOBER 17, 1991

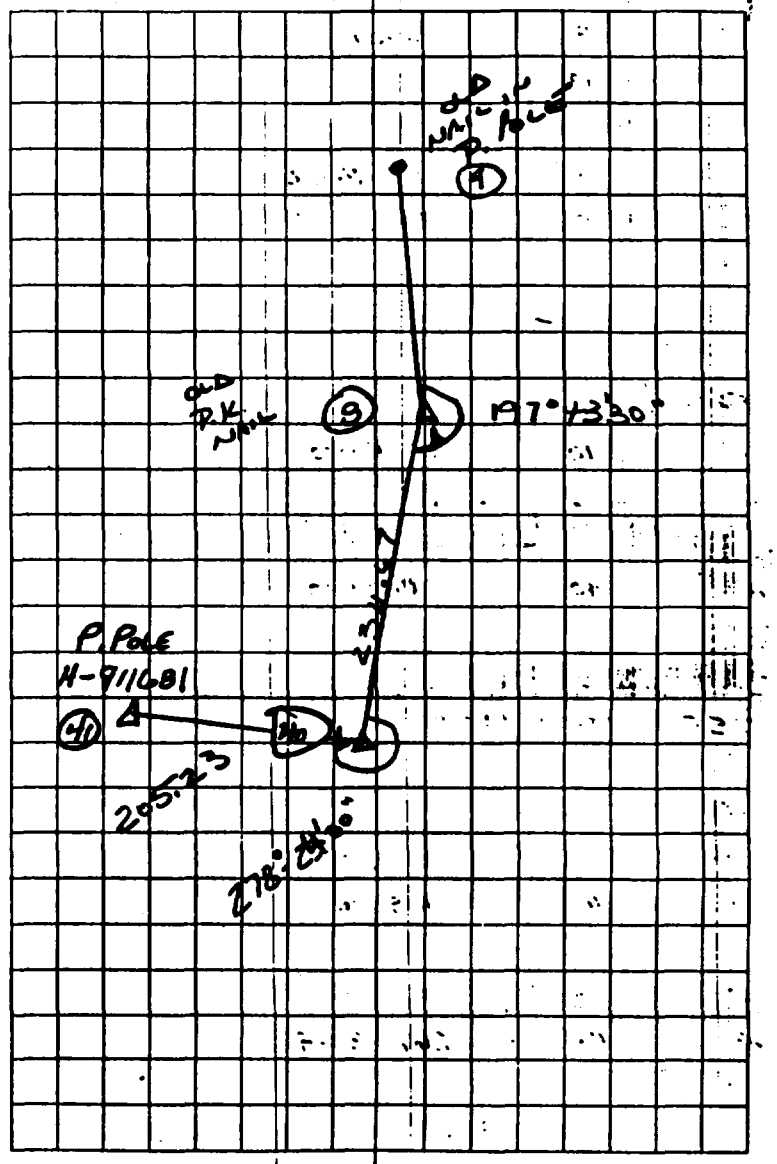
CLEAR BREEZY 70°F

P.C. MACK LUOY

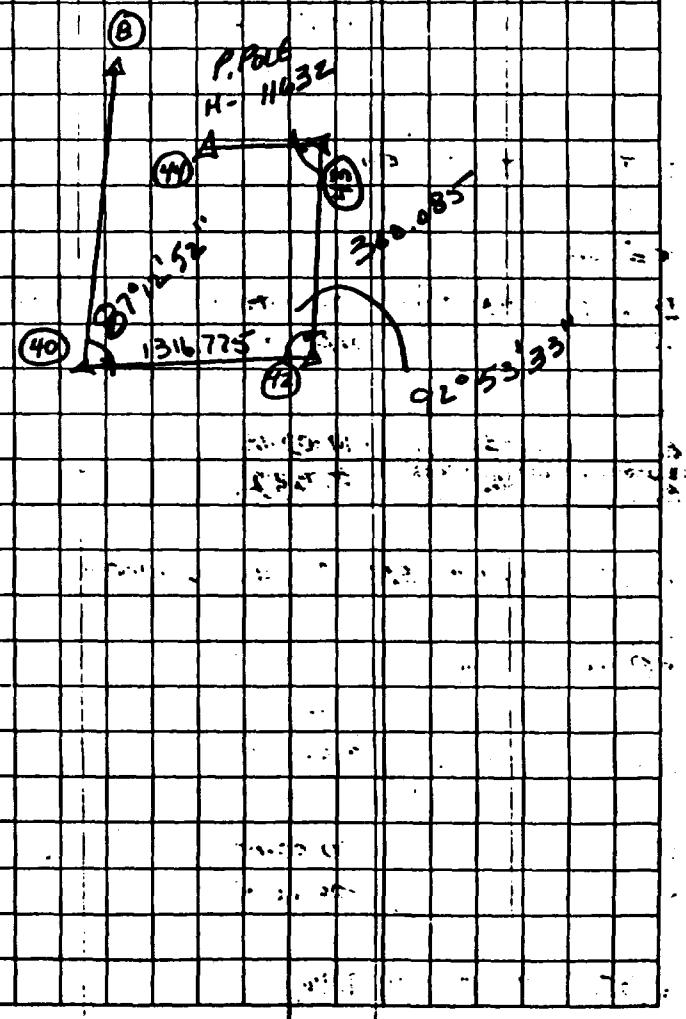
π JIM PRIOR

π NIKON DTM-6

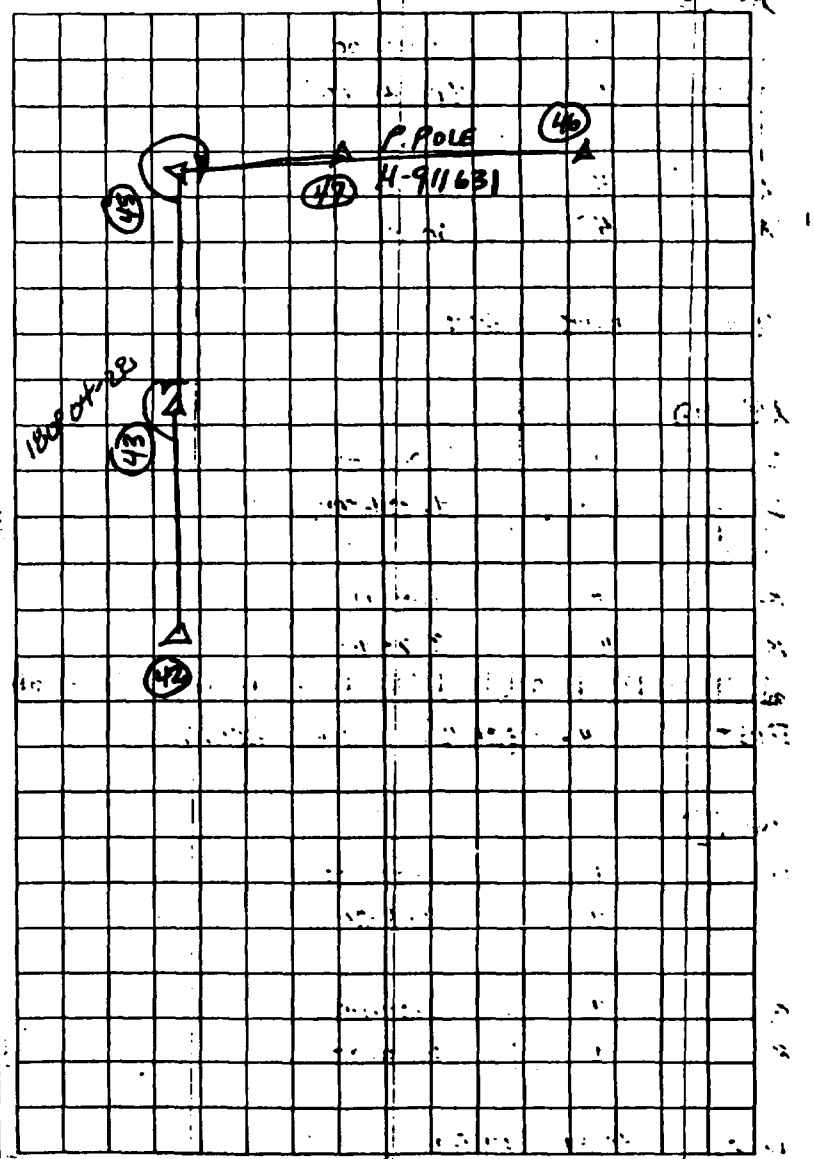
TC (9)	SITE ON	READING	ANGLE
D	9	00-00-00	
D	40	197-43-30	
ℓ	9	180-00-05	
ℓ	40	17-43-35	
DIST.	8-40	2311.67'	
TC (40)			
D	8	00-00-00	
D	41	278-23-55	
ℓ	8	179-59-50	
ℓ	41	98-23-55	
DIST.	40-8	2311.67'	40-41	205.23'



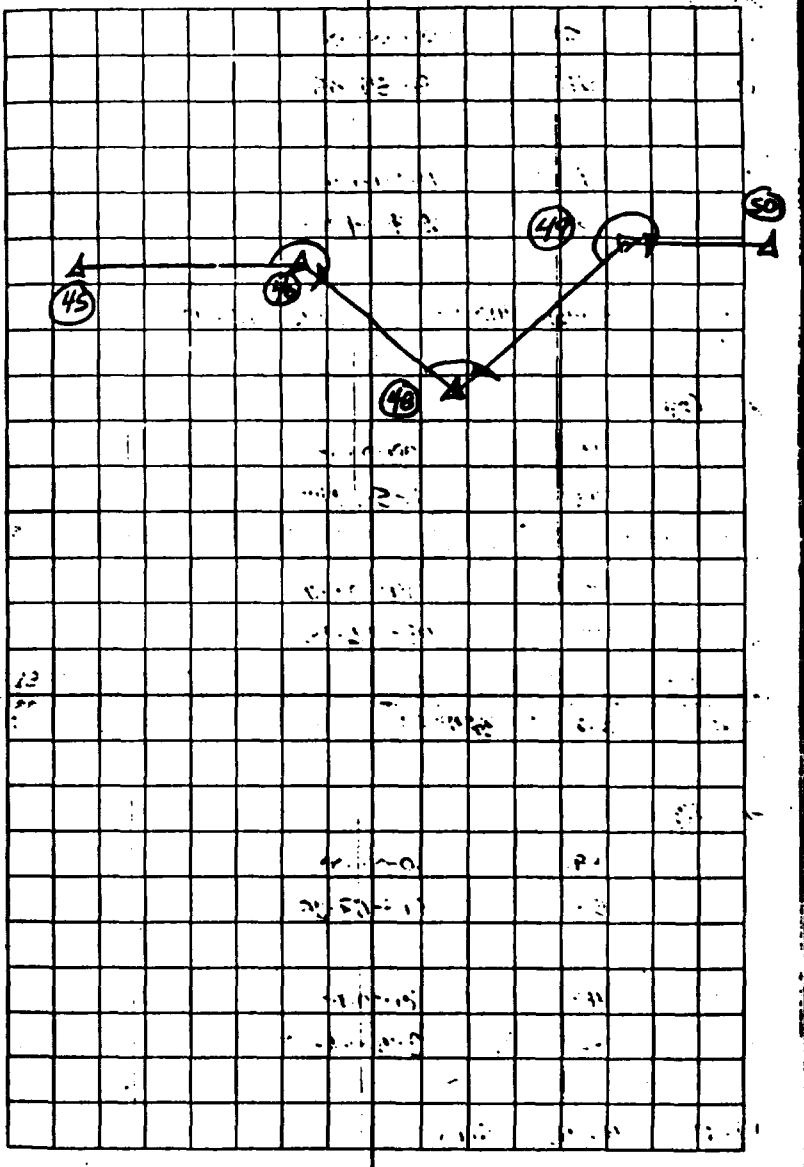
(14)	SITE ON	READING		ANGLE	
TC (44)					
D	8	00-00-00			
D	42	87-12-50			
R	8	179-59-50		87-12-55	
R	42	267-12-45			
DIST.	40-42	1316.77'			
TC (42)					
D	40	00-00-00			
D	43	92-53-30			
R	40	180-00-10			
R	43	272-53-45			
DIST.	42-40	1316.78'	42-43	360.08'	
TC (43)					
D	42	00-00-00			
D	44	86-52-15			
R	42	180-00-05			
R	44	266-52-25			
DIST.	43-42	360.09'	43-44	93.26'	



SET 20	SITE ON	READING		ANGLE
TE (43)				
D	42	00-00-00		
D	45	180-04-30		
R	42	180-00-05		
R	45	00-04-30		
DIST.	43-45	527.21'		
TE (45)				
D	43	00-00-00		
D	46	269-03-00		
R	43	180-00-05		
R	46	89-03-10		
DIST.	45-43	527.22'	45-46	800.72'
TE (45)				
D	43	00-00-00		
D	47	268-18-20		
R	43	180-00-05		
R	47	88-18-20		
DIST.	45-47	457.86'		

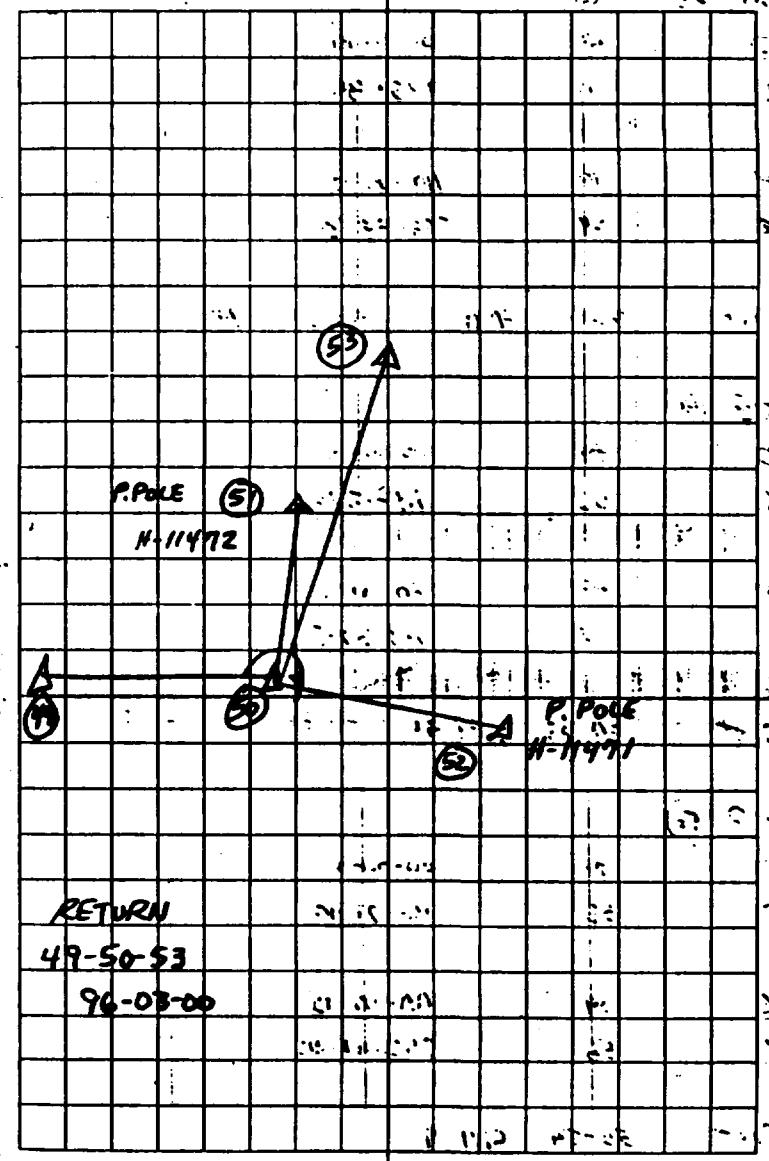


(21)	SITE ON	READING	ANGLE
I@ (46)			
D	45	00-00-00	
D	48	218-37-05	
R	45	180-00-05	
R	48	38-37-10	
DIST.	46-45	800.73'	46-48 224.71'
I@ (48)			
D	46	00-00-00	
D	49	92-56-40	
R	46	180-00-10	
R	49	272-56-50	
DIST.	48-46	224.72'	48-49 629.26'
I@ (49)			
D	48	00-00-00	
D	50	213-48-25	
R	48	180-00-05	
R	50	33-48-30	
DIST.	49-48	629.26'	49-50 440.02'

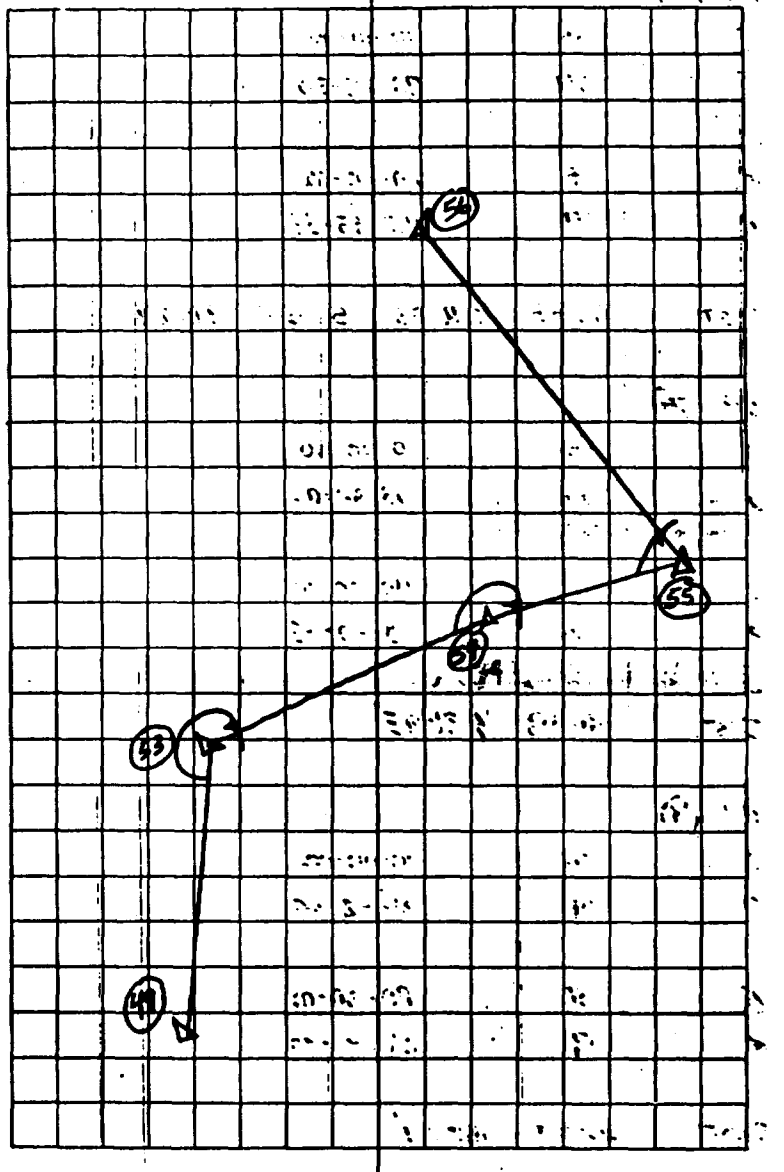


(22)

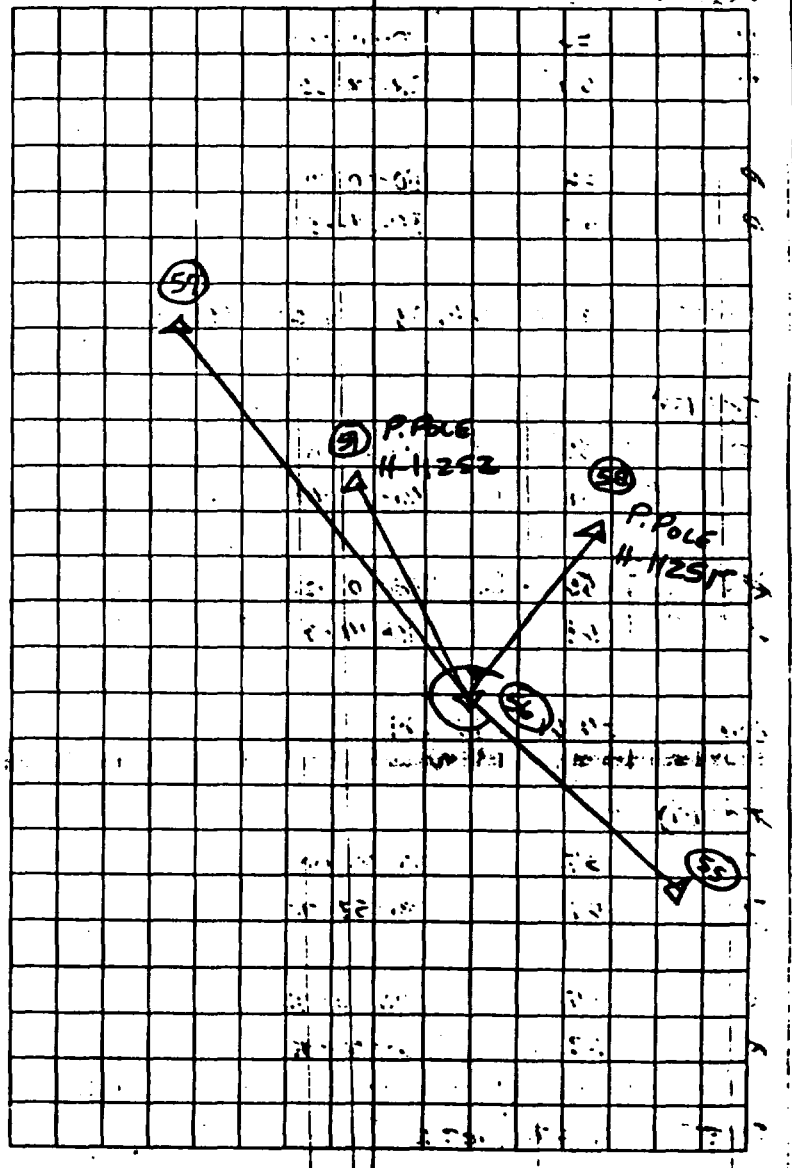
	SITE ON	READING	ANGLE
⊥@ (50)			
D	49	00-00-00	
D	51	94-59-35	
R	49	180-00-10	
R	51	274-54-50	
DIST.	50-49	440.03'	50-51 124.90'
⊥@ (50)			
D	49	00-00-00	
D	52	185-22-15	
R	49	180-00-10	
R	52	05-22-25	
DIST.	50-52	588.31'	
⊥@ (50)			
D	49	00-00-00	
D	53	96-03-00	
R	49	180-00-10	
R	53	276-03-30	
DIST	50-53	918.95'	



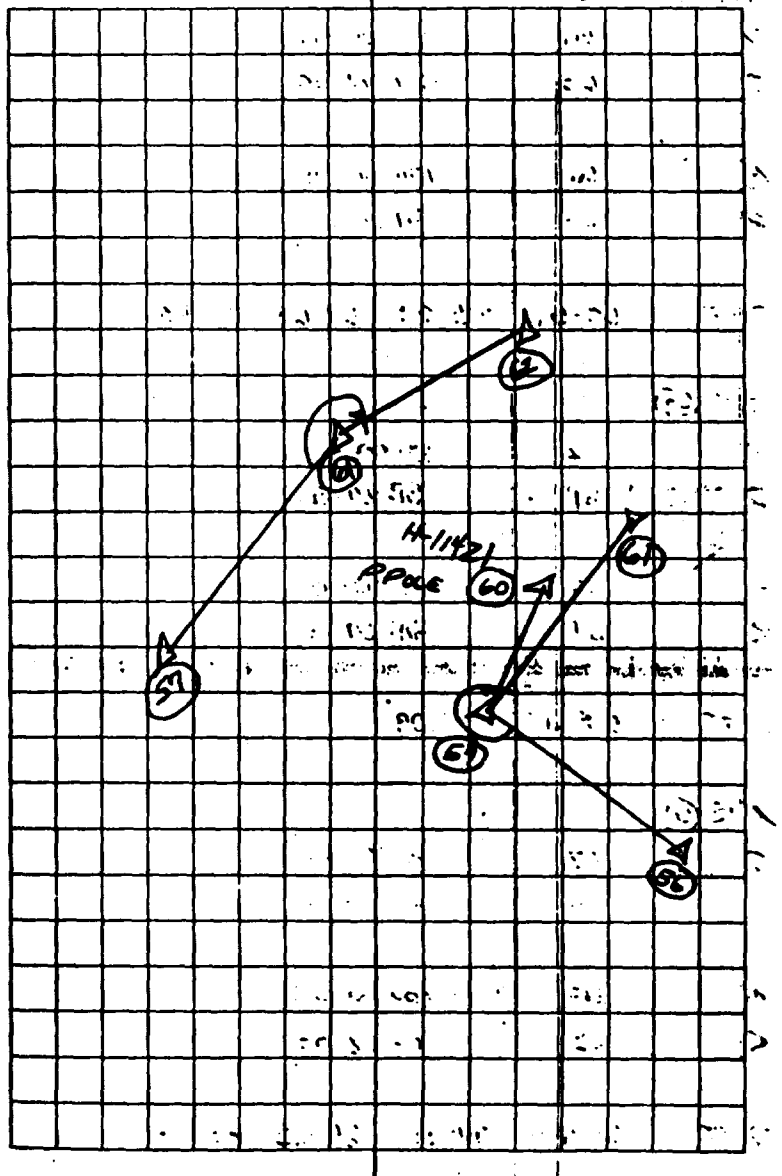
(22)	SITE ON	READING		ANGLE	
TE (53)					
D	49	00-00-00			
D	54	225-35-20			
R	49	180-00-10			
R	54	45-35-30			
DIST.	53-49	918.75'	53-54	3190.95'	
TE (54)					
D	53	00-00-00			
D	55	183-38-25			
R	53	180-00-10			
R	55	03-38-25			
DIST.	54-53	3190.95'	54-55	827.97'	
TE (55)					
D	54	00-00-00			
D	56	82-21-45			
R	54	180-00-10			
R	56	262-21-50			
DIST.	55-54	827.97'	55-56	1246.75'	



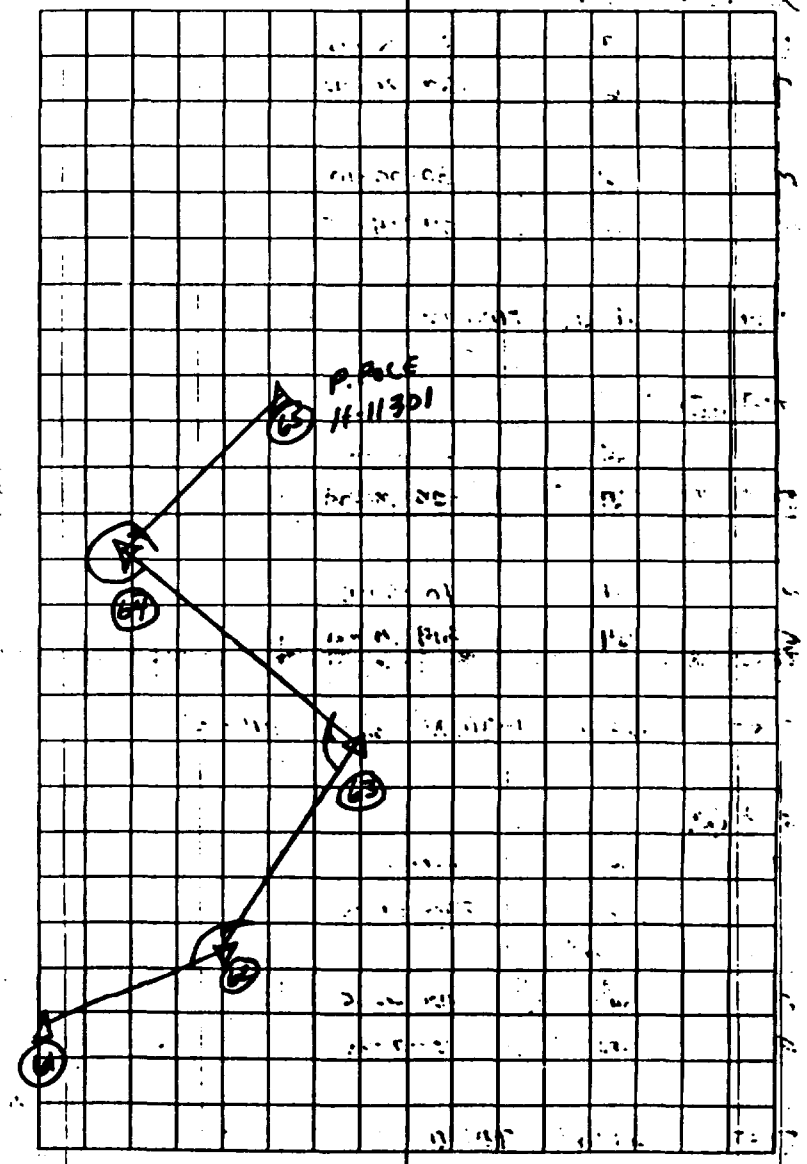
TC (56)	S. ON	READING	ANG.	
D	55	00-00-00		
D	57	178-33-20		
R	55	180-00-05		
R	57	358-33-35		
DIST.	56-55	1246.76'	56-57	1946.82'
TC (56)				
D	55	00-00-00		
D	58	268-40-05		
R	55	180-00-05		
R	58	88-40-05		
DIST.	56-58	628.63'		
TC (56)				
D	55	00-00-00		
D	59	181-52-30		
R	55	180-00-05		
R	59	01-52-30		
DIST.	56-59	682.63'		



(25) TC (57)	SITE ON	READING		ANGLE
D	56	00-00-00		
D	60	267-04-35		
R	56	180-00-10		
R	60	87-04-45		
DIST.	57-56	1946.83'	57-60	156.78'
TC (57)				
D	56	00-00-00		
D	61	270-27-40		
R	56	180-00-10		
R	61	90-27-45		
DIST.	57-61	707.09'		
TC (61)				
D	57	00-00-00		
D	62	196-53-20		
R	57	180-00-15		
R	62	16-53-35		
DIST.	61-57	707.10'	61-62	505.33

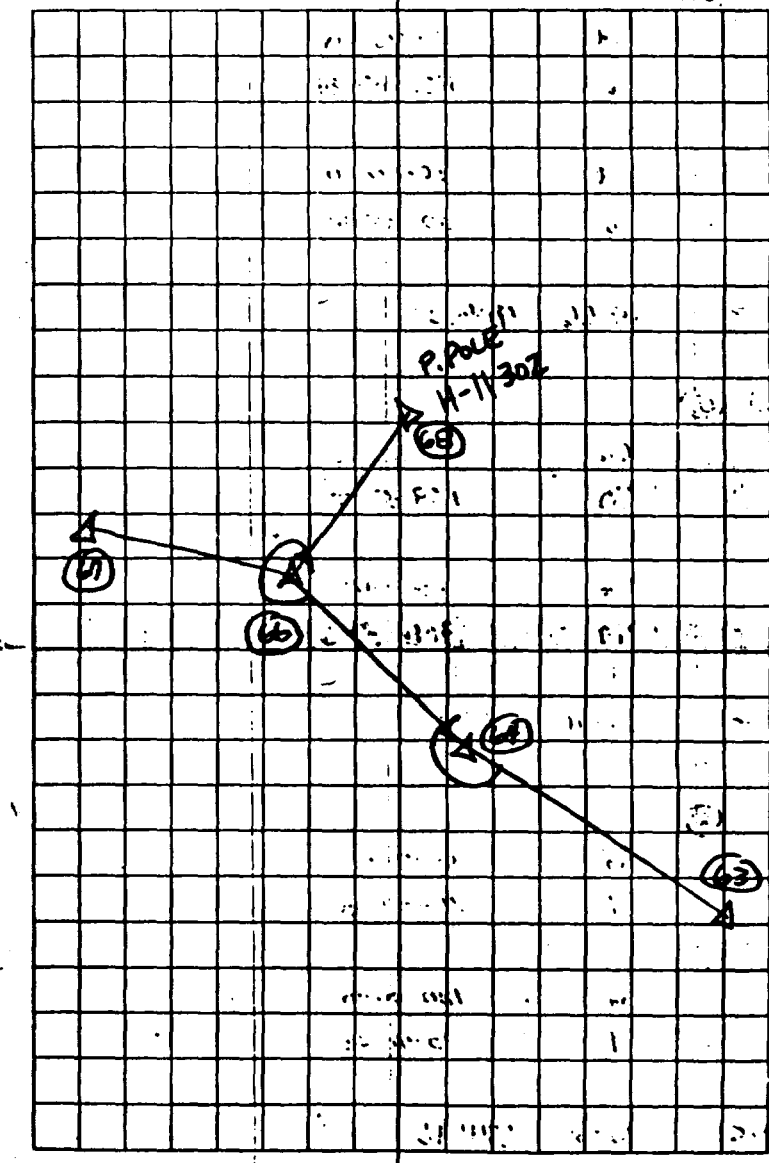


	SITE ON	READING		ANGLE
TP (62)				
D	61	00-00-00		
D	63	164-41-50		
R	61	180-00-05		
R	63	344-42-00		
DIST.	62-61	505.33'	62-63	1970.06'
TP (63)				
D	62	00-00-00		
D	64	88-09-05		
R	62	180-00-15		
R	64	268-09-10		
DIST.	63-62	1970.08'	63-64	1941.29'
TP (64)				
D	63	00-00-00		
D	65	266-21-40		
R	63	180-00-10		
R	65	86-22-00		
DIST.	64-63	1941.30'	64-65	631.24'

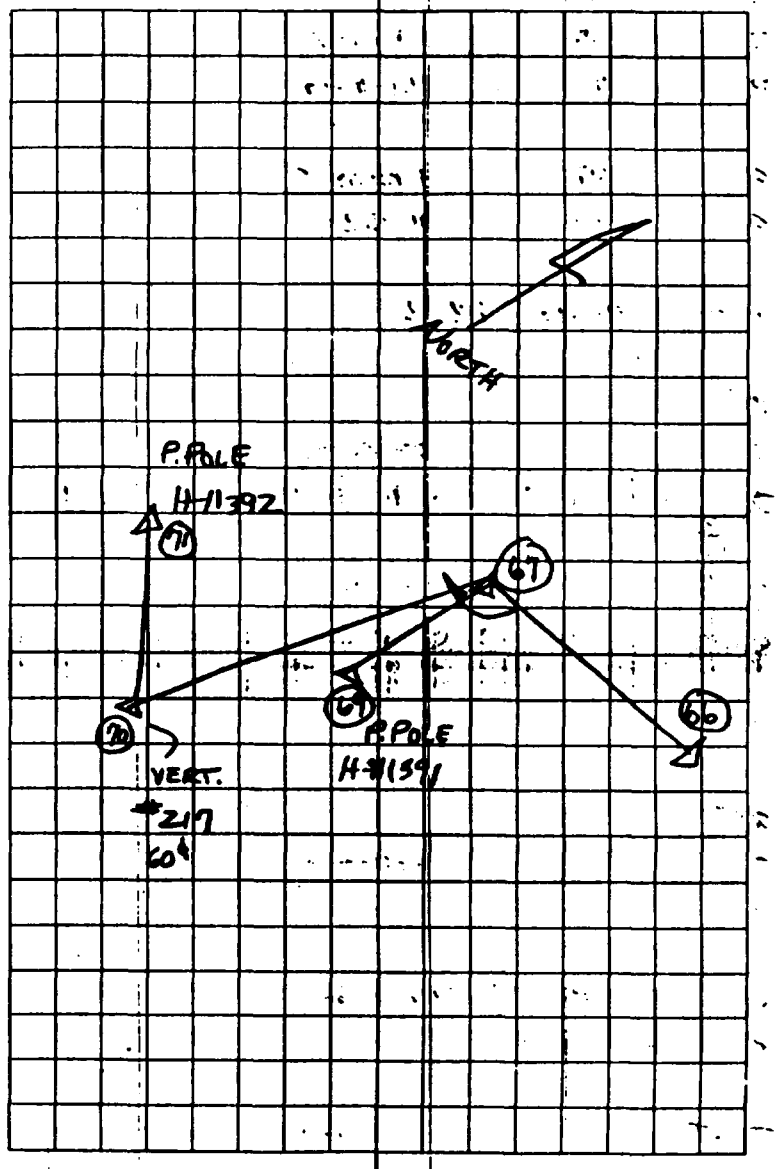


(27)

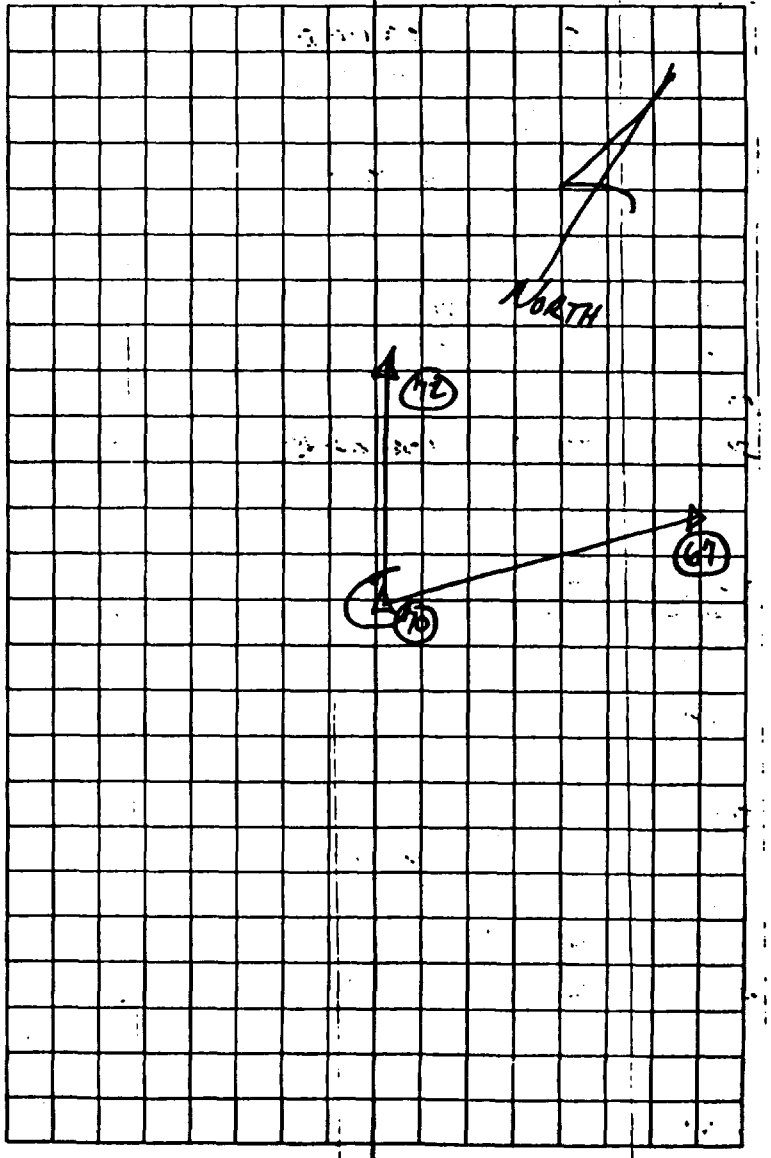
TC (64)	SITE ON	READING	ANGLE
D	63	00-00-00	
D	66	182-35-35	
R	63	180-00-10	
R	66	02-35-55	
DIST.	64-66	708.02	
TC (66)			
D	64	00-00-00	
D	67	139-17-00	
R	64	180-00-05	
R	67	319-17-00	
DIST.	66-64	708.02'	66-67 414.23'
TC (64)			
D	64	00-00-00	
D	68	270-07-30	
R	64	180-00-05	
R	68	90-07-40	
DIST.	66-68	329.26	



TO (71) (28)	SITE ON	READING		ANGLE	
D	66	00-00-00			
D	69	121-37-50			
R	66	180-00-10			
R	69	301-38-10			
DIST.	67-66	414.22'	67-69	451.14'	
TO (71)					
D	66	00-00-00			
D	70	128-39-00			
R	66	180-00-10			
R	70	308-39-05			
DIST.	67-70	1341.41'			
TO (70)					
D	67	00-00-00			
D	71	275-46-30			
R	67	180-00-10			
R	71	95-46-40			
DIST.	70-67	1341.42'	70-71	642.18	



(29) TC (70)	SITE ON	READING	ANGLE
D	67	00-00-00	
D	72	271-36-10	
R	67	180-00-10	
R	72	91-36-20	
DIST.	70-72	1224.80'	
TC			
D		00-00-00	
D			
R			
R			
DIST.			
TC			
D		00-00-00	
D			
R			
R			
DIST.			



(30)

FRIDAY OCTOBER 18, 1991
CLEAR BREEZY 78°F

P.C. MARK LUDY
X JIM PRIOR

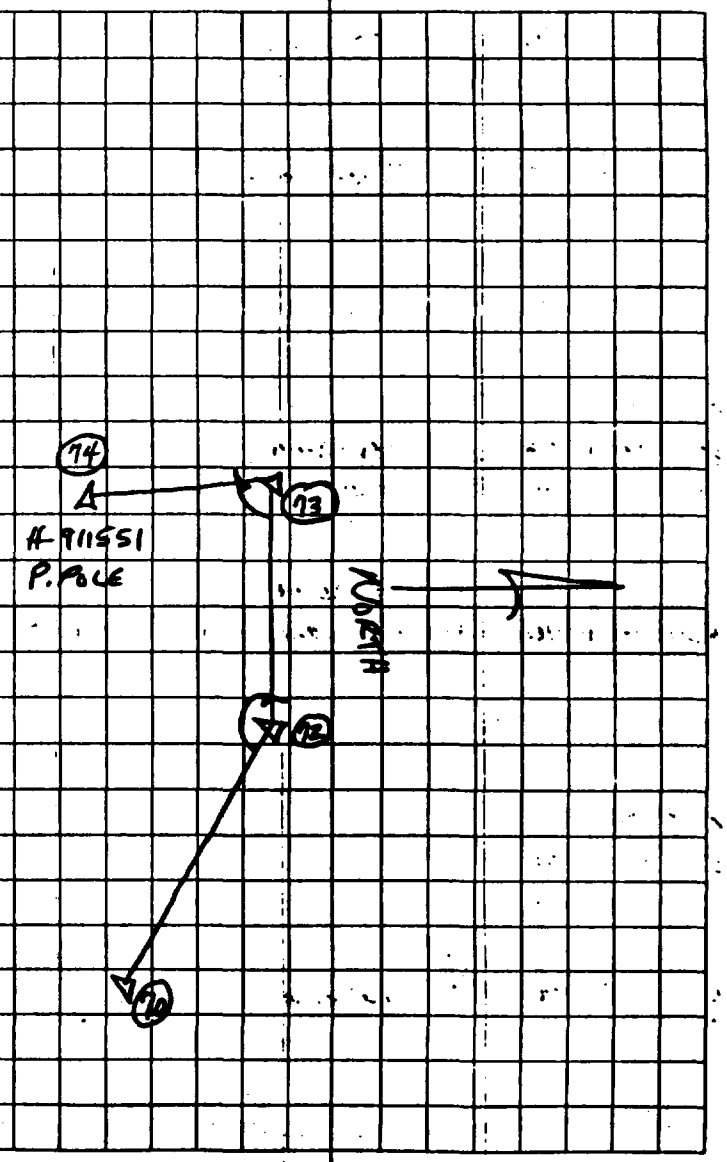
X NIKON DTM-5

X @ (72)

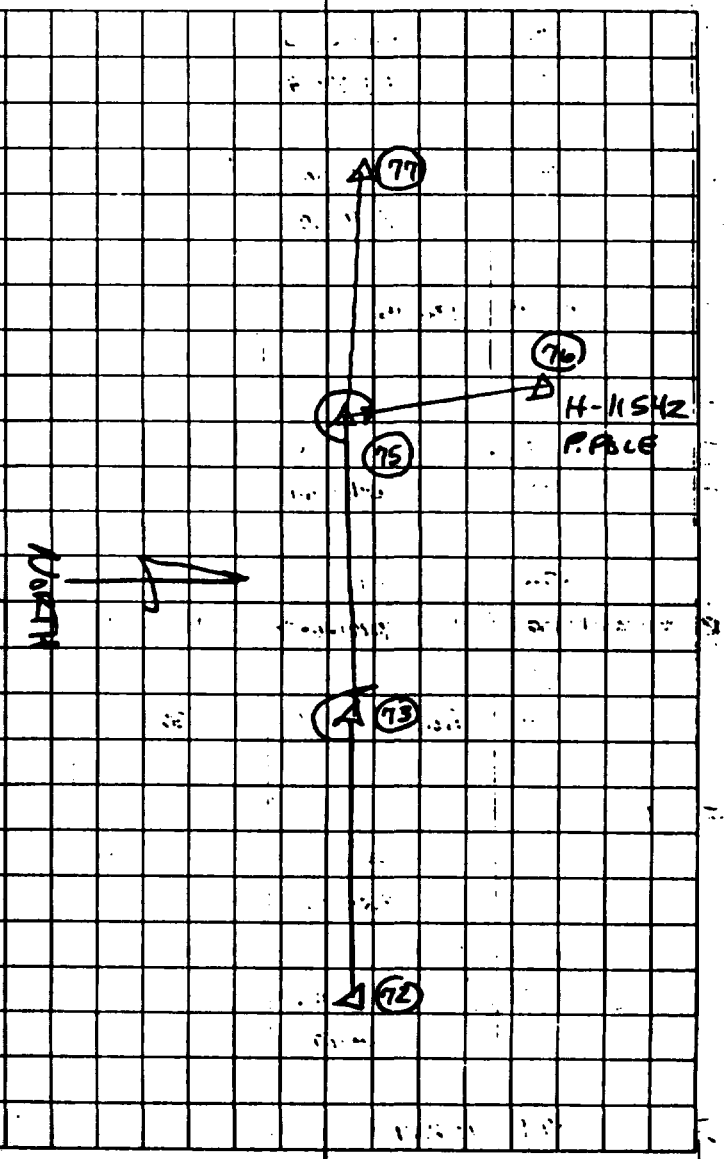
D	70	00-00-00		
D	73	136-20-45		
R	70	180-00-45		
R	73	316-21-40		
DIST.	72-70	1224.80'	72-73	622.54'

X @ (73)

D	72	00-00-00		
D	74	83-39-40		
R	72	180-00-00		
R	74	263-39-35		
DIST.	73-72	622.54'	73-74	394.68'



(31) ⊥@ (73)	SITE ON	READING	ANGLE
D	72	00-00-00	
D	75	175-39-05	
R	72	180-00-00	
R	75	355-39-05	
DIST	73-75	786.02'	
⊥@ (75)			
D	73	00-00-00	
D	76	266-42-45	
R	73	180-00-00	
R	76	86-42-40	
DIST.	75-73	786.02' 75-76	588.56'
⊥@ (75)			
D	73	00-00-00	
D	77	184-00-05	
R	73	180-00-00	
R	77	04-00-10	
DIST	75-77	1236.96' ~~76-77~~	

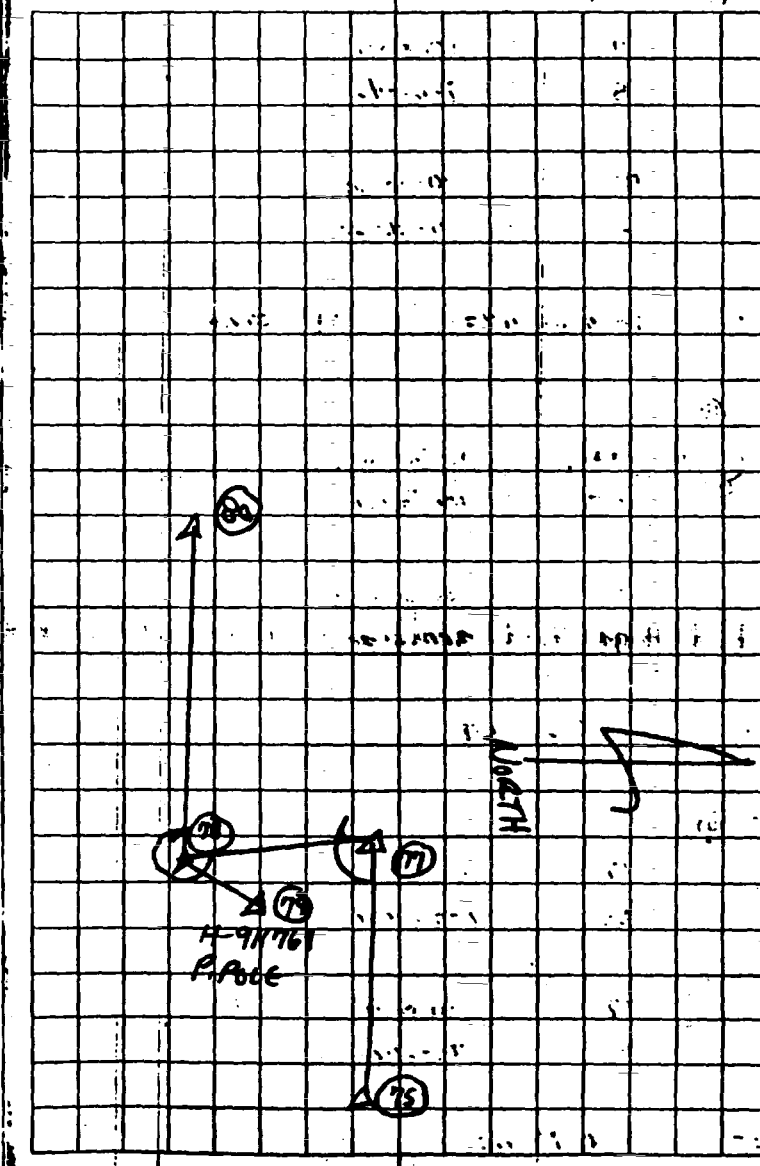


(32)

TC (77)	SITE ON	READING		ANGLE
D	75	00-00-00		
D	78	67-29-40		
R	75	180-00-35		
R	78	247-30-20		
DIST	77-75	1236.95'	77-78	516.67'

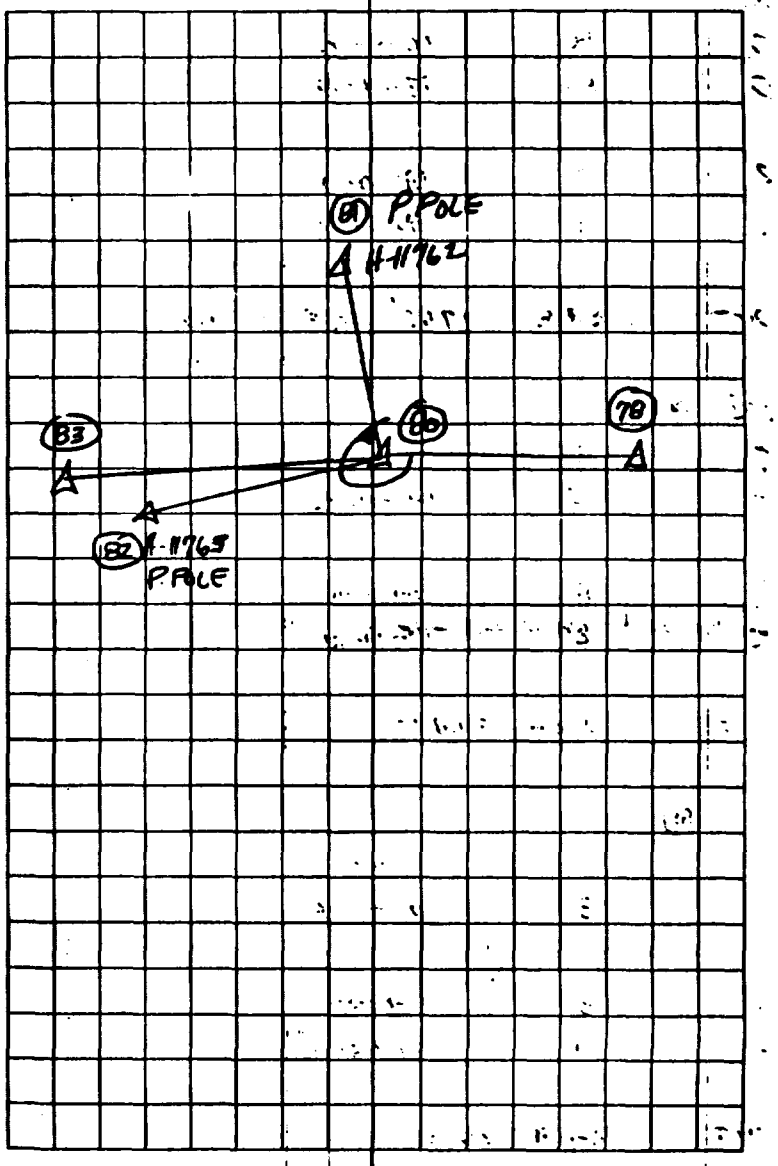
TC (78)				
D	77	00-00-00		
D	79	07-46-10		
R	77	180-00-10		
R	79	187-46-20		
DIST.	78-77	516.67'	78-79	36.00

TC (78)				
D	77	00-00-00		
D	80	289-27-00		
R	77	180-00-10		
R	80	109-27-10		
DIST.	78-80	1137.94'		

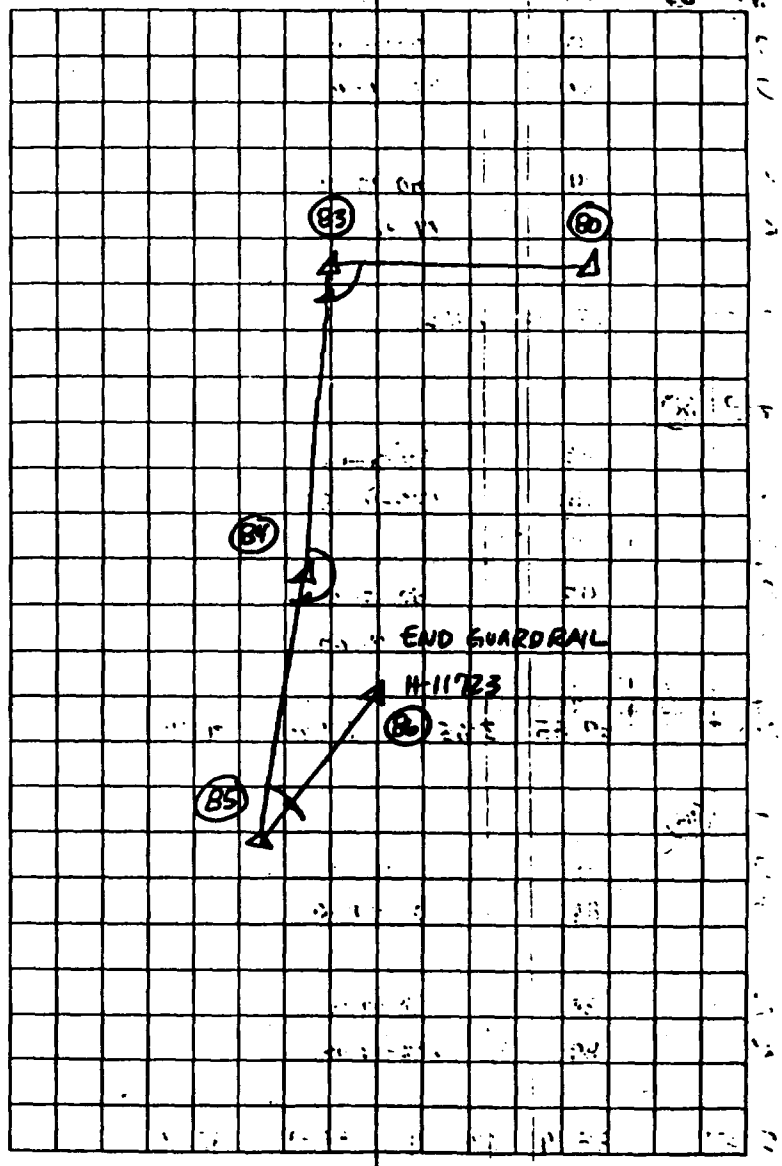


(33)

	SITE ON	READING	ANGLE
TE (80)			
D	78	00-00-00	
D	81	254-44-30	
R	78	180-00-00	
R	81	74-44-30	
DIST.	80-78	1137.95'	80-81 139.50'
TE (80)			
D	78	00-00-00	
D	82	177-51-15	
R	78	180-00-00	
R	82	357-51-20	
DIST	80-82	988.10'	
TE (80)			
D	78	00-00-00	
D	83	177-45-05	
R	78	180-00-00	
R	83	357-45-05	
DIST.	80-83	1113.67'	

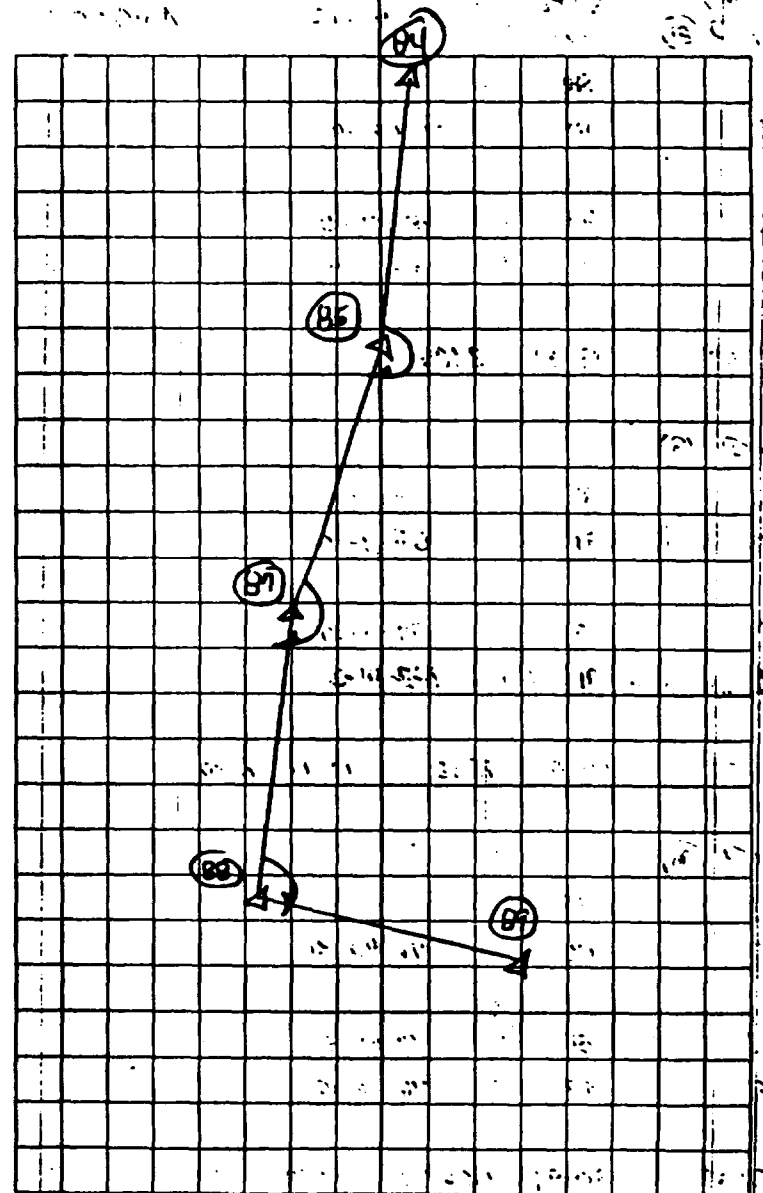


	SITE ON	READING		ANGLE	
TC (83)					
D	80	00-00-00			
D	84	92-23-40			
R	80	180-00-05			
R	84	272-23-40			
DIST.	83-80	1113.68'	83-84	3163.70'	
TC (84)					
D	83	00-00-00			
D	85	183-05-55			
R	83	180-00-10			
R	85	03-06-00			
DIST.	84-83	3163.70'	84-85	2030.32'	
TC (85)					
D	84	00-00-00			
D	86	03-43-40			
R	84	180-00-00			
R	86	183-43-50			
DIST.	85-84	2030.33'	85-86	885.40'	



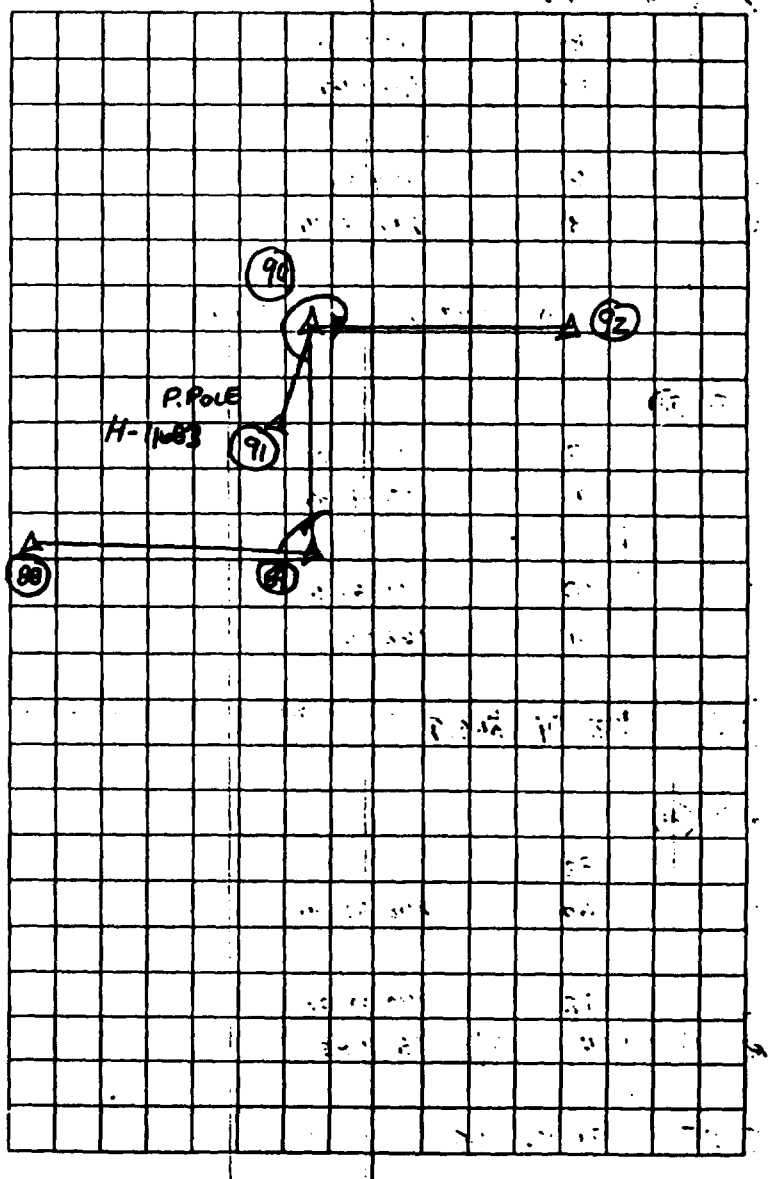
(35)

TC (85)	SITE ON	READING		ANGLE	
D	84	00-00-00			
D	87	199-46-10			
R	84	180-00-20			
R	87	19-46-20			
DIST.	85-87	2985.36'			
TC (87)					
D	85	00-00-00			
D	88	169-41-25			
R	85	180-00-10			
R	88	349-41-25			
DIST.	87-85	2985.39'	87-88	2186.90'	
TC (88)					
D	87	00-00-00			
D	89	96-43-00			
R	87	180-00-15			
R	89	276-43-05			
DIST.	88-87	2186.91'	88-89	1282.96'	

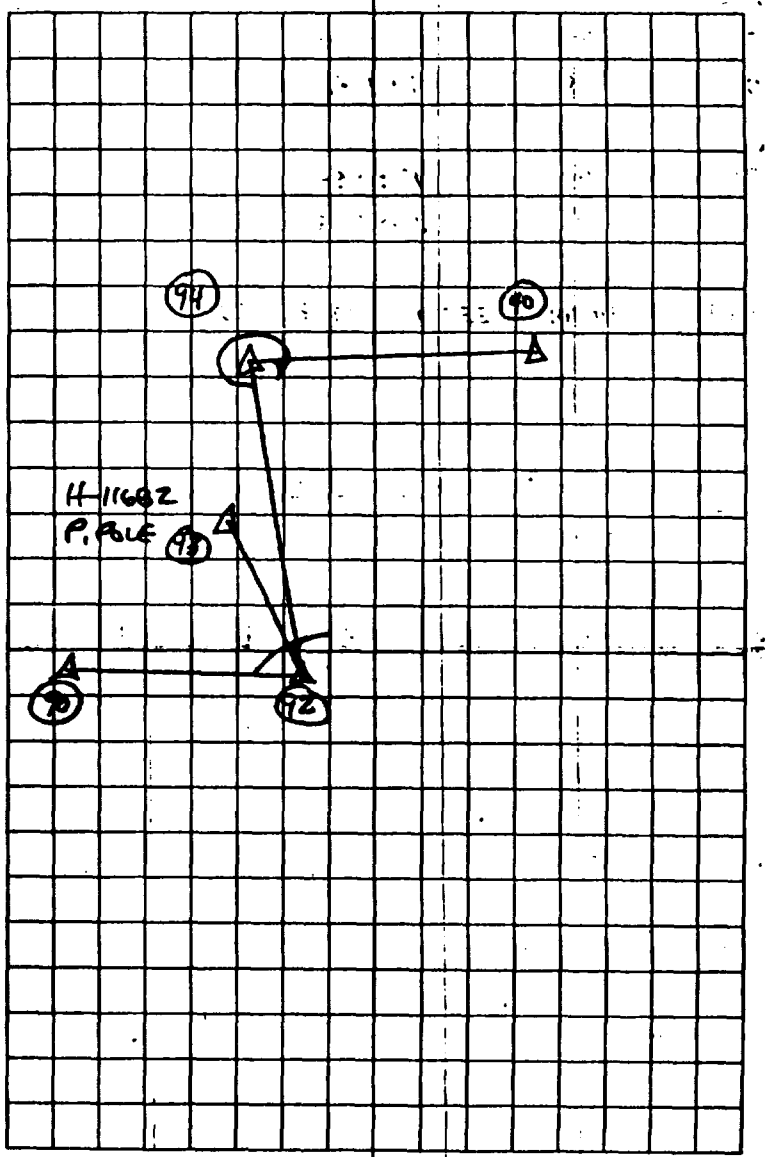


(36)

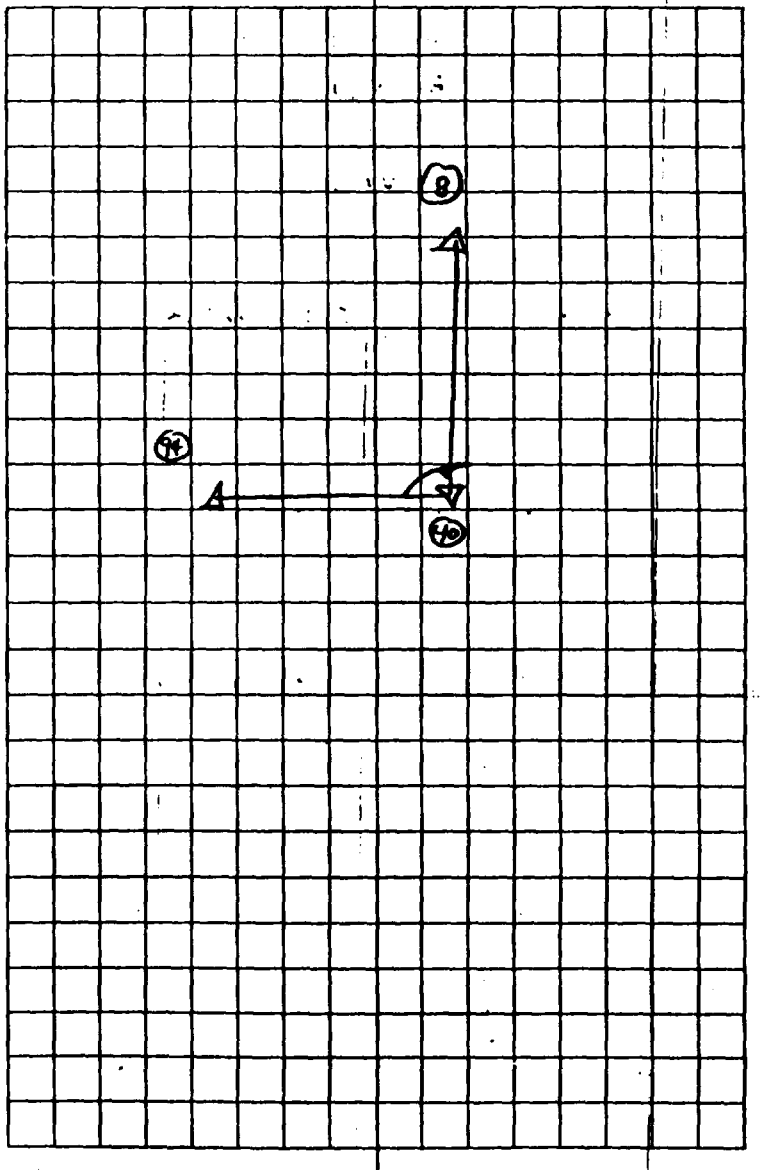
	SITE ON	READING		ANGLE	
T@ (89)					
D	88	00-00-00			
D	90	81-25-40			
R	88	180-00-05			
R	90	261-25-45			
DIST.	89-88	1282.96'	89-90	1078.51'	
T@ (90)					
D	89	00-00-00			
D	91	03-35-00			
R	89	179-59-50			
R	91	183-34-55			
DIST	90-89	1078.52'	90-91	91.40	
T@ (90)					
D	89	00-00-00			
D	92	276-40-30			
R	89	179-59-50			
R	92	96-40-26			
DIST.	90-92	1257.02'			



(37) I @ (92)	SITE ON	READING		ANGLE	
D	90	00-00-00			
D	93	70-17-20			
R	90	179-59-55			
R	93	250-17-20			
DIST.	92-90	1257.01'	92-93	150.53'	
I @ (92)					
D	90	00-00-00			
D	94	82-29-35			
R	90	179-59-55			
R	94	262-29-40			
DIST.	92-94	345.96'			
I @ (94)					
D	92	00-00-00			
D	40	278-51-40			
R	92	180-00-05			
R	40	98-51-55			
DIST.	94-92	345.96'	94-40	1235.77'	



30 @ 40	SITE ON	READING		ANGLE
D	94	00-00-00		
D	8	84-53-30		
R	94	179-59-55		
R	8	264-53-25		
DIST.	40-94	1235.77'	40-8	2311.66'



39

Oct. 22 1991
Stu Schwartz
MARK Cudy
T WITH NA 2

119	4.16		-	414.665
278	5.335		5.07	413.755
U-22251	5.575		5.625	413.465
278	5.575		5.285	413.755
119	-		4.635	414.665

119	6.03		-	414.665
U-22262	5.975		5.49	415.205
119			6.015	414.665

℄ Street OPP P.P.

℄ West Bound Lanes OPP. Power Pole

ANALYTICAL TRIANGULATION REPORT FOR PLANIMETRIC MAPPING

November, 1991

CATS - ANALYTICAL TRIANGULATION REPORT

CLIENT Woodward-Clyde

JOB # 9301-347

SITE Texacorp

SUB-DIRECTORY NAME (CATS. TEXACORP)

CAMERA FOCAL LENGTH 152.255

OF FLIGHT LINES 4

OF PHOTOS 34

DATE OF PHOTOS ___/___/___

CONTROL NOT HELD:

POINT #	NOT HELD IN (X,Y,Z)	AMOUNT OF ERROR	CONTROL COMMENTS
OK			

TIE POINTS RELEASED BETWEEN LINES:

POINT #	IN LINE #	PHOTO #s	CHANGED TO POINT #
9431		42-43-44 26-25	9431 431
911631		46-47 62-63	11631 911631
922391		30-29 39-40	22391 922391
[illegible]		66-68	

ADDITIONAL COMMENTS:

CONTROL PICKED BY [illegible] __/__/__ PHOTOS PUGGED BY [illegible] 11/1/91

PHOTOS READ BY LWS __/__/__ CATS RUN BY [illegible] 11/3/91

REVIEWED BY _____ __/__/__ FINAL ADJ. CONTROL FILE CTLWCT .CTL

CTLWCT.CTL

9751,	502005.28,	742333.36,	424.62
752,	500986.02,	742246.93,	424.90
753,	499969.62,	742201.78,	411.04
11763,	499778.64,	743306.23,	410.68
22763,	499962.57,	743296.60,	412.03
763,	500177.67,	743314.12,	412.78
11762,	500726.71,	743491.49,	413.76
22762,	500958.30,	743362.46,	413.01
762,	501077.37,	743337.39,	413.00
922761,	501841.51,	743325.07,	413.21
9761,	501972.43,	743318.28,	413.55
911761,	501895.32,	743409.03,	413.04
743,	499780.10,	740975.64,	410.90
742,	500953.00,	740999.11,	413.09
922573,	501583.72,	740911.20,	414.20
9741,	[illegible],	740990.12,	454.89
922583,	502201.13,	739568.28,	423.39
9731,	502002.10,	739716.50,	459.90
732,	500866.93,	739696.01,	416.45
733,	499748.12,	739762.86,	442.95
22743,	500004.93,	740248.26,	411.05
22744,	499979.58,	740248.03,	411.77
723,	499779.47,	738586.35,	420.14
11723,	[illegible] 05,	738986.31,	422.88
722,	500767.97,	738548.22,	419.75
9721,	501960.54,	738444.85,	420.44
9711,	501744.81,	737296.68,	420.62
712,	500884.36,	737296.17,	421.64
713,	499898.01,	737357.83,	417.88
9701,	501888.49,	736036.08,	416.15
702,	500896.31,	736086.89,	418.79
703,	499730.60,	736162.99,	487.89
922713,	500061.04,	736988.32,	415.23
922603,	501564.47,	736570.62,	415.19
693,	499740.67,	734913.98,	415.67
692,	500679.23,	734843.59,	411.63
9691,	501933.11,	734825.89,	417.01
9681,	501831.69,	733532.57,	418.41
911681,	501673.65,	733521.88,	417.37
922633,	501714.43,	733465.29,	416.83
682,	500776.89,	733584.73,	412.88
22682,	500658.90,	733748.60,	413.48
11682,	500627.04,	733641.37,	413.60
[illegible],	499864.46,	733682.71,	413.89
922683,	499685.84,	733749.87,	414.71
11683,	499421.76,	733814.69,	415.55
9551,	503824.43,	743163.37,	422.48
922551,	503768.41,	743259.92,	421.45
911551,	503771.55,	743441.04,	421.19
552,	502946.38,	743237.41,	422.70
553,	501681.64,	743158.41,	412.68
922543,	501930.29,	744370.71,	413.71
543,	502096.97,	744425.05,	414.67
542,	502729.28,	744397.30,	414.19
11542,	502908.05,	744396.69,	415.05
22542,	[illegible] 1.43,	744440.58,	415.93
541,	503849.77,	744340.89,	420.70
563,	501662.52,	741901.26,	425.76
562,	502722.70,	741912.52,	424.81
9561,	503721.90,	741910.43,	424.51
9571,	503931.10,	740710.63,	422.70
922571,	[illegible],	740847.13,	423.53
572,	502558.58,	740696.56,	426.09
573,	501746.94,	740693.04,	418.70
583,	501549.59,	739492.24,	420.88
582,	502797.98,	739482.77,	421.89
22582,	503202.98,	739507.71,	419.55
9581,	503765.40,	739462.09,	418.00
9591,	503823.21,	738254.70,	414.63
592,	502741.24,	738323.66,	414.81
593,	501507.77,	738215.09,	421.80
603,	501558.67,	737009.19,	436.10
602,	502681.82,	737014.24,	414.17
22602,	502978.04,	736858.96,	414.01
9601,	503886.76,	737029.51,	414.90
922611,	[illegible] 7,	737703.97,	414.30
9611,	503850.00,	735799.04,	411.46
612,	502871.22,	735907.24,	414.40

613,	501816.64,	735787.60,	414.77
623,	501661.32,	734666.13,	414.83
622,	502779.18,	734656.35,	415.52
922[illegible],	[illegible]	[illegible]	12.07
9473,	503927.48,	734390.21,	412.22
621,	503864.60,	734618.26,	412.18
911631,	503811.72,	733983.39,	417.17
631,	503632.66,	733656.61,	418.77
22632,	503167.01,	733577.82,	414.55
11632,	503150.44,	733578.34,	414.57
632,	502749.67,	733557.81,	415.26
9401,	505876.86,	742289.37,	421.35
402,	504888.54,	742323.46,	424.36
40[illegible],	[illegible]0.00,	742262.69,	425.51
11392,	504805.46,	743417.37,	422.46
22392,	504798.79,	743356.86,	423.06
392,	504921.36,	743316.83,	423.21
9391,	505772.58,	743451.23,	420.74
922391,	505908.51,	743622.41,	420.54
911391,	505881.72,	743519.99,	420.86
9411,	505980.78,	741071.17,	421.80
922283,	505727.03,	741133.87,	422.19
412,	504894.84,	741079.87,	422.37
413,	503997.84,	740999.48,	423.44
922263,	506035.63,	739987.60,	423.21
911[illegible],	[illegible]4,	739968.25,	425.21
9421,	506118.22,	739867.60,	423.26
422,	504900.19,	739852.54,	421.57
423,	503935.17,	739785.18,	420.91
9431,	505917.82,	738679.87,	421.19
432,	504994.01,	738680.66,	493.18
433,	503976.38,	738618.36,	415.50
441,	506049.61,	737534.85,	413.85
442,	505012.88,	737576.23,	415.98
443,	504025.63,	737474.99,	415.58
451,	506045.25,	736425.29,	411.08
452,	504975.18,	736420.40,	415.72
453,	504036.56,	736401.50,	411.56
463,	503921.24,	735284.57,	414.19
462,	504943.57,	735335.44,	411.24
461,	505927.53,	735313.64,	416.33
11631,	503811.72,	733983.39,	418.36
22472,	505061.84,	734344.15,	416.28
11472,	505240.60,	734243.52,	415.32
11471,	505822.39,	734087.42,	411.16
22471,	505842.43,	734103.82,	411.91
471,	506022.22,	734232.90,	411.17
472,	505131.57,	734233.99,	417.26
473,	504151.39,	734182.51,	415.19
291,	507639.23,	743026.03,	418.46
292,	506846.20,	742996.77,	423.24
293,	505873.86,	743008.26,	422.98
22391,	505908.43,	743621.84,	420.54
11302,	506808.96,	744059.69,	420.56
22302,	506818.72,	744082.19,	420.40
302,	506946.09,	743971.05,	422.07
11301,	507464.13,	743799.56,	419.64
922053,	507895.87,	743712.47,	419.14
301,	507740.32,	743878.09,	418.94
283,	506012.23,	741922.36,	422.50
282,	506734.00,	741943.56,	421.75
281,	507767.62,	741917.84,	420.85
271,	507784.53,	740866.52,	422.46
272,	506867.82,	740909.79,	422.73
273,	505910.27,	740903.76,	420.12
262,	506977.86,	739785.81,	419.22
261,	507557.79,	739752.18,	416.39
22083,	508020.92,	740640.38,	419.51
22252,	507024.44,	738990.70,	414.20
11252,	507035.44,	739001.20,	415.27
22251,	507952.03,	738967.57,	413.46
11251,	507935.81,	738952.55,	413.65
251,	507733.58,	738756.62,	413.29
252,	506819.43,	738798.96,	417.02
431,	505931.68,	738670.99,	421.16

BUILD PHOTOGRAMMETRIC FILE FOR ADJUSTMENT OR INTERSECTION

301-349 TARACORP
ITYPE = 0
INSECT = 0

LISTING OF FLIGHT LINE TIES

0009751
0922761
0009761
0911761
0922573
0009741
0922583
0009731
0009721
0009711
0009701
0922603
0009691
0009681
0911681
0922633
0009551
0922551
0911551
0009561
0009571
0922413
0009581
0009591
0009601
0922443
0009611
0922473
0009473
0009401
0009391
0911391
0009411
0922283
0922263
0911421
0009421

JOB HAS 34 PHOTOS/MODELS

MAXIMUM PHOTO/MODEL DISTANCE = 13

RELATIVE ORIENTATION

4301-349 TARACORP
ITYPE = 0
INSECT = 0

PHOTOGRAMMETRIC RESIDUALS (MICROMETERS)

76	0009751	0	0
75	0009751	0	-1
74	0009751	0	1
76	0000752	0	1
75	0000752	-1	2
74	0000752	0	-3
76	0000753	0	0
75	0000753	1	-1
74	0000753	0	1
76	0011763	0	0
75	0011763	0	0
76	0022763	0	0
75	0022763	0	0
76	0000763	0	0
75	0000763	0	0
76	0011762	0	0
75	0011762	0	0
76	0022762	0	0
75	0022762	0	0
76	0000762	0	0
75	0000762	0	0
76	0922761	0	0
75	0922761	0	0
76	0009761	0	0
75	0009761	0	0
76	0911761	0	0
75	0911761	0	0
75	0000743	1	0
74	0000743	-2	-1
73	0000743	1	0
75	0000742	0	-1
74	0000742	-1	-1
73	0000742	0	3
75	0922573	-1	-5
74	0922573	2	2
73	0922573	-1	3
75	0009741	0	3
74	0009741	1	-1
73	0009741	0	-2
74	0922583	4	-3
73	0922583	-9	0
72	0922583	4	3
74	0009731	0	5
73	0009731	-1	-1
72	0009731	1	-4
74	0000732	-1	7
73	0000732	3	0
72	0000732	-1	-8
74	0000733	-3	0
73	0000733	7	0
72	0000733	-3	0

74	0022743	0	2
73	0022743	0	-2
74	0022744	0	2
73	0022744	0	-2
73	0000723	0	-4
72	0000723	-1	5
71	0000723	0	0
73	0011723	0	0
72	0011723	0	0
73	0000722	0	0
72	0000722	-1	-2
71	0000722	0	3
73	0009721	-1	-5
72	0009721	3	5
71	0009721	-1	0
72	0009711	1	2
71	0009711	-3	-1
70	0009711	1	-1
72	0000712	0	1
71	0000712	1	0
70	0000712	0	-1
72	0000713	-1	1
71	0000713	2	0
70	0000713	-1	-1
71	0009701	1	-1
70	0009701	-2	2
69	0009701	1	0
71	0000702	0	4
70	0000702	0	-3
69	0000702	0	-1
71	0000703	-1	-1
70	0000703	2	1
69	0000703	-1	0
71	0922713	0	-1
70	0922713	0	1
71	0922603	0	-1
70	0922603	0	1
70	0000693	0	-1
69	0000693	0	2
68	0000693	0	0
70	0000692	1	0
69	0000692	-3	-2
68	0000692	1	3
70	0009691	-1	-1
69	0009691	2	1
68	0009691	-1	0
69	0009681	0	0
68	0009681	0	0
69	0911681	0	-3
68	0911681	0	3
69	0922633	0	2
68	0922633	0	-2
69	0000682	0	0
68	0000682	0	0
69	0022682	0	0
68	0022682	0	0

69	0011682	0	0
68	0011682	0	0
69	0000683	0	-4
68	0000683	0	4
69	0922683	0	4
68	0922683	0	-4
69	0011683	0	0
68	0011683	0	0
54	0009551	1	0
55	0009551	-2	-1
56	0009551	2	2
54	0922551	-1	0
55	0922551	2	0
56	0922551	0	0
54	0911551	0	0
55	0911551	0	0
54	0000552	1	4
55	0000552	-2	1
56	0000552	1	-4
54	0009761	0	0
55	0009761	-1	0
56	0009761	1	0
54	0911761	0	-1
55	0911761	0	-1
56	0911761	0	2
54	0922761	0	-1
55	0922761	0	0
56	0922761	0	2
54	0000553	-2	1
55	0000553	5	2
56	0000553	-2	-3
54	0922543	0	0
55	0922543	0	0
54	0000543	0	0
55	0000543	0	0
54	0000542	0	0
55	0000542	0	0
54	0011542	0	0
55	0011542	0	0
54	0022542	0	0
55	0022542	0	0
54	0000541	0	-1
55	0000541	0	1
55	0000563	0	-1
56	0000563	-1	4
57	0000563	0	-3
55	0009751	0	4
56	0009751	0	-4
55	0000562	-3	-2
56	0000562	7	0
57	0000562	-3	3
55	0009561	2	1
56	0009561	-5	1
57	0009561	2	-3
56	0009571	1	-3

57	0009571	-2	0
58	0009571	1	2
56	0922413	2	1
57	0922413	-4	1
58	0922413	2	-2
56	0000572	0	9
57	0000572	0	-2
58	0000572	0	-6
56	0009741	0	2
57	0009741	0	-2
56	0000573	-1	0
57	0000573	2	1
58	0000573	-1	-2
56	0922573	-3	-6
57	0922573	5	2
58	0922573	-2	3
57	0000583	0	-5
58	0000583	0	4
59	0000583	0	1
57	0009731	0	0
58	0009731	0	0
57	0922583	-1	4
58	0922583	3	-3
59	0922583	-1	-1
57	0000582	0	-1
58	0000582	0	0
59	0000582	0	0
57	0022582	0	-2
58	0022582	-1	3
59	0022582	0	0
57	0009581	0	-2
58	0009581	0	1
59	0009581	0	0
58	0009591	-2	0
59	0009591	5	0
60	0009591	-2	0
58	0000592	0	-5
59	0000592	0	1
60	0000592	0	4
58	0009721	0	-2
59	0009721	-2	-3
60	0009721	1	5
58	0000593	1	1
59	0000593	-3	3
60	0000593	1	-4
59	0000603	1	-2
60	0000603	-2	2
61	0000603	1	0
59	0009711	0	4
60	0009711	0	-4
59	0000602	0	2
60	0000602	1	-2
61	0000602	0	0
59	0022602	0	-3
60	0022602	0	0
61	0022602	0	4
59	0009601	0	1
60	0009601	1	0

61	0009601	0	-1
59	0922443	0	1
60	0922443	0	-1
60	[illegible]	0	0
61	0009611	-1	0
62	0009611	0	0
60	0000612	0	4
61	0000612	-1	-1
62	0000612	1	-2
60	0000613	0	4
61	0000613	1	0
62	0000613	0	-3
60	0009701	0	-5
61	0009701	1	2
62	0009701	0	3
60	0922603	0	0
61	0922603	0	0
61	0000623	0	1
62	0000623	-1	-1
63	0000623	0	0
61	0009691	-1	-2
62	0009691	3	0
63	0009691	-1	2
61	[illegible]22	0	3
62	0000622	1	1
63	0000622	0	-5
61	0922473	0	4
62	0922473	0	0
63	0922473	0	-4
61	0009473	5	-3
62	0009473	-9	1
63	0009473	4	1
61	0000621	-2	-2
62	0000621	4	0
63	0000621	-2	2
62	0911631	0	0
63	0911631	0	0
62	0000631	0	0
63	0000631	0	0
62	0022632	0	0
63	0022632	0	0
62	[illegible]1632	0	-5
63	0011632	0	5
62	0000632	0	1
63	0000632	0	-1
62	0911681	0	0
63	0911681	0	0
62	0922633	0	-2
63	0922633	0	2
62	0009681	0	1
63	0009681	0	-1
39	0009401	2	0
40	0009401	-4	0
41	0009401	2	1
39	0000402	0	3
40	0000402	1	1

41	0000402	0	-5
39	0000403	-1	0
40	0000403	2	0
41	0000403	-1	0
39	0922551	0	0
40	0922551	0	0
39	0009551	0	0
40	0009551	0	0
39	0911551	0	0
40	[illegible]	0	0
39	0011392	0	0
40	0011392	0	0
39	0022392	0	0
40	0022392	0	0
39	0000392	0	0
40	[illegible]	0	0
39	0009391	0	0
40	0009391	0	0
39	0922391	0	0
40	0922391	0	0
39	0911391	0	0
40	0911391	0	0
40	0009411	0	4
41	0009411	0	1
42	0009411	0	-6
40	0922283	-4	-9
41	0922283	9	2
42	0922283	-4	7
40	0000412	0	-6
41	0000412	1	1
42	0000412	0	5
40	[illegible]113	3	0
41	0922413	-6	0
42	0922413	3	0
40	0000413	2	-1
41	0000413	-5	-1
42	0000413	2	2
40	0009561	0	0
41	0009561	0	0
41	0922263	-3	0
42	0922263	8	2
43	0922263	-3	-3
41	0911421	1	2
42	0911421	-2	-5
43	0911421	1	3
41	[illegible]9421	2	1
42	0009421	-4	0
43	0009421	2	-1
41	0000422	0	-3
42	[illegible]0422	0	-1
43	0000422	0	4
41	0000423	0	7
42	0000423	0	-3
43	0000423	0	-3
41	0009571	0	0
42	0009571	0	0

42	0009431	2	-1
43	0009431	-4	0
44	0009431	2	1
42	0000432	-1	3
43	0000432	4	0
44	0000432	-2	-4
42	0000433	0	0
43	0000433	0	0
44	0000433	0	0
42	0009581	0	-2
43	0009581	0	2
43	0000441	0	0
44	0000441	1	0
45	0000441	0	0
43	0000442	0	-4
44	0000442	-1	3
45	0000442	0	0
43	0000443	3	1
44	0000443	-6	0
45	0000443	3	-1
43	0922443	-3	0
44	0922443	6	0
45	0922443	-3	1
43	0009591	0	-1
44	0009591	0	1
44	0000451	2	0
45	0000451	-4	0
46	0000451	2	1
44	0000452	0	4
45	0000452	1	1
46	0000452	0	-5
44	[illegible]	-1	0
45	0000453	2	0
46	0000453	-1	0
44	0009601	0	-1
45	0009601	0	1
45	0009611	0	-1
46	0009611	0	1
45	0000463	2	0
46	0000463	-5	0
47	0000463	3	0
45	0000462	0	-8
46	0000462	-1	2
47	0000462	0	6
45	0000461	-3	0
46	0000461	6	0
47	0000461	-3	0
46	0011631	0	1
47	0011631	0	-1
46	0922473	0	0
47	0922473	0	0
46	0009473	0	0
47	0009473	0	0
46	0022472	0	0
47	0022472	0	0
46	0011472	0	0

47	0011472	0	0
46	0011471	0	0
47	0011471	0	0
46	0022471	0	0
47	0022471	0	0
46	0000471	0	1
47	0000471	0	-1
46	0000472	0	1
47	0000472	0	-1
46	0000473	0	0
47	0000473	0	0
30	0000291	1	0
29	0000291	-1	0
28	0000291	0	1
30	0000292	-1	1
29	0000292	1	1
28	0000292	0	-3
30	0000293	0	0
29	0000293	0	0
28	0000293	0	1
30	0009391	0	0
29	0009391	0	0
30	0022391	0	0
29	0022391	0	0
30	0911391	0	0
29	0911391	0	0
30	0011302	0	0
29	0011302	0	0
30	0022302	0	0
29	0022302	0	0
30	0000302	0	0
29	0000302	0	0
30	0011301	0	0
29	0011301	0	0
30	0922053	0	0
29	0922053	0	0
30	0000301	0	0
29	0000301	0	0
29	0009401	0	0
28	0009401	0	0
29	0000283	3	0
28	0000283	-6	0
27	0000283	3	0
29	0000282	-1	-6
28	0000282	2	2
27	0000282	-1	4
29	0000281	-1	0
28	0000281	3	0
27	0000281	-1	0
28	0000271	1	1
27	0000271	-2	1
26	0000271	1	-3
28	0000272	1	3
27	0000272	-3	1
26	0000272	2	-4

28	0000273	2	0
27	0000273	-4	-6
26	0000273	1	7
28	0009411	-4	5
27	0009411	8	0
26	0009411	-4	-6
28	0922283	-1	0
27	0922283	2	-1
26	0922283	-1	0
27	0922263	-1	0
26	0922263	3	1
25	0922263	-1	-2
27	0911421	2	4
26	0911421	-4	-2
25	0911421	2	-1
27	0009421	0	-3
26	0009421	1	0
25	0009421	0	3
27	0000262	0	-3
26	0000262	0	-1
25	0000262	0	5
27	0000261	0	0
26	0000261	0	3
25	0000261	0	-3
27	0022083	0	-3
26	0022083	0	3
26	0022252	0	0
25	0022252	0	0
26	0011252	0	0
25	0011252	0	0
26	0022251	0	0
25	0022251	0	0
26	0011251	0	0
25	0011251	0	0
26	0000251	0	-1
25	0000251	0	1
26	0000252	0	3
25	0000252	0	-3
26	0000431	0	-1
25	0000431	0	1

POLYNOMIAL BLOCK ADJUSTMENT 3-NOV-91 09:40:28

GROUND CONTROL FILE
4301-349 TARACORP

PROGRAM WILL CHOOSE DEGREE OF ADJUSTMENT

COMMON STANDARD ERROR OF X =, 0.5000
COMMON STANDARD ERROR OF Y =, 0.5000
COMMON STANDARD ERROR OF Z =, 0.0100

4301-349 TARACORP

ITYPE = 0
INSECT = 0

GROUND SURVEY VALUES

0911681	501673.650	733521.880	0.000	0.5000	0.5000	0.0000
0011682	500627.040	733641.370	0.000	0.5000	0.5000	0.0000
0022682	0.000	0.000	413.480	0.0000	0.0000	0.0100
0922683	0.000	0.000	414.710	0.0000	0.0000	0.0100
0011683	499421.760	733814.690	0.000	0.5000	0.5000	0.0000
0922713	0.000	0.000	415.230	0.0000	0.0000	0.0100
0011723	499700.050	738986.310	0.000	0.5000	0.5000	0.0000
0022743	0.000	0.000	411.050	0.0000	0.0000	0.0100
0911761	501895.320	743409.030	0.000	0.5000	0.5000	0.0000
0922761	0.000	0.000	413.210	0.0000	0.0000	0.0100
0022762	0.000	0.000	413.010	0.0000	0.0000	0.0100
0011762	500726.710	743491.490	0.000	0.5000	0.5000	0.0000
0022763	0.000	0.000	412.030	0.0000	0.0000	0.0100
0011763	499778.640	743306.230	0.000	0.5000	0.5000	0.0000
0011631	503811.720	733983.390	0.000	0.5000	0.5000	0.0000
0911631	503811.720	733983.390	0.000	0.5000	0.5000	0.0000
0022632	0.000	0.000	414.550	0.0000	0.0000	0.0100
0011632	503150.440	733578.340	0.000	0.5000	0.5000	0.0000
0922633	0.000	0.000	416.830	0.0000	0.0000	0.0100
0022602	0.000	0.000	414.010	0.0000	0.0000	0.0100
0922603	0.000	0.000	415.190	0.0000	0.0000	0.0100
0022582	0.000	0.000	419.550	0.0000	0.0000	0.0100
0922583	0.000	0.000	423.390	0.0000	0.0000	0.0100
0922573	0.000	0.000	414.200	0.0000	0.0000	0.0100
09[illegible]	503771.550	743441.040	0.000	0.5000	0.5000	0.0000
0922551	0.000	0.000	421.450	0.0000	0.0000	0.0100
0022542	0.000	0.000	415.930	0.0000	0.0000	0.0100
0011542	502908.050	744396.690	0.000	0.5000	0.5000	0.0000
09[illegible]	0.000	0.000	413.710	0.0000	0.0000	0.0100
0022471	0.000	0.000	411.910	0.0000	0.0000	0.0100
0011471	505822.390	734087.420	0.000	0.5000	0.5000	0.0000
0011472	505240.600	734243.520	0.000	0.5000	0.5000	0.0000
0022472	0.000	0.000	416.280	0.0000	0.0000	0.0100
0922473	0.000	0.000	412.070	0.0000	0.0000	0.0100
0922443	0.000	0.000	414.300	0.0000	0.0000	0.0100
0911421	506198.940	739968.250	0.000	0.5000	0.5000	0.0000
09[illegible]	0.000	0.000	423.530	0.0000	0.0000	0.0100
0911391	505881.720	743519.990	0.000	0.5000	0.5000	0.0000
00[illegible]	0.000	0.000	420.540	0.0000	0.0000	0.0100
0922391	0.000	0.000	420.540	0.0000	0.0000	0.0100
0022392	0.000	0.000	423.060	0.0000	0.0000	0.0100
0011392	504805.460	743417.370	0.000	0.5000	0.5000	0.0000
0022251	0.000	0.000	413.460	0.0000	0.0000	0.0100
0011251	507935.810	738952.550	0.000	0.5000	0.5000	0.0000
0022252	0.000	0.000	414.200	0.0000	0.0000	0.0100
0011252	507035.440	739001.200	0.000	0.5000	0.5000	0.0000
0922263	0.000	0.000	423.210	0.0000	0.0000	0.0100
0022083	0.000	0.000	419.510	0.0000	0.0000	0.0100
09[illegible]	000	0.000	422.190	0.0000	0.0000	0.0100
0922053	0.000	0.000	419.140	0.0000	0.0000	0.0100
0011301	507464.130	743799.560	0.000	0.5000	0.5000	0.0000
0011302	506808.960	744059.690	0.000	0.5000	0.5000	0.0000
002[illegible]	0.000	0.000	420.400	0.0000	0.0000	0.0100

XSHIFT = 501674.650
YSHIFT = 733522.880

FIELD SURVEY NOTES FOR BORINGS AND MONITORING WELLS

August, 1992

L.G. ZAMBRANA CONSULTANTS, INC.
Engineers · Architects · Planners · Surveyors
710 N. Tucker, Suite 801
St. Louis, MO 63101
(314) 241-4744
FAX (314) 241-5054

LETTER OF TRANSMITTAL

FROM:
L.G. Zambrana
710 N. Tucker Suite 801
St. Louis, MO 63101
(314) 241-4744

TO: Woodward Clyde Consultants
2318 Millpark
Maryland Heights, MO 63401
(314) 429-0100

DATE: 6-4-92
PROJECT: TALACORP
LOCATION: GRANITE CITY, IL
ATTENTION: WENDY REINBOLT
RE:

Gentlemen:

WE ARE SENDING YOU ☐ HEREWITH ☑ DELIVERED BY HAND ☐ UNDER SEPARATE COVER
VIA _____ THE FOLLOWING ITEMS:

☐ PLANS ☐ PRINTS ☐ SHOP DRAWINGS ☐ SAMPLES ☐ SPECIFICATIONS
☐ ESTIMATES ☐ COPY OF LETTER ☐ COPIES OF FIELD NOTES

COPIES	DATE OR NO.	DESCRIPTION
1		FIELD BOOK COPY
1		COORDINATE LIST (IL STATE PLANE)
1		MONUMENT RECOVERY (4)

THESE ARE TRANSMITTED AS INDICATED BELOW

☑ FOR YOUR USE
☐ FOR APPROVAL
☐ AS REQUESTED
☐ FOR REVIEW AND COMMENT
☐ _____

☐ APPROVED AS NOTED
☐ APPROVED FOR CONSTRUCTION
☐ RETURNED FOR CORRECTIONS
☐ RETURNED AFTER LOAN TO US

☐ RETURN _____ CORRECTED PRINTS
☐ SUBMIT _____ COPIES FOR _____
☐ RESUBMIT _____ COPIES FOR _____
☐ FOR BIDS DUE _____

PLEASE NOTIFY US AT ONCE
IF ENCLOSURES ARE NOT AS INDICATED.

L.G. Zambrana Consultants, Inc.
SIGNED: Michael R. Clark

613,	501816.64,	735787.60,	414.77
623,	501661.32,	734666.13,	414.83
622,	502779.18,	734656.35,	415.52
922473,	503735.35,	734523.32,	412.07
9473,	503927.48,	734390.21,	412.22
621,	503864.60,	734618.26,	412.18
911631,	503811.72,	733983.39,	417.17
631,	503632.66,	733656.61,	418.77
22632,	503167.01,	733577.82,	414.55
11632,	503150.44,	733578.34,	414.57
632,	502749.67,	733557.81,	415.26
9101,	505876.86,	742289.37,	421.35
402,	504888.54,	742323.46,	424.36
403,	503790.00,	742262.69,	425.51
11392,	504805.46,	743417.37,	422.46
22392,	504798.79,	743356.86,	423.06
392,	504921.36,	743316.83,	423.21
9391,	505772.58,	743451.23,	420.74
92[illegible],	[illegible]8.51,	743622.41,	420.54
911391,	505881.72,	743519.99,	420.86
9411,	505980.78,	741071.17,	421.80
922283,	505727.03,	741133.87,	422.19
412,	504894.84,	741079.87,	422.37
413,	503997.84,	740999.48,	423.44
92[illegible]3,	506035.63,	739987.60,	423.21
911421,	506198.94,	739968.25,	425.21
9421,	506118.22,	739867.60,	423.26
422,	504900.19,	739852.54,	421.57
423,	503935.17,	739785.18,	420.91
9431,	505917.82,	738679.87,	421.19
432,	504994.01,	738680.66,	493.18
433,	503976.38,	738618.36,	415.50
441,	506049.61,	737534.85,	413.85
442,	505012.88,	737576.23,	415.98
443,	504025.63,	737474.99,	415.58
451,	506045.25,	736425.29,	411.08
452,	504975.18,	736420.40,	415.72
453,	504036.56,	736401.50,	411.56
463,	503921.24,	735284.57,	414.19
462,	504943.57,	735335.44,	411.24
461,	505927.53,	735313.64,	416.33
11631,	503811.72,	733983.39,	418.36
22472,	505061.84,	734344.15,	416.28
11472,	505240.60,	734243.52,	415.32
11471,	505822.39,	734087.42,	411.16
22471,	505842.43,	734103.82,	411.91
471,	506022.22,	734232.90,	411.17
472,	505131.57,	734233.99,	417.26
473,	504151.39,	734182.51,	415.19
291,	507639.23,	743026.03,	418.46
29[illegible]	[illegible]5.20,	742996.77,	423.24
293,	505873.86,	743008.26,	422.98
22391,	505908.43,	743621.84,	420.54
11302,	506808.96,	744059.69,	420.56
22302,	506818.72,	744082.19,	420.40
302,	506946.09,	743971.05,	422.07
11301,	507464.13,	743799.56,	419.64
922053,	507895.87,	743712.47,	419.14
301,	507740.32,	743878.09,	418.94
283,	506012.23,	741922.36,	422.50
282,	506734.00,	741943.56,	421.75
281,	507767.62,	741917.84,	420.85
271,	507784.53,	740866.52,	422.46
272,	506867.82,	740909.79,	422.73
273,	505910.27,	740903.76,	420.12
262,	506977.86,	739785.81,	419.22
261,	[illegible],	739752.18,	416.39
22083,	508020.92,	740640.38,	419.51
22[illegible],	[illegible]7024.44,	738990.70,	414.20
11252,	507035.44,	739001.20,	415.27
22251,	507952.03,	738967.57,	413.46
11251,	507935.81,	738952.55,	413.65
251,	507733.58,	738756.62,	413.29
252,	506819.43,	738798.96,	417.02
431,	505931.68,	738670.99,	421.16

42	0000412	-1	6			
				504894.84	741079.87	422.37
40	0000413	1	-2			
41	0000413	-2	-1			
42	0000413	1	4			
				503997.84	740999.48	423.44
41	0922263	-14	0			
42	0922263	7	1			
43	0922263	-2	-3			
27	0922263	8	-2			
26	0922263	10	9			
25	0922263	-8	-5			
				506035.63	739987.60	423.14
						0.07
						423.21
41	0911421	1	6			
42	0911421	0	-4			
43	0911421	0	7			
27	0911421	-9	0			
26	0911421	-1	-2			
25	0911421	9	-6			
				506198.28	739968.38	425.21
				0.66	-0.13	
				506198.94	739968.25	
41	0009421	6	4			
42	[illegible]	0	1			
43	0009421	3	1			
27	[illegible]	13	-10			
26	0009421	-1	2			
25	[illegible]	4	0			
				506118.22	739867.60	423.26
41	0000422	0	-7			
42	0000422	0	5			
43	0000422	0	1			
				504900.19	739852.54	421.57
41	0000423	0	3			
42	0000423	0	1			
43	0000423	0	-5			
				503935.17	739785.18	420.91
42	0009431	3	-3			
43	0009431	-7	-1			
44	0009431	3	5			
				505917.82	738679.87	421.19
42	0000432	-1	4			
43	0000432	2	0			
44	0000432	-1	-4			
				504994.01	738680.66	493.18
42	0000433	0	-3			
43	0000433	0	4			
44	0000433	0	-1			
				503976.38	738618.36	415.50
43	0000441	-1	0			
44	0000441	1	-1			
45	0000441	-1	1			
				506049.61	737534.85	413.85
43	0000442	2	-1			
44	0000442	-4	5			
45	0000442	2	-3			
				505012.88	737576.22	415.98
43	0000443	6	0			
44	0000443	-12	0			
45	0000443	6	0			
				504025.63	737475.00	415.58
44	0000451	1	-3			
45	0000451	-3	2			

				506977.86	739785.81	419.22	
27	0000261	0	6				
26	0000261	0	-7				
25	0000261	0	0				
				507557.79	739752.18	416.39	
27	0022083	0	-4				
26	0022083	0	3				
				508020.92	740640.38	419.50	
						0.01	
						419.51	
26	0022252	0	-1				
25	0022252	0	1				
				507024.44	738990.70	414.89	E. outside
						-0.69	plan mapping
						414.20	area
26	0011252	0	-1				
25	0011252	0	1				
				507034.91	739001.73	415.27	
				0.53	-0.53		
				507035.44	739001.20		
26	0022251	0	1				
25	0022251	0	0				
				507952.03	738967.57	413.19	
						0.27	
						413.46	
26	0011251	0	1				
25	0011251	0	-1				
				507936.83	738952.76	413.65	
				-1.02	-0.21		
				507935.81	738952.55		
26	0000251	0	0				
25	0000251	0	0				
				507733.58	738756.62	413.29	
26	0000252	0	1				
25	0000252	0	-1				
				506819.42	738798.96	417.02	
26	0000431	0	-1				
25	0000431	0	1				
				50[illegible]1.68	738670.99	421.16	

JOB CONTAINS 483 PHOTOGRAMMETRIC MEASUREMENTS

JOB [illegible] 21 CONSTRAINED X COORDINATES

JOB CONTAINS 21 CONSTRAINED Y COORDINATES

JOB CONTAINS 32 CONSTRAINED Z COORDINATES

AT THE END OF ITERATION 4
RMS PHOTOGRAMMETRIC RESIDUAL = 6 MICROMETER

MAXIMUM ANGULAR CORRECTION = 0. SECONDS

RMS MISCLOSURE IN X CONTROL = 0.59

RMS MISCLOSURE IN Y CONTROL = 0.43

RMS MISCLOSURE IN Z CONTROL = 0.18
BUNDLE ADJUSTMENT COMPLETED 3-NOV-91 09:51:07

9751,	502005.28,	742333.36,	424.62
752,	500986.02,	742246.93,	424.90
753,	499969.62,	742201.78,	411.04
11763,	499778.64,	743306.23,	410.68
22763,	499962.57,	743296.60,	412.03
763,	500177.67,	743314.12,	412.78
11762,	500726.71,	743491.49,	413.76
22762,	500958.30,	743362.46,	413.01
762,	501077.37,	743337.39,	413.00
922761,	501841.51,	743325.07,	413.21
9761,	501972.43,	743318.28,	413.55
911761,	501895.32,	743409.03,	413.04
743,	499780.10,	740975.64,	410.90
742,	500953.00,	740999.11,	413.09
922573,	501583.72,	740911.20,	414.20
9741,	502172.33,	740990.12,	454.89
922583,	502201.13,	739568.28,	423.39
9731,	502002.10,	739716.50,	459.90
732,	500866.93,	739696.01,	416.45
733,	499748.12,	739762.86,	442.95
22743,	500004.93,	740248.26,	411.05
22744,	499979.58,	740248.03,	411.77
723,	499779.47,	738586.35,	420.14
11723,	499700.05,	738986.31,	422.88
722,	500767.97,	738548.22,	419.75
9721,	501960.54,	738444.85,	420.44
9711,	501744.81,	737296.68,	420.62
712,	500884.36,	737296.17,	421.64
713,	499898.01,	737357.83,	417.88
9701,	501888.49,	736036.08,	416.15
702,	500896.31,	736086.89,	418.79
703,	499730.60,	736162.99,	487.89
922713,	500061.04,	736988.32,	415.23
922603,	501564.47,	736570.62,	415.19
693,	499740.67,	734913.98,	415.67
692,	500679.23,	734843.59,	411.63
9691,	501933.11,	734825.89,	417.01
9681,	501931.69,	733532.57,	418.41
911681,	501673.65,	733521.88,	417.37
922633,	501714.43,	733465.29,	416.83
682,	500776.89,	733584.73,	412.88
22682,	500658.90,	733748.60,	413.48
11682,	500627.04,	733641.37,	413.60
683,	499864.46,	733682.71,	413.89
922683,	499685.84,	733749.87,	414.71
11683,	499421.76,	733814.69,	415.55
9551,	503824.43,	743163.37,	422.48
922551,	503768.41,	743259.92,	421.45
911551,	503771.55,	743441.04,	421.19
552,	502946.39,	743237.41,	422.70
553,	501681.64,	743158.41,	412.68
922543,	501930.29,	744370.71,	413.71
543,	502096.97,	744425.05,	414.67
542,	502729.28,	744397.30,	414.19
11[illegible]		44396.69,	415.05
22542,	502951.43,	744440.58,	415.93
541,	503849.77,	744340.89,	420.70
563,	501662.52,	741901.26,	425.76
562,	502722.70,	741912.52,	424.81
9561,	503721.90,	741910.43,	424.51
9[illegible]	503931.10,	740710.63,	422.70
922413,	503681.36,	740847.13,	423.53
572,	502558.58,	740696.56,	426.09
573,	501746.94,	740693.04,	418.70
583,	501549.59,	739492.24,	420.88
582,	502797.98,	739482.77,	421.89
22582,	503202.98,	739507.71,	419.55
9581,	503765.40,	739462.09,	418.00
9[illegible]1,	503823.21,	738254.70,	414.63
592,	502741.24,	738323.66,	414.81
593,	501507.77,	738215.09,	421.80
603,	501558.67,	737009.19,	436.10
602,	502681.82,	737014.24,	414.17
22602,	502978.04,	736858.96,	414.01
9601,	503886.76,	737029.51,	414.90
922443,	503812.67,	737703.97,	414.30
9611,	503850.00,	735799.04,	411.46
612,	502871.22,	735907.24,	414.40

46	0000451	1	0			
				506045.25	736425.29	411.08
44	0000452	0	6			
45	0000452	0	0			
46	0000452	0	-5			
				504975.18	736420.40	415.72
44	0000453	0	0			
45	0000453	0	0			
46	0000453	0	0			
				504036.56	736401.50	411.56
45	0000463	3	2			
46	0000463	-6	-2			
47	0000463	3	0			
				503921.24	735284.57	414.19
45	0000462	0	-7			
46	0000462	-1	1			
47	0000462	1	6			
				504943.57	735335.44	411.24
45	0000461	-3	0			
46	0000461	6	0			
47	0000461	-3	0			
				505927.53	735313.64	416.33
46	0011631	0	1			
47	0011631	0	-1			
				503812.29	733983.51	418.36
				-0.57	-0.12	
				503811 [illegible]	[illegible] 1.39	
46	0022472	0	-1			
47	0022472	0	1			
				505061.84	734344.15	416.33
						-0.05
						410.[illegible]
46	0011472	0	0			
47	0011472	0	0			
				505240.20	734243.57	415.32
				0.40	-0.05	
				505240.60	734243.52	
46	0011471	0	0			
47	0011471	0	0			
				50[illegible].69	734087.76	411.16
				-0.30	-0.34	
				505822.39	734087.42	
46	0022471	0	0			
47	0022471	0	0			
				505842.43	734103.82	411.82
						0.09
						411.91
46	0000471	0	1			
47	0000471	0	-1			
				50[illegible]	[illegible]	411.17
46	0000472	0	0			
47	0000472	0	0			
				505131.57	734233.99	417.26
46	0000473	0	0			
47	0000473	0	0			
				504[illegible]9	734182.51	415.19
30	0000291	1	-1			
29	0000291	-3	2			
28	0000291	1	0			
				507639.23	743026.03	418.46
30	0000292	0	2			
29	0000292	0	1			
28	0000292	0	-3			

				506846.20	742996.77	423.24
30	0000293	1	1			
29	0000293	-2	-3			
28	0000293	1	2			
				505873.86	743008.26	422.98
30	0022391	0	-1			
29	0022391	0	1			
				505908.43	743621.84	420.42
						0.12
						420.54
30	0011302	0	0			
29	0011302	0	0			
				[illegible]	744059.58	420.56
				-0.33	0.11	
				506808.96	744059.69	
30	0022302	0	0			
29	0022302	0	0			
				[illegible]	744082.19	420.40
						0.00
						420.40
30	0000302	0	0			
29	0000302	0	0			
				506946.09	743971.05	422.07
30	0011301	0	0			
29	0011301	0	0			
				507464.15	743799.82	419.64
				-0.02	-0.26	
				[illegible]	743799.56	
30	0922053	0	0			
29	0922053	0	0			
				507895.87	743712.47	419.16
						-0.02
						419.14
30	0000301	0	0			
29	0000301	0	0			
				507740.32	743878.09	418.94
29	0000283	3	1			
28	0000283	-5	-4			
27	0000283	3	2			
				506012.23	741922.36	422.50
29	0000282	0	-6			
28	[illegible]	2	-1			
27	0000282	-1	8			
				506734.00	741943.56	421.75
29	0000281	-1	-1			
28	0000281	2	3			
27	0000281	-1	-1			
				507767.62	741917.84	420.85
28	0000271	0	-1			
27	0000271	-1	3			
26	0000271	0	-1			
				507784.53	740866.52	422.46
28	0000272	0	0			
27	0000272	-1	7			
26	0000272	0	-7			
				506867.82	740909.79	422.74
28	0000273	0	0			
27	0000273	0	-9			
26	0000273	0	9			
				505910.27	740903.76	420.12
27	0000262	0	0			
26	0000262	-1	-9			
25	0000262	0	8			

62	0000632	0	0				
63	0000632	0	0				
				502749.67	733557.81	415.26	
39	0009401	0	4				
40	0009401	-1	-2				
41	0009401	5	0				
29	0009401	1	0				
28	0009401	-5	-3				
				505876.86	742289.37	421.35	
39	0000402	0	5				
40	0000402	1	1				
41	0000402	0	-7				
				504888.54	742323.46	424.36	
39	0000403	0	4				
40	[illegible]	1	1				
41	0000403	0	-6				
				503790.00	742262.69	425.51	
39	0011392	0	-2				
40	0011392	0	2				
				504[illegible].31	743417.78	422.46	
				0.15	-0.41		
				504805.46	743417.37		
39	0022392	0	-1				
40	0022392	0	1				
				504[illegible]	743356.86	423.16	
						-0.10	
						423.06	
39	0000392	0	-1				
40	0000392	0	1				
				504921.36	743316.83	423.21	
39	0009391	0	-4				
40	0009391	-8	-2				
30	0009391	6	3				
29	0009391	1	3				
				505772.58	743451.23	420.74	
39	0922391	0	-1				
40	0922391	0	1				
				505908.51	743622.41	420.92	@ W Edge of
						-0.38	Plan mapping
						420.54	
39	0911391	0	2				
40	0911391	6	3				
30	0911391	-6	-4				
29	0911391	0	-2				
				505881.85	743520.27	420.85	
				-0.13	-0.28		
				505881.72	743519.99		
40	0009411	6	-1				
41	0009411	5	0				
42	0009411	-7	-16				
28	0009411	0	12				
27	0009411	9	6				
26	0009411	-15	0				
				50[illegible]	741071.17	421.80	
40	0922283	-15	-6				
41	0922283	7	7				
42	0922283	-6	7				
28	0922283	0	0				
27	0922283	10	-9				
26	0922283	4	0				
				505727.03	741133.87	422.21	
						-0.02	
						422.19	
40	0000412	-2	-7				
41	0000412	4	0				

59	0922443	14	-1			
60	0922443	15	1			
43	0922443	-12	-1			
44	0922443	-11	-3			
45	0922443	-7	4			
				503812.67	737703.97	414.36
						-0.06
						414.30
60	0009611	-4	2			
61	0009611	0	-4			
62	0009611	0	4			
45	0009611	2	-2			
46	0009611	1	0			
				503850.00	735799.03	411.46
60	0000612	0	5			
61	0000612	-1	0			
62	0000612	0	-6			
				502871.22	735907.24	414.40
60	0000613	1	2			
61	0000613	-2	-1			
62	0000613	1	-1			
				501816.64	735787.60	414.77
61	0000623	1	-1			
62	0000623	-2	3			
63	0000623	1	-2			
				501661.32	734666.12	414.83
61	0000622	0	6			
62	0000622	1	-2			
63	0000622	0	-3			
				502779.18	734656.35	415.52
61	0922473	-6	6			
62	0922473	0	0			
63	0922473	2	0			
46	0922473	0	-1			
47	0922473	4	-4			
				503735.35	734523.32	412.07
						0.00
						412.07
61	0009473	9	-3			
62	0009473	-7	0			
63	0009473	3	0			
46	0009473	-2	1			
47	0009473	-1	0			
				503927.48	734390.21	412.22
61	0000621	-2	-3			
62	[illegible]	4	-1			
63	0000621	-2	4			
				503864.60	734618.26	412.18
62	0911631	0	1			
63	0911631	0	-1			
				503811.52	733984.01	417.18
				0.20	-0.62	
				503811.72	733983.39	
62	0000631	0	2			
63	0000631	0	-2			
				503632.66	733656.61	418.77
62	0022632	0	0			
63	0022632	0	0			
				503167.01	733577.82	414.43
						0.12
						414.55
62	0011632	0	-5			
63	0011632	0	5			
				503150.30	733578.59	414.57
				0.14	-0.25	
				503150.44	733578.34	

						-0.03
						423.53
56	0000572	0	5			
57	0000572	0	6			
58	0000572	0	-11			
				502558.58	740696.56	426.09
56	0000573	0	-3			
57	0000573	1	4			
58	0000573	0	-1			
				501746.94	740693.04	418.70
57	0000583	0	-17			
58	0000583	0	16			
59	0000583	0	1			
				501549.59	739492.24	420.88
57	0000582	0	0			
58	0000582	0	0			
59	0000582	0	0			
				502797.98	739482.77	421.89
57	0022582	0	0			
58	0022582	-1	2			
59	0022582	0	-2			
				503202.98	739507.71	419.26
						0.29
						419.55
57	0009581	0	-2			
58	0009581	0	2			
59	0009581	0	0			
42	0009581	0	-2			
43	0009581	0	2			
				503765.40	739462.09	418.00
58	0009591	-2	-1			
59	0009591	-11	-5			
60	0009591	-8	9			
43	[illegible]	5	0			
44	0009591	16	-2			
				503823.21	738254.70	414.63
58	0000592	2	-6			
59	0000592	-4	0			
60	0000592	2	6			
				502741.24	738323.66	414.81
58	0000593	3	2			
59	0000593	-6	4			
60	0000593	2	-6			
				501507.77	738215.09	421.80
59	0000603	4	0			
60	0000603	-8	3			
61	0000603	4	-4			
				501558.67	737009.19	436.09
59	0000602	1	6			
60	0000602	-2	-7			
61	0000602	1	1			
				502681.82	737014.24	414.17
59	0022602	3	0			
60	0022602	-6	-6			
61	0022602	3	6			
				502978.04	736858.96	413.81
						0.20
						414.01
59	0009601	6	-1			
60	0009601	-4	-9			
61	0009601	-8	1			
44	0009601	5	1			
45	0009601	1	7			
				503886.76	737029.51	414.90

55	0911551	-2	-4			
39	0911551	0	-1			
40	0911551	0	3			
				503772.89	743440.82	421.19
				-1.34	0.22	
				503771.55	743441.04	
54	0000552	1	7			
55	0000552	-2	-2			
56	0000552	1	-4			
				502946.38	743237.41	422.70
54	0000553	-1	0			
55	0000553	2	3			
56	0000553	-1	-3			
				501681.64	743158.41	412.68
54	0922543	0	-1			
55	0922543	0	1			
				501930.29	744370.71	413.82
						-0.11
						413.71
54	0000543	0	-1			
55	0000543	0	1			
				502096.97	744425.05	414.67
54	0000542	0	0			
55	0000542	0	0			
				502729.28	744397.30	414.19
54	0011542	0	0			
55	0011542	0	0			
				502908.93	744396.12	415.05
				-0.88	0.57	
				502908.05	744396.69	
54	0022542	0	0			
55	0022542	0	0			
				502941.43	744440.58	416.16
						-0.23
						415.93
54	0000541	0	-4			
55	0000541	0	4			
				503849.77	744340.89	420.70
55	0000563	5	2			
56	0000563	-11	4			
57	0000563	5	-6			
				501662.52	741901.26	425.76
55	0000562	-1	3			
56	0000562	3	-8			
57	0000562	-1	4			
				502722.70	741912.52	424.81
55	0009561	11	0			
56	0009561	-5	-9			
57	0009561	-9	-3			
40	0009561	4	9			
41	0009561	-1	4			
				503721.91	741910.43	424.51
56	0009571	0	0			
57	0009571	6	1			
58	0009571	3	1			
41	0009571	-9	-1			
42	0009571	-2	0			
				503931.10	740710.62	422.70
56	0922413	-11	3			
57	0922413	-3	5			
58	0922413	-1	-6			
40	0922413	8	-4			
41	0922413	0	0			
42	0922413	7	0			
				503681.36	740847.13	423.56

69	0009691	3	2			
68	0009691	-4	-1			
61	0009691	-4	-4			
62	0009691	6	0			
63	0009691	2	0			
				501[illegible]	[illegible]25.89	417.01
69	0009681	4	-1			
68	0009681	0	-2			
62	0009681	1	3			
63	0009681	-5	0			
				501831.69	733532.57	418.41
69	0911681	0	-2			
68	0911681	6	3			
62	0911681	-3	0			
63	0911681	-5	-1			
				501673.41	733522.44	417.37
				0.24	-0.56	
				501673.65	733521.88	.
69	0922633	-6	4			
68	0922633	-5	-3			
62	0922633	7	-3			
63	0922633	7	2			
				501714.[illegible]	733465.29	416.85
						-0.02
						416.83
69	0000682	0	0			
68	0000682	0	0			
				500776.89	733584.73	412.87
69	0022682	0	0			
68	0022682	0	0			
				500658.90	733748.60	413.43
						0.05
						413.48
69	0011682	0	0			
68	0011682	0	0			
				500626.65	733640.83	413.60
				0.39	0.54	
				500[illegible]	733641.37	
69	0000683	0	-3			
68	0000683	0	3			
				499864.46	733682.71	413.89
69	0922683	0	4			
68	0922683	0	-4			
				499685.84	733749.87	414.88
						-0.17
						414.71
69	0011683	0	0			
68	0011683	0	0			
				499421.28	733814.05	415.55
				0.48	0.64	
				499421.76	733814.69	
54	0009551	-6	3			
55	0009551	-5	-8			
56	0009551	5	14			
39	[illegible]	0	-6			
40	0009551	6	-3			
				503824.43	743163.37	422.48
54	0922551	1	0			
55	0922551	5	-10			
56	0922551	0	10			
39	0922551	-7	-1			
40	0922551	0	2			
				503768.41	743259.92	421.43
						0.02
						421.45
54	0911551	3	2			

72	0011723	0	0			
				499698.92	738985.91	422.88
				1.13	0.40	
				499700.05	738986.31	
73	0000722	0	0			
72	0000722	0	-2			
71	0000722	0	2			
				500767.97	738548.22	419.75
73	0009721	-9	-3			
72	0009721	2	8			
71	0009721	-6	0			
58	0009721	6	-3			
59	0009721	0	-5			
60	0009721	7	3			
				501960.54	738444.85	420.44
72	0009711	0	0			
71	0009711	2	0			
70	0009711	-1	0			
59	0009711	-1	6			
60	0009711	0	-6			
				501744.81	737296.68	420.62
72	0000712	-2	2			
71	0000712	4	0			
70	0000712	-2	-3			
				500884.37	737296.17	421.65
72	0000713	-1	0			
71	0000713	3	-1			
70	0000713	-1	1			
				499898.01	737357.83	417.88
71	0009701	-5	-1			
70	0009701	1	0			
69	0009701	1	0			
60	0009701	7	-6			
61	0009701	0	2			
62	0009701	-4	5			
				501888.49	736036.08	416.15
71	0000702	-1	5			
70	0000702	3	-2			
69	0000702	-1	-2			
				500896.31	736086.89	418.79
71	0000703	-2	-7			
70	0000703	4	4			
69	0000703	-2	2			
				499730.60	736162.99	487.89
71	0922713	0	-3			
70	0922713	0	3			
				500061.04	736988.32	415.36
						-0.13
						415.23
71	0922603	2	0			
70	[illegible]	1	0			
60	0922603	-1	3			
61	0922603	-2	-1			
				501564.47	736570.62	415.20
						-0.01
						415.19
70	0000693	-1	-4			
69	0000693	2	0			
68	0000693	-1	3			
				499740.67	734913.98	415.67
70	0000692	1	0			
69	0000692	-2	-5			
68	0000692	1	5			
				500679.23	734843.59	411.63
70	0009691	-2	2			

75	[illegible]	11	6			
54	0911761	-12	-4			
55	0911761	-7	-4			
56	0911761	-1	-1			
				501895.39	743408.55	413.04
				-0.07	0.48	
				501895.32	743409.03	
75	0000743	-1	-7			
74	0000743	1	-1			
73	0000743	-1	8			
				499780.10	740975.64	410.90
75	0000742	-1	-3			
74	0000742	3	0			
73	0000742	-1	3			
				500953.00	740999.11	413.09
75	0922573	-9	-2			
74	0922573	4	-5			
73	0922573	2	0			
56	0922573	10	-5			
57	0922573	4	7			
58	0922573	-13	5			
				501583.72	740911.20	414.12
						0.08
						414.20
75	0009741	0	16			
74	0009741	2	-16			
73	0009741	-10	-4			
56	0009741	-1	0			
57	0009741	11	3			
				502172.33	740990.12	454.89
74	0922583	3	-2			
73	0922583	1	2			
72	0922583	8	0			
57	0922583	-5	3			
58	0922583	0	0			
59	0922583	-8	-2			
				502201.13	739568.28	423.50
						-0.11
						423.39
74	0009731	-7	10			
73	[illegible]		1			
72	0009731	2	-5			
57	0009731	-1	-6			
58	0009731	2	0			
				502002.10	739716.50	459.90
74	0000732	-3	8			
73	0000732	6	0			
72	0000732	-3	-8			
				500866.93	739696.01	416.45
74	0000733	-5	-5			
73	0000733	9	2			
72	0000733	-4	3			
				499748.12	739762.86	442.95
74	0022743	0	1			
73	0022743	0	-1			
				500004.94	740248.26	411.15
						-0.10
						411.05
74	0022744	0	1			
73	0022744	0	-1			
				499979.58	740248.03	411.78
73	0000723	1	-7			
72	0000723	-2	0			
71	0000723	1	6			
				499779.47	738586.35	420.14
73	0011723	0	0			

BUNDLE ADJUSTMENT 3-NOV-91 09:42:42

4301-349 TARACORP
ITYPE = 0
INSECT = 0

AFTER ITERATION 1 MAX. ORIENTATION COR.= 10969. PHOTO 33
AFTER ITERATION 2 MAX. ORIENTATION COR.= 291. PHOTO 26
AFTER ITERATION 3 MAX. ORIENTATION COR.= 3. PHOTO 26
AFTER ITERATION 4 MAX. ORIENTATION COR.= 0. PHOTO 6
PHOTOGRAMMETRIC RESIDUALS/ADJUSTED GROUND VALUES

76	0009751	2	0			
75	0009751	1	-6			
74	0009751	-3	3			
55	0009751	0	9			
56	0009751	0	-6			
				502005.28	742333.36	424.62
76	0000752	-1	2			
75	0000752	1	-4			
74	0000752	-1	1			
				500986.02	742246.93	424.90
76	0000753	-3	-3			
75	0000753	6	1			
74	0000753	-3	2			
				499969.62	742201.78	411.04
76	0011763	0	0			
75	0011763	0	0			
				499778.81	743305.31	410.68
				-0.17	0.92	
				499778.64	743306.23	
76	0022763	0	0			
75	0022763	0	0			
				499962.57	743296.60	412.06
						-0.03
						412.03
76	0000763	0	0			
75	0000763	0	0			
				500177.67	743314.12	412.78
76	0011762	0	1			
75	0011762	0	-1			
				500726.49	743491.55	413.76
				0.62	-0.06	
				500726.71	743491.49	
76	0022762	0	1			
75	0022762	0	-1			
				500942.30	743362.46	413.00
						0.01
						413.01
76	0000762	0	1			
75	0000762	0	-1			
				501077.37	743337.39	413.00
76	0922761	0	0			
75	0922761	1	2			
54	0922761	0	-2			
55	0922761	0	0			
56	0922761	0	1			
				501841.51	743325.07	413.18
						0.03
						413.21
76	0009761	-12	0			
75	0009761	-7	4			
54	0009761	3	0			
55	0009761	4	-1			
56	0009761	12	-1			
				501972.43	743318.28	413.55
76	0911761	11	2			

26.	1.00000	506865.802	739812.438	2262.762
0.0000	0.0000	4.6964		
25.	1.00000	506906.134	738713.179	2277.046
0.0000	0.0000	4.6964		

0009473	0.01	-1.21	0.18
0022472			-0.16
0011472	-0.06	1.22	
0011471	-0.45	1.23	
0022471			0.07

PHOTO/MODEL PARAMETERS
SCALE,XC, YC, ZC/OMEGA,PHI,KAPPA(RADIANS)

39.	1.00000	504863.622	743434.086	2435.457
0.0000	0.0000	4.7404		
40.	1.00000	504876.074	742232.720	2418.727
0.0000	0.0000	4.7404		
41.	1.00000	504893.374	741025.235	2397.873
0.0000	0.0000	4.7404		
42.	1.00000	504921.771	739815.040	2380.024
0.0000	0.0000	4.7404		
43.	1.00000	504952.540	738628.783	2361.715
0.0000	0.0000	4.7404		
44.	1.00000	504970.648	737514.255	2350.750
0.0000	0.0000	4.7404		
45.	1.00000	504985.335	736427.589	2344.795
0.0000	0.0000	4.7404		
46.	1.00000	504996.414	735318.199	2357.428
0.0000	0.0000	4.7404		
47.	1.00000	505013.809	734212.032	2381.455
0.0000	0.0000	4.7404		

ROTATION ANGLE(GROUND TO PHOTO) = 269.0818 DEGREES

DEGREE OF HORIZONTAL ADJUSTMENT = 3
DEGREE OF VERTICAL ADJUSTMENT = 3
GROUND CONTROL MISCLOSURES

0009391	-0.65	0.89	0.10
0022391			0.34
0911391	-0.20	-0.41	-0.10
0011302	-0.22	-0.13	
0022302			-0.30
0011301	0.15	-0.89	
0922053			0.22
0009401	0.04	0.42	-0.03
0009411	-0.21	0.40	-0.10
0922283	0.42	0.54	-0.33
0922263	0.36	0.09	-0.04
0911421	0.13	0.05	0.32
0009421	0.45	-0.17	0.38
0022083			-0.14
0022252			-0.53
0011252	0.19	-0.66	
0022251			0.29
0011251	-0.46	-0.12	

PHOTO/MODEL PARAMETERS
SCALE,XC, YC, ZC/OMEGA,PHI,KAPPA(RADIANS)

30.	1.00000	506701.947	744046.865	2253.831
0.0000	0.0000	4.6964		
29.	1.00000	506736.771	742997.984	2245.769
0.0000	0.0000	4.6964		
28.	1.00000	506778.169	741945.268	2248.240
0.0000	0.0000	4.6964		
27.	1.00000	506823.800	740890.242	2253.025
0.0000	0.0000	4.6964		

0922583	-0.01	-0.28	-0.07
0022582			0.35
0009721	0.47	0.09	0.34
0009711	0.64	0.01	0.40
0022602			0.16
0922443			-0.37
0009701	0.25	0.09	-0.61
0922603	0.49	-0.02	0.12
0009[illegible]	0.16	-0.02	0.08
0922473			-0.03
0911631	-0.72	1.10	
0022632			0.11
0011[illegible]2	-0.42	0.75	
0911681	-0.09	-1.14	-0.09
09[illegible]	-0.10	-0.40	0.00
0009681	-0.33	-0.51	0.04

PHOTO/MODEL PARAMETERS
SCALE,XC, YC, ZC/OMEGA,PHI,KAPPA(RADIANS)

54.	1.00000	502963.218	744400.739	2499.230
0.0000	0.0000	4.7093		
55.	1.00000	502913.016	743161.751	2475.008
0.0000	0.0000	4.7093		
56.	1.00000	502842.907	741914.981	2453.183
0.0000	0.0000	4.7093		
57	1.[illegible]	502788.877	740708.163	2442.295
0.0000	0.0000	4.7093		
58.	1.00000	502748.832	739470.378	2423.806
0.0000	0.0000	4.7093		
59.	1.00000	502724.537	738250.152	2411.189
0.0000	0.0000	4.7093		
60.	1.00000	502715.561	737027.882	2399.360
0.0000	0.0000	4.7093		
61.	1.[illegible]	502729.160	735838.049	2386.784
0.0000	0.0000	4.7093		
62.	1.00000	502761.568	734647.821	2379.887
0.0000	0.0000	4.7093		
63.	1.00000	502806.175	733459.201	2371.207
0.0000	0.0000	4.7093		

ROTATION ANGLE(GROUND TO PHOTO) = 271.6072 DEGREES

DEGREE OF HORIZONTAL ADJUSTMENT = 3
DEGREE OF [illegible]STMENT = 3
GROUND CONTROL MISCLOSURES

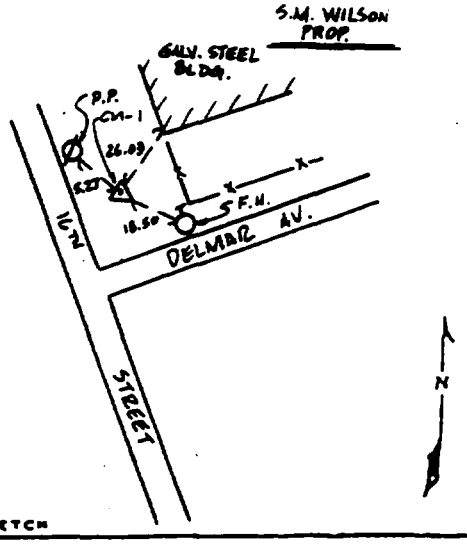
0922551	-0.25	0.33	0.03
0009551	-0.07	0.57	-0.10
0911551	-1.60	-0.19	0.02
0011392	0.08	-1.07	
0022392			-0.02
0922391			0.04
0911391	0.08	-1.26	
0922283			-0.17
0922413	0.51	1.22	-0.23
0009561	-0.48	1.21	0.19
0922263			0.12
0911421	-0.33	0.06	
0009571	0.99	0.81	0.02
0009581	0.90	0.40	-0.03
0922443	0.56	-0.99	-0.21
0009591	0.99	-0.03	0.34
0009601	0.18	-0.77	0.12
0009611	0.41	-1.08	-0.24
0011631	-1.60	0.57	
0922473	0.12	-1.04	-0.01

COUNTRY	TYPE OF MARK	STATION	
United States	Aluminum Cap	Control Monument #1	
LOCALITY	STAMPING OR MARK	AGENCY (CAST IN MARK)	ELEVATION (FT)
Madison Co., IL	CM-1	U.S. Army Corps of Engineers	418.996
LATITUDE	LONGITUDE	DATUM	DATUM
38° 41' 49.939822"	90° 09' 22.263039"	NGVD 2 (VERT)	NAD 83 (HORIZ)
NORTHING (FT)	EASTING (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
799343.39040	502991.72900		L.G. Zambrana
NORTHING (M)	EASTING (M)	GRID AND ZONE	DATE / GRADE
2425662.415	1650232.014		11-27-91

TO OBTAIN GRID AZIMUTH, ADD TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADDMSUB.) TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC/GRID)	BACK AZIMUTH	GEOD DISTANCE (FEET)	GRID DISTANCE (METERS) (FEET)



SKETCH

DA FORM OCT 1959 REPLACES DA FORMS 1958 AND 1959, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

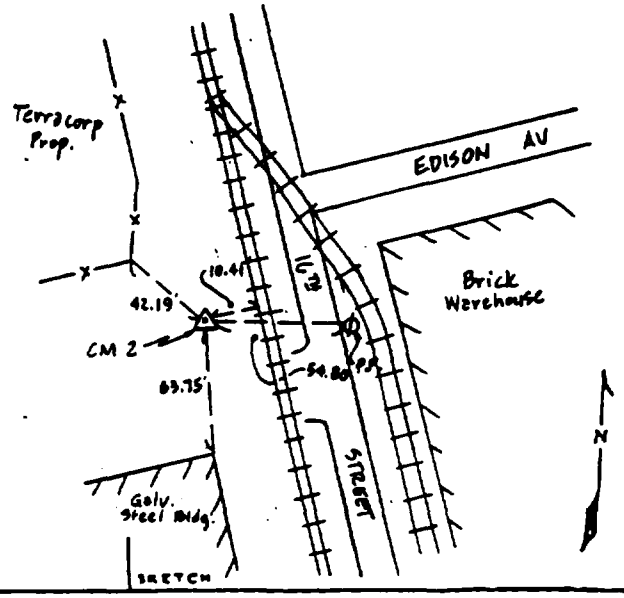
For use of this form, see TM 5-237; the proponent agency is TRADOC

COUNTRY	TYPE OF MARK	STATION	
United States	Aluminum Cap	Control Monument #2	
LOCALITY	STAMPING ON MARK	AGENCY (CAST IN MARK)	ELEVATION (FT)
Madison Co., IL	CM 2	U.S. Army Corps of Engineers	417.216
LATITUDE	LONGITUDE	DATUM	DATUM
38° 41' 46.832422"	90° 09' 19.327701"	NGVD 2 (VERT.)	NAD 83 (HORIZ.)
NORTHING (FT)	EASTING (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
739029.06780	503224.47200		L.G. Zambrana
NORTHING (M)	EASTING (M)	GRID AND ZONE	DATE / DRAWN
2424631.174	1650995.605		11-27-91

TO OBTAIN GRID AZIMUTH, ADD TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD/SUB.) TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC/GRID)	BACK AZIMUTH	GEOD DISTANCE (FEET)	GRID DISTANCE (METERS) (FEET)



SKETCH

DA FORM OCT 1959 REPLACES DA FORMS 1959 AND 1959-1, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

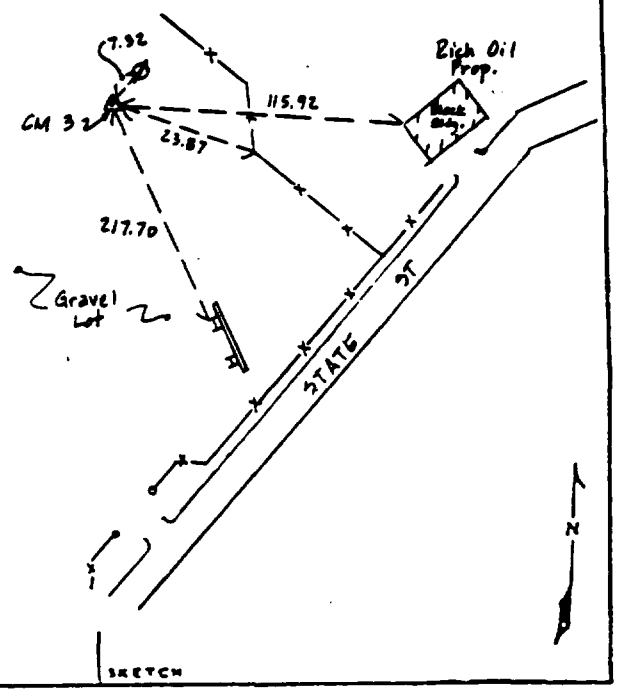
For use of this form, see TM 5-237; the proponent agency is TRADOC

COUNTRY	TYPE OF MARK	STATION	
United States	Aluminum Cap	Control Monument #3	
LOCALITY	STAMPING OR MARK	AGENCY (CAST IN MARK)	ELEVATION (FT)
Madison Co., IL	CM 3	U.S. Army Corps of Engineers	414.646 XXX
LATITUDE	LONGITUDE	DATUM	DATUM
38° 41' 40.111021"	90° 09' 24.[redacted]035"	NGVD 29 (VERT.)	NAD 83 (HOR.)
NORTHING [redacted] (FT)	EASTING [redacted] (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
738349.06990 XXX	502811.00500 XXX		L.G. Zambrana
NORTHING [redacted] (XX)	EASTING [redacted] (XX)	GRID AND ZONE	DATE / DRAWN
2422400.216 (M)	1649639.089 (M)		11-27-91

TO OBTAIN GRID AZIMUTH, ADD TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADD/SUB.) TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC/GRID) [redacted]	BACK AZIMUTH	GEOD DISTANCE XXXXXXXX (FEET)	GRID DISTANCE (METERS) (FEET)



SKETCH

DA FORM OCT 1959 REPLACES DA FORMS 1959 AND 1959, 1 FEB 57, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

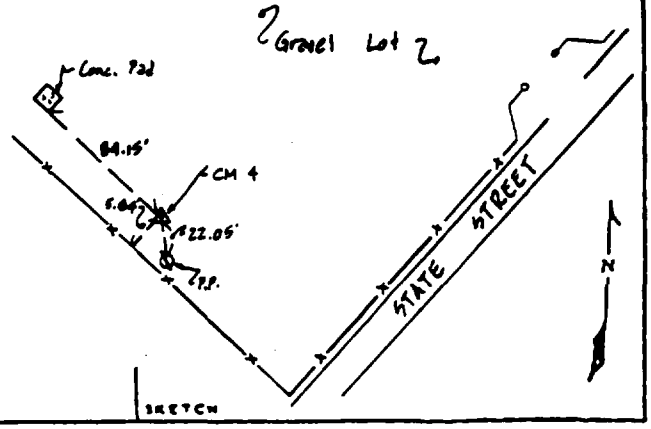
For use of this form, see TM 5-237; the proponent agency is TRADOC.

COUNTRY	TYPE OF MARK	STATION	
United States	Aluminum Cap	Control Monument #4	
LOCALITY	STAMPING ON MARK	AGENCY (CASE IN MARK)	ELEVATION (FT)
Madison Co., IL	CM 4	U.S. ARMY CORPS OF ENGINEERS	414.306
LATITUDE	LONGITUDE	DATUM	DATUM
38° 41' 36.34499"	90°09' 26.245893"	NGVD 29 (VERT.)	NAD 83 (HORIZ.)
(NORTHING) (FT)	(EASTING) (FT)	GRID AND ZONE	ESTABLISHED BY (AGENCY)
737768.07000	502676.12000		L.G. Zambrana
(NORTHING) (M)	(EASTING) (M)	GRID AND ZONE	DATE / DRAWN
2421150.218	1649196.554		11-27-91

TO OBTAIN GRID AZIMUTH, ADD TO THE GEODETIC AZIMUTH

TO OBTAIN GRID AZ. (ADDING) TO THE GEODETIC AZIMUTH

OBJECT	AZIMUTH OR DIRECTION (GEODETIC/GRID)	BACK AZIMUTH	GEOD DISTANCE (FEET)	GRID DISTANCE (METERS) (FEET)



SKETCH

DA FORM 1959, OCT 72 REPLACES DA FORMS 1959 AND 1959-1, WHICH ARE OBSOLETE.

DESCRIPTION OR RECOVERY OF HORIZONTAL CONTROL STATION

For use of this form, see TM 5-237; the proponent agency is TRADOC.

GRANITE CITY - TERRACORP PROPERTY

Project: 91044 Mon Jan 27 09:37:08 1992

Point statistics:

Starting point number: 1
Max point number used: 4000
Min point number used: 1
Current point number: 87

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
1	737977.19900	502789.81410	414.55	TR0010
2	737998.30900	502595.43000	414.49	MON WELL 103-91
3	738041.18480	502508.25150	414.35	TR0004
4	738114.73110	502736.04150	413.82	TR0009
5	738222.73100	502828.11190	414.43	TR0008
6	738423.33760	502811.81610	414.09	R00001
7	738406.30440	502662.37040	414.67	TR0007
8	738585.40840	502535.05680	417.26	TR0006
9	738280.67860	502488.18800	416.78	TR0005
10	738181.98660	502577.24970	414.33	TR0003
11	738522.18120	502535.15800	.	F.H.
12	738524.19800	502557.68190	.	P.P.
13	738632.98910	502534.03750	.	NW COR BASE NW COR L
14	738606.81690	502483.00930	.	EDGE OF BLDG
15	738339.26990	502486.67030	.	BLDG COR
16	738338.77470	502449.30170	.	EDGE OF BLDG
17	738255.99330	502505.34400	.	FENCE COR
18	738244.80870	502501.43510	.	P.P.
19	738226.34950	502461.64480	.	FENCE COR
20	738014.13120	502453.74020	.	FENCE COR
21	737984.20800	502565.09680	.	P.P.
22	737958.09750	502696.22230	.	P.P.
23	737926.23340	502830.39810	.	FENCE COR
24	737960.81270	502837.72710	.	P.P.
25	738039.53780	502855.41090	.	P.P.
26	738093.24010	502869.62520	.	A.P. FENCE LINE
27	738112.39270	502857.17730	.	A.P. FENCE LINE
28	738126.91230	502831.13910	.	A.P. FENCE LINE
29	738150.20790	502836.25040	.	GATE POST
30	738180.19570	502843.67780	.	GATE POST
31	738196.59980	502894.63830	.	A.P. FENCE LINE
32	738190.19560	502875.40550	.	A.P. FENCE LINE
33	738204.27050	502848.27370	.	A.P. FENCE LINE
34	738247.29620	502875.30560	.	W LEG OF SIGN
35	738298.78920	502918.80710	.	FENCE COR
36	738321.24040	502884.75010	.	P.P.
37	738322.01350	502890.62490	.	A.P. FENCE LINE
38	738341.13970	502859.71910	.	A.P. FENCE LINE
39	738351.69510	502834.88460	.	A.P. FENCE LINE
40	738375.30900	502830.27710	.	A.P. FENCE LINE
41	738357.08690	502810.76700	.	P.P
42	738480.83300	502641.06240	.	FENCE CO
43	738470.22040	502631.03820	.	GATE POS
44	738261.04350	502618.63440	.	P.P
45	738263.97050	502720.63390	.	P.P

1	737977.19900	502789.81410	414.55	TR0010
2	737998.30900	502595.43000	.4.49	MON WELL 103-9
3	738041.18480	502508.25150	414.35	TR000
4	738114.73110	502736.04150	413.82	TR0009
5	738222.73100	502828.11190	414.43	TR0007
6	738423.33760	502811.81610	414.09	R0000
7	738406.30440	502662.37040	414.67	TR0007
8	738585.40840	502535.05680	417.26	TR0006
9	738280.67860	502488.18800	416.78	TR000
10	738181.98660	502577.24970	414.33	TR000
11	738522.18120	502535.15800	.	F.H.
12	738524.19800	502557.68190	.	P.P
13	738632.98910	502534.03750	.	NW COR BASE NW COR
14	738606.81690	502483.00930	.	EDGE OF BLDG
15	738339.26990	502486.67030	.	BLDG CO
16	738338.77470	502449.30170	.	EDGE OF BLD
17	738255.99330	502505.34400	.	FENCE COR
18	738244.80870	502501.43510	.	P.P.
19	738226.34950	502461.64480	.	FENCE CC
20	738014.13120	502453.74020	.	FENCE CO
21	737984.20800	502565.09680	.	P.P.
22	737958.09750	502696.22230	.	P.F
23	737926.23340	502830.39810	.	FENCE C
24	737960.81270	502837.72710	.	P.
25	738039.53780	502855.41090	.	P.F
26	738093.24010	502869.62520	.	A.P. FENCE LIN
27	738112.39270	502857.17730	.	A.P. FENCE LINE
28	738126.91230	502831.13910	.	A.P. FENCE LINE
29	738150.20790	502836.25040	.	GATE POS
30	738180.19570	502843.67780	.	GATE POS.
31	738196.59980	502894.63830	.	A.P. FENCE LINE
32	738190.19560	502875.40550	.	A.P. FENCE LIN
33	738204.27050	502848.27370	.	A.P. FENCE LIN
34	738247.29620	502875.30560	.	W LEG OF SIGN
35	738298.78920	502918.80710	.	FENCE CO
36	738321.24040	502884.75010	.	P.F
37	738322.01350	502890.62490	.	A.P. FENCE LINe
38	738341.13970	502859.71910	.	A.P. FENCE LINE
39	738351.69510	502834.88460	.	A.P. FENCE LIN
40	738375.30900	502830.27710	.	A.P. FENCE LI
41	738357.08690	502810.76700	.	P.
42	738480.83300	502641.06240	.	FENCE CO
43	738470.22040	502631.03820	.	GATE POS
44	738261.04350	502618.63440	.	P.P.
45	738263.97050	502720.63390	.	P.P.
46	738484.64260	502967.61850	414.40	R000
47	738467.27770	502947.89150	.	P.F.
48	738501.12360	502966.86320	.	NW LEG BILLBOARD
49	738413.43910	502926.83730	.	NE COR RICH OIL BL
50	738401.76560	502914.29440	.	NW COR RICH OIL BL

MODEL 4301-349 29-29 P OPERATOR JWB DATE 1991.11.11.13. 1

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3658

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1826
OMEGA	-.439	-1.372	ABOVE GROUND	
PHI	-.200	.595		
KAPPA	1.312	1.484	AZIMUT	-101.029
BX	40.530	-40.530	MODEL (XGO	506756.43
BY	2.229	-2.229	CENTER (YGO	742470.94
BZ	.083	-.083	POSITION(ZGO	2247.62

MODEL BASE: B = -81.182 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY 7	ELEVATION 7	
	POINT NO.	281	282	283
	POINT NO.	9401	293	292
	POINT NO.	291		
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.052	.080
		Y	.035	.056
		Z	.078	.114
RELATIVE ORIENT.	USED PARALLAX POINTS 8			
	RESIDUAL PARALLAXES	MEAN	.003	MAX -.005
INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	.999742	.999728
		Y-SHRINKAGE	.999700	.999699
		RECTANGUL.	-.00005	-.00018

REMARKS:

RKH

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.11.13. 1

POINT	XG	YG	ZG	REGISTER
281	507757.620	741917.840	420.850	1
282	506734.000	741943.560	421.750	2
283	506012.230	741922.360	422.500	3
291	507639.230	743026.030	418.460	4
292	506845.200	742996.770	423.240	5
293	505973.860	743008.260	422.980	6
9401	505876.860	742289.370	421.350	7

USGS Report No. OSL/1670

United States Department of the Interior

GEOLOGICAL SURVEY
RESTON, VA 22092

REPORT OF CALIBRATION
of Aerial Mapping Camera

August 15, 1991

Camera type:	Jena LMK 1015*	Camera serial no.:	269157D
Lens type:	Jena Lamegon PI/D	Lens serial no.:	7390027D
Nominal focal length:	153 mm	Maximum aperture:	f/4.2
		Test aperture:	f/4.2

Submitted by: Midwest Aerial Photography Service
Glencoe, Missouri

Reference: Letter dated August 16, 1991, from Mr. Earl Hoffman.

These measurements were made on Kodak Micro-flat glass plates, 0.25 inch thick, with spectrosoopic emulsion type 157-01 Panchromatic, developed in D-19 at 68° F for 3 minutes with continuous agitation. These photographic plates were exposed on a multicollimator camera calibrator using a white light source rated at approximately 5200K.

I. Calibrated Focal Length: 152.291 mm

This measurement is considered accurate within 0.005 mm

II. Radial Distortion

Field angle	$\bar{D}_c$	D_c for azimuth angle 0° A-C	90° A-D	180° B-D	270° B-C
degrees	um	um	um	um	um
7.5	-1	-2	0	-1	-2
15	-2	-2	-1	-2	-2
22.7	0	-2	0	0	1
30	2	0	4	2	2
35	2	0	3	2	3
40	-2	-3	-1	-6	0

The radial distortion is measured for each of four radii of the focal plane separated by 90° in azimuth. To minimize plotting error due to distortion, a full least-squares solution is used to determine the calibrated focal length. $\bar{D}_c$ is the average distortion for a given field angle. Values of distortion D_c based on the calibrated focal length referred to the calibrated principal point (point of symmetry) are listed for azimuths 0°, 90°, 180° and 270°. The radial distortion is given in micrometers and indicates the radial displacement away from the center of the field. These measurements are considered accurate within 5 um.

* Equipped with Forward Motion Compensation

III. Resolving Power in cycles/mm

Area-weighted average resolution: 97

Field angle:	0°	7.5°	15°	22.7°	30°	35°	40°
Radial lines	159	159	134	113	113	95	95
Tangential lines	159	134	134	95	80	67	57

The resolving power is obtained by photographing a series of test bars and examining the resultant image with appropriate magnification to find the spatial frequency of the finest pattern in which the bars can be counted with reasonable confidence. The series of patterns has spatial frequencies from 5 to 268 cycles/mm in a geometric series having a ratio of the 4th root of 2. Radial lines are parallel to a radius from the center of the field, and tangential lines are perpendicular to a radius.

IV. Filter Parallelism

The two surfaces of the 500 No. 51393A filter accompanying this camera are within 10 seconds of being parallel. This filter was used for the calibration.

V. Shutter Calibration

Indicated shutter speed	Effective shutter speed	Efficiency
1/125	7.33 ms = 1/135 s	75%
1/175	5.00 ms = 1/200 s	75%
1/250	3.67 ms = 1/270 s	75%
1/350	2.50 ms = 1/400 s	75%
1/500	1.82 ms = 1/550 s	75%

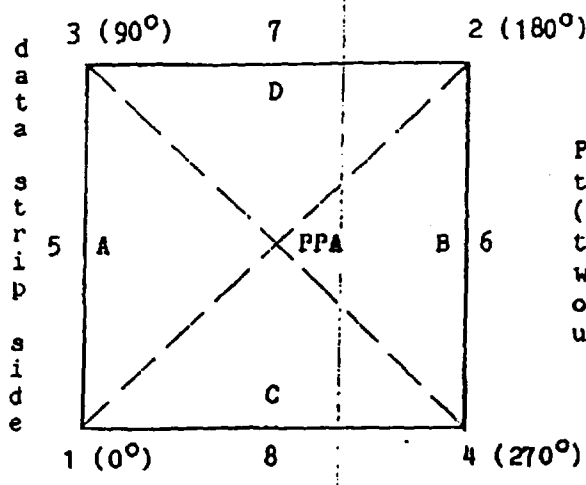
The effective shutter speeds were determined with the lens at aperture f/4.2. The method is considered accurate within 3 percent. The technique used is Method I described in American National Standard PH3.48-1972(R1978).

VI. Magazine Platen

The platen mounted in LMK-K 24/120 film magazine No. 266972B does not depart from a true plane by more than 13 um (0.0005 in).

This film magazine is equipped with an identification marker that will register "266972" in the film edge for each exposure.

VII. Principal Points and Fiducial Coordinates



Positions of all points are referenced to the principal point of autocollimation (PPA) as origin. The diagram indicates the orientation of the reference points when the camera is viewed from the back, or a contact positive with the emulsion up. The data strip is to the left.

	X coordinate	Y coordinate
Indicated principal point, corner fiducials	0.009 mm	0.002 mm
Indicated principal point, midside fiducials	0.011	0.007
Principal point of autocollimation	0.0	0.0
Calibrated principal point (point of symmetry)	0.002	0.007

Fiducial Marks		
1	-109.989 mm	-109.996 mm
2	110.009	110.002
3	-109.994	110.003
4	110.010	-109.996
5	-111.990	0.005
6	112.009	0.009
7	0.007	112.000
8	0.014	-112.000

VIII. Distances Between Fiducial Marks

Corner fiducials (diagonals)

1-2: 311.124 mm 3-4: 311.129 mm

Lines joining these markers intersect at an angle of 90° 00' 03"

Midside fiducials

5-6: 223.999 mm 7-8: 224.000 mm

Lines joining these markers intersect at an angle of 90° 00' 03"

Corner fiducials (perimeter)

1-3: 219.999 mm 2-3: 220.003 mm

1-4: 219.999 mm 2-4: 219.998 mm

The method of measuring these distances is considered accurate within 0.005 mm.

FILM RADIAL DISTORTION, STEREOMODEL FLATNESS AND RESOLVING POWER

Magazine No.: 266972B
Magazine ID: 266972

Base/Height ratio: 0.6
Maximum angle of field tested: 40°

Calibrated Focal Length

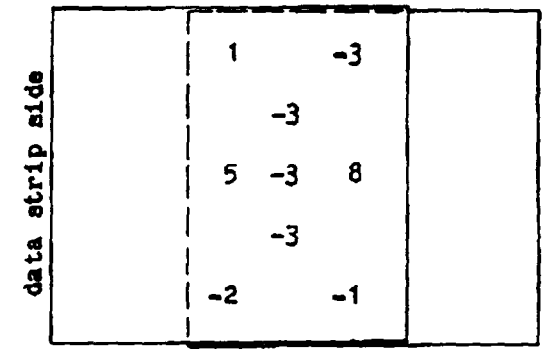
flash plate: 152.291 mm
film: 152.305 mm

IX. Radial Distortion

Field angle	$\bar{D}_c$	D_c for azimuth angle 0° A-C	90° A-D	180° B-D	270° B-C
degrees	um	um	um	um	um
7.5	1	0	3	1	-1
15	1	2	3	2	-1
22.7	0	1	1	-1	-1
30	4	6	5	3	1
35	2	2	2	1	3
40	-5	-6	-6	-3	-3

X. Stereomodel Flatness

The values shown on the diagram are the average departures from flatness (at negative scale) for two computer-simulated stereomodels based on comparator measurements on contact glass (Kodak micro flat) diapositives made from Kodak 2405 film exposures. These measurements are considered accurate within 5 um.



Stereomodel test point array
(values in micrometers)

XI. Resolving Power in cycles/mm

Area-weighted average resolution: 51 Film: Type 2405

Field angle:	0°	7.5°	15°	22.7°	30°	35°	40°
Radial lines	67	67	67	57	48	48	48
Tangential lines	67	57	57	57	48	48	34

This aerial mapping camera calibration report supersedes the previously issued USGS Report No. OSL/1583, dated November 30, 1990.

Bradish F. Johnson

Bradish F. Johnson
Chief, Optical Science Laboratory
National Mapping Division

FIELD SURVEY NOTES FOR BORINGS, MONUMENTS, AND MW-103-92

December, 1991

MODEL 4301-349 26-27 P OPERATOR JWB DATE 1991.11.12.14.37

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3700

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1837
OMEGA	-.096	.423	ABOVE GROUND	
PHI	-.131	.647		
KAPPA	.642	1.119	AZIMUT	-101.023
BX	41.398	-41.398	MODEL (XGO	506843.73
BY	2.314	-2.314	CENTER (YGO	740352.47
BZ	.392	-.392	POSITION(ZGO	2258.10

MODEL BASE: B = -82.928 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 11 ELEVATION 11

POINT NO.	22083	261	262
POINT NO.	922283	9411	273
POINT NO.	272	271	9421
POINT NO.	911421	922263	

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.286	-.775
Y	.156	-.309
Z	.271	.456

RELATIVE ORIENT. USED PARALLAX POINTS 11
RESIDUAL PARALLAXES MEAN .005 MAX .012

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999854	.999815
Y-SHRINKAGE	.999790	.999753
RECTANGUL.	-.00002	-.00008

REMARKS:

✓ PAH

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.12.14.37

POINT	XG	YG	ZG	REGISTER
261	507557.790	739752.180	416.390	1
262	506977.860	739785.810	419.220	2
271	507784.530	740866.520	422.460	3
272	506867.820	740909.790	422.730	4
273	505910.270	740903.760	420.120	5
9411	505980.780	741071.170	421.800	6
9421	506118.220	739867.600	423.260	7
22083	508020.920	740640.380	419.510	8
911421	506198.940	739968.250	425.210	9
922263	506035.630	739987.600	423.210	10
922283	505727.030	741133.870	422.190	11

MODEL 4301-349 28-27 0 OPERATOR JWB DATE 1991.11.11.13. 9

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3687

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
C	152.291	152.291	FLIGHT HEIGHT ABOVE GROUND	1820
OMEGA	-.463	.395		
PHI	-.218	.685		
KAPPA	1.312	1.119	AZIMUT	-101.033
BX	-40.565	40.565	MODEL CENTER POSITION (XGO	506800.47
BY	-2.409	2.409	(YGO	741417.09
BZ	-.153	.153	(ZGO	2250.04

MODEL BASE: B = 81.274 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	8 ELEVATION	8
	POINT NO.	281	282	283
	POINT NO.	922283	9411	273
	POINT NO.	272	271	
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.078	-.112
		Y	.068	.133
		Z	.130	.225
RELATIVE ORIENT.	USED PARALLAX POINTS	0		
	RESIDUAL PARALLAXES	MEAN	.001	MAX .003
INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	.999742	.999810
		Y-SHRINKAGE	.999740	.999681
		RECTANGUL.	.00003	-.00006

REMARKS:

√RKH

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.11.13. 9

POINT	XG	YG	ZG	REGISTER
271	507794.530	740955.520	422.460	1
272	506857.820	740999.790	422.730	2
273	505910.270	740903.760	420.120	3
281	507767.620	741017.940	420.850	4
282	506734.000	741043.550	421.750	5
283	506012.230	741022.360	422.500	6
9411	505980.780	741071.170	421.800	7
922283	505727.030	741133.870	422.190	8

MODEL 4301-349 45-46 O OPERATOR LWS DATE 1991.11.19.22.46

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3897

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO			MODEL
F	152.291	152.291	FLIGHT HEIGHT		1939
OMEGA	.107	-1.063	ABOVE GROUND		
PHI	-.291	-.030			
KAPPA	-.342	-.508		AZIMUT	-98.606
BX	-42.684	42.684	MODEL	(XGO	504989.56
BY	.508	-.508	CENTER	(YGO	735874.05
BZ	-.494	.494	POSITION	(ZGO	2352.39

MODEL BASE: B = 85.380 (ORTHO) EARTH CURV.CORR.: R = 20898952

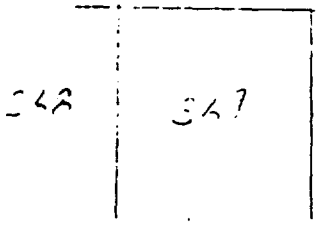
ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	7	ELEVATION	7
	POINT NO.	461		453	452
	POINT NO.	451		462	463
	POINT NO.	9611			
	RESIDUAL COORDINATE ERRORS			MEAN	MAX
			X	.091	.139
			Y	.072	.125
			Z	.106	.160
RELATIVE ORIENT.	USED PARALLAX POINTS	8			
	RESIDUAL PARALLAXES		MEAN	.004	MAX -.005
INTERIOR ORIENT.	USED FIDUCIALS 1234			LEFT	RIGHT
			X-SHRINKAGE	1.000035	1.000068
			Y-SHRINKAGE	1.000014	1.000020
			RECTANGUL.	-.00002	-.00006

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.19.22.46

POINT	XG	YG	ZG	REGISTER
451	506045.250	736425.290	411.080	1
452	504975.180	736420.400	415.720	2
453	504036.560	736401.500	411.560	3
461	505927.530	735313.640	416.330	4
462	504943.570	735335.440	411.240	5
463	503921.240	735284.570	414.190	6
9611	503850.000	735799.040	411.460	7



MODEL 4301-349 47-46 P OPERATOR LWS DATE 1991.11.20.22. 6

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3965

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1957
OMEGA	.855	-1.080	ABOVE GROUND	
PHI	.153	-.023		
KAPPA	.550	-.507	AZIMUT	-98.611
BX	42.560	-42.560	MODEL (XGO	505004.47
BY	-.266	.266	CENTER (YGO	734766.37
BZ	.932	-.932	POSITION(ZGO	2371.11

MODEL BASE: B = -85.142 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY 13	ELEVATION 13	
	POINT NO.	461	473	472
	POINT NO.	471	462	463
	POINT NO.	22471	11471	11472
	POINT NO.	22472	9473	922473
	POINT NO.	911631		
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.217	.500
		Y	.108	.245
		Z	.350	.998
RELATIVE ORIENT.	USED PARALLAX POINTS 8			
	RESIDUAL PARALLAXES	MEAN	.003	MAX .006
INTERIOR ORIENT.	USED FIDUCIALS 4		LEFT	RIGHT
		X-SHRINKAGE	1.000040	1.000006
		Y-SHRINKAGE	.999947	.999959
		RECTANGUL.	-.00006	-.00004

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.20.22. 6

POINT	XG	YG	ZG	REGISTER
461	505927.530	735313.640	416.330	1
462	504943.570	735335.440	411.240	2
463	503921.240	735284.570	414.190	3
471	506022.220	734232.900	411.170	4
472	505131.570	734233.990	417.260	5
473	504151.390	734182.510	415.190	6
9473	503927.480	734390.210	412.220	7
11471	505922.390	734087.420	411.160	8
11472	505240.600	734243.520	415.320	9
		[illegible]	[illegible]	10

MODEL 4301-349 43-42 P OPERATOR JWB DATE 1991.11.14.14.26

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3925

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1943
OMEGA	.355	.016	ABOVE GROUND	
PHI	.517	1.051		
KAPPA	.177	.960	AZIMUT	98.610
BX	45.653	-45.653	MODEL (XG0	504936.19
BY	.201	-.201	CENTER (YG0	739222.04
BZ	-.708	.708	POSITION(ZG0	2372.23

MODEL BASE: B = -91.317 (PSEUDO) EARTH CURV.CORR.: R = 20898952

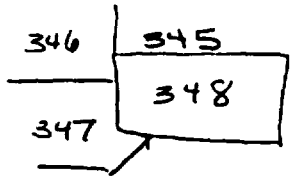
ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	9	ELEVATION	9
	POINT NO.	9581	433		432
	POINT NO.	9431	423		422
	POINT NO.	9421	911421		922263
	RESIDUAL COORDINATE ERRORS		MEAN		MAX
		X	.169		-.396
		Y	.070		.156
		Z	.114		.219

RELATIVE ORIENT. USED PARALLAX POINTS 10
RESIDUAL PARALLAXES MEAN .004 MAX .009

INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	1.000020	.999998
		Y-SHRINKAGE	1.000034	.999943
		RECTANGUL.	.00007	-.00009

REMARKS:



CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.14.14.26

POINT	XG	YG	ZG	REGISTER
422	504900.190	739852.540	421.570	1
423	503935.170	739785.190	420.910	2
432	504904.010	739680.660	493.180	3
433	503976.380	739618.360	415.500	4
9421	506118.220	739857.600	423.260	5
9431	505917.820	739679.870	421.190	6
9581	503765.400	739462.000	418.000	7
911421	506199.940	739969.250	425.210	8
922263	506035.630	739987.600	423.210	9

MODEL 4301-349 45-44 P OPERATOR LWS DATE 1991.11.19.17.56

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3909

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1935
OMEGA	.084	.266	ABOVE GROUND	
PHI	-.281	-.153		
KAPPA	-.342	.758	AZIMUT	-98.606
BX	41.811	-41.811	MODEL (XGO	504977.29
BY	-.333	.333	CENTER (YGO	736971.47
BZ	-.232	.232	POSITION(ZGO	2348.98

MODEL BASE: B = -83.625 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 8 ELEVATION 8

POINT NO.	9601	453	452
POINT NO.	451	922443	443
POINT NO.	442	441	

RESIDUAL COORDINATE ERRORS

	MEAN	MAX
X	.104	-.191
Y	.069	.135
Z	.202	.348

RELATIVE ORIENT. USED PARALLAX POINTS 9
RESIDUAL PARALLAXES MEAN .001 MAX -.003

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999981	1.000001
Y-SHRINKAGE	1.000041	1.000014
RECTANGUL.	-.00005	-.00005

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.19.17.55

POINT	XG	YG	ZG	REGISTER
441	506049.610	737534.850	413.850	1
442	505012.880	737576.230	415.980	2
443	504025.630	737474.990	415.580	3
451	506045.250	736425.290	411.080	4
452	504975.180	736420.400	415.720	5
453	504036.560	736401.500	411.560	6
9601	503886.760	737029.510	414.900	7
922443	503812.670	737703.970	414.300	8

File 368

351 | 352

MODEL 4301-349 41-40 P OPERATOR JWB DATE 1991.11. 6.14.35

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3991

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT ABOVE GROUND	1987
OMEGA	-1.566	-.277		
PHI	.670	1.642		
KAPPA	.281	1.096	AZIMUT	-98.622
BX	46:482	-46:482	MODEL (XGO	504883.05
BY	-.347	.347	CENTER (YGO	741628.39
BZ	-.811	.811	POSITION(ZGO	2409.85

MODEL BASE: B = -92.940 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	9 ELEVATION	9
	POINT NO.	9561	413	922413
	POINT NO.	412	922283	9411
	POINT NO.	403	402	9401
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.116	.176
		Y	.070	.099
		Z	.147	-.310

RELATIVE ORIENT.	USED PARALLAX POINTS	9			
	RESIDUAL PARALLAXES	MEAN	.004	MAX	.008

			LEFT	RIGHT
INTERIOR ORIENT.	USED FIDUCIALS	1234		
		X-SHRINKAGE	.999803	.999902
		Y-SHRINKAGE	.999767	.999768
		RECTANGUL.	-.00004	-.00017

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11. 6.14.35

POINT	XG	YG	ZG	REGISTER
402	504888.540	742323.460	424.360	1
403	503790.000	742262.690	425.510	2
412	504894.840	741079.870	422.370	3
413	503997.840	740999.480	423.440	4
9401	505876.860	742289.370	421.350	5
9411	505980.780	741071.170	421.800	6
9561	503721.900	741910.430	424.510	7
922283	505727.030	741133.870	422.190	8
922413	503681.360	740847.130	423.530	9

MODEL 4301-349 41-42 0 OPERATOR JWB DATE 1991.11.13.13. 8

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3948

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1968
OMEGA	-1.599	.012	ABOVE GROUND	
PHI	.645	1.031		
KAPPA	.303	.961	AZIMUT	-98.622
BX	-46.581	46.581	MODEL (XGO	504906.85
BY	-.068	.068	CENTER (YGO	740420.58
BZ	.678	-.678	POSITION(ZGO	2390.31

MODEL BASE: B = 93.172 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 11 ELEVATION 11

POINT NO.	9571	413	922413
POINT NO.	412	922283	9411
POINT NO.	423	422	9421
POINT NO.	911421	922263	

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.221	.458
Y	.072	.121
Z	.290	-.591

RELATIVE ORIENT. USED PARALLAX POINTS 11
RESIDUAL PARALLAXES MEAN .003 MAX .006

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999860	.999860
Y-SHRINKAGE	.999880	.999858
RECTANGUL.	-.00005	-.00004

REMARKS:

RKH

739800 | 325 | 332 | 345 | 337

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.13.13. 8

POINT	XG	YG	ZG	REGISTER
412	504894.840	741079.870	422.370	1
413	503997.840	740999.480	423.440	2
422	504900.190	739852.540	421.570	3
423	503935.170	739785.180	420.910	4
9411	505980.780	741071.170	421.800	5
9421	506118.220	739867.600	423.260	6
9571	503931.100	740710.630	422.700	7
911421	506198.940	739968.250	425.210	8
922263	506035.630	739987.600	423.210	9
922283	505727.030	741133.870	422.190	10

MODEL 4301-349 62-63 O OPERATOR LWS DATE 1991.11.19.15.40

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3926

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1961
OMEGA	-1.521	-.998	ABOVE GROUND	
PHI	-.268	.255		
KAPPA	.410	1.443	AZIMUT	-100.234
BX	-45.750	45.750	MODEL (XGO	502783.23
BY	-1.909	1.909	CENTER (YGO	734054.00
BZ	.336	-.336	POSITION(ZGO	2376.52

MODEL BASE: B = 91.582 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 14 ELEVATION 14

POINT NO.	621	9473	9681
POINT NO.	922473	922633	622
POINT NO.	911681	632	9691
POINT NO.	623	11632	22632
POINT NO.	631	911631	

RESIDUAL COORDINATE ERRORS

	MEAN	MAX
X	.102	-.208
Y	.225	.522
Z	.105	.246

RELATIVE ORIENT. USED PARALLAX POINTS 14
RESIDUAL PARALLAXES MEAN .004 MAX .010

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	1.000086	.999998
Y-SHRINKAGE	1.000078	1.000006
RECTANGUL.	.00005	-.00004

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.19.15.40

POINT	XG	YG	ZG	REGISTER
621	503864.600	734618.260	412.180	1
622	502779.180	734656.350	415.520	2
623	501661.320	734666.130	414.830	3
631	503632.660	733656.610	418.770	4
632	502749.670	733557.810	415.260	5
9473	503927.480	734390.210	412.220	6
9681	501831.690	733532.570	418.410	7
9691	501933.110	734825.890	417.010	8
11632	503150.440	733578.340	414.570	9
22632	503167.010	733577.820	414.550	10
911631	503811.720	733983.390	417.170	11
911681	501673.650	733521.880	417.370	12
922473	503735.350	734523.320	412.070	13
922633	501714.430	733465.290	416.830	14

MODEL 4301-349 39-40 0 OPERATOR JWB DATE 1991.11. 6.10.30

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4057

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2007
OMEGA	-.235	-.310	ABOVE GROUND	
PHI	2.309	1.631		
KAPPA	.400	1.098	AZIMUT	-98.625
BX	-46.214	46.214	MODEL (XGO	504869.42
BY	.518	-.518	CENTER (YGO	742832.60
BZ	.648	-.648	POSITION(ZGO	2428.90

MODEL BASE: B = 92.443 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 12 ELEVATION 12

POINT NO.	911391	922391	9391
POINT NO.	392	22392	11392
POINT NO.	911551	9551	922551
POINT NO.	403	402	9401

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.371	1.137
Y	.160	.398
Z	.137	.281

RELATIVE ORIENT. USED PARALLAX POINTS 8
RESIDUAL PARALLAXES MEAN .003 MAX .005

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999867	.999796
Y-SHRINKAGE	.999884	.999808
RECTANGUL.	-.00007	-.00007

REMARKS:

Verify

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11. 6.10.30

POINT	XG	YG	ZG	REGISTER
392	504921.360	743316.830	423.210	1
402	504888.540	742323.460	424.360	2
403	503790.000	742262.690	425.510	3
9391	505772.580	743451.230	420.740	4
9401	505876.860	742289.370	421.350	5
9551	503824.430	743163.370	422.480	6
11392	504805.460	743417.370	422.460	7
22392	504798.790	743356.860	423.060	8
911391	505881.720	743519.990	420.860	9
911551	503771.550	743441.040	421.190	10
922391	505908.510	743622.410	420.540	11

ODEL 4301-340 60-61 O OPERATOR JWB DATE 1991.11.15.11. 1

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3960

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
C	152.291	152.291	FLIGHT HEIGHT	1977
OMEGA	.114	.814	ABOVE GROUND	
PHI	-.130	-.572		
KAPPA	.959	-.004	AZIMUT	-100.232
BX	-45.768	45.768	MODEL (XGO	502721.63
BY	-.696	.696	CENTER (YGO	736433.45
BZ	.487	-.487	POSITION(ZGO	2393.91

MODEL BASE: B = 91.552 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	9 ELEVATION	9
	POINT NO.	922603	9601	9701
	POINT NO.	22602	613	602
	POINT NO.	612	9611	603
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.107	-.227
		Y	.057	.135
		Z	.194	.336
RELATIVE ORIENT.	USED PARALLAX POINTS	9		
	RESIDUAL PARALLAXES	MEAN	.004	MAX .009
INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	.999920	.999973
		Y-SHRINKAGE	.999952	1.000004
		RECTANGUL.	-.00007	-.00000

REMARKS:

351 SC 4008

352 735900

RKH ✓

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.15.11. 1

POINT	XG	YG	ZG	REGISTER
602	502681.820	737014.240	414.170	1
603	501558.670	737009.190	436.100	2
612	502871.220	735907.240	414.400	3
613	501816.640	735787.600	414.770	4
9601	503885.760	737029.510	414.900	5
9611	503850.000	735799.040	411.460	6
9701	501888.490	736036.080	416.150	7
22602	502978.040	736859.960	414.010	8
922603	501554.470	736570.620	415.190	9

MODEL 4301-349 62-61 P OPERATOR JWB DATE 1991.11.18. 6.44

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3955

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1970
OMEGA	-1.536	.821	ABOVE GROUND	
PHI	-.277	-.575		
KAPPA	.410	-.004	AZIMUT	-100.232
BX	45.797	-45.797	MODEL (XGO	502744.69
BY	1.433	-1.433	CENTER (YGO	735243.85
BZ	-.261	.261	POSITION(ZGO	2384.25

MODEL BASE: B = -91.640 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 10 ELEVATION 10

POINT NO.	621	9473	9701
POINT NO.	922473	613	622
POINT NO.	612	9611	9691
POINT NO.	623		

RESIDUAL COORDINATE ERRORS

	MEAN	MAX
X	.124	-.269
Y	.074	.191
Z	.217	.474

RELATIVE ORIENT. USED PARALLAX POINTS 10
RESIDUAL PARALLAXES MEAN .003 MAX -.005

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999965	1.000125
Y-SHRINKAGE	.999998	1.000018
RECTANGUL.	-.00000	-.00010

REMARKS:

RKHV

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.18. 6.44

POINT	XG	YG	ZG	REGISTER
612	502871.220	735907.240	414.400	1
613	501816.640	735787.600	414.770	2
621	503864.600	734618.260	412.180	3
622	502779.180	734656.350	415.520	4
623	501661.320	734666.130	414.830	5
9473	503927.480	734390.210	412.220	6
9611	503850.000	735799.040	411.460	7
9691	501933.110	734825.890	417.010	8
9701	501888.490	736036.080	416.150	9
922473	503735.350	734523.320	412.070	10

MODEL 4301-349 58-59 O OPERATOR JWB DATE 1991.11.14.12. 3

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4013

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1998
OMEGA	-.735	-.756	ABOVE GROUND	
PHI	.441	-.181		
KAPPA	-.256	1.167	AZIMUT	-100.221
BX	-46.925	46.925	MODEL (XGO	502734.80
BY	.773	-.773	CENTER (YGO	739859.97
BZ	.484	-.484	POSITION(ZGO	2417.72

MODEL BASE: B = 93.868 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 9 ELEVATION 9

POINT NO.	9581	22582	593
POINT NO.	582	9721	922583
POINT NO.	592	9591	583

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.076	.165
Y	.035	.074
Z	.144	-.255

RELATIVE ORIENT. USED PARALLAX POINTS 9
RESIDUAL PARALLAXES MEAN .002 MAX -.004

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	1.000035	.999933
Y-SHRINKAGE	.999970	.999905
RECTANGUL.	-.00002	-.00007

REMARKS:

RKHV

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.14.12. 3

POINT	XG	YG	ZG	REGISTER
582	502707.990	739482.770	421.890	1
583	501549.590	739402.240	420.880	2
592	502741.240	738323.660	414.810	3
593	501507.770	738215.090	421.800	4
9581	503765.400	739462.090	418.000	5
9591	503823.210	738254.700	414.630	6
9721	501960.540	738444.850	420.440	7
22582	503202.990	739507.710	419.550	8
922583	502201.130	739568.280	423.390	9

MODEL 4301-340 60-59 P OPERATOR LWS DATE 1991.11.15. 0.18

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 3970

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	1987
OMEGA	.110	-.787	ABOVE GROUND	
PHI	-.140	-.165		
KAPPA	.060	1.168	AZIMUT	-100.222
BX	47.008	-47.008	MODEL (XG0	502719.38
BY	-.170	.170	CENTER (YG0	737630.13
BZ	-.458	.458	POSITION(ZG0	2405.83

MODEL BASE: B = -94.021 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 10 ELEVATION 10

POINT NO.	922443	9601	503
POINT NO.	22602	9721	602
POINT NO.	592	9591	9711
POINT NO.	603		

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.135	-.243
Y	.105	-.255
Z	.106	-.211

RELATIVE ORIENT. USED PARALLAX POINTS 10
RESIDUAL PARALLAXES MEAN .005 MAX .008

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999974	.999946
Y-SHRINKAGE	.999952	.999943
RECTANGUL.	.00005	-.00006

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.15. 0.18

POINT	XG	YG	ZG	REGISTER
592	502741.240	738323.660	414.810	1
593	501507.770	738215.090	421.800	2
602	502681.820	737014.240	414.170	3
603	501558.670	737009.190	436.100	4
9591	503823.210	738254.700	414.630	5
9601	503896.760	737020.510	414.900	6
9711	501744.810	737296.680	420.520	7
9721	501960.540	738444.850	420.440	8
22602	502978.040	736858.060	414.010	9
922443	503812.670	737703.070	414.300	10

ODEL 4301-349 56-57 O OPERATOR JWB DATE 1991.11.14. 8.26

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4070

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2022
OMEGA	-.508	.906	ABOVE GROUND	
PHI	-.012	.026		
KAPPA	.895	.950	AZIMUT	-100.240
BX	-46.421	46.421	MODEL (XGO	502814.79
BY	1.902	-1.902	CENTER (YGO	741310.60
BZ	.418	-.418	POSITION(ZGO	2447.64

MODEL BASE: B = 92.923 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

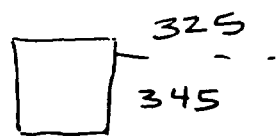
ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY 9	ELEVATION 9	
	POINT NO.	9561	562	922573
	POINT NO.	563	573	9741
	POINT NO.	572	922413	9571
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.098	-.185
		Y	.086	.145
		Z	.165	-.307

RELATIVE ORIENT.	USED PARALLAX POINTS 9			
	RESIDUAL PARALLAXES	MEAN	.005	MAX .009

			LEFT	RIGHT
INTERIOR ORIENT.	USED FIDUCIALS 1234	X-SHRINKAGE	1.000004	.999850
		Y-SHRINKAGE	.999921	.999817
		RECTANGUL.	-.00001	-.00004

REMARKS:

RKH ✓



CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.14. 8.26

POINT	XG	YG	ZG	REGISTER
562	502722.700	741912.520	424.810	1
563	501662.520	741901.260	425.760	2
572	502558.580	740696.560	426.090	3
573	501746.940	740693.040	418.700	4
9561	503721.900	741910.430	424.510	5
9571	503931.100	740710.630	422.700	6
9741	502172.330	740990.120	454.890	7
922413	503681.360	740847.130	423.530	8
922573	501583.720	740911.200	414.200	9

MODEL 4301-349 58-57 P OPERATOR JWB DATE 1991.11.14. 9.17

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4029

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2009
OMEGA	-.726	.948	ABOVE GROUND	
PHI	.406	.024		
KAPPA	-.256	.951	AZIMUT	-100.226
BX	47.610	-47.610	MODEL (XGO	502766.41
BY	-1.356	1.356	CENTER (YGO	740089.16
BZ	-.695	.695	POSITION(ZGO	2433.15

MODEL BASE: B = -95.270 (PSEUDO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 11 ELEVATION 11

POINT NO.	9581	22582	922573
POINT NO.	582	573	922583
POINT NO.	572	922413	9571
POINT NO.	9731	583	

RESIDUAL COORDINATE ERRORS	MEAN	MAX
X	.202	.486
Y	.154	-.346
Z	.221	.428

RELATIVE ORIENT. USED PARALLAX POINTS 11
RESIDUAL PARALLAXES MEAN .003 MAX -.008

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	1.000022	.999997
Y-SHRINKAGE	.999984	.999883
RECTANGUL.	-.00002	.00007

REMARKS:

RKH ✓

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11.14. 9.17

POINT	XG	YG	ZG	REGISTER
572	502558.580	740696.560	426.090	1
573	501746.940	740693.040	418.700	2
582	502797.980	739482.770	421.890	3
583	501549.590	739492.240	420.880	4
9571	503931.100	740710.630	422.700	5
9581	503765.400	739462.090	418.000	6
9731	502002.100	739716.500	459.900	7
22582	503202.980	739507.710	419.550	8
922413	503681.360	740847.130	423.530	9

ROTATION ANGLE(GROUND TO PHOTO) = 269.7899 DEGREES

DEGREE OF HORIZONTAL ADJUSTMENT = 3
DEGREE OF VERTICAL ADJUSTMENT = 3
GROUND CONTROL MISCLOSURES

0011763	-0.42	0.76	
0022763			-0.01
0011762	0.47	-0.51	
0022762			-0.02
0922761			-0.02
0911761	-0.32	-0.21	
0922573			0.30
0922583			-0.28
0022743			-0.03
0011723	0.22	-0.01	
0922713			-0.09
0922603			0.17
0911681	-0.03	-0.40	
0922633			-0.09
0022682			0.13
0011682	0.02	0.31	
0922683			-0.05
0011683	0.06	0.05	

PHOTO/MODEL PARAMETERS
SCALE,XC, YC, ZC/OMEGA,PHI,KAPPA(RADIANS)

76.	1.00000	500959.242	743440.640	2413.110
0.0000	0.0000	4.7087		
75.	1.00000	500970.055	742252.484	2426.412
0.0000	0.0000	4.7087		
74.	1.00000	500979.157	741024.698	2456.461
0.0000	0.0000	4.7087		
73.	1.00000	500972.565	739764.579	2503.549
0.0000	0.0000	4.7087		
72.	1.00000	500953.722	738515.531	2518.693
0.0000	0.0000	4.7087		
71.	1.00000	500919.102	737323.701	2508.288
0.0000	0.0000	4.7087		
70.	1.00000	500880.939	736124.518	2515.780
0.0000	0.0000	4.7087		
69.	1.00000	500850.110	734887.337	2520.711
0.0000	0.0000	4.7087		
68.	1.00000	500832.514	733593.112	2536.067
0.0000	0.0000	4.7087		

ROTATION ANGLE(GROUND TO PHOTO) = 269.8251 DEGREES

DEGREE OF HORIZONTAL ADJUSTMENT = 3
DEGREE OF VERTICAL ADJUSTMENT = 3
GROUND CONTROL MISCLOSURES

0922551			-0.03
0911551	-1.19	-0.51	
0009761	0.48	0.51	0.13
0911761	0.23	-0.15	0.23
0922761	0.43	0.25	0.07
0922543			-0.14
0011542	-0.20	0.60	
0022542			-0.09
0009751	0.03	0.02	0.27
0922413			-0.02
0009741	-0.19	0.09	-0.16
0922573	-0.18	-0.25	-0.80
0009731	0.28	-0.23	0.08

MODEL 4301-349 74-75 P OPERATOR JWB DATE 1991.11. 5. 9.30

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4055

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2021
OMEGA	-.235	-.869	ABOVE GROUND	
PHI	-.984	-.140		
KAPPA	1.568	3.370	AZIMUT	-100.228
BX	47.239	-47.239	MODEL (XGO	500974.10
BY	.501	-.501	CENTER (YGO	741639.26
BZ	1.165	-1.165	POSITION(ZGO	2442.82

MODEL BASE: B = -94.513 (PSEUDO) EARTH CURV.CORR.: R - 20898052

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 7 ELEVATION 7

POINT NO.	9741	922573	742
POINT NO.	743	753	752
POINT NO.	9751		

RESIDUAL COORDINATE ERRORS

	MEAN	MAX
X	.123	-.176
Y	.046	-.078
Z	.147	-.267

RELATIVE ORIENT. USED PARALLAX POINTS 0
RESIDUAL PARALLAXES MEAN .004 MAX .007

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999760	.999773
Y-SHRINKAGE	.999704	.999635
RECTANGUL.	-.00006	-.00015

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11. 5. 9.30

POINT	XG	YG	ZG	REGISTER
742	500953.000	740999.110	413.090	1
743	499780.100	740975.640	410.900	2
752	500985.020	742246.930	424.900	3
753	499969.620	742201.780	411.040	4
9741	502172.330	740990.120	454.890	5
9751	502005.290	742333.360	424.620	6
922573	501583.720	740911.200	414.200	7

RKH

MODEL 4301-349 56-55 P OPERATOR JWB DATE 1991.11. 5. 6.27

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4180

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2044
OMEGA	-.532	-1.246	ABOVE GROUND	
PHI	-.012	.911		
KAPPA	.897	.399	AZIMUT	-100.232
BX	47.976	-47.976	MODEL (XG0	502977.87
BY	-2.530	2.530	CENTER (YG0	742536.84
BZ	-.855	.855	POSITION(ZG0	2463.00

MODEL BASE: B = -96.101 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT. USED CONTROL POINTS PLANIMETRY 11 ELEVATION 11

POINT NO.	9561	562	9751
POINT NO.	563	553	922761
POINT NO.	911761	9761	552
POINT NO.	922551	9551	

RESIDUAL COORDINATE ERRORS

	MEAN	MAX
X	.131	-.255
Y	.110	-.237
Z	.191	.401

RELATIVE ORIENT. USED PARALLAX POINTS 11
RESIDUAL PARALLAXES MEAN .005 MAX -.009

INTERIOR ORIENT. USED FIDUCIALS 1234

	LEFT	RIGHT
X-SHRINKAGE	.999830	.999800
Y-SHRINKAGE	.999733	.999708
RECTANGUL.	-.00011	-.00014

REMARKS:

RKHV

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11. 5. 6.27

POINT	XG	YG	ZG	REGISTER
552	502946.380	743237.410	422.700	1
553	501681.640	743158.410	412.680	2
562	502722.700	741912.520	424.810	3
563	501662.520	741901.260	425.760	4
9551	503824.430	743163.370	422.480	5
9561	503721.900	741910.430	424.510	6
9751	502005.280	742333.360	424.620	7
9761	501972.430	743318.280	413.550	8
911761	501895.320	743499.030	413.040	9
922551	503769.410	743259.920	421.450	10
922761	501841.510	743325.070	413.210	11

MODEL 4301-349 70-69 0 OPERATOR LWS DATE 1992. 1.20.11.40

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4185

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2090
OMEGA	-1.245	-3.230	ABOVE GROUND	
PHI	-.146	.122		
KAPPA	-1.715	-1.930	AZIMUT	-100.226
BX	-47.624	47.624	MODEL (XGO	500864.30
BY	.998	-.998	CENTER (YGO	735505.73
BZ	-.191	.191	POSITION(ZGO	2518.03

MODEL BASE: B = 95.270 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY	6 ELEVATION	6
	POINT NO.	9691	692	693
	POINT NO.	703	702	9701
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.096	.156
		Y	.044	-.072
		Z	.092	-.149
RELATIVE ORIENT.	USED PARALLAX POINTS	8		
	RESIDUAL PARALLAXES	MEAN	.003	MAX .005
INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	.999940	.999929
		Y-SHRINKAGE	.999884	.999854
		RECTANGUL.	-.00004	-.00004

REMARKS:

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1992. 1.20.11.40

POINT	XG	YG	ZG	REGISTER
692	500679.230	734843.590	411.630	1
693	499740.670	734913.980	415.670	2
702	500896.310	736086.890	418.790	3
703	499730.600	736162.990	487.890	4
9691	501933.110	734825.890	417.010	5
9701	501888.490	736036.080	416.150	6

MODEL 4301-349 74-73 O OPERATOR JWB DATE 1991.11. 6. 6.45

MODEL SCALE 1: 3960 TABLE SCALE 1: 305 PHOTO SCALE 1: 4117

ORIENTATION DATA	LEFT PHOTO	RIGHT PHOTO		MODEL
F	152.291	152.291	FLIGHT HEIGHT	2055
OMEGA	-.252	-1.220	ABOVE GROUND	
PHI	-.952	-1.265		
KAPPA	1.568	-2.928	AZIMUT	-100.231
BX	-48.487	48.487	MODEL (XGO	500975.84
BY	.075	-.075	CENTER (YGO	740393.48
BZ	-1.801	1.801	POSITION(ZGO	2480.83

MODEL BASE: B = 97.042 (ORTHO) EARTH CURV.CORR.: R = 20898952

ORIENTATION REPORT

ABSOLUTE ORIENT.	USED CONTROL POINTS	PLANIMETRY 10	ELEVATION 10	
	POINT NO.	9741	922573	742
	POINT NO.	743	22744	22743
	POINT NO.	733	732	9731
	POINT NO.	922583		
	RESIDUAL COORDINATE ERRORS		MEAN	MAX
		X	.159	-.318
		Y	.082	-.160
		Z	.185	.340
RELATIVE ORIENT.	USED PARALLAX POINTS 11			
	RESIDUAL PARALLAXES	MEAN	.003	MAX -.005
INTERIOR ORIENT.	USED FIDUCIALS 1234		LEFT	RIGHT
		X-SHRINKAGE	.999785	.999806
		Y-SHRINKAGE	.999676	.999821
		RECTANGUL.	-.00008	-.00007

REMARKS:

RKH

CONTENT OF GROUND MEMORY (COMPLETE COORDINATES) DATE 1991.11. 6. 6.45

POINT	XG	YG	ZG	REGISTER
732	500866.930	739696.010	416.450	1
733	499748.120	739762.860	442.950	2
742	500953.000	740999.110	413.090	3
743	499780.100	740975.640	410.900	4
9731	502002.100	739716.500	459.900	5
9741	502172.330	740990.120	454.890	6
22743	500004.930	740248.260	411.050	7
22744	499979.580	740248.030	411.770	8
922573	501583.720	740911.200	414.200	9
[illegible]	[illegible]	[illegible]	423.390	10

SURDEX COMPILATION REPORT FOR PLANIMETRIC MAPPING

November, December, 1991

L.G. ZAMBRANA CONSULTANTS, INC.
Engineers · Architects · Planners · Surveyors
710 N. Tucker, Suite 601
St. Louis, MO 63101
(314) 241-4744
FAX (314) 241-5054

LETTER OF TRANSMITTAL

FROM: GARY L. BUCHHEIT

TO: DAVE PATE
WOODWARD / CLYDE

DATE 1-10-92
PROJECT TERACORP
LOCATION VENICE, IL
ATTENTION
RE: BORINGS

Gentlemen:

WE ARE SENDING YOU ☐ HEREWITH ☒ DELIVERED BY HAND ☐ UNDER SEPARATE COVER
VIA _____ THE FOLLOWING ITEMS:

☐ PLANS ☒ PRINTS ☐ SHOP DRAWINGS ☐ SAMPLES ☐ SPECIFICATIONS
☐ ESTIMATES ☐ COPY OF LETTER ☐ _____

COPIES	DATE OR NO.	DESCRIPTION
1		PLOT
1		FLOPPY DISK
		COPY OF FIELD NOTES

THESE ARE TRANSMITTED AS INDICATED BELOW

☒ FOR YOUR USE
☐ FOR APPROVAL
☐ AS REQUESTED
☐ FOR REVIEW AND COMMENT
☐ _____

☐ APPROVED AS NOTED
☐ APPROVED FOR CONSTRUCTION
☐ RETURNED FOR CORRECTIONS
☐ RETURNED AFTER LOAN TO US

☐ RETURN _____ CORRECTED PRINTS
☐ SUBMIT _____ COPIES FOR _____
☐ RESUBMIT _____ COPIES FOR _____
☐ FOR BIDS DUE _____

Please disregard any previous information (notes/disks) that was provided by Zambrana Consultants. I apologize for any inconvenience this may have caused.

L.G. Zambrana Consultants, Inc.

SIGNED: [signature]

PLEASE NOTIFY US AT ONCE.
IF ENCLOSURES ARE NOT AS INDICATED.

SURDEX CORPORATION 520 Spirit of St. Louis Blvd. • Spirit of St. Louis Airport • Chesterfield, MO 63005-1095

SURDEX COMPILATION REPORT

PROJECT: Woodward-Clyde - Taracorp - Granite City, IL

DATE OF PHOTOGRAPHY: 9/19/91

NOMINAL PHOTO SCALE: 1" = 330' (Approximate)

MAPPING SCALES: Planimetric Maps 1" = 50'
Topographic Maps 1" = 30' With 1' CI

STEREO PLOTTERS: Zeiss C-120 Analytical Plotters

OPERATORS: LWS - Larry W. Stolte
JWB - John W. Boeding

INDIVIDUAL MODEL REPORTS ATTACHED

FLIGHT LINE	EXPOSURE NUMBERS
2	69-70; 73-75
3	55-63
4	39-43; 44-47
	Model 43-44 Not Used
5	26-29

COMMENTS: No Significant Problems Were Encountered During Compilation Phase of This Project.

PHOTOGRAMMETRISTS

Telephone: 314-532-3427
FAX: 314-537-9638

L.G. ZAMBRANA
CONSULTANTS, INC.
Engineers · Architects · Planners · Surveyors
710 N. Tucker, Suite 501
St. Louis, MO 63101
(314) 241-4744
FAX (314) 241-5054

LETTER OF TRANSMITTAL

FROM:

TO: Wendy Reibold

DATE: August 28, 1992
PROJECT: 91044 - Taracorp
LOCATION:
ATTENTION:
RE: Final Submittals

Gentlemen:

WE ARE SENDING YOU ☒ HEREWITH ☐ DELIVERED BY HAND ☐ UNDER SEPARATE COVER
VIA _____ THE FOLLOWING ITEMS:

☐ PLANS ☐ PRINTS ☐ SHOP DRAWINGS ☐ SAMPLES ☐ SPECIFICATIONS
☐ ESTIMATES ☐ COPY OF LETTER ☐ _____

COPIES	DATE OR NO.	DESCRIPTION
1		Autocad R.11 Disk FINBOR27.DWG
1		Original Field Notes
1		Print out of Points & Coordinates

THESE ARE TRANSMITTED AS INDICATED BELOW

☒ FOR YOUR USE
☐ FOR APPROVAL
☐ AS REQUESTED
☐ FOR REVIEW AND COMMENT
☐ _____

☐ APPROVED AS NOTED
☐ APPROVED FOR CONSTRUCTION
☐ RETURNED FOR CORRECTIONS
☐ RETURNED AFTER LOAN TO US

☐ RETURN _____ CORRECTED PRINTS
☐ SUBMIT _____ COPIES FOR _____
☐ RESUBMIT _____ COPIES FOR _____
☐ FOR BIDS DUE _____

PLEASE NOTIFY US AT ONCE.
IF ENCLOSURES ARE NOT AS INDICATED,

L.G. Zambrana Consultants, Inc.
SIGNED: Luis A. Zambrana
President

Property of

Address

Telephone

This Book is manufactured of a High Grade 50% Rag Ledger Paper having a Water Resistant Surface, and is sewed with Nylon Water proof Thread.

INDEX

(12-13) Bench loop to set TBM on Taracorp site (12-18-91)

(14-23) Horizontal traverse to locate borings, monitoring wells & fixed features for ties on Taracorp property. (12-18-91)

(24-27) Vertical location of borings, monitoring wells on Taracorp property. (12-18-91)

(28-29) Bench loop to set TBM @ Schaeffer Rd. (12-31-91)

(30-49) Venice alley borings (12-24, 12-26-91)

(50-53) Schaeffer Rd. borings (12-26-91)

(54-57) Missouri Av. borings (12-26, 12-31-91)

(66-73) Horizontal ties to GPS control monuments #1, #2, #3, #4 (2-20-92)

(74-75) Bench loop to set TBM on Cleveland Av (7-30-92)

(76-77) Vertical location of Colgate Av. borings (5-27-92)

(78-79) Bench loop to set TBM on Colgate Av (7-30-92)

(80-81) Horizontal & vertical location of Cleveland Av borings (5-27-92)

(82-87) Vertical location of Eagle Park Acres borings (5-27-92)

(88-89) Vertical location of Sand Rd. borings (5-28-92)

(90-100) Sketches of horizontal ties of Colgate Av & Eagle Park Acres borings. (5-27-92)

(104-105) Horizontal ties & vertical location of K&B. Delmar borings & MW # 111-92. (7-14-92)

INDEX (cont'd.)

(106-107) Horizontal & vertical location of 1638 Edison Av MWs, 101 & 110 (7-14-92)

(108-109) Vertical location of MWs 103-91, 103, 102, 108-92, 102, & 109-92. (7-14-92)

(110-111) Vertical location of MWs on Teracorp property (7-16-92)

(112-113) Horizontal ties & vertical location of additional borings on Missouri Av property (7-16-92)

(114-115) Sketches of horizontal ties to MWs on Teracorp property (7-16-92)

12-18-91
Clear, Cold, Breezy ± 30°

AB 4 | MDR JH

"Bench Loop to Set Site B.M. @ Terrace"

		H.I.		Elev.	
BM				425.726	
	2.24	427.966			
⊙			6.62	421.346	
	5.36	426.706			
⊙			4.74	426.966	
	3.25	425.216			
⊙			6.48	418.736	
	6.08	424.816			
⊙			3.14	421.676	
	5.92	427.596			
⊙			6.25	421.346	
	6.04	427.386			
tie			1.69	425.696	-.03 out
BM				425.726	

- U.S.G.S. Plug in conc., w. steps of North Wingwall Granite City Hall Bldg. (set in 1934)

- Set T.B.M. #1: "0" in "OPEN" S.H. @ N.W. cor of intersection of 16th & Edison.

12-18-91
Clear, Cold, Breezy ± 35°
ppm = 10.[illegible]

RM 4 | MDR JM

IC	B.S.	TO	Hor ∡	Dist.	
4000 CM 4	3000 CM 3	3000 CM 3	0.00.00	404.22	
		1	65.54.50	114.06	
		2	271.02.54	86.17	✓
		3	274.02.24	183.10	✓
		4	2.43.44	150.43	✓
		5	14.20.06	296.57	✓
		6	387.06.06	475.06	✓
		7	338.42.27	438.45	✓
		8	327.38.00	633.25	✓
		9	309.29.29	364.75	✓
		10	315.41.55	235.66	✓
		11	326.13.54	571.76	✓
		12	328.20.55	568.60	✓
		13	328.26.34	679.98	✓
		14	323.40.59	667.30	✓
		15	313.27.58	416.75	✓
		16	309.02.38	434.59	✓
		17	309.49.52	334.26	✓
		18	309.14.36	327.26	✓
		19	300.47.54	335.72	✓
		20	262.12.24	227.10	✓
		21	258.46.30	112.19	✓
		22	96.53.24	22.44	✓
		23	85.40.37	159.85	✓

1 = Boring TR 0010
2 = Mon. Well #103-31
3 = Boring TR 0004
4 = " TR 0009
5 = " TR 0008
6 = " RO 0001
7 = " TR 0007
8 = " TR 0006
9 = " TR 0005
10 = " TR 0003
11 = F.H.
12 = P.P.
13 = N.W. cor. of conc. base of N.W. leg of water tower
14 = Edge of bldg.
15 = Bldg. cor.
16 = Edge of bldg.
17 = Fence cor.
18 = P.P.
19 = Fence line
20 = " "
21 = P.P.
22 = "
23 = Fence cor.

cont'd.

T@	BS	TO	Hor ∡	Dist.	
4000 CM 4	3000 CM 3	3000 24	73.04.33	161.77	✓
		25	40.46.10	193.06	✓
		26	37.36.27	220.46	✓
		27	31.36.45	231.54	✓
		28	24.48.24	228.95	✓
		29	21.49.32	242.52	✓
		30	18.48.35	270.32	✓
		31	24.13.18	316.19	✓
		32	22.24.08	298.42	✓
		33	18.35.27	292.28	✓
		34	16.00.24	342.99	✓
		35	16.46.35	410.21	✓
		36	11.08.35	418.19	✓
		37	11.43.20	413.87	✓
		38	6.42.28	418.80	✓
		39	2.59.13	415.18	✓
		40	1.14.18	435.44	✓
		41	359.35.47	411.66	✓
		42	336.35.36	563.96	✓
		43	335.22.28	504.17	✓
		44	329.24.12	298.56	✓
		45	349.03.35	299.23	✓
3000 CM 3	4000 CM 4	4000 CM 4	0.00.00	404.20	
		46	209.37.48	207.18	

24 = P.P. ✓
25 = " ✓
26 = ∡ pt. in fence ✓
27 = " " " " ✓
28 = " " " " ✓
29 = Gate post ✓
30 = " " ✓
31 = ∡ pt. in fence ✓
32 = " " " " ✓
33 = " " " " ✓
34 = Steel "I" beam (W. leg of sign) ✓
35 = Fence cor. ✓
36 = P.P. ✓
37 = ∡ pt. in fence ✓
38 = " " " " ✓
39 = " " " " ✓
40 = " " " " ✓
41 = P.P. ✓
42 = Fence cor. ✓
43 = Gate post ✓
44 = P.P. ✓
45 = " "
46 = Boring Ra 0002

cont'd.

TO	BS	TO	Hor ∡	Dist.		
3000 CM 3	4000 CM 4	47	209.42.00	100.82	✓	
		48	206.13.06	21[illegible]	✓	
		49	221.07.25	12[illegible]	✓	
		50	229.29.29	119.[illegible]	✓	
		51	230.00.26	121.[illegible]	✓	
		52	176.41.62	120.95	✓	
		53	96.34.39	213.[illegible]	✓	
		54	67.12.24	236.74	✓	
		55	80.18.23	202.81	✓	
		56	67.21.32	506.66	✓	
		57	48.19.09	571.89	✓	
		58	47.13.59	602.48	✓	
		59	49.18.39	604.78	✓	
		60	48.34.40	437.05	✓	
		61	66.32.07	516.42	✓	
		62	68.05.40	515.70	✓	
		63	62.05.24	499.[illegible]	✓	
		64	66.35.18	499.[illegible]	✓	
		65	65.28.04	405.[illegible]	✓	
2000 CM 2	1000 CM 1	1000 CM 1	0.00.00	331.15		
		66	249.59.09	156.[illegible]	✓	
		67	238.53.37	335.70	✓	
		68	256.57.03	164.61	✓	
		69	246.43.33	327.15	✓	

47 = P.P. ✓

48 = N. Westernmost channel beam for billboard ✓

49 = N.E. cor Rich Oil Bldg. ✓

50 = N.W. " " " " " ✓

51 = S.W. " " " " " ✓

52 = Cor conc. foundation for oil tanks ✓

53 = Fence cor. ✓

54 = " " ✓

55 = FWB Box ✓

56 = Boring TR0001 ✓

57 = " " TR0002 ✓

58 = Gate post ✓

59 = Fence line ✓

60 = P.P. ✓

61 = Fence line ✓

62 = " " ✓

63 = Edge conc retaining wall ✓

64 = " " " " ✓

65 = S.E. cor. of chain link fence around transformer ✓

66 = Boring BV0003 ✓

67 = " BV0002 ✓

68 = " BV0001 ✓

69 = Cor. conc pad ✓

cont'd.

TO	B.S.	To	Hor ∡	Dist.	
2000 CM 2	1000 CM 1	70	247.12.13	330.58	✓
		71	246.08.37	335.59	✓
		72	245.40.57	332.53	✓
		73	239.05.44	325.82	✓
		74	237.53.06	303.46	✓
		75	237.39.27	299.76	✓
		76	233.54.50	306.05	✓
		77	221.46.45	97.52	✓
		78	184.51.56	63.75	✓
		79	302.21.14	42.19	✓
		80	291.27.27	63.04	✓
		81	341.38.42	84.20	✓
		82	46.41.58	89.82	✓
		83	74.23.11	54.90	✓
		84	335.20.22	29.14	✓
4000 CM 4	3000 CM 3	CM 3	0.00.00	404.19	
		85	327.28.16	743.95	
		dbld 85	294.56.26	743.96	
85	4000 CM 4	4000 CM 4	0.00.00	743.95	
		86	229.12.57	70.82	✓
		87 ~~87A~~	215.05.33	100.95	✓
		87B ~~87B~~	214.19.37	104.53	✓
		88	200.24.26	61.86	✓
		89	196.13.47	82.40	✓

70 = Cor. conc. pad ✓
71 = " " " ✓
72 = " " " ✓
73 = P.P. ✓
74 = Cor. conc. pad @ guard shack } Tri-City Truck Plaza ✓
75 = " " " " " " } parking lot. ✓
76 = " " " " " " } ✓
77 = Cor. corr. metal bldg. ✓
78 = " " " " " ✓
79 = Fence cor. ✓
80 = " line ✓
81 = " " ✓
82 = F.H. ✓
83 = P.P. ✓
84 = Boring TA 0001 ✓
85 = R.R. nail (T.P.) ✓
86 = Boring TA 0002 ✓
87A = Monitoring well pipe ✓
87B = " " " "
88 = Cor. metal shack ✓
89 = " " " ✓

cont'd.

I@	B.S.	TO	Hor ∡	Dist.	
		90	200.00.29	22.07	✓
		91	238.15.58	32.62	✓
		92	101.46.58	149.54	✓
		dbld. 92	203.34.03	149.53	✓
92	85	85	0.00.00	149.62	✓
		93	239.48.55	105.06	✓
		94	235.48.40	97.47	✓
		95	244.37.18	83.28	✓
		96	247.30.13	133.06	✓
		97	256.23.05	126.04	✓
		98	232.53.29	92.08	✓
		99	358.24.05	169.42	
		dbld. 99	356.48.07	169.42	
99	92	92	0.00.00	169.42	
		cm 3	233.48.56	449.22	
		dbld cm 3	187.37.57	449.22	
3000 ~~cm 3~~	99	99	0.00.00	449.22	
		cm 4	230.31.58	404.20	
		dbld cm 4	117.04.03	404.18	

90 = Gate post ✓

91 = " " ✓

92 = P.K. nail (T.P.)

93 = Boring TP [redacted] 0003

94 = Mon. well

95 = Gate post

96 = Cor. metal shed

97 = " " "

98 = Gate post

12-18-91
Clear, Cold, Breezy ± 35°

"Ground elevations @ Borings & Monitoring Wells"

	BS	H.I.	FS	Elev.
TBM #1				418.136
	4.90	423.636		
⊙			4.64	418.996
	4.33	423.336		
⊙			6.11	417.216
	4.53	421.746		
			4.32	417.426
			5.35	416.396
⊙			5.37	416.376
	4.15	420.526		
			4.55	415.976
			4.91	415.616
			6.13	414.396
⊙			5.07	415.456
	3.80	419.256		
			5.17	414.086
			4.83	414.426
			5.44	413.816
			4.71	414.546
⊙			5.05	414.206
	5.02	419.226		
			4.79	414.486
			4.88	414.346

T.B.M. "0" in "OPEN F.H. @ N.W. cor. of intersection of 16th St. & Edison Av. (see pg. - this book)

- Top of mon #1
- Top of mon #2
- Boring TR 0001 ✓
- " BV 0003 ✓
- Boring BV 0002 ✓
- " BV 0001 ✓
- " RO 0002 ✓
- Boring RO 0001 ✓
- " TR 0008 ✓
- " TR 0009 ✓
- " TR 0010 ✓
- Top of mon #4
- Monitoring well MW 103-91 ✓
- Boring TR 0004 ✓

cont'd.

			4.90	414.326	
			4.56	414.666	
O			4.58	414.646	
	6.81	421.456			
			4.68	416.776	
			4.49	416.966	
			3.90	417.556	
			4.20	417.256	
O			4.20	417.256	
	5.96	423.216			
			3.97	419.246	
			4.53	418.686	
			3.29	419.926	
			3.46	419.756	
O			2.10	421.116	
	3.50	424.616			
tie			5.87	418.746	
Tem #1				418.736	

- Boring TR0003 ✓
- " TR0007 ✓
- Top of mon. #3

- Boring TR ~~0003~~ 0005 ✓
- " TR0002 ✓
- " TR0001 ✓
- " TR0006 ✓

- MW (top of asphalt pkg lot)
- Boring TA0002 (" " " " ")
- MW (" " " " ")
- Boring ~~TA001~~ (" " " " ")
  TA003

12-31-91
Cloudy, Cold ± 40°

TW 4 MPR JMH

		H.I.		Elev.	
BM				421.29	
	8.16	429.45			
⊙ Set TBM #1			6.11	423.34	
	8.20	431.54			
tie			10.25	421.29	
BM				421.29	
			checked 1/2/92		GLB

BM 1: Top of rebar @ N.W. cor. lot 8

" "

- A cut cross on the east h/wall: for a culvert underneath the entrance to Sidener Supply Co.

12-24-91
Clear, Cold, Mild ± 25°

MDR
JMH

"Elevations to Borings @ Venice Alleys"

				Elev.	
BM				415.73	
	4.09	419.82			
⊙			5.64	414.18	
	4.85	419.03			
X			2.82	416.21	
⊙			5.42	413.61	
	5.67	419.28			
tie			3.55 MDR ~~FM~~	415.73	
BM				415.73	
			checked	12/31/91	GLB

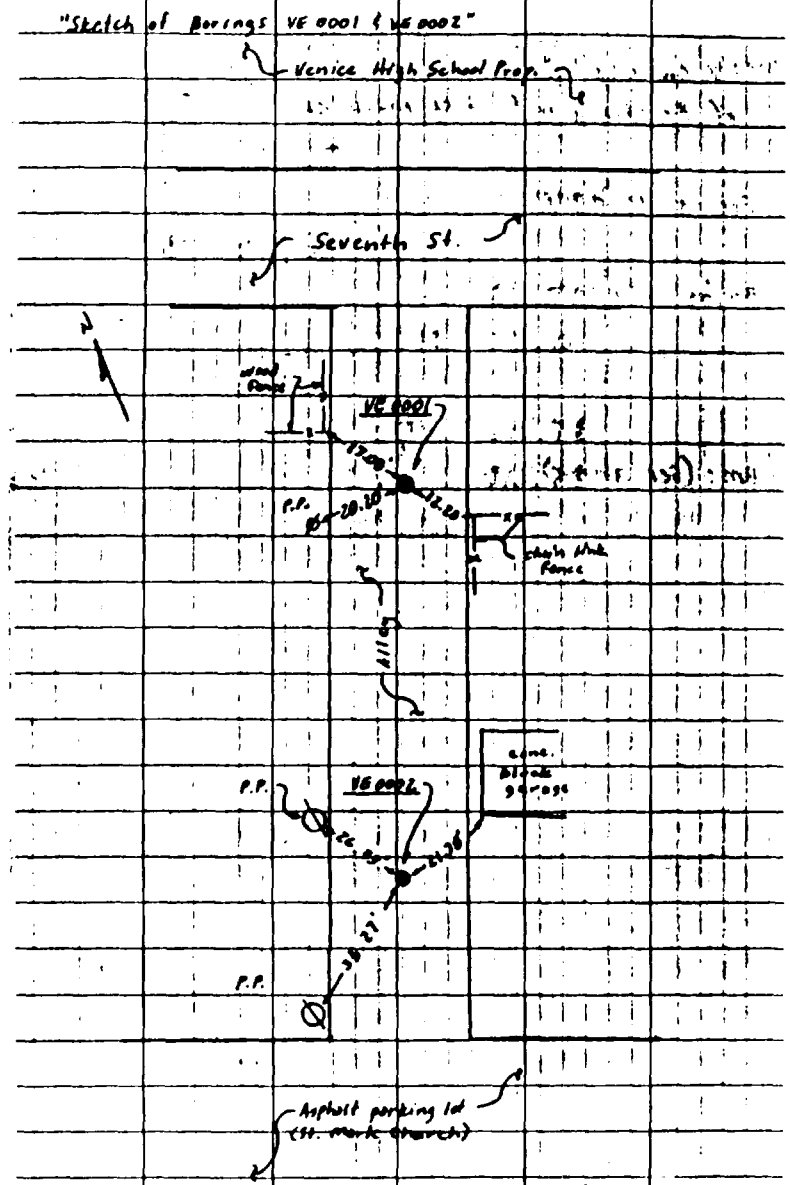
BM: A chiseled "L" on the N. face of a flagpole on the S. side of Broadway in front St Mark Church.

- Boring VE 0002

- Boring VE 0001

- BM: (See above)

"Sketch of Borings VE 0001 & VE 0002"



12-24-91
Clear, Cold, 35°

"Ground Elevation to Venice Alley Borings (cont'd)"

	H.I.		Elev.
BM			417.04
	0.32	417.96	
⊙		5.26	412.70
	4.93	417.69	
⊙		6.14	411.55
	5.54	417.09	
		6.49	410.60
		6.70	410.39
⊙		6.09	411.00
	4.31	415.31	
		6.61	408.70
		6.44	408.87
		2.25	413.06
⊙		3.98	411.33
	6.94	418.27	
		9.08	409.19
		8.95	409.32
		5.12	413.15
		6.10	412.17
⊙		7.37	410.90
	5.11	416.01	
⊙		2.93	413.08
	4.68	417.76	
tie BM		0.75	417.01
			417.04

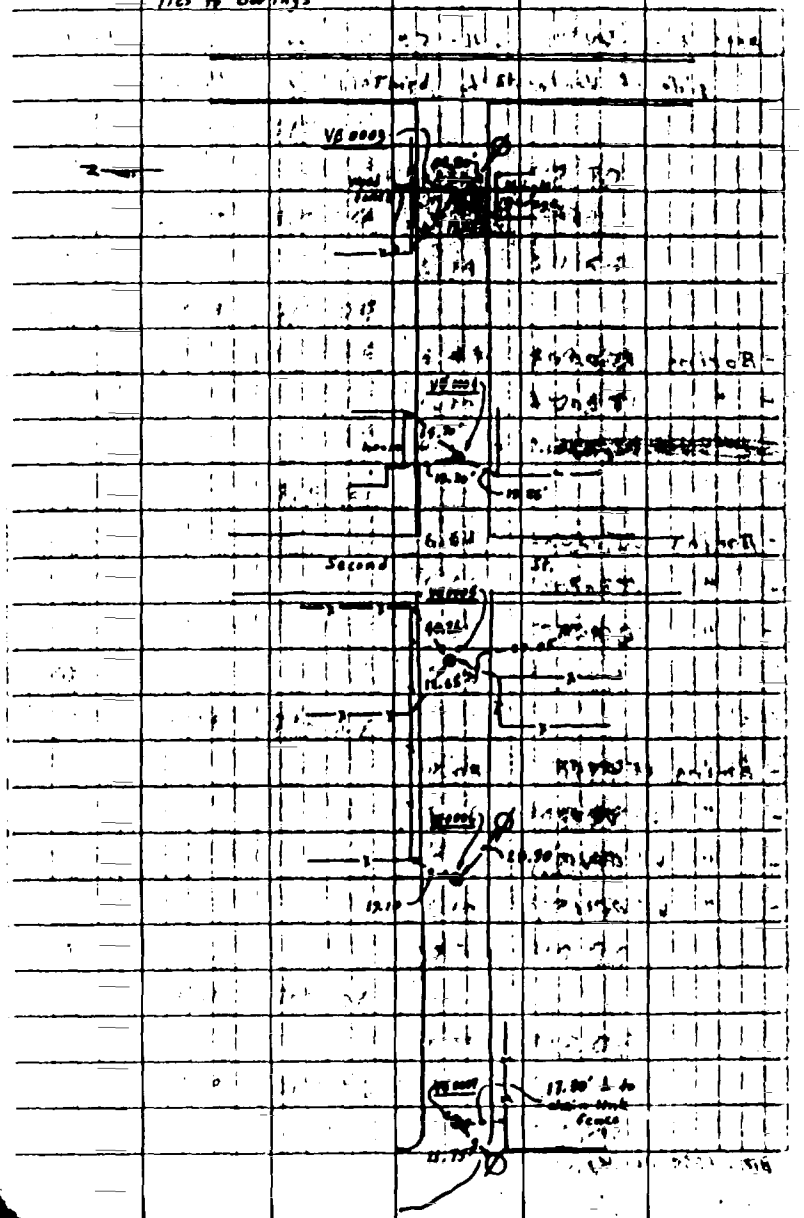
Checked 12/31/91 GLB

BM: A chiseled "L" on the S.E. cor. of a porch on the S. side of Venice City Hall Bldg. (by others)

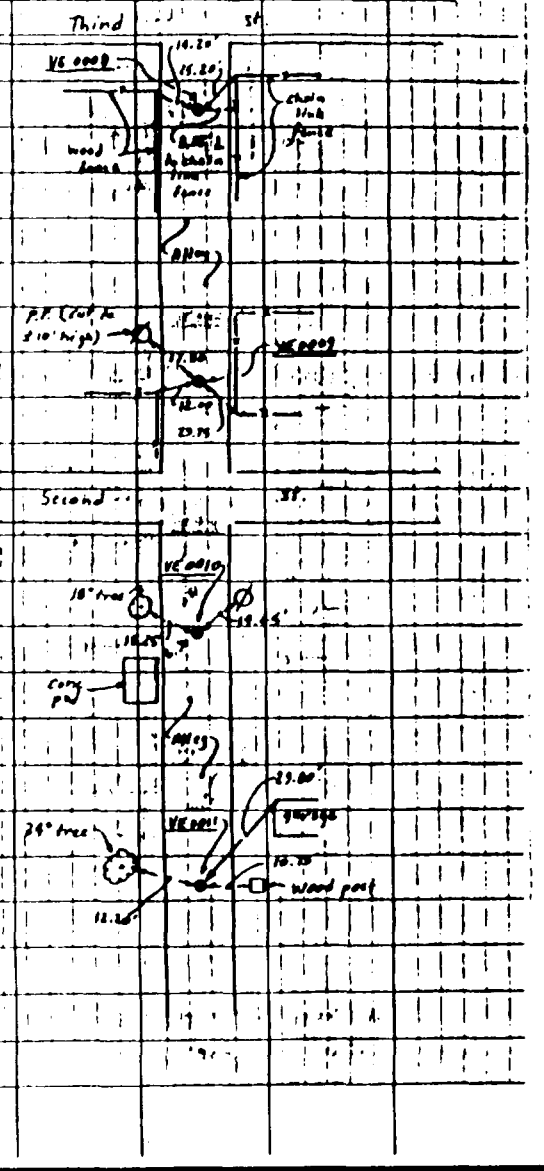
- Boring VE 0003
- " VE 0004
- [redacted]
- Boring VE 0005
- " VE 0006
- " VE 0007
- Boring VE 0008
- " VE 0009
- " VE 0010
- " VE 0011

Bm: (see above)

"Ties to Borings"



"Ties to Barnage"



12-24-91
Clear, Cold, mild ± 35°

TW
φ

more
JMH

"Ground Elevations to Venice Alley Borings (cont'd)"

	H.I.			Elev.	
Bm			417.04		
	0.90	417.94			
⊙			6.47	411.47	
	4.23	415.70			
⊙			6.45	409.25	
	4.73	413.98			
			5.92	408.06	
			5.59	408.39	
			6.34	407.64	
			6.25	407.73	
⊙			6.36	407.62	
	9.95	417.57			
tie			0.51	417.06	
Bm				417.04	
			Checked	12/31/91	GLB

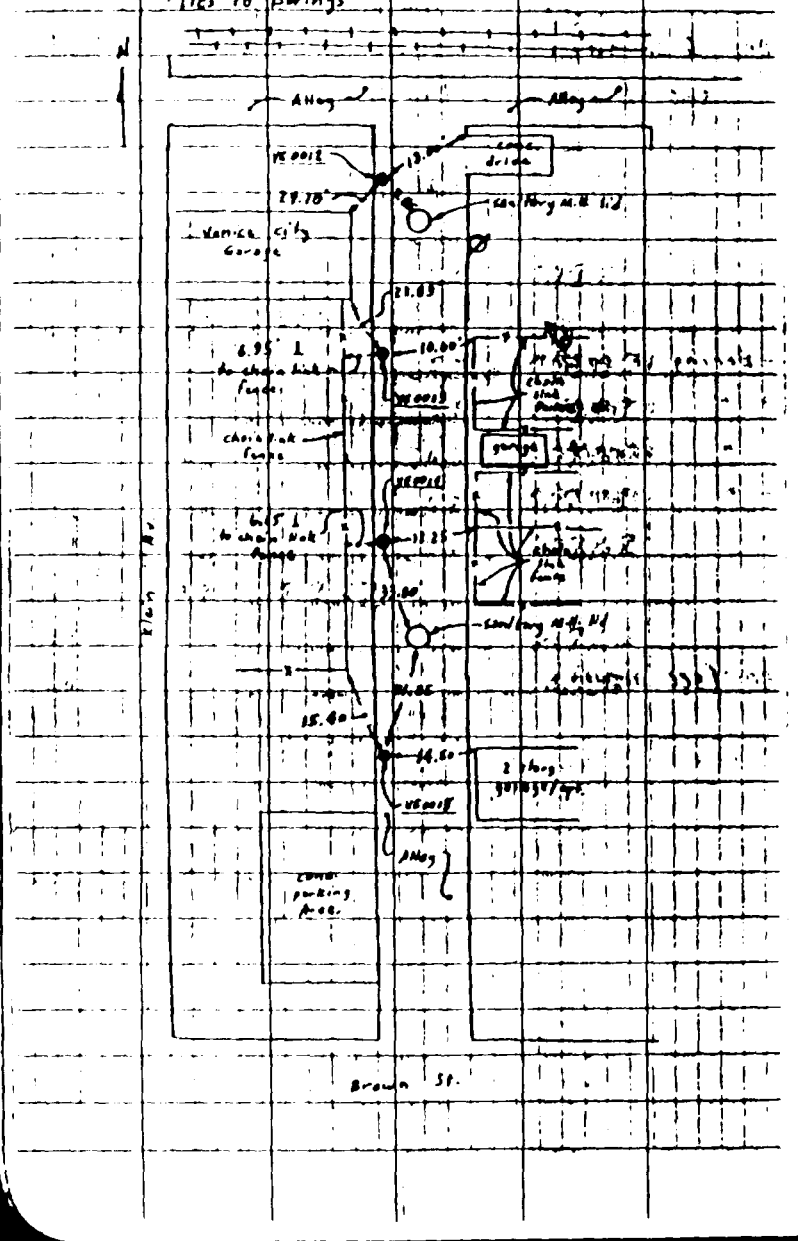
Bm: A chiseled "L" on the S.E. cor of a porch on the S. side of Venice City Hall bldg.

- Boring VE 0012
- " VE 0013
- " VE 0014
- " VE 0015

Bm: (see above)

12-26-91 MDR JMN

"Ties to Borings"



44.

12-31-91
Cloudy, cold, ± 40°

		H.I.		Elev.
BM				414.63
⊗	3.07	418.50		
⊙			0.58	417.92
	7.10	425.02		
@ sct Tem #2			12.44	412.58
	12.30	424.88		
⊙			7.47	417.41
	4.10	421.51		
tie			6.89	414.62
BM				414.63

checked 1/2/92 GLB

- BM: #4 chiseled on the top of stone foundation wall @ the N.E. corner of brick bldg. corner of Broadway & Third St.

Temp #2: R.R. spike in P.P. @ S. Side of Bremen ± 150 yd. of Rt. 3.

12-26-91
Clear, Cold, Mild, & Windy

TJD MDR
JMH

"Working Elevations for Service Borings (cont'd.)"

	W.S.	Elev.		Elev.	
TBM #2					412.58
	1.71	414.29			
①			4.67	409.62	
	6.19	415.81			
			5.17	410.64	
			4.94	410.87	
			6.24	409.57	
			6.98	408.83	
			6.16	409.65	
①			6.19	409.62	
	4.55	414.17			
lic			1.59	412.58	
BM				412.58	

Checked 1/5/92 GLE

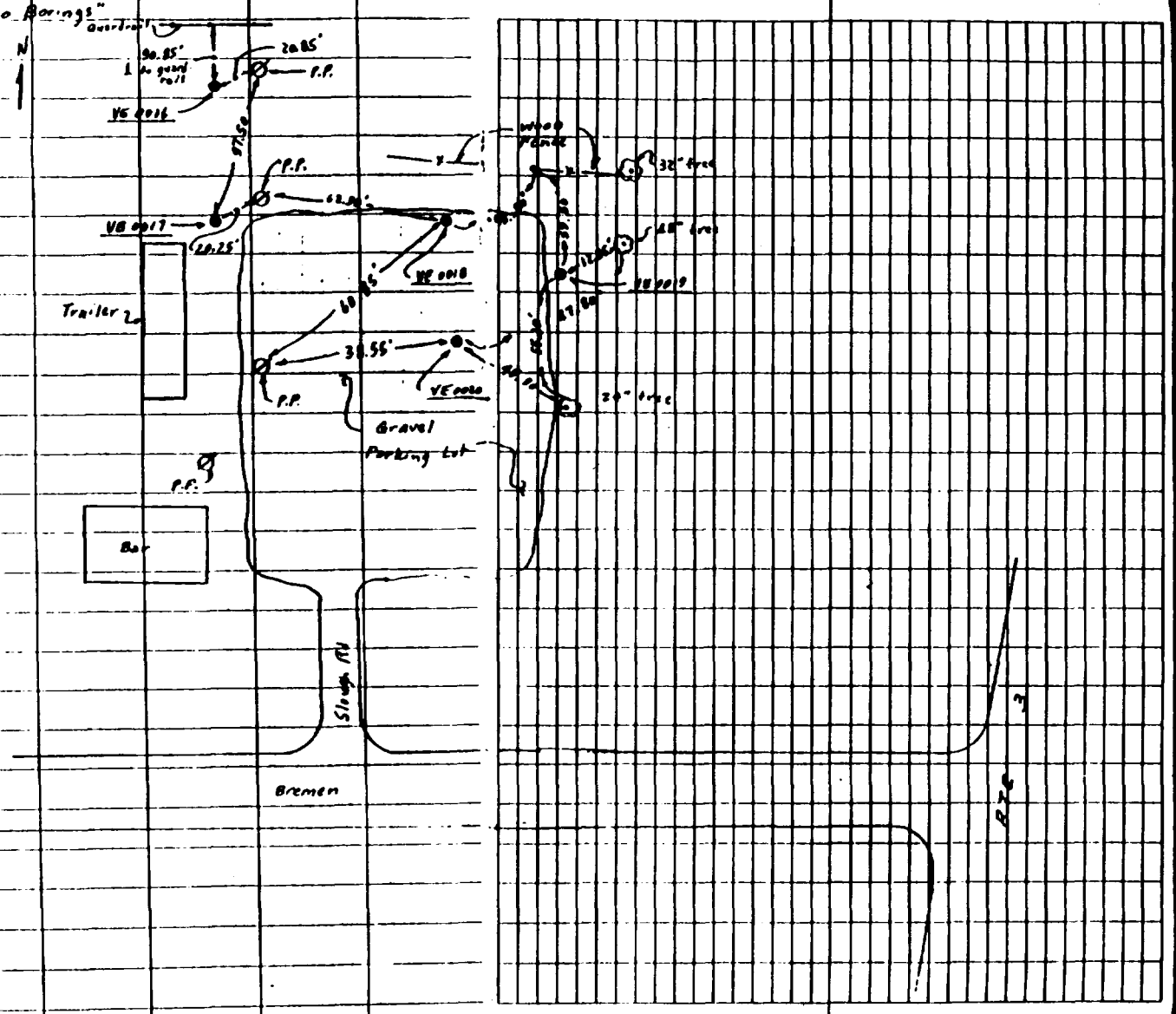
TBM: Spike in power pole @ S. side of Brennan St. ± 150 W. of Rt. 3 (see pg. 44-45)

- Boring VE 0016
- " VE 0017
- " VE 0018
- " VE 0019
- " VE 0020

12-26-91

MBR
JMH

"Ties to Borings"



12-26-91
Clear, Cool, m.11 ± 45°

TO MDR
JMH

"Schaefer P.J. Borings"
N.T.

BM-1				Elev.	423.34
	4.86	428.18			
①			4.18	424.00	
	2.86	426.86			
			6.39	420.47	
			4.13	422.73	
			3.15	423.71	
②			3.09	423.77	
	4.12	428.19			
tie			4.86	423.33	
Bm				423.34	

Checked 1-2-92 GLB

Bm: A cut "+" on the S edge of a conc. culvert headwall, on the east side of the entrance to Sidener Supply Co.

- Boring OR0004
- " OR0005
- " OR0006

12-26-91
Clear, cool, mild 45°

"Shaefer Rd. Borings"

N

Air Products Prop.

Farm Field

Pre Cast Metals Prop

Farm Field

Sanitary MH 1.d

Chip Area

OR0004

OR0005

OR0006

Wooded Area

Sanitary M.H. #3

12-31-91
Cloudy, Cold 40°

RW MAR
JMH

		H.I.		Elev.
BM				426.12
	4.96	431.08		
①			6.85	424.23
	5.23	429.46		
① s/l Temp's			4.03	425.43
	4.32	429.75		
①			5.70	424.05
	5.99	430.04		
t.p.			3.90	426.14
BM				426.12

Cl.: Led 1/2/92 GLL

BM: @ P.K. nail in P.P. @ the N.W. corner of intersection of W. Fontoon Rd. & F.M.R. 154 (Fig 3) elevation 426.12 M.S.L. datum.

- Top of conc. mon. @ N.E. cor. of prop. & W. side Mississippi Ave. (Fig 3)

- BM: see above

12-26-91
Clear, Cool, Mid 20s

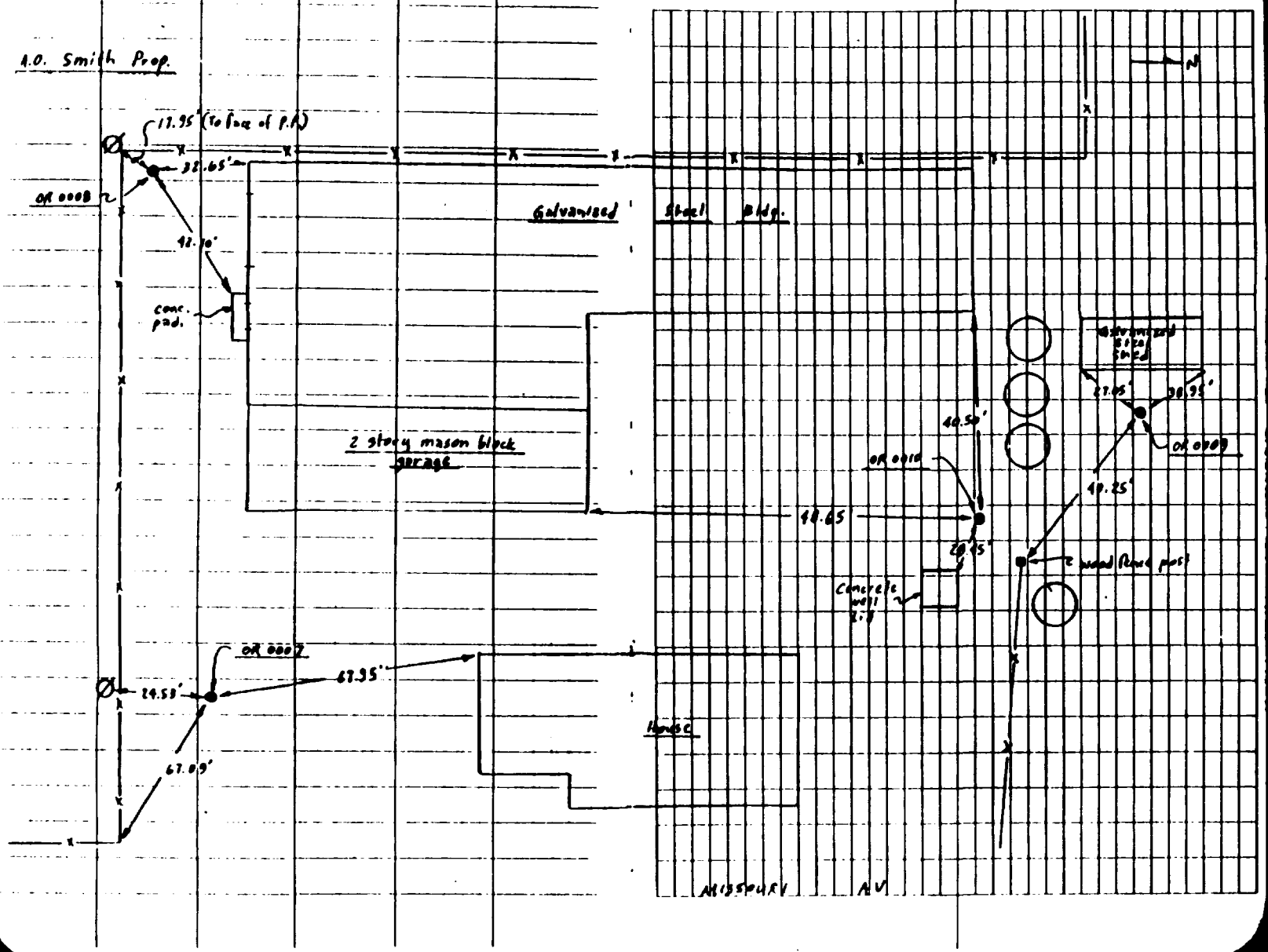
TW
φ

MAR
JMH

		H.I.		Elev.	
TBM					425.43
	3.88	429.31			
			5.78	423.53	
			6.34	422.97	
			5.65	423.66	
			4.96	424.35	
tie			3.88	425.43	
			Check: 1/2/92 GLS		

TBM: Top of old conc. mon. on W. side of Missouri Av (see pgs. 54-55)
- Boring OR 0007
- " OR 0008
- " OR 0009
- " OR 0010

A.O. Smith Prop.



TLD - MDR
cl ℄ - JMH

2-18-92
Cloudy, Cool, Windy ≈ 45°

T @	TO	Dist.
S. Mon # 181.9	K182.5 (R)	4753.98

2-20-92
Clear, Cool Breezy ≈ 25°
Min = 0

T MDR
℄ JMH

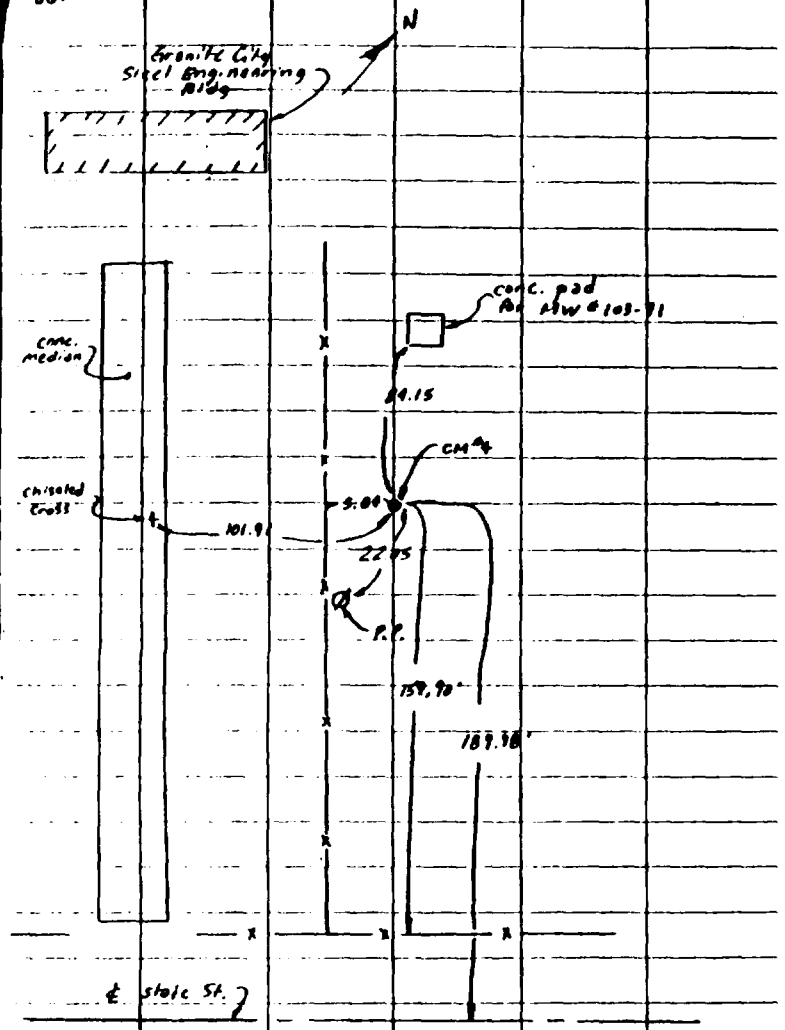
T @	TO	Hor. Dist.
t in Ring N. Mon. Co. ~ 2	K182.5(R)	5832.13
S. Mon # 181.9 Cont	K182.5(R)	4754.00

FTW MOR
LA 4 SMIL

2-20-92
Clear, Cool, Breezy ≈50°

IC	BS	TO	Hor ∠	Dist
CM 4	CM 3	CM3	0·00·00	404.20
		A	23·09·05	
		d. A	46·18·12	
Reset to	0·00·00	on CM 3		
		B	218·05·26	
		d. B	76·10·50	
CM 4	CM 3	C	311·48·51	
		d. C	263·37·40	
CM 3	CM 4	C	122·03·16	
		d. C	244·06·32	
CM 2	CM 3	C	83·48·08	
		d. C	167·36·21	
CM 1	CM 2	C	143·40·58	
			287·22·00	

C = Lightning rod located on the West Side of a Smoke Stack labeled "COMMONWEALTH"



Ties to CM # 4

5.84' ⊥ to fenceline to South

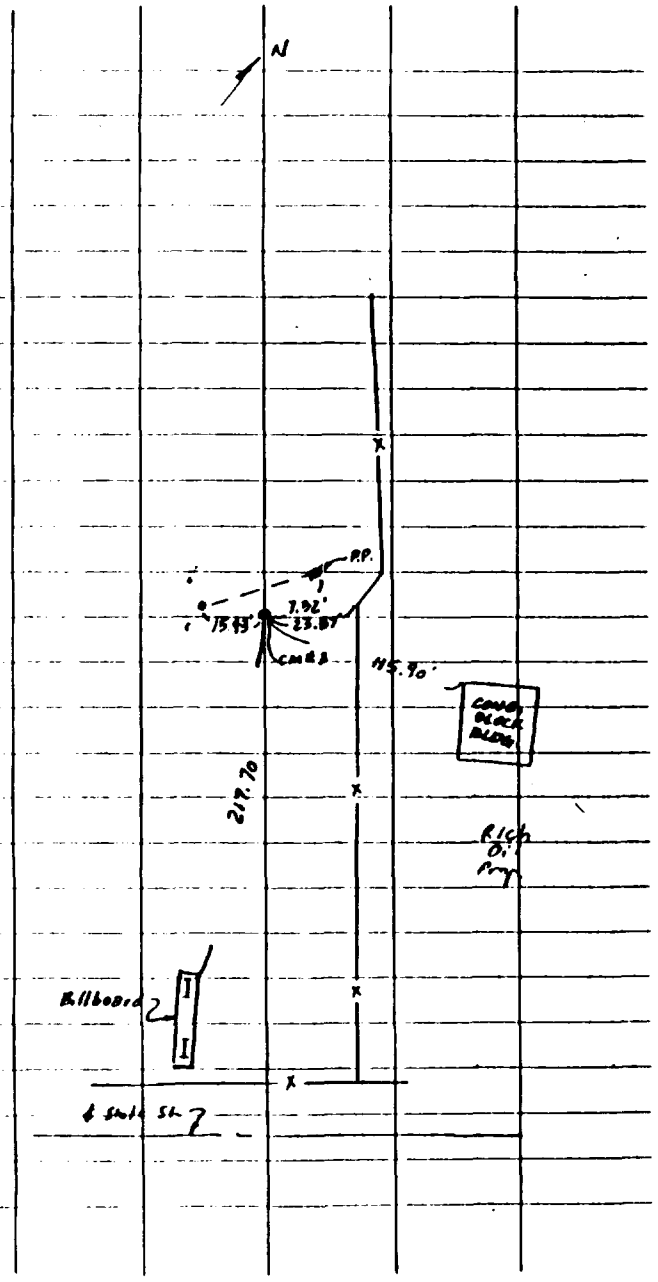
101.91' S. to a chiseled "+" on the N. edge of a concrete median along the entrance to G.C. Steel.

22.05' S.E. to the N. face of a Power Pole

84.15' N. to the S.E. corner of a concrete pad for MW # 103-91

159.90' S.E. ⊥ to fenceline running along State St.

189.98' S.E. ⊥ to ℄ of State St.



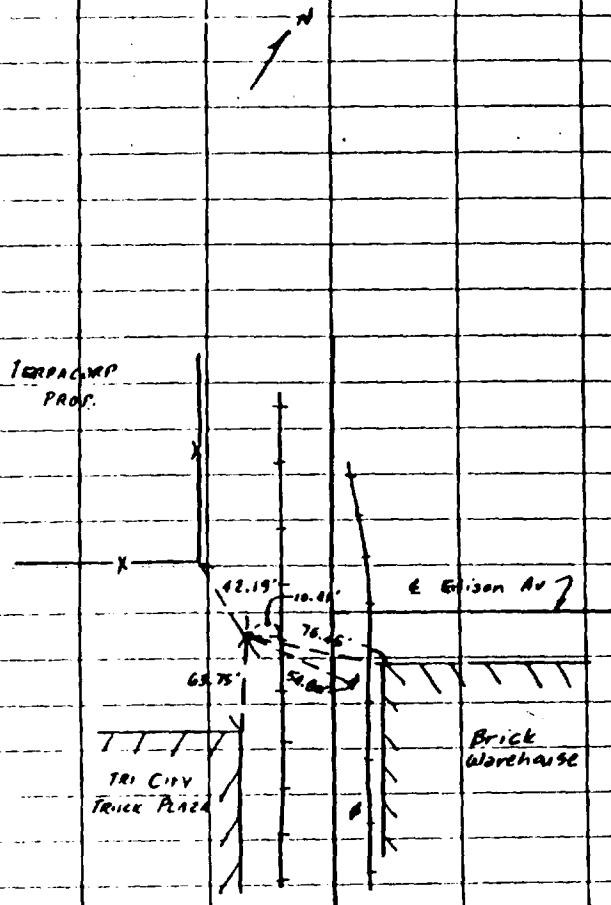
Ties to CM 3

115.92' SE to the NW cor of the Rich Oil Co. bldg.

217.70' SE to the Northernmost corner of the N "I" beam for a billboard.

7.92' N.E. to the SW face of a power pole

15.43' N.W. to a anchor for a guy wire



Ties to CM&Q

42.19' to NW fence corner on Terracorp prop.

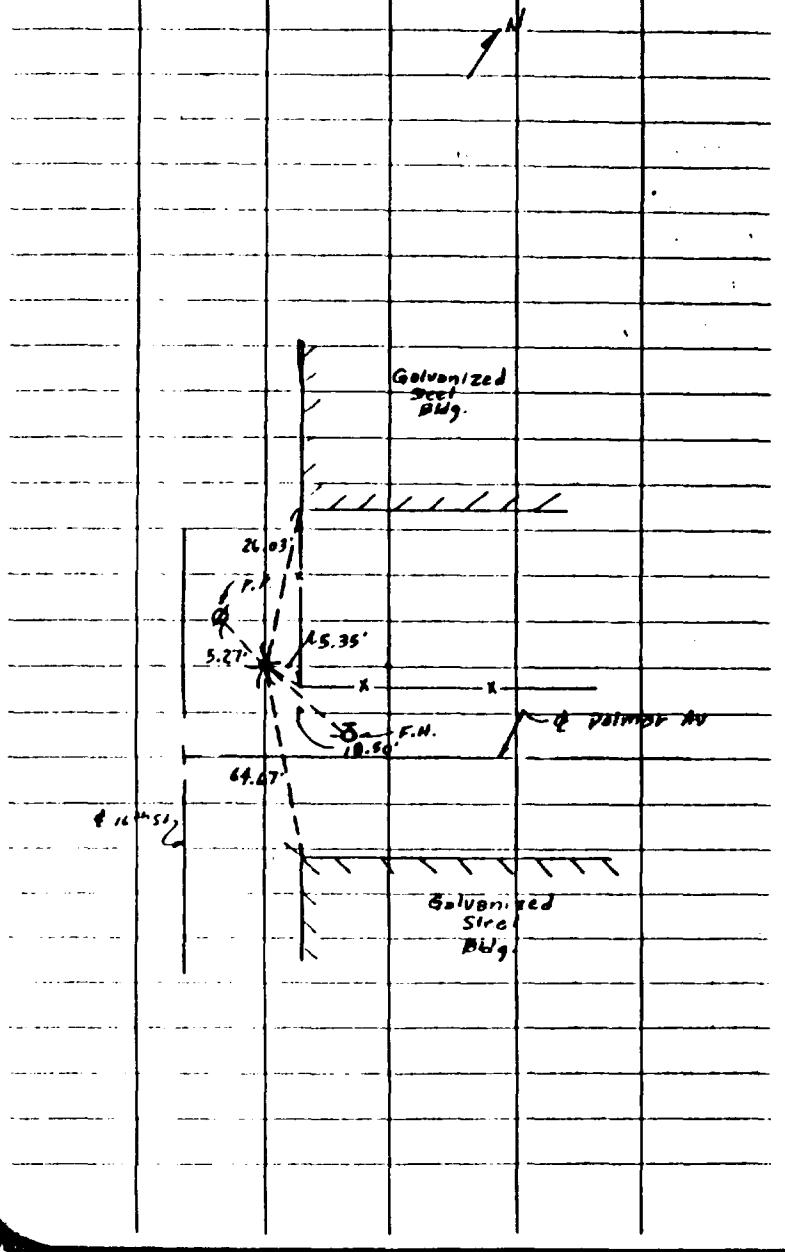
63.75' to NE corner of Tri-City Truck Plaza bldg

67.82' NE to P.H. (NE cor intersection 16th & Delmar)

54.80' E to W. face of P.P.

10.81' E to ctr. rail of RR track W. side of 16th St.

75.46' E to NW cor of brick warehouse



Ties to CM#1

5.35' - C. to fence corner

18.50' E. to F.H.

26.03' N. to S.W. cor of galvanized steel bldg.

5.27' W. to E face of power pole

64.67' S.E. to NW cor of galvanized steel bldg.

0.07' W. to end of back of curb along 16th St

49.40' to ℄ - ℄ of Delmar Av & 16th St

TM - MDR
7-30-92
Cloudy, Warm, Rain 285°

		H.I.		ELEV
BM				425.596
	3.69	427.286		
⊙ #1			5.00	424.286
	3.83	428.116		
⊙ #2			6.45	421.666
	4.84	426.506		
① Set TBM (CL-1)			2.51	423.996
	2.56	426.556		
⊙ #2			4.89	421.666
	6.33	427.996		
⊙ #1			3.71	424.286
	5.52	429.806		
close			4.19	425.616
BM				425.596
				+0.02

Checked 7/30/92 GLB

- U.S.G.S. plug in conc. w. steps of N. wingwall, Anoka City Hall (set in 1984).
- Top of F.H. cor of Edison Av & 21st St.
- E. of conc walk corner of Delmar & 20th St.
- "O" in "OPEN" F.H. N. side of Cleveland @ 2230 Cleveland.

5-27-92
Clear, Warm ≈ 80°

76.	TM ∅	MDR MAZ	N.S.		ELEV
TBM* C-1					418.316
		4.97	423.306		
B-2				5.21	418.096
B-4				4.69	418.616
B-3				4.09	419.216
B-1				4.13	419.176
close				4.97	418.316
TBM* C-1					418.316

Checked 6/1/92 GLB

* See sketch pg. 90

TOM MOR & MAZ — 7-30-92 Cloudy, warm, Rain at 8:

		H.I.		Elev
TBM #CL-1				423.996
	1.43	425.426		
⊙ #1			1.79	423.636
	2.60	426.236		
⊙ #2			6.50	419.736
	5.31	425.046		
⊙ #3			4.75	420.096
	4.68	424.776		
⊙ #4			4.98	419.796
	5.87	425.666		
⊙ #5			7.94	417.726
	5.66	423.386		
⊙ set TBM #C-1			5.07	418.316
	5.08	423.396		
⊙ #5			5.67	417.726
	8.33	426.056		
⊙ #4			6.26	419.796
	5.02	424.816		
⊙ #3			4.72	420.096
	5.48	425.576		
⊙ #2			5.94	419.636
	7.20	426.836		
⊙ #1			7.21	419.626
	6.19	425.816		
Close TBM			1.83	423.986
				423.996
				-.010

- "O" in OPEN-PH N. side of 2230 Cleveland Av (see page 78)
-
- Top of PH, SE cor of Benton St. & 25th St.
- Edge of conc. walk @ SW cor of Yount's Mkt.
- Edge of conc. walk N. side of Benton St.
- Edge of conc. walk N. side of Benton St.
- Edge of conc. walk N.E. cor. of Kehling Rd & Yale Av
- W. edge of M.H. rim located outside SW cor of 3108 Colgate

Chk JCJ 7/30/92 GLB

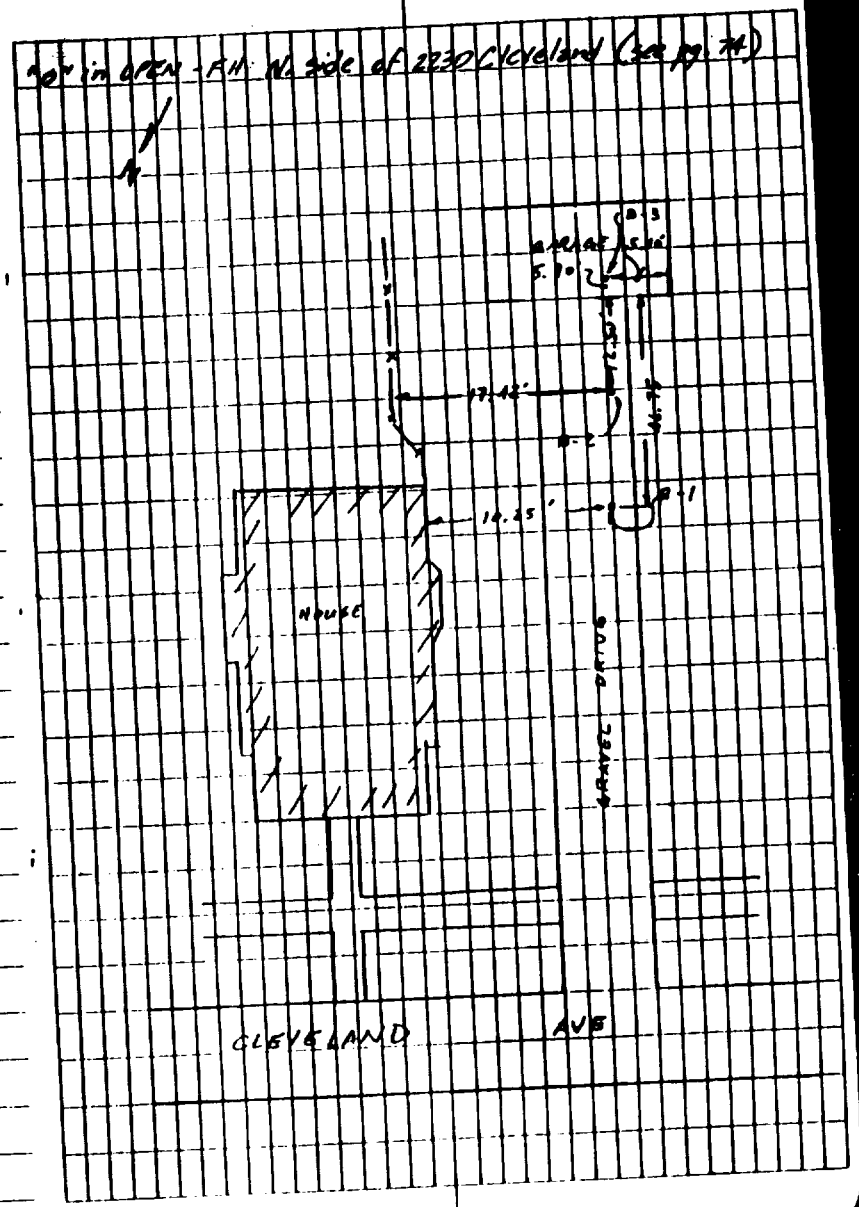
80. TBM - MDR
d - MAZ

5-27-92
Clear, Warm & 80°

TBM #CL-1				423.996
	2.05	426.046		
B 1			4.05	421.996
B 2			3.76	422.286
B 3			3.75	422.296
close			2.05	423.996
TBM #CL-1				423.996

Checked 6/1/92 GLB

Set in OPEN - FIN. N. side of 2230 Cleveland (see pg. 74)



TTO - NPR
Φ - MAZ

5-27-92
Clear, Hot & 85°

		N.I.		ELEV.
BM				409.64
	5.16	414.80		
⊙			3.92	410.88
	3.21	414.09		
⊙			5.06	
	5.45			
			4.96	
BM				409.64
	4.96	414.60		
⊙			4.91	409.69
	4.58	414.27		
⊙ TBM-EP#1			3.49	410.78
	3.39	414.12		
⊙			4.43	409.69
	5.01	414.70		
close			5.08	409.62
BM				409.64

Checked 6/1/92 GLB

~~- RR spike in AC @ NW cor RT 203 &~~
~~Dig others: ELEV~~

- Top N.E. cor conc. headwall located @ NE cor Alton Ave & Bell Ave

- RR spike in S. face of AC @ NW cor Rte 203 & Harrison St
(by others - ELEV 410.82)

BA.	TO MOR MAZ	3-21-72 Clear, Not 70° H.I.		ELEV	
TBM-EP#1				410.78	- EP spike in S. face of P.P. @ NW cor. Rte 203 & Harrison St (see page 82)
	3.98	414.76			
⊙			5.53	409.23	- 170° to rim of water valve in road @ SW corner of Harrison & Roosevelt.
	5.53	414.76			
B-1			4.69	410.07	- B-1 @ 123 Roosevelt
B-2			4.97	409.79	- B-2 " " "
B-3			4.77	409.99	- B-3 " " "
⊙			5.53	409.23	- Rim of water valve @ SW cor. Harrison & Roosevelt
	3.79	413.02			
			6.46	406.56	- B-1 @ @ 202 A Harrison
			6.15	406.87	- B-2 " " " " "
			5.77	407.25	- B-3 " " " " "
			5.37	407.65	- B-4 " " " " "
			7.57	405.45	- B-1 " 203 Harrison
			7.86	405.16	- B-3 " " "
			8.10	404.92	- B-2 " " "
			8.25	404.77	- B-1 " " "
			~~6.52~~ 7.44	405.58	- B-1 " 205 "
			7.08	405.94	- B-2 " " "
			~~7.44~~ 6.52	406.50	- B-3 " " "
⊙			4.12	408.90	- 217° to east edge of 14" tree stump
	3.47	412.37			
			6.85	405.54	- B-3 @ 208 Terry
			4.61	407.78	- B-4 " " "
			4.43	407.96	- B-5 " " "

		N.S.		ELEV
		412.39		
①			4.67	407.72
	6.81	414.53		
			6.72	407.81
			6.46	408.07
			5.93	408.60
			5.55	408.98
			6.23	408.30
			6.50	408.03
⊙			4.49	410.04
	5.47	415.51		
			6.62	408.89
			6.97	408.54
⊙			6.21	409.30
	5.21	414.51		
			5.41	409.10
			4.77	409.74
			5.05	409.46
			5.05	409.46
①			5.21	409.30
	4.87	414.17		
close			3.39	410.78
TBM - EP#1				410.78

* see sketches for Eagle Park properties pgs. 92 - 100

- 269° to edge of pavement on Terry St. (S. side)

B-2 @ 209 Terry
B-1 " " "
B-1 " 203/205 Terry
B-2 " " "
B-3 " " "
B-4 " " "

- 232° 30' to ℄ edge of Roosevelt (set nail)

- B-1 @ 100 - 201 Hill
- B-2 " " "

- 285° to set nail in W. side of Carver

- B-1 @ 108 Carver
- B-2 " " "
- B-1 " 111 "
- B-2 " " "

- 0° to set nail in W. side Carver

- 95° to TBM 1

checked 6/1/92 ALB

TLD MDR
MAZ

5-28-92
Clear, Warm 80°

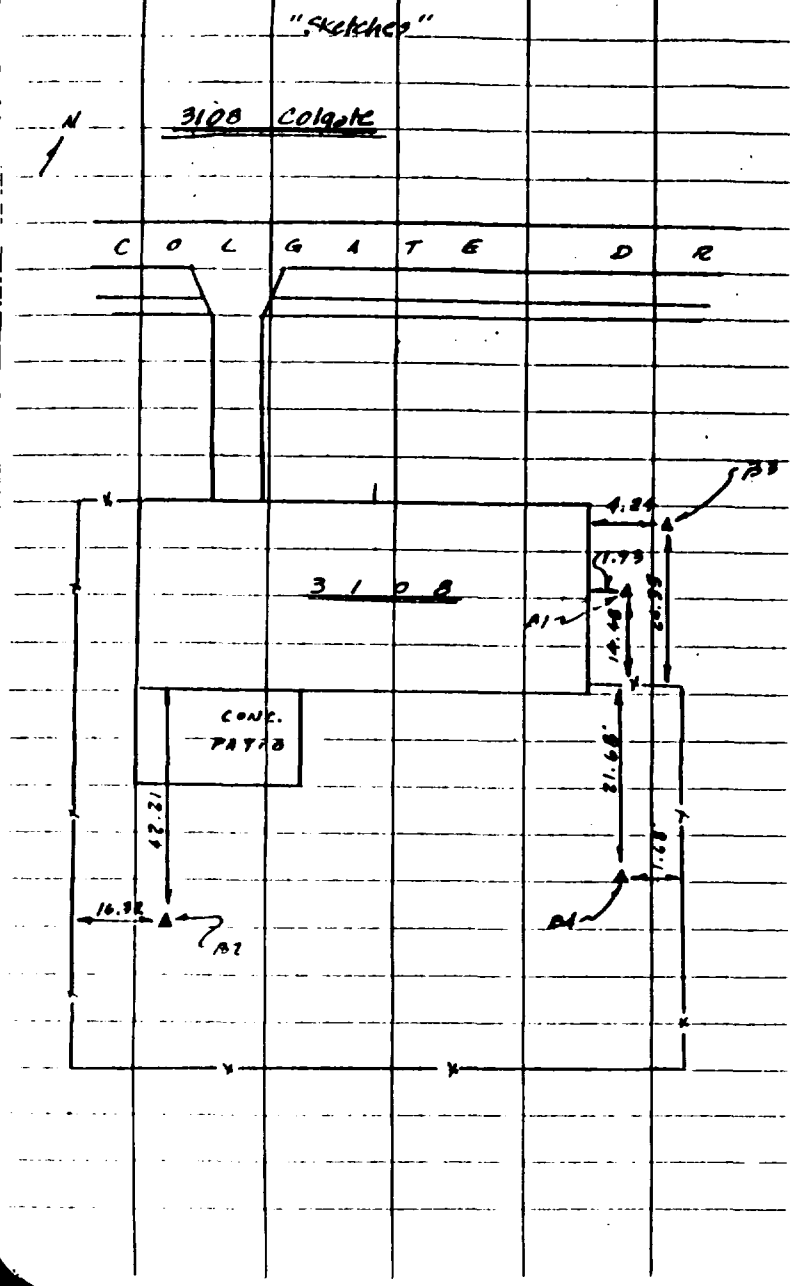
BM*				419.80
	3.68	423.48		
			4.14	419.34
			4.38	419.10
			4.45	419.03
close			3.68	419.80
BM				419.80

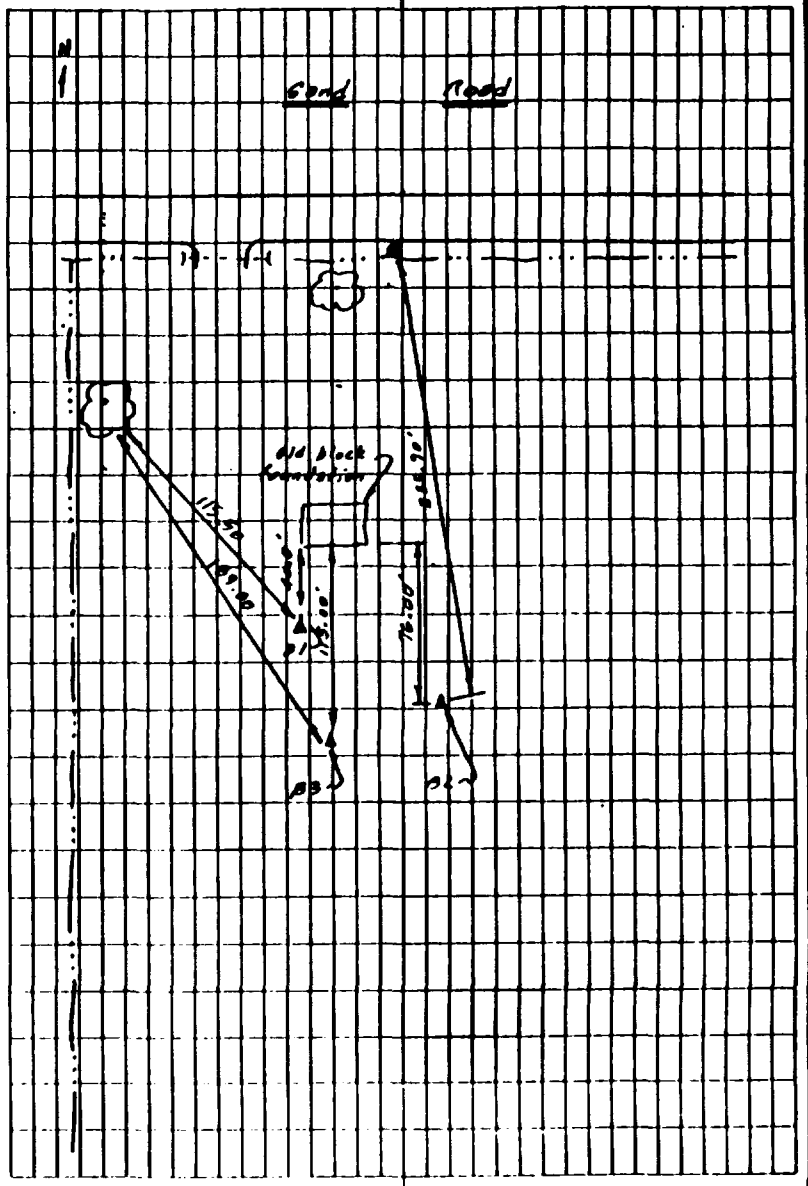
* See Sketch page 91

checked 6/1/92 GLB

- A chiseled "GL" on the S.E. wingwall of a bridge over creek on Old Pong Rd. (Bridge #064-0069) (by Dykers)
- SpK 00224
- SpK 00231
- SpK 00231

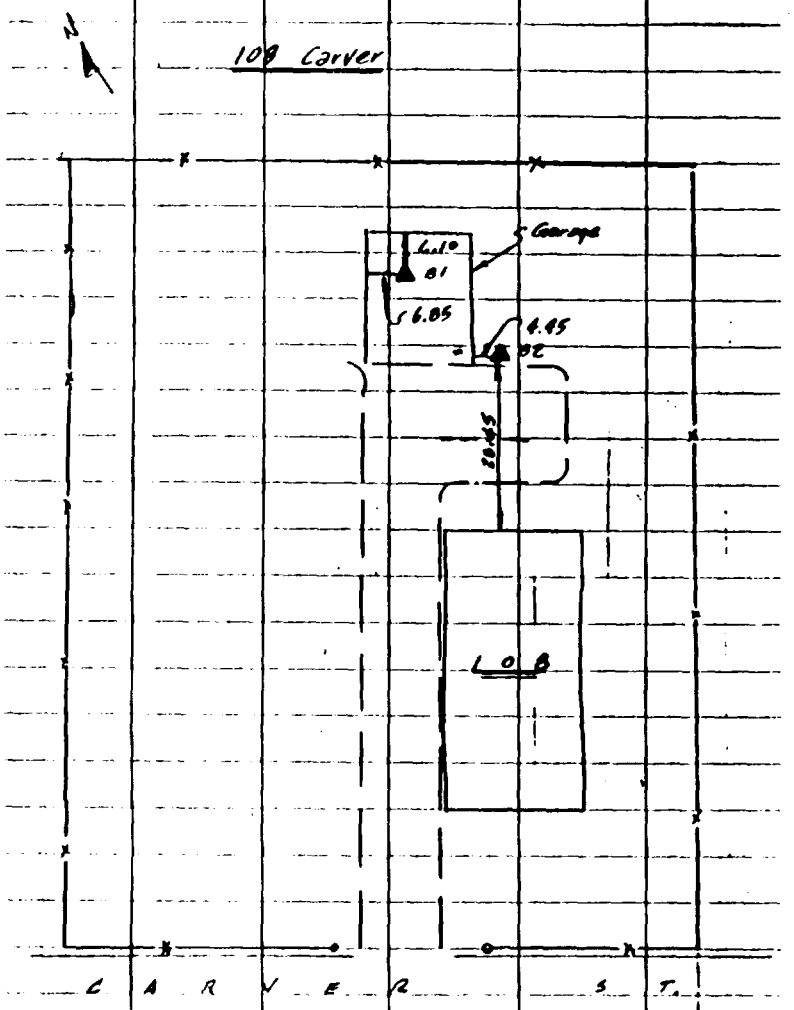
"Sketches"


N
3108 Colgate
C O L G A T E D R
3 1 0 8
CONC. PATIO
4.24
11.79
14.49
20.99
21.68
1.68
42.21
16.32
B1
B2
B3
B4

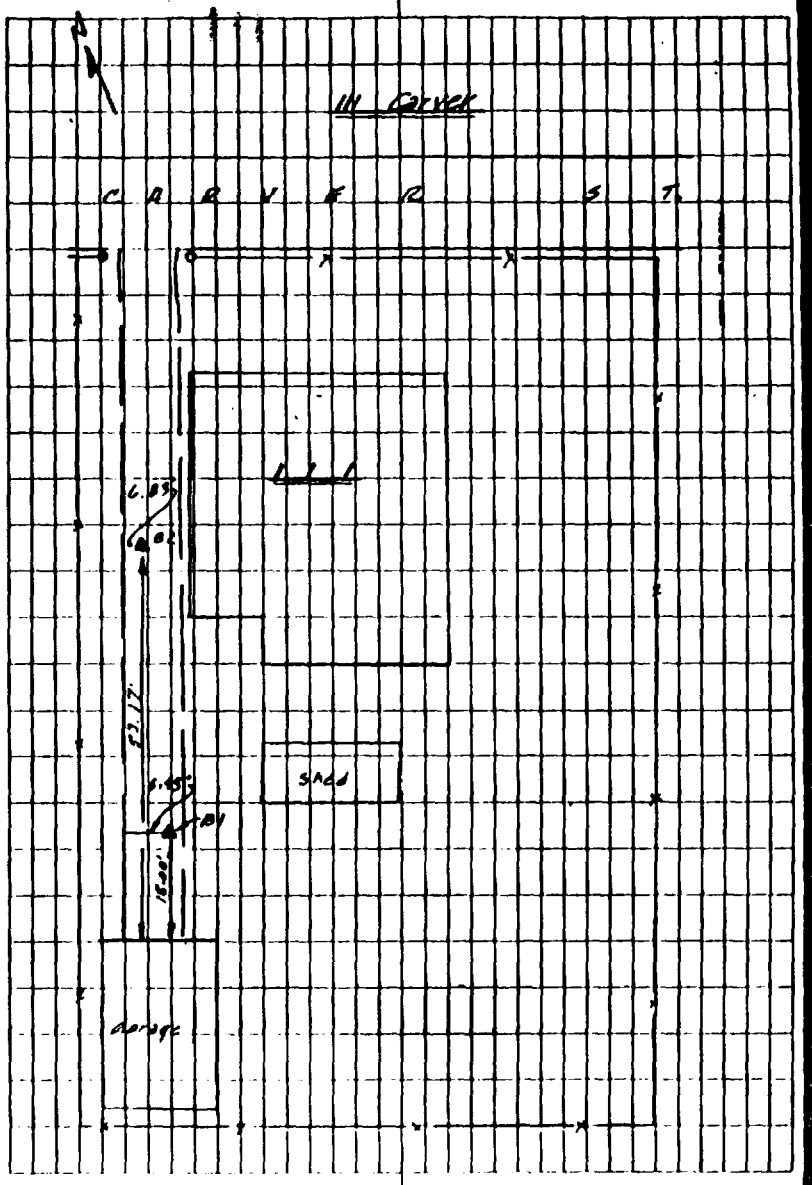

N
Good Road
Old block foundation
115.50
89.00
11.00
76.20
B1
B2
B3

Eagle Park Properties

109 Carver

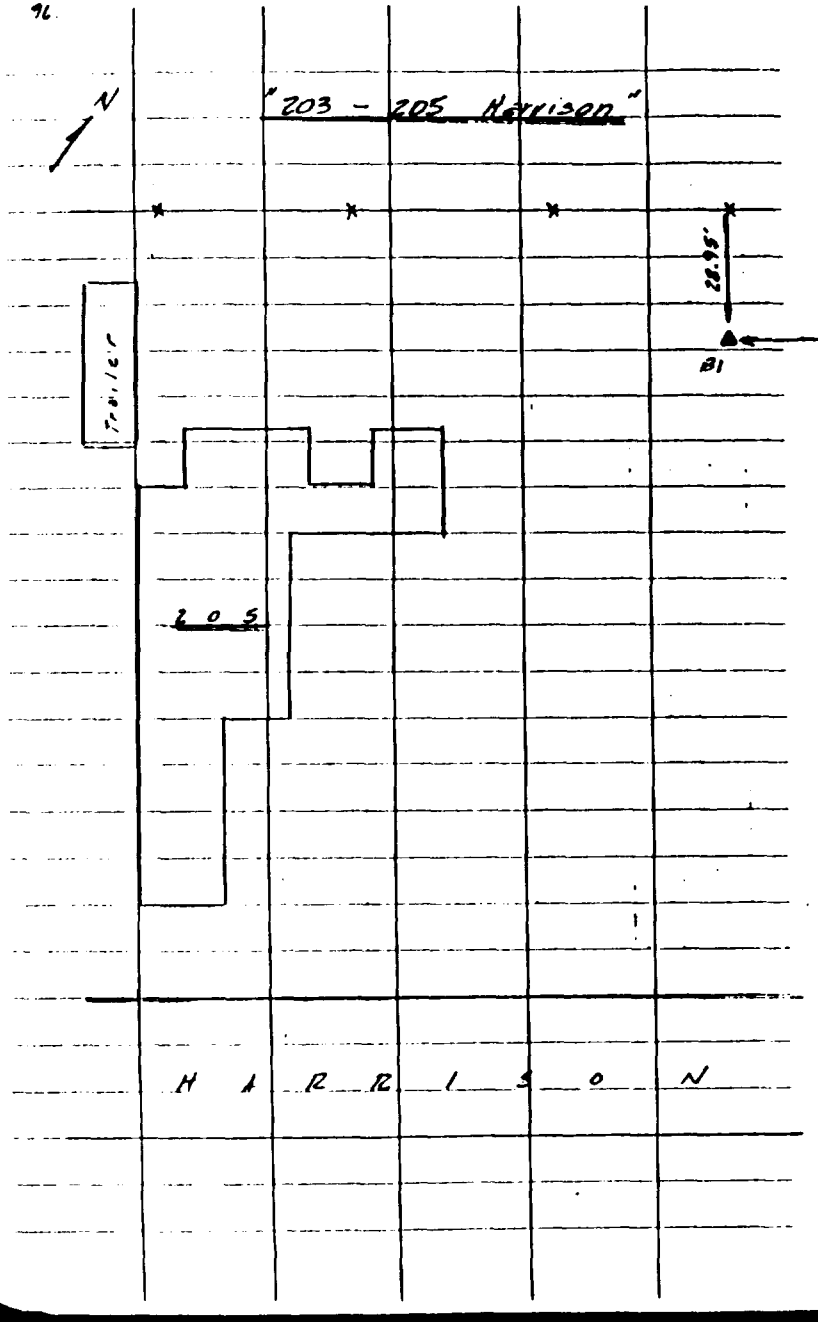


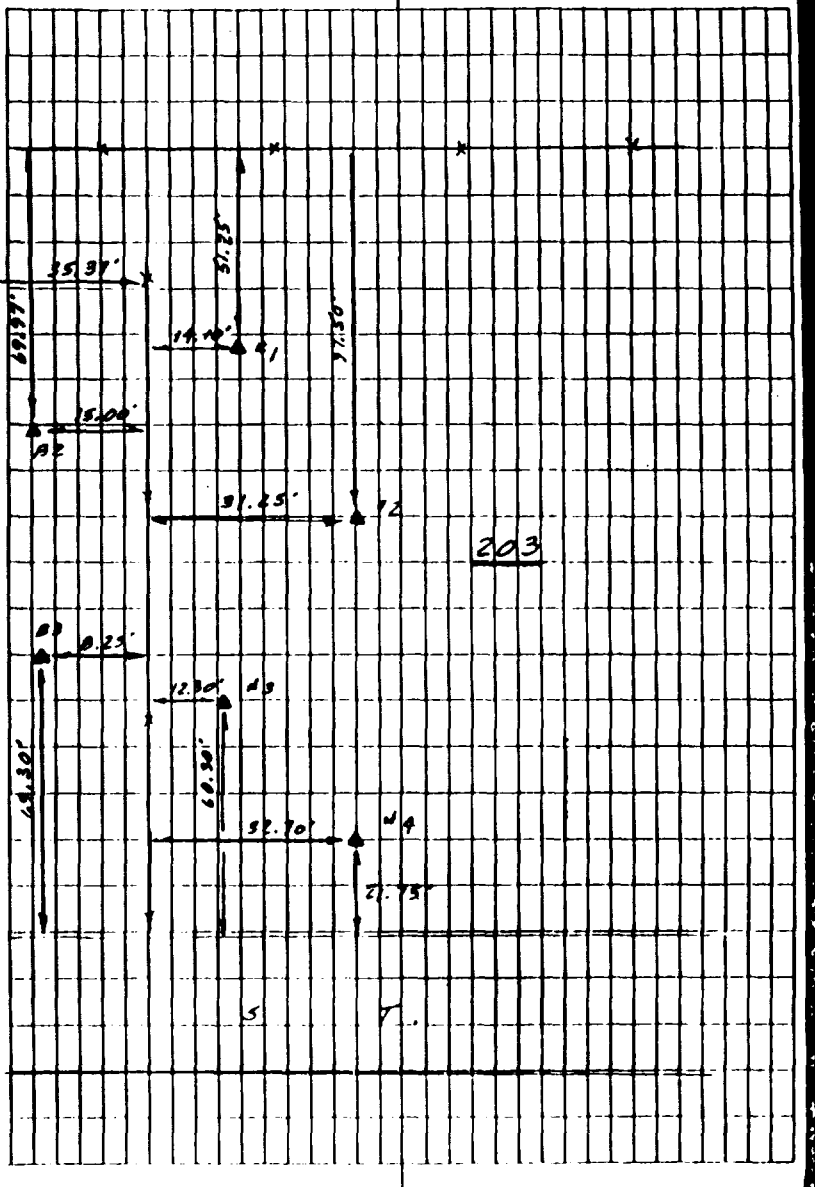
111 Carver

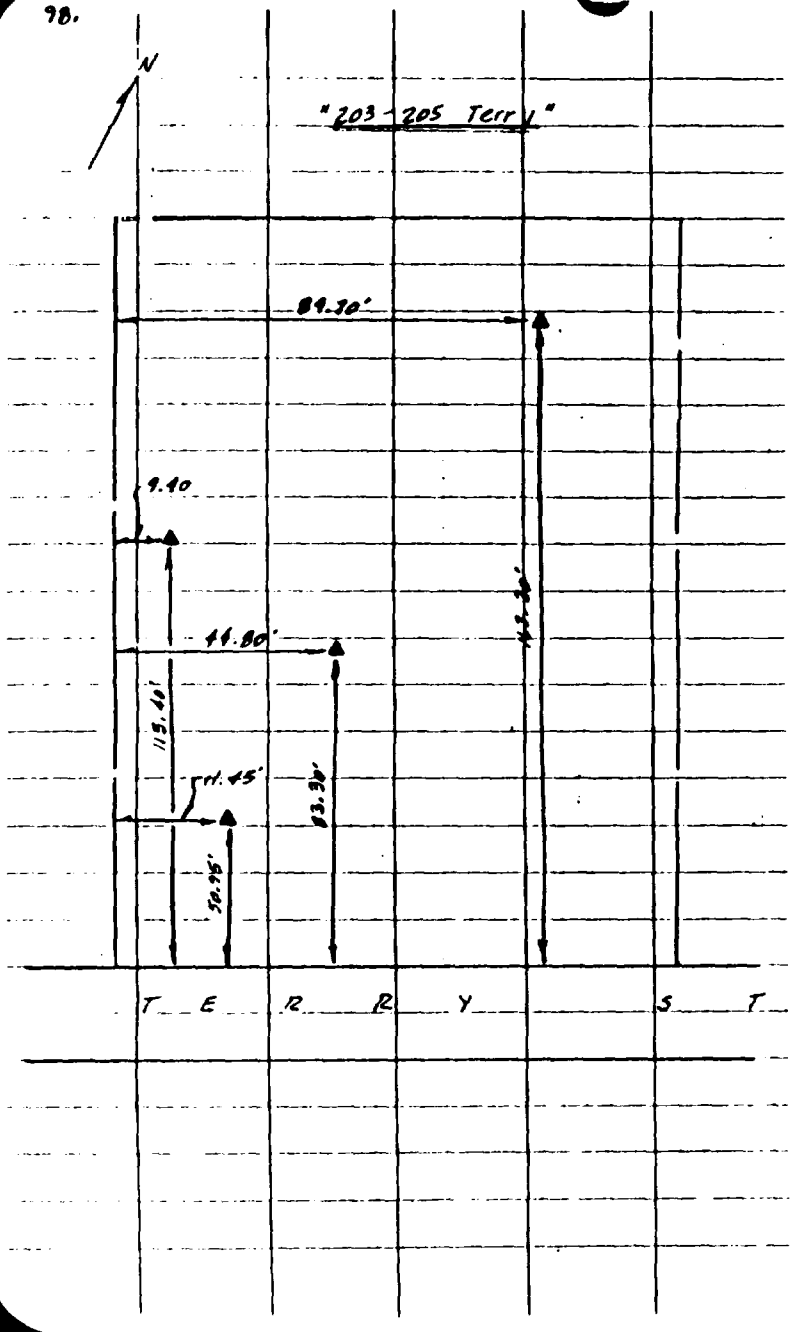


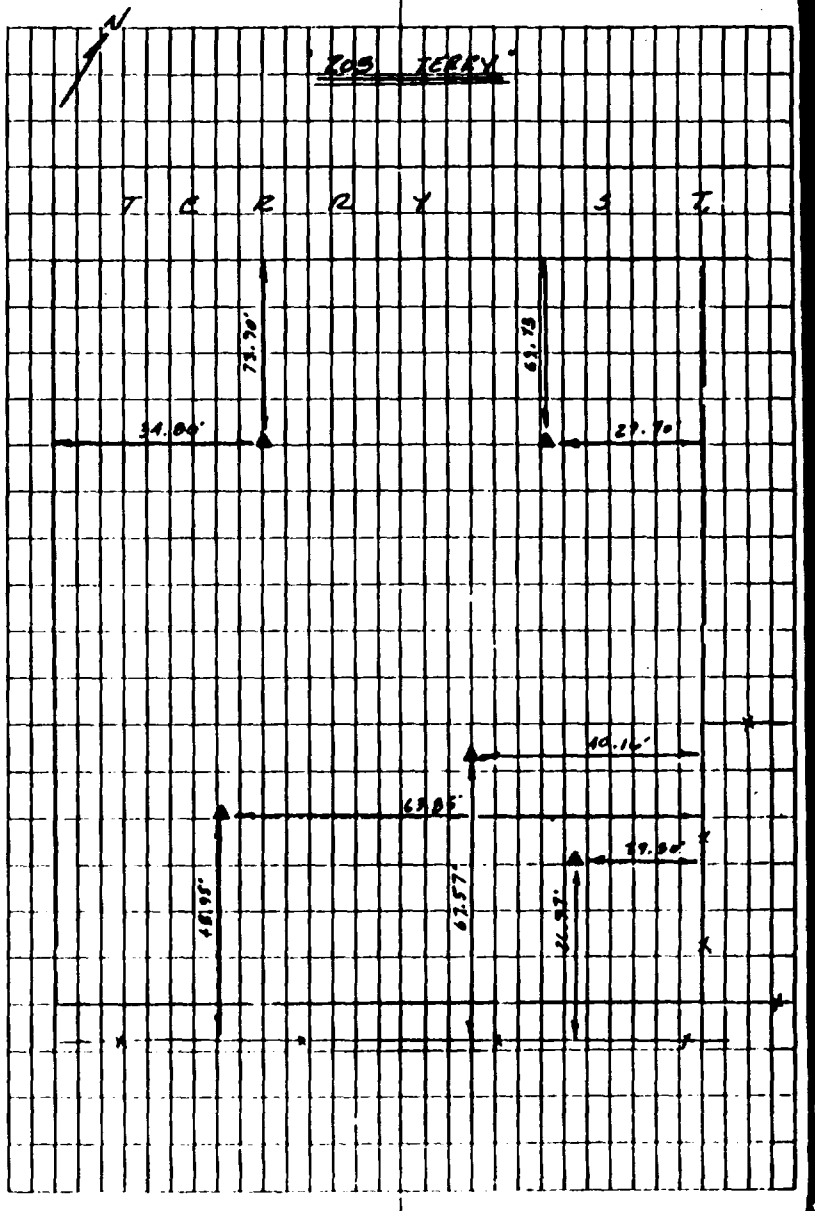
HARRISON
ST
202A Residential
116.85'
77.15'
86.00'
202 A
54.10'
20.10'
26.72'
53.95'
15.10'
N

ROOSEVELT ST
HARRISON ST
120 Residential
120
31.75'
16.50'
19.50'
17.70'
19.50'
N


N
"203 - 205 Harrison"
Trailer
205
H A R R I S O N


28.95'
35.97'
51.25'
B1
14.40'
A1
15.00'
A2
91.25'
A2
203
8.25'
12.30'
A3
60.30'
57.70'
A4
21.75'
S T.


N
"203-205 Terry"
89.30'
9.40
44.80'
115.40'
11.45'
50.95'
93.30'
142.30'
T E R R Y S T


N
"205 TERRY"
T E R R Y S T
73.70'
62.78
34.00'
27.70'
10.16'
63.05'
39.00'
48.95'
62.57'
24.37'

ROOSEVELT AV
"100-201 Hill St."
H
I
L
L
S
T
N
18
28
59.75'
29.70'
18.30'
97.00'
100'
101'

7-14-92
Cloudy, Rain, Hot 2320

KM-MOR
& MAL

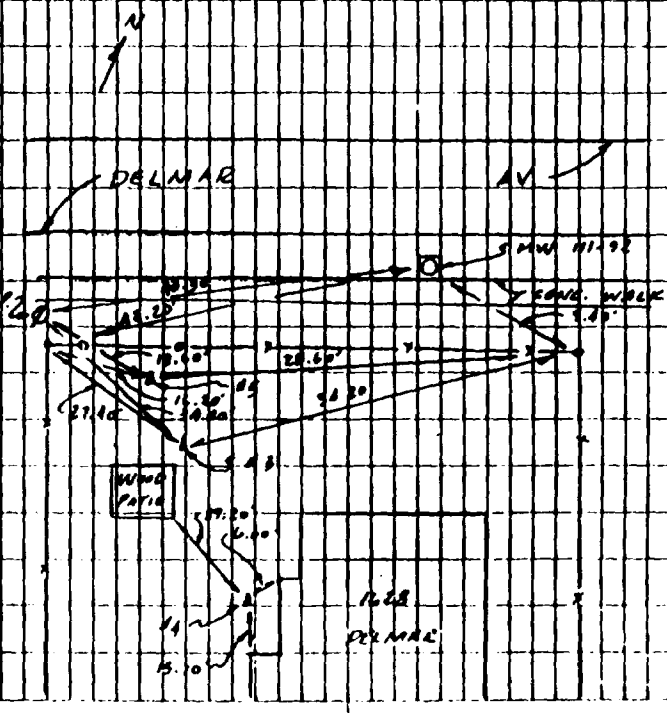
" BORING & MONITORING WELLS @ 1628 DELMAR"

	N.I.		ELEV.
TBM # MON-1			418.996
7.19	426.186		
MW III:92		6.79	419.396
BORING # 5		6.47	419.716
" # 3		5.65	420.536
" # 4		5.21	420.976
TIE		7.19	418.996
TBM # MON-1			418.996

Checked 7/30/92 GLB

TOP OF CM-1 (GPS PT #1)

TOP OF RIDGE



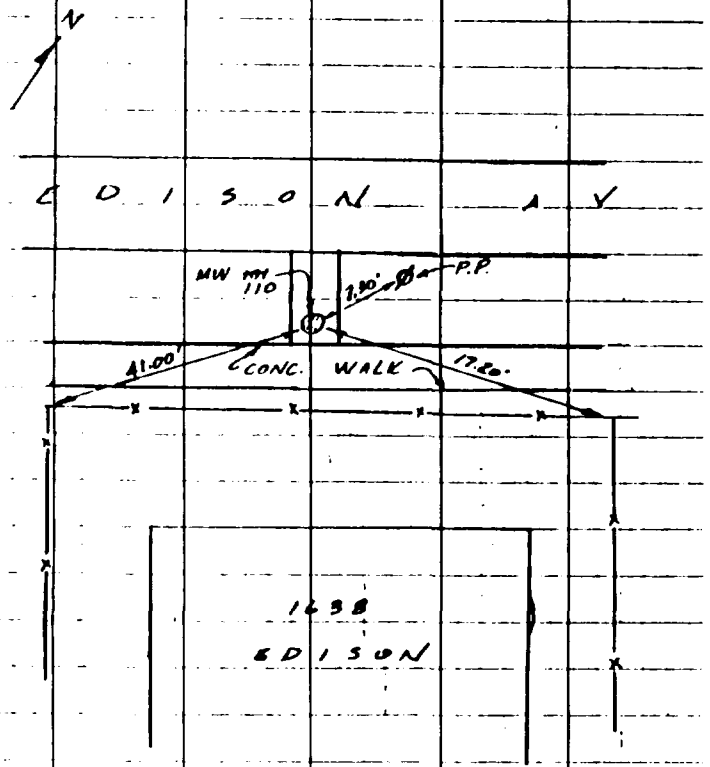
7-14-92
Cloudy, Rain, Hot & 92°

TBM - MON.
" - MW2

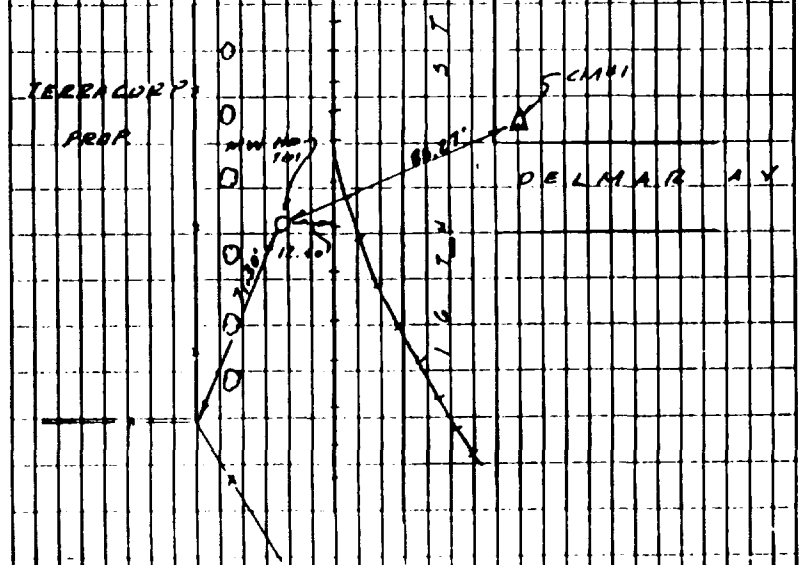
"MONITORING WELLS AT 1638 EDISON AND TERRACORP PROPERTY"

		H.I.		ELEV.
TBM # MON-1				418.996
	2.76	421.756		
MW # 101			0.31	421.446
MW # 110			3.27	418.486
CLOSE			2.76	418.996
TBM # MON-1				418.996

Checked 7/30/92 GLB



1638 EDISON (TOP OF RISER)
TERRACORP PROPERTY (TOP OF RISER)



7-14-92
Cloudy, Pol, Rain 1992

⊠ - MDS ⊕ - MIZ					
		H.I.		ELEV.	
TBM # MON-4				414.206	Top of disk - CM #4 (GPS)
	5.11	419.316			
103-91			2.43	416.886	Top of riser
103			2.15	417.166	" " "
102			2.74	416.576	" " "
108-92			1.71	417.606	
CLOSE			5.11	414.206	
TBM				414.206	
TBM # MON-4				414.206	Top of disk - CM #4 (GPS)
	8.40	422.606			
107			5.97	416.636	Top of riser
109-92			6.90	415.706	" " "
Close			8.40	414.206	
TBM				414.206	
		checked 7/30/92 GLB			

7-16-92
P. Cloudy, Windy, 82°

"TARCOORP PROP. MONITORING WELLS"

TBM # MON-4				414.206	
	6.30	420.506			
⊙			0.74	419.766	
	6.29	426.056			
104-72			7.81	418.246	
104			3.81	422.246	
108-S			4.35	421.706	
108-D			3.35	422.706	
⊙			4.03	422.026	
	3.85	425.876			
⊙			3.81	422.066	
	4.06	426.126			
~~107~~ 106-S			2.42	423.706	
~~107~~ 106-D			2.34	423.786	
⊙			1.77	424.356	
	6.69	431.046			
105-S			2.39	428.656	
105-D			2.31	428.736	
107-S			10.27	420.776	
107-D			9.40	421.646	
⊙			6.11	424.936	
	1.86	426.796			
close			7.78	419.016	
TBM # MON-1				418.776 +.02	

Checked 7/30/92 GLB

* SEE SKETCHES PG. 114

Top of RISER
" " "
" " "
" " "

" " "
" " "

" " "

" " "

AGENT - COULD NOT REMOVE CAP
TOP OF RISER
" " "

7-16-92
P. Cloudy, Windy, 80°

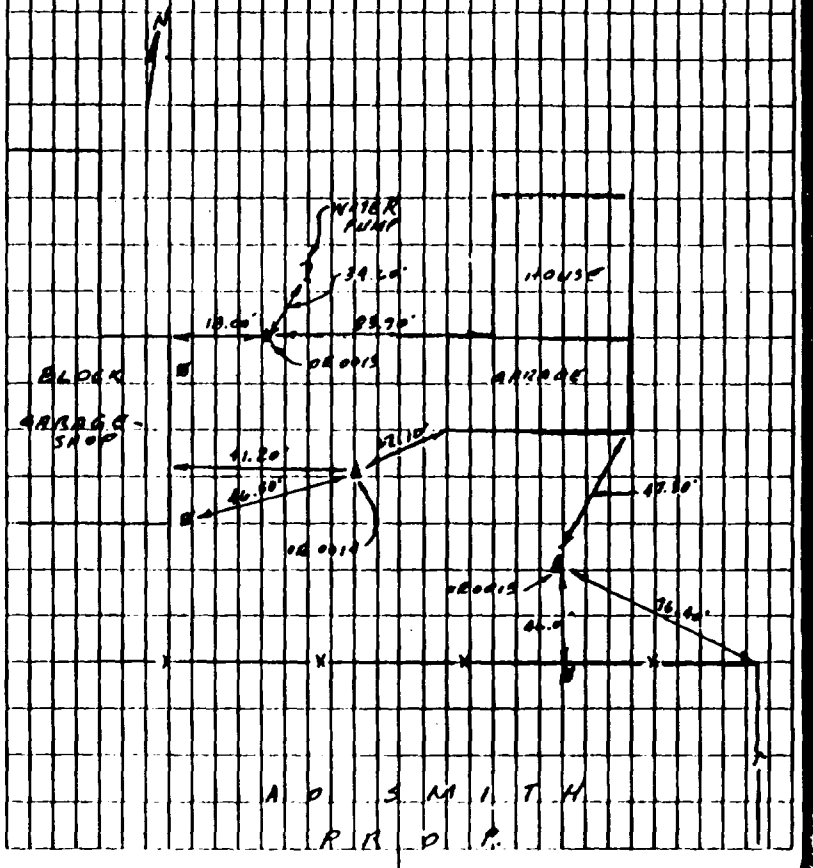
TOM - MOR
4 - MAZ

"BORINGS ON MISSOURI AVE. PROP."

		HS		Elev
TBM	4.44	429.87		425.43
OE 0013			5.23	424.64
OE 0014			5.84	424.03
OE 0015			6.35	423.52
CLOSE			4.44	425.43

Checked 7/30/92 GLB

TOP OF OLD CONC MON (FROM MARKERS) N SIDE OF MISSOURI AV @ NE COR OF PROP. (PG 54-55)



GRANITE CITY - TERRACORP PROPERTY

Project: 91044 Mon Jan 20 11:27:47 1992

Point statistics:

Starting point number: 1
Max point number used: 4000
Min point number used: 1
Current point number: 87

Current Coordinate Listing (All)

Point	Northing	Easting	Elevation	Description
1	737977.19900	502789.81410	414.55	TR001
2	737998.30900	502595.43000	414.49	MON WELL 103-91
3	738041.18480	502508.25150	414.35	TR00[illegible]
4	738114.73110	502736.04150	413.82	TR00[illegible]
5	738222.73100	502828.11190	414.43	TR0008
6	738423.33760	502811.81610	414.09	R000[illegible]
7	738406.30440	502662.37040	414.67	TR00[illegible]
8	738585.40840	502535.05680	417.26	TR[illegible]
9	738280.67860	502488.18800	416.78	TR00[illegible]
10	738181.99660	502577.24970	414.33	TR00[illegible]
11	738522.18120	502535.15800	.	F.[illegible]
12	738524.19800	502557.68190	.	F.P.
13	738622.98910	502534.03750	.	NW COR BASE NW COR
14	738606.81690	502483.00930	.	EDGE OF BL[illegible]
15	738339.26990	502486.67030	.	BLDG COR
16	738338.77470	502449.30170	.	EDGE OF BLD[illegible]
17	738255.99330	502505.34400	.	FENCE C[illegible]
18	738244.80870	502501.43510	.	P.[illegible]
19	738206.34950	502461.64480	.	FENCE COR
20	738214.17120	502453.74020	.	FENCE C[illegible]
21	737984.10900	502563.09680	.	P.[illegible]
22	737958.09750	502676.22230	.	F.P.
23	737926.23540	502830.39810	.	FENCE C[illegible]
24	737960.81270	502837.72710	.	P[illegible]
25	738039.53780	502855.41090	.	F[illegible]
26	738093.24010	502869.62520	.	A.P. FENCE LI[illegible]
27	738112.79270	502857.17730	.	A.P. FENCE LI[illegible]
28	738126.91130	502831.13910	.	A.P. FENCE LINE
29	738150.90790	502836.25040	.	GATE POST
30	738190.19570	502843.67780	.	GATE PO[illegible]
31	738196.59960	502844.61830	.	A.P. FENCE LI[illegible]
32	738190.19560	502875.40530	.	A.P. FENCE LINE
33	738204.27050	502848.27370	.	A.P. FENCE LI[illegible]
34	738247.29620	502875.30960	.	W LEG OF S[illegible]
35	738299.78920	502918.80710	.	FENCE COR
36	738321.24040	502584.75010	.	P.P.
37	738322.01350	502890.62490	.	A.P. FENCE LI[illegible]
38	738341.17970	502859.71910	.	A.P. FENCE LI[illegible]
39	738331.69510	502824.83460	.	A.P. FENCE LINE

40	738375.30900	502830.27710	.		A.P. FENCE LINE
41	738357.08690	502810.76700	.		P.P.
42	738480.83300	502641.06240	.		FENCE COR
43	738470.22040	502631.03820	.		GATE POST
44	738261.04350	502618.63440	.		P.P.
45	738263.97050	502720.63390	.		P.P.
46	738484.64260	502967.61850		414.40	R00002
47	738467.27770	502947.89150	.		P.P.
48	738501.12360	502966.86320	.		NW LEG BILLBOARD
49	738413.43910	502926.83730	.		NE COR RICH OIL BLDG
50	738401.76560	502914.29440	.		NW COR RICH OIL BLDG

NAW 21

GRANITE CITY - TERRACORP PROPERTY

Project: 91044 Mon Jan 27 09:37:13 1992

51	738391.68120	502924.88490	.		SW COR RICH OIL BLDG
52	738464.40250	502844.50030	.		COR FND OIL TANK
53	738442.91120	502619.28370	.		FENCE COR
54	738335.49630	502574.67310	.		FENCE COR
55	738383.64180	502611.17160	.		SWB BOX
56	738321.31240	502305.12450		417.56	TR0001
57	738132.25060	502281.86610		416.97	TR0002
58	738111.08224	502257.55705	.		GATE POST
59	738137.70410	502265.79360	.		FENCE LINE
60	738185.61270	502404.84440	.		P.P.
61	738313.36710	502295.82980	.		FENCE LINE
62	738327.42900	502295.77720	.		FENCE LINE
63	738319.39420	502312.89690	.		EDGE CONC RET WALL
64	738315.02640	502313.06650	.		EDGE CONC RET WALL
65	738307.89800	502343.36390	.		SE COR CL FENCE ARD
66	738898.23110	503137.98120		416.40	BV0003
67	738663.15930	503073.84070		415.98	BV0002
68	738675.41960	502923.14870		415.62	BV0001
69	738746.34120	503054.87230	.		COR CONC PAD
70	738744.77380	503055.77000	.		COR CONC PAD
71	738737.34650	503058.58160	.		COR CONC PAD
72	738738.69300	503062.42590	.		COR CONC PAD
73	738728.21710	503099.38080	.		P.P.
74	738746.46460	503113.91110	.		COR CONC PAD GRDSHK
75	738749.47890	503116.36850	.		COR CONC PAD GRDSHK
76	738736.25150	503132.73430	.		COR CONC PAD GRDSHK
77	738931.95810	503215.53050	.		COR CORR MTL BLDG
78	738974.80050	503257.92620	.		COR CORR MTL BLDG
79	739026.00350	503182.39340	.		FENCE COR
80	739012.68660	503163.59740	.		FENCE LINE
81	739077.51470	503155.60630	.		FENCE LINE
82	739117.47300	503240.34850	.		F.H.
83	739072.40680	503258.17210	.		P.P.
84	739043.17440	503198.97430		417.43	TA0001
85	738692.85230	502508.33390	.		P.K. NAIL
86	738756.45840	502554.88350		418.69	TA0002
88	738754.02240	502516.24920	.		COR MTL SHK
89	738775.12420	502512.92710	.		COR MTL SHK
90	738715.54660	502511.16350	.		GATE POST
91	738715.82460	502531.49290	.		GATE POST
92	738689.58910	502358.82950	.		P.K. NAIL
93	738779.74153	502303.72441		419.76	TA0003
94	738768.91860	502302.19711	.		MON. WELL
95	738764.03557	502321.50284	.		GATE POST
96	738811.38346	502305.24691	.		COR MTL SHED
97	738811.41055	502326.49351	.		COR MTL SHED
98	738762.41982	502301.18944	.		GATE POST
99	738698.01083	502528.04011	.		GATE POST
871	738786.41308	502546.24556	.		MONITOR WELL
872	738790.24690	502546.29210	.		MONITOR WELL
1000	739343.39040	502991.72900	.		CONC. MON. W. CAP
2000	739029.06730	503224.47200	.		CONC. MON. W. CAP
3000	738349.06990	502811.00500	.		CONC. MON. W. CAP
4000	737968.07000	502856.12000	.		CONC. MON. W. CAP

1000	739340.39040	502991.12400	.	CONC. MON. W. CAP
2000	739029.06730	503224.47200	.	CONC. MON. W. CAP
3000	738349.06990	502811.00500	.	CONC. MON. W. CAP
4000	737968.07000	502676.12000	.	CONC. MON. W. CAP

NORTHING	EASTING	PT. ID.	OFF BY
737,977 ✓	502,823	TR0010	+34
738,222 ✓	502,861	TR0008	+33
738,041 ✓	502,542	TR0004	+34
738,115 ✓	502,769	TR0009	+33
738,424 ✓	502,845	R0 0001	+34
738,407 ✓	502,~~569~~ 696	TR0007	+34
738,585 ✓	502,569	TR0006	+34
738,280 ✓	502,522	TR0005	+34
738,182 ✓	502,610	TR0003	+33
		AVG	+33.67

GARY BUCHETT
241-4744

SURDEX GRID LINES ARE OFF +14 FT NORTHING AND +7 FT EASTING FROM ZAMBRA

* POINTS MEASURED FROM ZAMBRANA GRID LINES (SURDEX LINES ARE FARTHER OFF

11

CM-4

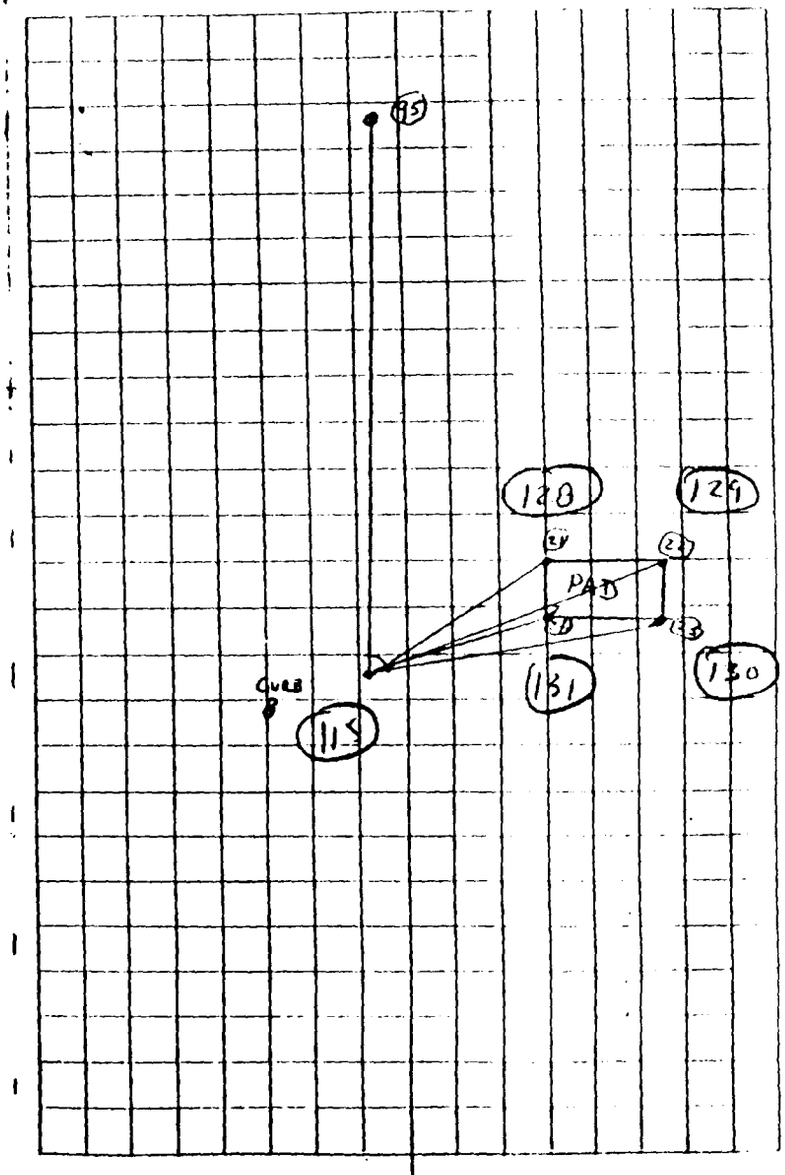
TC (95) B.S. (96) Orlando Ave. Hwy. 64

Angle	Distance	Station
190° 25' 00	665.84	Curb #1
190° 25' 50"	642.00	Curb #2 N. End Entrance
190° 23' 25"	609.89	Curb #3 S. End Entrance
190° 27' 15"	586.27	Curb #4 N. End Ent.
190° 27' 15"	556.66	Curb #5 S. End Ent.
190° 27' 00"	537.33	Curb #6
190° 28' 50"	461.04	Curb #7 N. End Ent.
190° 30' 15"	419.09'	Curb #8 S. End Ent
190° 34' 15"	321.40'	Curb #9
190° 44' 05"	218.42	Curb #10 N. End Ent.
191° 01' 35"	146.67	Curb #11 S. End Ent.
191° 12' 50"	113.20	Curb #12
187° 00' 10"	113.27	Curb #13
181° 18' 55"	43.16	Curb #14
192° 51' 50"	44.20	Curb #15
81° 10' 15"	7.49	Curb #16
303° 03' 25"	1.50	Curb #17
350° 28' 45"	46.09	Curb #18
342° 04' 20"	52.64	Curb #19
339° 00' 15"	65.66	Curb #20

PT. #
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127

12 (115)

Tower B	Site				
	(95)	0°00'00"			
	21	71°25'15"			
	Dist	B-21	198.73'		
	95	0°00'00"			
	22	72°56'05"			
	Dist	B-22	204.69'		
	95	0°00'00"			
	23	73°51'45"			
	Dist	B-23	201.80'		
	95	0°00'00"			
	24	72°17'00"			
	Dist	B-24	198.02'		



Sta	BS	HI	FS	Elev.	ADJ. ELEV.	
Min. 4	5.595	419.801		414.206	414.206	CM 4
CURB 20 TOP	5.38	419.721	5.46	414.341	414.370	
Bottom CURB 20			5.72	414.001	414.03	
TOP Storm sewer B			5.46	414.26	414.29	10" Clay Pipe
Flowline N. Storm sewer B			8.66	411.06	411.09	
Flowline S Storm sewer B			8.23	411.49	411.52	
Storm Sewer 9 Top			5.77	413.96	413.98	0.85' x 4.4' OPENING
Flowline 9			7.86	411.92	411.95	10" Clay Pipe
MH 7 Water			5.47	414.25	414.28	
7 Water Meter			9.46	410.26	410.29	
MH 6 TOP Storm sewer			5.65	414.07	414.10	
TOP 10" Clay Pipe South			8.40	411.24	411.27	TOP OF Pipe
Flowline 10" Clay Pipe North			9.24	410.49	410.51	
TOP Clay Pipe with Hole in it			9.44	410.28	410.31	running E & W
Flowline Large Pipe			11.84	407.88	407.91	
CURB 19 TOP			5.31	414.41	414.44	
CURB 19 Bottom			5.67	414.05	414.08	
CURB 18 TOP			5.27	414.45	414.48	
CURB 18 Bottom			5.65	414.07	414.10	
CURB 17 TOP			5.44	414.24	414.27	
CURB 17 Bottom			5.70	414.02	414.05	
CURB 16 TOP			5.43	414.24	414.27	
MH 4 TOP Storm Sewer			5.37	414.35	414.38	
Flowline S. MH 4			8.32	411.40	411.43	
Flowline N. MH 4			7.85	411.87	411.90	

4 STA	BS	HI	FS	ELEV.	ADJ. ELEV	
Building A1			5.09	414.63	414.66	
Building A2			5.52	414.20	414.23	
Building A4			5.19	414.53	414.56	
MH3 water TOP			5.53	414.19	414.22	
MH3 meter			6.61	413.11	413.14	
CURB 14			5.54	414.19	414.21	
CURB 15			5.84	413.88	413.91	Edge Pavement
CB-12 TOP			6.22	413.50	413.53	
CB-12 Flowline			7.53	412.19	412.17	10" Clay Pipe
CURB 12 TOP	5.49	419.551	5.66	414.061	414.119	
CURB 13			5.69	413.86	413.92	
Building A3			5.39	414.16	414.22	
Building B1			4.15	415.40	415.46	
Building B2			4.45	415.10	415.16	
Building B-4			4.09	415.47	415.53	
MH2 TOP water meter			5.19	414.36	414.42	
MH meter			6.35	413.20	413.26	
CURB-11 TOP			5.31	414.24	414.30	
CURB-11 Bottom			5.61	413.94	414.00	
Bottom CURB 10			5.70	413.85	413.91	
TOP CURB 10	5.21	419.841	5.62	414.131	414.213	
Building B3			4.37	415.47	415.56	
PAD 21			2.47	417.37	417.46	
PAD 22			2.53	417.31	417.40	
PAD 23			2.54	417.30	417.39	
PAD 24			2.48	417.36	417.45	

5

Sta	BS	HI	FS	Elev.	ADJ. ELEV
Top Curb 9			5.96	414.38	414.47
Bottom Curb 9			5.66	414.18	414.27
Top Curb 8			5.28	414.56	414.65
Curb 8 Bottom			5.53	414.31	414.40
Top Curb 7			5.30	414.54	414.63
Bottom Curb 7			5.55	414.29	414.38
Top Curb 6			5.01	414.83	414.92
Bottom Curb 6			5.23	414.61	414.70
Bottom Curb 5			5.39	414.45	414.54
Top Curb 5	6.87	421.711	5.00	414.841	414.957
Building C1			6.00	415.711	415.83
Building C2			5.27	416.44	416.56
Building D1			4.816	416.895	416.97
Building D2			4.83	416.88	416.99
Building D3			5.00	416.711	416.82
Top Curb 5	5.83	420.67		414.84	414.957
Top Curb 4			5.57	415.10	415.21
Bottom Curb 4			5.84	414.73	414.84
Top Curb 3			5.49	415.18	415.30
Bottom Curb 3			5.92	414.75	414.87
Top Curb 2			5.63	415.04	415.16
Bottom Curb 2			5.85	414.82	414.94
Top Curb 1			5.44	415.23	415.34
Bottom Curb 1			5.50	415.17	415.28

6

STA	BS	HI	FS	ELEV	ADJ. ELEV
Building C-3			4.14	415.93	416.05
Building C-4			4.08	416.54	416.71
Building D-4			3.72	416.95	417.07
Man. 2			3.57	417.10	417.216
Man. 2	6.21	423.43		417.22	
Man. 1			4.42	419.01	
Man. 1	7.93	426.83		419.00	
Building E-1			4.78	422.05	
Building E-2			4.73	422.10	
Building E-3	5.26	427.15	4.94	421.89	
Building E-4	5.17	427.11	5.21	421.94	
CB-4 top			5.95	421.16	
CB-5 top			5.98	421.13	
CB-6 top			5.96	421.15	
CB-8			6.98	420.13	
CB-7			6.19	420.92	
CB-3			5.76	421.35	
CB-2			5.91	421.20	
Building E-1			5.91	421.20	
CB-10	7.46	427.02	7.55	419.56	
Building G-1			5.46	421.56	
Building G-2			5.64	421.38	

417.216

418.926

7

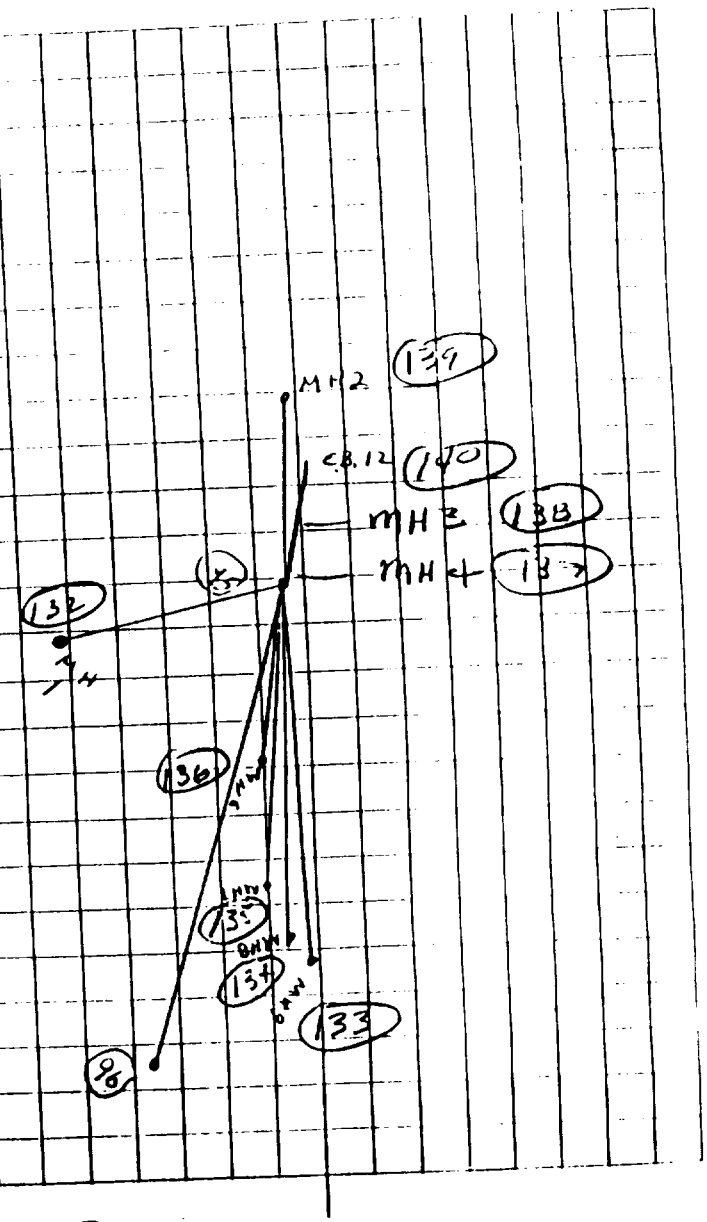
STA	BS	HI	FS	ELEV.
CB 8	7.73	427.86		420.13
Building F-2			4.70	423.16
" P-3			5.56	422.30
" F-6			5.80	422.06
CB-9			7.51	420.35
CB-11	6.15	425.17	8.84	419.02
Building G-3			5.46	419.71
" G-4			5.56	419.61
" H-1			5.23	419.94
TP.	4.21	425.09	4.29	420.88
Building H2			7.56	417.53
" H3			6.50	418.59
Building G-3	1.11	420.82		419.71
" H-4	4.65	422.26	3.25	417.57
" H5			4.27	417.99
" H6			3.98	418.28
" H-7			4.07	418.19
" H-8	5.04	422.50	4.80	417.46
" H-9			5.08	417.42
" I-9			3.10	419.40
TP.	5.04	419.98	8.56	413.94
MH1 Top			3.34	416.64
FL 6" Pipe			8.07	410.91
Flowline				
Mon. ~~2~~ 4			4.78	414.20

Unable to measure

8

KD95

Site on	Reading	Angle	
96	0°00'00"		
MH1	51°22'20"		
	Dist 95 - MH1	352.06	
96	0°00'00"		
MH9	339°41'10"		
	Dist 95 - MH-9	110.25	
96	0°00'00"		
MH8	344°06'20"		
	Dist 95 - MH8	75.98	
96	0°00'00"		
MH7	343°24'40"		
	Dist MH7	67.39	2'x2' Box
96	0°00'00"		
MH6	346°35'55"		
	Dist 95 - MH6	32.50	134
96	0°00'00"		
MH4	192°55'50"		
	Dist 95 - MH4	7.75	137
96	0°00'00"		
MH3	129°58'10"		
	95 - MH3	30.75	138
96	0°00'00"		
MH2	187°17'55"		
	Dist 95 - MH2	145.33	139
96	0°00'00"		
CB-12	192°-05"		140
	Dist 95 - CB-12	76.78	



Project: [illegible]

Point statistics:

Starting point number: [illegible]

Max point number used: [illegible]

Min point number used: 1

Current point number: [illegible]

Current Coordinate Listing [illegible]

Point	Northing	Easting	Elevation	Description
1	[illegible]	[illegible]	414.55	[illegible]
2	[illegible]	[illegible]	414.49	MON WELL [illegible]
3	[illegible]	[illegible]	414.55	[illegible]
4	[illegible]	[illegible]	413.51	[illegible]
5	[illegible]	[illegible]	414.43	[illegible]
6	[illegible]	[illegible]	414.39	[illegible]
7	[illegible]	[illegible]	414.57	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	413.73	[illegible]
[illegible]	[illegible]	[illegible]	414.31	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	NW COR BASE [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	EDGE OF [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	BLDG [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	EDGE OF [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	EDGE [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	EDGE [illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

Project: [illegible]

79	[illegible]	[illegible]	.	[illegible]
80	[illegible]	[illegible]	.	[illegible]
81	[illegible]	[illegible]	.	[illegible]
82	[illegible]	[illegible]	.	[illegible]
83	[illegible]	[illegible]	.	[illegible]
84	[illegible]	[illegible]	.	[illegible]
85	[illegible]	[illegible]	.	[illegible]
86	[illegible]	[illegible]	.	[illegible]
87	[illegible]	[illegible]	.	[illegible]
88	[illegible]	[illegible]	.	[illegible]
89	[illegible]	[illegible]	.	[illegible]
90	[illegible]	[illegible]	.	[illegible]
91	[illegible]	[illegible]	.	[illegible]
92	[illegible]	[illegible]	.	[illegible]
93	[illegible]	502329.22441	419.73	[illegible]
94	[illegible]	[illegible]	.	MON. WELL
95	[illegible]	[illegible]	.	GATE POST
96	[illegible]	[illegible]	.	CIR MTL [illegible]
97	[illegible]	[illegible]	.	CIR MTL SHED
98	[illegible]	[illegible]	.	GATE POST
99	[illegible]	[illegible]	.	GATE POST
100	[illegible]	[illegible]	.	MONITOR WELL
101	[illegible]	[illegible]	.	MONITOR WELL
102	[illegible]	[illegible]	.	CONC. MON. W. [illegible]
103	[illegible]	[illegible]	.	CONC. MON. W. [illegible]
104	[illegible]	[illegible]	.	CONC. MON. W. [illegible]
105	[illegible]	[illegible]	.	CONC. MON. W. [illegible]
106	[illegible]	[illegible]	.	MON WELL [illegible]
107	[illegible]	[illegible]	.	MON WELL [illegible]
108	[illegible]	[illegible]	.	MON WELL [illegible]
109	[illegible]	[illegible]	.	[illegible]
110	[illegible]	[illegible]	.	[illegible]
111	[illegible]	[illegible]	.	[illegible]
112	[illegible]	[illegible]	.	[illegible]
113	[illegible]	[illegible]	.	[illegible]
114	[illegible]	[illegible]	.	[illegible]
115	[illegible]	[illegible]	.	[illegible]
116	[illegible]	[illegible]	.	[illegible]
117	[illegible]	[illegible]	.	[illegible]
118	[illegible]	[illegible]	.	[illegible]
119	[illegible]	[illegible]	.	[illegible]
120	[illegible]	[illegible]	.	[illegible]

SUPPLEMENTAL FIELD SURVEY

September 1, 1992

(314) 456-3332
(314) 456-2615

County Engineering, Inc.
REGISTERED LAND SURVEYORS
AND PROFESSIONAL ENGINEERS

ROBERT L. LEWIS
MO. LS #1004
PROFESSIONAL ENGINEER
#E-11509
101 EAST WALTON
WARRENTON, MO. 63383

LARRY P. BADE
MO. LS #1434
IOWA LS #10673
ILL. LS #035-2774
ENGINEER IN TRAINING
#15424-E

Phone

Projects

I) WOODWARD - CLYDE CONSULTANTS
NL/TARACORP PH. I
PROJ. NO. 99 MC [illegible]
GRANITE CITY, IL
7-1-92

This book is published on a fine 50% cotton-content ledger paper, specially treated for maximum archival service, and protected by a water resistant surface sizing.

B & S Industries
Builder's and Surveyor's Supply

To reorder call: 1-800-733-9281

Projects (continued)

TUES. [illegible] 1, 1977
PARKING [illegible]

INDUSTRIAL [illegible] CONSTRUCTION
GRANITE CITY, ILL.
NC/TRACK CORP PDFT

SAM SCHWARTZ P.C.
JIM PRIOR ROD
MAX SUKUS INST.

PULKOW - DTMS
WELLS - MAC

Named by: COUNTY ENGINEERING, INC. [illegible]
[illegible]-Coordinates/Eng-Adj 33070 9/03/93 17:33:33 Factor: 1.0000000

No.	Code	North	East	Elevation	Desc.
95		739353.66601	503940.30654	0.0000	
96		737368.07000	502676.12000	414.8060	MON 4
97		738843.98716	503489.03306	0.0000	
98		739036.06730	503334.47300	417.8160	MON 2
99		739343.39040	502991.72900	418.9960	MON 1
105		738379.06990	502811.00500	414.6460	MON 3
106		739039.09857	503234.45014	0.0000	
107		739343.43714	503991.73973	0.0000	
108		738884.35793	503410.39785	0.0000	curb
109		738807.36301	503397.58030	0.0000	curb
110		738784.88887	503370.50586	0.0000	curb
111		738787.83086	503354.40407	0.0000	curb
112		738745.67318	503333.43977	0.0000	curb
113		738733.01730	503319.50683	0.0000	curb
114		738676.84196	503286.10117	0.0000	curb
115		738643.[illegible]	503236.57930	0.0000	curb
116		738671.[illegible]	503187.78334	0.0000	curb
117		738718.[illegible]	503195.33734	0.0000	curb
118		738755.[illegible]	503144.93494	0.0000	curb
119		738731.[illegible]	503131.01735	0.0000	curb
[illegible]		738737.[illegible]	503[illegible].34038	0.0000	curb
[illegible]		738787.[illegible]	503285.55357	0.0000	curb
123		738382.61065	503272.81390	0.0000	curb
124		738755.90884	503233.55342	0.0000	curb
[illegible]		738[illegible]	503240.57943	0.0000	curb
[illegible]		738[illegible].86483	503310.85465	0.0000	curb
[illegible]		738[illegible].[illegible]	503315.30583	0.0000	curb
[illegible]		738[illegible]	503[illegible]	0.0000	curb
132		738737.43813	503139.50183	0.0000	PAD U.S.T. LOCATION
133		738744.89444	503055.73346	0.0000	PAD "
134		738[illegible]	503053.84033	0.0000	PAD "
[illegible]		738739.[illegible]	503042.38112	0.0000	PAD "
[illegible]		738[illegible].23079	503038.10293	0.0000	[illegible]
[illegible]		738[illegible].73329	503[illegible].[illegible]	0.0000	[illegible]
134		739279.14095	502931.16635	0.0000	M.H. 3
135		738768.54077	502919.59830	0.0000	M.H. 7
136		738[illegible].37615	502[illegible].73311	0.0000	M.H. 6
137		738[illegible].51317	502746.[illegible]	0.0000	M.H. 4
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		738[illegible].74039	503[illegible].15187	0.0000	C.B. [illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]

SHEET C

SITE SAFETY AND HEALTH PLAN
ADDENDUM No. 1

NL/TARACORP
SUPERFUND SITE
GRANITE CITY, ILLINOIS

Prepared for
U.S. Department of the Army
Corps of Engineers, Omaha Division

WOODWARD-CLYDE CONSULTANTS

2318 Millpark
St. Louis, Missouri 63043

WCC Project no. 89MC114V

APPROVALS

Project Name: NL/Taracorp Superfund Site

Project Number: 89MC114V

Project Manager: Ken Hagg

Date of Issue: 15 April 1992

Effective Dates: 15 April 1992 through 15 April 1993

APPROVALS:

K A Hagg — 4/16/92
Project Manager (PM) — Date

David L. Pate — 4-15-92
Field Operations Manager (FOM) — Date

Cynthia Paulsen — 4-15-92
Site Safety Officer (SSO) — Date

Gregory N. Hunter — 4-15-92
Health and Safety Officer (HSO) — Date

[illegible] — 4/16/92
Corporate Health and Safety Officer (CHSO) (CIH) — Date

SITE SAFETY AND HEALTH PLAN

ADDENDUM No. 1

1.0
INTRODUCTION

Due to changes in field activities, this Addendum No. 1 to the Site Safety and Health Plan (SSHP) dated 10/24/91 further establishes guidelines and requirements for the safety of personnel during the field activities associated with the pre-design field investigation for the NL Industries/Taracorp Superfund Site. This Addendum to the SSHP should be attached to all copies of the SSHP and distributed to all personnel on-site. This Addendum pertains to two field activities:

- Hand Auger Borings and Sampling
- Installation of Intervisible Permanent Horizontal Control Monuments (addition to SSHP)

Hand Auger Boring (HAB) soil samples are being collected from the "adjacent" residential areas and from the remote fill locations within the NL/Taracorp Superfund Site. To reduce heat stress among the HAB team members, this addendum recommends the team member documenting the field activities be required only to wear personal protective equipment (PPE) at EPA Level "D". This addendum changes the SSHP requirement on p. 27 that all Hand Auger Boring personnel are required to wear PPE at EPA Modified Level "D".

This addendum will allow one team member, besides conducting documentation, to also be a support person for the other team members within the exclusion and reduction zones. The team member conducting documentation will not be allowed within the exclusion and reduction zones. For explanation of work zones see Section 8.4 of the SSHP (pp. 19-20).

Tasks the team member wearing EPA Level "D" may conduct are:

- Resident contact during field activities
- Documentation of all field activities
- Handling and labeling of decontaminated sample jars
- Handling decontaminated equipment

The EPA Level "D" Personal Protective Equipment requirements are listed in Section 8.6.1 of the SSHP (p. 20).

INSTALLATION OF PERMANENT INTERVISIBLE MONUMENTS

Intervisible permanent horizontal control monuments were installed at the Main Industrial Property within the NL/Taracorp Superfund Site. This field activity was not included in the SSHP. The installation of the monuments includes digging four 1 ft by 2 ft holes with hand tools. This activity is considered to be a medium hazard. Direct contact by site personnel with hazardous substances is likely. Exposure could occur by contact with contaminated equipment or by the handling of the soil.

The installation of the monuments is an intrusive activity. All site safety of personnel should follow the guidelines and requirements listed in the SSHP for intrusive activities.
Personal Protective Equipment required for intrusive activities performed at the NL Site include EPA Modified Level "D" (p. 12, SSHP). All action guidelines for Modified Level "D" should also be followed as described in the SSHP (p. 27). Other site specific health and safety requirements such as decontamination should be followed as described in the SSHP.

FORM HS-507
SITE SAFETY PLAN ADDENDUM #2
FIELD INVESTIGATION OF UNDERGROUND FUEL SPILLS

ADMINISTRATIVE INFORMATION

Project Number	89MC114V	Project Name	NL/TARACORP
Project Manager	Ken Hagg	Operating Unit	St. Louis
Site Safety Officer	Cynthia Pavelka	Health & Safety Officer	Greg Horton
Date of Issue	6/19/92	Effective Dates	6/19/92 to 6/19/93

SITE INFORMATION (attach map of site)

Location: Granite City, Illinois (See Project SSHP)

Pertinent History: The NL/Taracorp SSHP did not anticipate encountering petroleum products on site, so no provisions were included to cover this scenario

Material(s) Spilled: Petroleum products were detected at the top of groundwater in well MW-108-92.

FIELD ACTIVITIES

Monitoring well installation and development.
Groundwater sampling

EMERGENCY TELEPHONE NUMBERS

Fire Department	See SSHP
Ambulance	(618)877-4747
Hospital	(618) 789-3000
Project Manager	(314) 429-0100
Health & Safety Officer	(216) 349-2708
Hospital	

507.0 PROCEDURES FOR FIELD INVESTIGATIONS OF UNDERGROUND SPILLS OF GASOLINE AND OTHER PETROLEUM DISTILLATE FUELS

507.1 PURPOSE

The purpose of this procedure is to establish sound and uniform health and safety procedures and guidelines for field operations associated with investigations of leakage of petroleum hydrocarbon fuels from underground storage tanks and pipes.

507.2 SCOPE

This procedure identifies the kinds of fuels and field activities to which it applies, assesses the hazards of fuels, and describes risk control measures.

507.3 APPLICABILITY

This procedure applies to (1) collection of samples of surface and subsurface soil, (2) construction, completion, and testing of groundwater monitoring wells, (3) collection of water samples from new and existing wells, and observing removal of underground fuel pipes and storage tanks at facilities that currently dispense or store (1) leaded gasoline (2) unleaded gasoline, (3) gasohol, (4) Numbers 1, 1D, 2, 2D, 4, 5, or 6 fueled oils, (5) Numbers 3, 4, or 5 jet fuel, and/or (6) used crankcase oil.

This procedure shall not be used for confined space entry (including entering trenches) or for installing or operating pilot and full-scale fuel recovery systems. It is also not applicable to

Petroleum distillate fuels exhibit relatively low acute inhalation and dermal toxicity. Concentrations of 160 to 270 ppm gasoline vapor have been reported to cause eye, nose, and throat irritation in people after several hours of exposure. Levels of 500 to 900 ppm have been reported to cause irritation and dizziness in one hour and [illegible]00 ppm has been reported to cause mild anesthesia in 30 minutes. Gasoline, kerosene, and some jet fuels will cause severe eye irritation on contact with the eye and low to moderate skin irritation on contact with the skin.

Ingestion of 10 to 15 grams (2 to 3 teaspoons) of gasoline has caused death in children. In adults, ingestion of 20 to 50 grams may produce severe symptoms of poisoning. Secondary pneumonia may occur if gasoline or other fuels are aspirated into the lungs.

Some gasoline additives, such as ethylene dichloride, ethylene dibromide, and tetraethyl- and tetramethyl-lead are highly toxic materials; however, their concentrations in gasoline are so low that their contribution to the overall toxicity of gasoline is negligible in most instances.

Petroleum distillate fuels are flammable. Under certain conditions, this property presents a greater risk than toxicity. Five of the 13 substances covered by this procedure are classified by the Federal Department of Transportation as flammable liquids as all five have flash points of 100 degrees F or less. These fuels are gasoline, gasohol, JP-1, JP-4, and No. 1 fuel oil. Lower explosive limits of the 12 fuels range from 0.6 to 1.4 percent (6,000 to 14,000 ppm).

3. Safety goggles or glasses. Must be worn when working within 10 feet of operating heavy equipment (e.g., drill rig, backhoe). Must be splash-proof when handling concentrated fuel product.

4. Nitrile or neoprene gloves. Must be worn when handling contaminated soil or water or drilling or digging into contaminated soil.

5. Neoprene or butyl rubber safety boots, calf-length. Must be worn when walking on obviously contaminated soil and when working within 10 feet of operating heavy equipment.

6. Hardhat. Must be worn when working within 10 feet of operating heavy equipment.

507.9 EXPLOSION HAZARD AND EVACUATION

When measurements with a combustible gas meter (CGM) indicate the presence of combustible gas levels equal to or exceeding the explosivity action level (see Section 507.10.2) in the work area, the following action must be taken.

1. Extinguish all possible ignition sources in the work area (e.g., shut down electrically and fuel powered motors).

2. Move personnel at least 100 feet away from work area.

3. Leave CGM in work area and return to work area only if CGM alarm goes off and remains off for at least 15 minutes.

4. Contact Health and Safety Officer (HSO).

507.10.3 MONITORING GUIDELINES

Vapor monitoring should be performed as often as necessary and wherever necessary to protect field personnel from hazardous vapors. Monitoring must be performed by individuals trained in the use and care of the required instruments. Because toxicity action levels are considerably lower then explosivity action levels, monitoring efforts should focus initially on detection of toxic vapors. The presence of explosive levels of gases and vapors should be performed only when gas/vapor concentrations exceed the ppm range of the monitoring instruments and when explosive levels are expected (e.g., inside tanks and other enclosed spaces).

During drilling operations, vapor emissions may be measured continuously or periodically. If vapors are measured continuously and the instrument must be unattended, the sample intake orifice or, in the case of instruments that operate by diffusion, the detector, must be positioned in a safe place downwind of the borehole and the instrument alarm set to sound at the action level.

If the alarm sounds while monitoring continuously for toxic concentrations, the sample intake orifice/detector should be moved so that vapor concentrations in the breathing zones of individuals closest to the boring are measured. Decisions regarding respirator use should be based on breathing zone vapor concentrations. If the alarm sounds while continuously monitoring fire explosive concentrations, initiate shut-down and evacuation procedures immediately. If vapor emissions are measured periodically, they should be measured whenever the boring is open. Measurements may be limited to breathing zone air.

the site safety officer, and are informed of the potential dangers that could be encountered in the areas.

507.12 DECONTAMINATION

Field decontamination of personnel and equipment is not required except when contamination is obvious (visually or by odor). Recommended decontamination procedures follow.

507.12.1 PERSONNEL

Gasoline, kerosene, jet fuel, and gasohol should be removed from skin using a mild detergent and water. Hot water is more effective than cold. Liquid dishwashing detergent is more effective than hand soap.

507.12.2 EQUIPMENT

Gloves, respirators, hardhats, boots and goggles should be cleaned as described under personnel; however, if boots do not become clean after washing with detergent and water, wash them with a strong solution of trisodium phosphate and hot water.

Sampling equipment, augers, vehicle undercarriages, and tires should be steam cleaned. The steam cleaner is a convenient source of hot water for personnel and protective equipment cleaning.

507.13 SMOKING

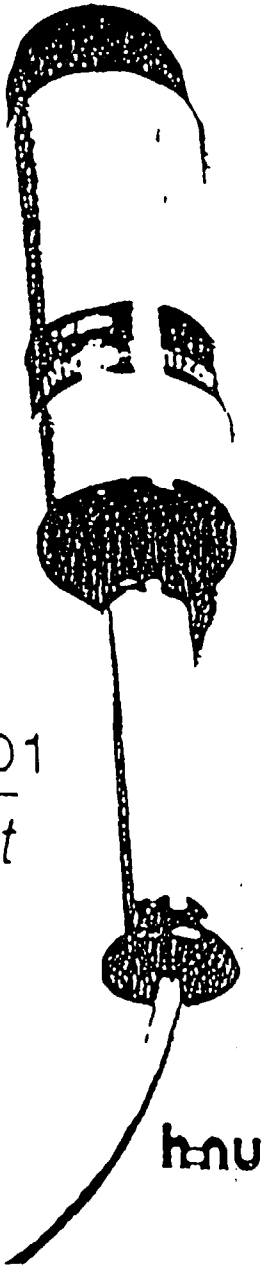
Smoking and open flames are strictly prohibited at sites under investigation.

hnu

HNU Systems, Inc., 160 Charlemont Street, Newton, MA 02161-9987
Tel:(617)964-6690 Telex:6817153 Fax:(617)965-5812

HNU Systems (Canada), Ltd., 85 Albert Street, Suite 1610, Ottawa, Ontario K1P 6A4
Tel:(613)563-3674 Telex:053-3198 Fax:(613)563-1992

HNU Systems, Ltd., The Arsenal, Heapy Street, Macclesfield, Cheshire SK11 7JB
Tel:0625 615642 Telex:668005 Fax:0625 616916



Model ISPI-101

Quick-Start Manual

hnu

Attach the probe to the readout module. Align the slot on the 12-pin connector (2) at the end of the probe cable with the tab in the 12-pin receptacle (1) on the readout module. DO NOT FORCE THE CONNECTOR INTO THE RECEPTACLE. Once the connector has been inserted into the receptacle, turn the connector clockwise until a distinct click is heard and felt.

Turn the function switch (3) to the BATT position. The meter needle should deflect to the green area at the righthand side of the meter scale plate. Listen to the probe and make sure that the fan is operating. It makes a humming sound. Look BRIEFLY directly into the probe inlet (13) and observe the lamp glow. The lamp glow will appear as a purple light.

> CAUTION: Prolonged exposure to the ultraviolet rays of the lamp will cause eye damage.

The lamp glow cannot be observed when the probe extension (14) is attached.

Turn the function switch (3) to the STANDBY position. The fan will continue to operate. The lamp will be off. The meter needle will move to the left out of the green area on the meter scale plate. Turn the zero knob (4) until the meter needle rests at 0. (The ISPI-101 can be electronically zeroed only while the function switch is in the STANDBY position.)

Check the span setting (1.0 for 9.5 eV lamps, 9.8 for 10.2 eV lamps, 5.0 for 11.7 eV lamps) and adjust as necessary using the span control (5). Connect the regulator to the calibration gas canister (see figure 2). Using flexible tubing (three inches long is sufficient, one quarter inch diameter), connect the calibration gas to the probe inlet (13, Figure 1) and open the valve on the regulator. Use of the probe extension (14, Figure 1) is optional during this procedure.[1] Recheck the electronic zero and adjust as necessary.

Once the ISPI-101 has been electronically zeroed, turn the function switch (3, Figure 1) to the 0-2000 range position (×100).

CALIBRATION TEST SET-UP

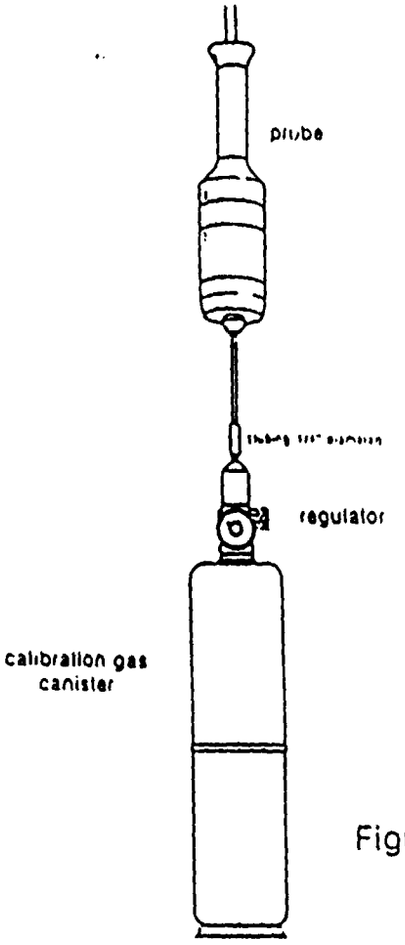


Figure 2

CALIBRATION

HNU calibration gas consists of approximately 100 ppm isobutylene in an air matrix. It has been referenced to benzene. The meter reading that should be obtained during calibration is marked on the gas canister label.[1] With the function switch (3, Figure 1) at the 0-2000 range position, the meter needle should move slightly to the right.

> NOTE: Any calibration gas used must have the same matrix gas as the atmosphere in which the ISPI-101 will be used. Use of any other gas will significantly affect the readings obtained. Readings may appear to be far higher or lower than they actually are. If the monitor is to be used in air, never use N_2 or any gas other than air, as the matrix gas in calibration standards.

Turn the function switch to the 0-200 range position (X100). The meter should read very close to the ppm number on the calibration gas canister. Adjust the span pot (5, Figure 1) until an exact reading is obtained. The span setting used to obtain an accurate reading in this procedure is the reference point from which all other readings will be determined.

Turn the function switch (3, Figure 1) to the 0-20 range position (X1). The meter needle should deflect fully to the right.

Turn the function switch back to the 0-200 range position and recheck the meter reading to ensure that an accurate reading has held. Make any needed adjustments to the span control (5, Figure 1), and, if necessary, recheck the accuracy by turning the function switch to the 0-20 range position and then back to the 0-200 range position.

Turn the function switch to the OFF position. Close the valve on the calibration gas regulator and disconnect it from the probe inlet (13, Figure 1). The ISPI-101 is now ready for field use.

> NOTE: High humidity (90 percent and above) will affect sensitivity. This should be taken into account when calibrating. Readings may appear to be lower than actual, but use of a humid air matrix in the calibration standard minimizes this effect.

QUICK CHECKS

Low Sensitivity: See Service Note 86-01, "Lamp and Ion Chamber Cleaning," on page ? of this booklet.

- Meter reading below the green area and/or
- The low battery indicator LED is on; and/or
- The ISPI-101 is inoperable (will not function at all when the function switch (3, Figure 1) is in the BATT position)

The ISPI-101 requires a charge (see directions below).

The ISPI-101 has been designed with a battery [illegible] section circuit. When the output voltage of the battery has reached 11 volts DC, the ISPI-101 shuts itself down. This is not a malfunction, but simply an indication that the unit needs to be charged.

CHARGING THE ISPI-101

NOTE: NEVER CHARGE THE ISPI-101 IN A HAZARDOUS AREA!

Turn the function switch (3, Figure 1) to the OFF position. The probe may or may not be attached to the readout module during the ISPI-101 charging process; either way will cause no damage to the probe or the readout module, nor impair the charging process.

Connect the miniplug (9, Figure 1) on the charger to the minijack on the charger adapter (10, Figure 1). Plug the charger adapter plug (10, Figure 1) into the charger jack (8, Figure 1) on the side of the ISPI-101. This jack is recognized by the red ring around it. It is located on the black outer casing of the ISPI-101 readout module above the control section. Connect the charger power cord (11, Figure 1) to an AC power supply. Observe the LED on the charger (12, Figure 1). It should be on when the power cord is connected to an AC power supply. Charge the ISPI-101 for eight to ten hours or more.

The ISPI-101 can be left on charge whenever it is not in use. It cannot overcharge. The ISPI-101 cannot be operated when attached to the charger. If any contaminant (such as metal shavings) enters the charger jack (8, Figure 1) and causes a short, the ISPI-101 will not operate.

QUICK CHECKS

Charge did not "take":

- Is the ISPI-101 function switch in the OFF position?
- Is the battery check meter reading below the green arc on the meter face plate when the probe is not attached?
- Is the charger LED on?
- Is the AC power supply operational?
- Is the charger adapter plug (10, Figure 1) in the charging jack (8, Figure 1), or has any contaminant shorted the jack?
- Is the charger output -15 VDC?

To check the output of the charger, use a voltmeter. Disconnect the charger from the charger adapter. The charger must be connected to an AC power supply during this process. Place the black (common) lead on the miniplug on the sleeve. Place the red (positive) lead on the tip of the miniplug. Observe the voltage reading on the voltmeter (it will be a negative voltage reading). Repeat this process with the charger adapter attached to the charger miniplug, and observe the voltage reading to ensure that the charger adapter is not faulty. Place the common lead on the charger adapter plug sleeve. Place the positive lead on the tip. The voltage reading should be the same as the reading taken directly from the charger minijack. The correct voltage is -15 VDC, ±1.5 VDC. If a positive voltage is read at this point, check the position of the voltmeter leads.

For more detailed information on the ISPI-101, consult the complete ISPI-101 manual, or contact HNU Systems, Inc.

[1] The probe extension may become contaminated during normal use and must be cleaned periodically. Use the same procedure as for ion chamber cleaning, which is described in Service Note 86-01 (included in this booklet). If the probe extension is used during calibration, it should be free of any contaminants to ensure an accurate calibration.

[2] Most calibration gas canisters supplied by HNU Systems, Inc., have a label stating a particular ppm to be read with a span setting of 9.8. This is the recommended span setting for the 10.2 eV lamp ONLY, which is the most commonly used lamp. Be sure to use the span setting recommended for the particular lamp that is used during the calibration; 1.0 for 9.5 eV lamps, 9.8 for 10.2 eV lamps, and 5.0 for 11.7 eV lamps.

CLEANING PROCEDURE

FOR PI-101-OP, PL AND ISI
LAMP AND ION CHAMBER

LAMP REMOVAL

Remove the probe from the unit. Hold the probe upright. Carefully remove the two cross recessed screws that hold the black end cap. Carefully remove the end cap. If the white ion chamber cover remains in the cap, remove it. The lamp should remain in the probe body. For IS model, only remove the two screws holding the ion chamber on and let the chamber fall into the probe. For PM and S models, place your hand over the top of the probe and let it, the lamp will fall into your hand. For IS models only, loosen the small set screw in the side of the lamp housing. Place your hand over the top of the probe and let the lamp fall into your hand. Note the eV number stamped on the lamp.

LAMP CLEANING 10.2 AND 9.5 eV

a. Put a small drop of HNU cleaning compound (part # 81-101-5001) on the lens of the lamp (the small glass circle on the metal end).
b. Using a nonshedding tissue, rub in a circular motion until all residue is removed.
c. Rinse with hot, clean tap water and dry with nonshedding tissue.
d. If the lens is still not clean, repeat steps a, b and c.

LAMP CLEANING 11.7 AND 8.3 eV

a. Clean the lens (the small glass circle on the metal end) with Isopropyl or any chlorinated organic solvent to remove any deposits using a nonshedding tissue.
b. DO NOT use HNU cleaning compound or any water miscible solvent on these lamps.
c. If still dirty, repeat step a.

ION CHAMBER CLEANING

1. Remove the "O" ring from the side opposite the wire mesh and save.
2. Agitate the whole assembly in a beaker of methanol or acetone or place the chamber and contents in an ultrasonic bath for ten minutes.
3. Remove the beaker and shake out surface solvent. Dry overnight at room temperature or bake for two hours in a drying oven at 100° C. Do not use at temperatures over 110° C. Allow chamber to cool completely before reassembling.
4. In an emergency, careful use of a hairdryer is permissible.

REASSEMBLY

1. Hold the probe upright, cable down, and replace the lamp with the lens underneath. For IS models only, tighten the set screw in the lamp housing and position.
2. Replace the "O" ring on the groove on the ion chamber, on the opposite side of the wire mesh.
3. Place the ion chamber over the lamp with the wire mesh side underneath. Make sure all the connection pins, spring pins, and the dark hole in the ion chamber are correctly aligned. The small dark hole in the ion chamber lines up with the dark hole, which is a small black "O" ring around it. For IS models only, secure the chamber with the two screws.
4. Replace the white tab noting the alignment of the screw holes. Replace the two screws and tighten evenly.

The unit is now ready to be used.

SERVICE NOTE #86-01

DOCUMENTATION FOR

SITE SAFETY BRIEFINGS

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE Nov. 1, 1991 TIME 8:30 am

SITE LOCATION NL/Taracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hugg

Manager Field Operations Dave Pate

TOPICS COVERED DURING BRIEFING.

X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE

X HEALTH EFFECTS OF CHEMICAL HAZARDS

X PHYSICAL HAZARDS ON SITE

X LEVELS OF PROTECTION REQUIRED

X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)

X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ

X MONITORING PROCEDURES

X ACTION LEVELS

X DECONTAMINATION PROCEDURES

X LOCATION OF EMERGENCY NUMBERS

X ROUTE TO THE HOSPITAL

Hand Auger Boring Teams

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Ray Scherrer (signature) Ray W. Scherrer		CFP	CFP	CFP
2. (print) Wendy Reinbolt (signature) Wendy E. Reinbolt		CFP	CFP	CFP
3. (print) Mark Wallace (signature) Mark Wallace		CFP	CFP	CFP

22362 (C:\UUNE\22362.FRM 06-13-90) (JEM)

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
4. (print) Kim Ilenda (signature) Kim Ilenda		CFP	CFP	CFP
5. (print) Eric Page (signature) Eric D. Page		CFP	CFP	CFP
6. (print) David Pate (signature) David L. Pate		CFP	CFP	CFP
7. (print) Gregg Hagerty (signature) Gregg Hagerty		CFP	CFP	CFP
8. (print) [illegible] (signature) [illegible]		CFP	CFP	CFP
9. (print) (signature)				
10. (print) (signature)				
11. (print) (signature)				
12. (print) (signature)				

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 7/5/91 TIME 1:00 pm.

SITE LOCATION NL/Taracorp Superfund PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg
FOL - Dave Pate

TOPICS COVERED DURING BRIEFING

- X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- __ HEALTH EFFECTS OF CHEMICAL HAZARDS
- __ PHYSICAL HAZARDS ON SITE
- X LEVELS OF PROTECTION REQUIRED
- X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)
- X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND ~~READ~~ CFP
- __ MONITORING PROCEDURES
- __ ACTION LEVELS
- __ DECONTAMINATION PROCEDURES
- X LOCATION OF EMERGENCY NUMBERS
- X ROUTE TO THE HOSPITAL

Excluded from Exclusion and Decon Area. Only can be in support zone. ~~Will be taken split samples~~ CFP in charge of split samples for Grants City Citizen Action Group.

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Craig Tarpoff (signature) Craig D Tarpoff		No CFP	No CFP	— CFP
2. (print) (signature)				
3. (print) (signature)				

22362 (C:\JUNE\22362.FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 11/13/91 TIME 10:00am.

SITE LOCATION NL / Taracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg

TOPICS COVERED DURING BRIEFING

- X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- X HEALTH EFFECTS OF CHEMICAL HAZARDS
- X PHYSICAL HAZARDS ON SITE
- X LEVELS OF PROTECTION REQUIRED
- X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)
- X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ
- X MONITORING PROCEDURES
- X ACTION LEVELS
- X DECONTAMINATION PROCEDURES
- X LOCATION OF EMERGENCY NUMBERS
- X ROUTE TO THE HOSPITAL

WCC Employee - Drill Rig

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

ATTENDEES:

NAME	COMPANY	DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN) 40 HR	FIT	MEDICAL
1. (print) Jorge Garcia (signature) Jorge Garcia		CFP yes	Y CFP	Y CFP
2. (print) (signature)				
3. (print) (signature)				

22362 (C:\JUNE\22362.FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 11/15/91 TIME 10:00 am

SITE LOCATION NL/Taracorp PROJECT NUMBER 89MC114N

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg
FOM - Dave Pate

TOPICS COVERED DURING BRIEFING

- X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- X HEALTH EFFECTS OF CHEMICAL HAZARDS
- X PHYSICAL HAZARDS ON SITE
- X LEVELS OF PROTECTION REQUIRED
- X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIRE FIGHTING EQUIPMENT . . .)
- X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ
- X MONITORING PROCEDURES
- X ACTION LEVELS
- X DECONTAMINATION PROCEDURES
- X LOCATION OF EMERGENCY NUMBERS
- X ROUTE TO THE HOSPITAL

Layne-Western Employees - Drill Rig

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1 (print) ~~Sonny~~ Willis Durham (Sonny) (signature) Willis L. Durham		3/15/91 CFP	3/15/91 CFP	1/25/91 CFP
2 (print) Steve Cantrell (signature) Steve Cantrell		3/15/91 CFP	3/15/91 CFP	10/1/91 CFP
3 (print) Dean Zucca (signature) Dean Zucca		6/30/91 CFP	½ face need card CFP	A figure well get documentation

Bring in Monday

22362 (C:\JUNE\22362.FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 11/19/91 TIME 10:00 am

SITE LOCATION VL/Tavares PROJECT NUMBER 89MC114V - 0

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Haag

TOPICS COVERED DURING BRIEFING

- X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- X HEALTH EFFECTS OF CHEMICAL HAZARDS
- X PHYSICAL HAZARDS ON SITE
- __ LEVELS OF PROTECTION REQUIRED
- X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT ...)
- X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ
- __ MONITORING PROCEDURES
- __ ACTION LEVELS
- __ DECONTAMINATION PROCEDURES
- X LOCATION OF EMERGENCY NUMBERS
- X ROUTE TO THE HOSPITAL

Time Inspection Survey Teams

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

ATTENDEES:

NAME	COMPANY	DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN) 40 HR	FIT	MEDICAL
1. (print) Jeffrey Miller, CIH, Sr. Consultant (signature)		NA CFP	NA 11/19/91	NA
2. (print) Carl Ensor, CIH, Sr. Consultant (signature) Carl W Ensor		NA CFP	NA 11/19/91	NA
3. (print) Josie Hubert Assoc. Consultant (signature) Josie Hubert		NA CFP	NA 11/19/91	NA

22362 (C:\UNTE\22362 FRM 06-13-90) (JEM)

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALING COLUMN)

ATTENDEES

NAME	COMPANY	40 HR	TH	MEDICAL
4. (print) Frank Weiss (signature) Frank Weiss		NA CFP	NA 11/19	NA /91
5. (print) (signature)				
6. (print) (signature)				
7. (print) (signature)				
8. (print) (signature)				
9. (print) (signature)				
10. (print) (signature)				
11. (print) (signature)				
12. (print) (signature)				

22362 (C:\JUNE\22362.FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 11/21/91 TIME 7:30am

SITE LOCATION NL/Taracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg

FO~~X~~ CFP M - Field Operations - Dave Pate

TOPICS COVERED DURING BRIEFING

X MONITORING PROCEDURES

X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE

X ACTION LEVELS

X HEALTH EFFECTS OF CHEMICAL HAZARDS

X DECONTAMINATION PROCEDURES

X PHYSICAL HAZARDS ON SITE

X LOCATION OF EMERGENCY NUMBERS

X LEVELS OF PROTECTION REQUIRED

X ROUTE TO THE HOSPITAL

X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIRE FIGHTING EQUIPMENT . . .)

X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ

Field ~~Proposed~~ CFP Activities - Installing Monuments and Surveying

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Lou Zambrana (signature)		~~8-22-91~~ ~~CFP~~ Exp 8/22/92 CFP	8-22-91 CFP ½ mask	12-6-91 CFP
2. (print) Michael D. Robertson (signature)		8/22/92 CFP	½ mask 8-22-91 CFP	3-13-90 CFP (Full Physical)
3. (print) John Heatherington (signature)	Taking Course	Nov. 25 - CFP	NA	Has Not had Medical Yet CFP

22362 (C:\UNE\22362 FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 11/21/91 TIME 3:00 pm.

SITE LOCATION NL Maracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg
FOM - Dave Pat

TOPICS COVERED DURING BRIEFING

X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
X HEALTH EFFECTS OF CHEMICAL HAZARDS
X PHYSICAL HAZARDS ON SITE
X LEVELS OF PROTECTION REQUIRED
X MONITORING PROCEDURES
X ACTION LEVELS
X DECONTAMINATION PROCEDURES
X LOCATION OF EMERGENCY NUMBERS
X ROUTE TO THE HOSPITAL
X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)
X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ

Field Activities - Installing Monuments and Surveying

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Mike Zamborana (signature) [signature]		8-29-92 Expires CFP	8-29-91 CFP ½ mask	11-25-91 CFP
2. (print) (signature)				
3. (print) (signature)				

22362 (C:\JUNE\22362 FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 4/21/92 TIME 7:30am

SITE LOCATION NL Taracorp PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER KAH

TOPICS COVERED DURING BRIEFING

X Addendum No. 1 to SSHP

__ EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE

__ HEALTH EFFECTS OF CHEMICAL HAZARDS

__ PHYSICAL HAZARDS ON SITE

__ LEVELS OF PROTECTION REQUIRED

__ LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIRE FIGHTING EQUIPMENT . . .)

__ VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ

__ MONITORING PROCEDURES

__ ACTION LEVELS

__ DECONTAMINATION PROCEDURES

__ LOCATION OF EMERGENCY NUMBERS

__ ROUTE TO THE HOSPITAL

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

ATTENDEES:

NAME	COMPANY	DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN) 40 HR	FIT	MEDICAL
1. (print) Cynthia Pavelka	WCC	Y	Y	Y
(signature) Cynthia Pavelka		CFP	CFP	CFP
2. (print) Mark Wallace	WCC	Y	Y	Y
(signature) Mark Wallace		CFP	CFP	CFP
3. (print) Kim Ilenda	WCC	Y	Y	Y
(signature) Kim Ilenda		CFP	CFP	CFP

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES

NAME	COMPANY	40 HR	FIT	MEDICAL
4. (print) Eric Page (signature) [signature]	WCC	Y CFP	Y CFP	Y CFP
5. (print) (signature)				
6. (print) (signature)				
7. (print) (signature)				
8. (print) (signature)				
9. (print) (signature)				
10. (print) (signature)				
11. (print) (signature)				
12. (print) (signature)				

22362 (C:\UNE\22362.FRM 06-13-90) (DEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 5/5/92 TIME 8:15

SITE LOCATION NL/Taracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Pavelka PROJECT MANAGER Ken Hagg

TOPICS COVERED DURING BRIEFING

X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE

X HEALTH EFFECTS OF CHEMICAL HAZARDS

X PHYSICAL HAZARDS ON SITE

__ LEVELS OF PROTECTION REQUIRED

X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)

X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ

__ MONITORING PROCEDURES

__ ACTION LEVELS

__ DECONTAMINATION PROCEDURES

X LOCATION OF EMERGENCY NUMBERS

X ROUTE TO THE HOSPITAL

Home Inspection Crew.

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

ATTENDEES:

NAME	COMPANY	DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN) 40 HR	FIT	MEDICAL
1. (print) Bob McKinley		NA	NA	NA
(signature) Kirk McKinley		5/	5/92	CFP
2. (print)				
(signature)				
3. (print)				
(signature)				

22362 (C:\UNE\22362 FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND
DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 6/8/92 TIME 12:45 pm.

SITE LOCATION NL/Tavacorp Superfund Site PROJECT NUMBER 89MC11YV

SITE SAFETY OFFICER C.P. Zelka PROJECT MANAGER Ken Hagg
FOM - Dave Pate

TOPICS COVERED DURING BRIEFING

- [x] EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- [x] HEALTH EFFECTS OF CHEMICAL HAZARDS
- [x] PHYSICAL HAZARDS ON SITE
- [x] LEVELS OF PROTECTION REQUIRED
- [x] LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)
- [x] VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ
- [x] MONITORING PROCEDURES
- [x] ACTION LEVELS
- [x] DECONTAMINATION PROCEDURES
- [x] LOCATION OF EMERGENCY NUMBERS
- [x] ROUTE TO THE HOSPITAL

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Dero Zuccon (signature) Dero Zuccon	8-hr Ref. other 6/6/92 Does not have documentation yet.	6/30/91 6/8/92	3/14/91	11/27/91
2. (print) Willis Durham (signature) Willis Durham		3/20/92 8-hr Ref. 6/9/92	3/20/92	3/20/92
3. (print) Chris Mazdra (signature) Chris Mazdra		3/23/92 8-hr Refresh 6/8/92	3/23/92	2/25/92

22362 (C:\UNE\22362 FRM 06-13-90) (JEM)

SAFETY COMPLIANCE AGREEMENT AND DOCUMENTATION OF SITE SAFETY BRIEFING

DATE 6/11/92 TIME 7:45 am

SITE LOCATION NL/Taracorp Superfund Site PROJECT NUMBER 89MC114V

SITE SAFETY OFFICER Cynthia Powelka PROJECT MANAGER Ken Hagg

TOPICS COVERED DURING BRIEFING:

- X EXTENT AND CONCENTRATION OF CHEMICAL HAZARDS ON SITE
- X HEALTH EFFECTS OF CHEMICAL HAZARDS
- X PHYSICAL HAZARDS ON SITE
- X LEVELS OF PROTECTION REQUIRED
- X LOCATION OF EMERGENCY EQUIPMENT (FIRST AID KIT, FIR FIGHTING EQUIPMENT . . .)
- X VERIFICATION THAT HEALTH AND SAFETY PLAN HAS BEEN RECEIVED AND READ
- X MONITORING PROCEDURES
- X ACTION LEVELS
- X DECONTAMINATION PROCEDURES
- X LOCATION OF EMERGENCY NUMBERS
- X ROUTE TO THE HOSPITAL

I, the undersigned, have received a copy of the safety plan for the referenced project. I have read the plan, understand it, and agree to comply with all of the health and safety requirements. I understand that I may be prohibited from working on the project for violating any of the requirements. In addition I have been verbally briefed on the topics noted above.

DOCUMENTATION (SSO MUST SEE VERIFICATION BEFORE INITIALLING COLUMN)

ATTENDEES:

NAME	COMPANY	40 HR	FIT	MEDICAL
1. (print) Gary Carpenter	(Layne-Western Drilling)	3/5/88 Ref. 3/92	3/15/91	9/2/91
(signature) Gary Carpenter		CFP	6/11/92	
2. (print)				
(signature)				
3. (print)				
(signature)				

22362 (C:\UNEW\22362.FRM 06-13-90) (JEM)

PERSONAL AIR MONITORING

CALCULATIONS

Woodward-Clyde Consultants

Sheet No. 1 of 1

File

Made by C.F.P. Date 11/7/91

Checked by EDM Date [illegible]

FOR Action Level Calculations for Hand Auger Boring Teams PASP Samples Collected during 11/4/91 thru 11/5/91.

Pump No.	Analytical Results (mg/Filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (RL) (mg/m³)	Exposure Level (mg/m³)
PASP #1	0.000061 (<IDLH)	490	1500	0.0002 ✓	<RL (0.00008) ✓
PASP #2	0.000158	515	1500	0.0002 ✓	0.0002 ✓
PASP #3	0.000151	545	1500	0.0002 ✓	<RL (0.00019) ✓
PASP #4	0.000150	545	1500	0.0002 ✓	<RL (0.00018) ✓
PASP #5 (Blank)					

Laboratory Detection Limit for ICP Instrument Method 6010 0.00013 mg/filter

Reporting Limit Calculation

z = (Flowrate × Sample Time) (m³/10⁶cc)

y = (Reporting Limit mg/filter) / z

z = (1500 cc/min × 490 min)(m³/10⁶cc) = 0.735 m³ ✓

y = (0.00013 mg/filter) / (0.735 m³/filter) = 0.00018 mg/m³ ✓

Exposure Level Calculation

z = Sample Air Volume = [Flowrate (cc/min) / 10⁶cc/m³][Sample Time (min)]

y = Exposure Level = [Analytical Results (mg/filter)] / z

z = (1500 cc/min)(490 min)/(10⁶cc/m³) = 0.735 m³

y = (0.000061 mg/filter)/(0.735 m³) = 0.000083 mg/m³ ✓

[illegible] mg/m³

[illegible] PEL ⇒ ALL EXPOSURE ARE LESS THAN PEL

∴ OK

Woodward-Clyde Consultants

Sheet No. 1 of 1

File

Made by CFP Date 11/21/91

Checked by Date

FOR Action Level Calculations for Drilling Rig Crew

PASP Samples Collected during 11/15/91 and 11/18/91.

Sample	Analytical Result (mg/filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (mg/filter)	Exposure Level (mg/m³)
PASP #6	0.000223	480	2000	0.00014	0.000232
PASP #7	0.000213	480	2000	0.00014	0.000222
PASP #8	<0.00013	660	1500	0.00013	< Rep. Lim. (0.00013)
PASP #9	0.000775	660	1500	0.00013	0.000783
PASP #10	<0.00013	Blank		0.00013	< Rep. Lim. (0.00013)

Instrument Detection Limit <0.00013 mg/filter

Reporting Limit Calculation

z = (Flowrate × Sample Time)(m³ / 10⁶ cc)

x = [Lab. Reporting Limit (mg/filter)] / z

PASP #6 z = (2000 cc/min)(480 min) m³/10⁶ cc = 0.960 m³

x = 0.00013 mg/filter / 0.96 m³/filter = 0.00014 mg/m³

Exposure Limit Calculation -

z - Sample Air Volume = [Flowrate (cc/min) / 10⁶ cc/m³][Sample Time (min)]

y = Exposure Level = [Analytical Results (mg/filter)] / z

PASP #6 z = (2000 cc/min)(480 min) / 10⁶ cc/m³ = 0.960 m³

y = (0.000223 mg/filter) / 0.960 m³ = 0.000232 mg/m³

PEL (Permissible Exposure Limit) For Lead = 0.05 mg/m³

Compare Exposure Levels to PEL ⇒ All Exposures are less than PEL

Woodward-Clyde Consultants

Sheet No. [illegible]

File

Made by [illegible] Date [illegible]

Checked by CFP Date 12/2/91

FOR Lead Action levels for Drilling Rig Crew

PASP samples collected on 11/22/91

Sample No.	Analytical results (mg/filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (mg/L³)	Exposure Level (mg/m³)
PASP #11	0.0006	390	2000	CFP sig. dig. 0.00017 0.000167	CFP sig. dig. 0.00077 0.000764
PASP #12	0.002	390	2000	CFP sig. dig. 0.00017 0.000167	CFP sig. dig. 0.002564 0.0026

Instrument Detection Limit <0.00013 mg/filter

Reporting Limit =

= (flow rate × sample time)/m³/10⁶ cc)

x = [reporting limit (mg/filter)] / E

PASP #1

E = 2000 cc/min × 390 min × m³/10⁶ cc = 0.780 m³

x = 0.00013 mg/filter / 0.780 m³ = 0.000167 mg/m³

CFP significant sh[illegible] 5

0.00017 mg/m³

Exposure Level

y = Exposure Level = [Analytical results (mg/filter)] / E

PASP #1

E = 0.780 m³

y = 0.0006 mg/filter / 0.780 m³ = 0.000764 mg/m³

CFP sig. dig. 0.0008

PASP #2

E = 0.780 m³

y = 0.002 mg/filter / 0.780 m³ = 0.002564 mg/m³

CFP sig. dig. 0.003

Woodward-Clyde Consultants

Sheet No 2 Of 2

File

Made by Kmm Date

Checked by CPP Date 12/2/91

FOR Lead Action levels for Drilling Rig Crew

PEL (Permissable Exposure Limits) for Lead = 0.05 mg/m³

Compare Exposure Levels to PEL ⇒ All exposure levels are less than PEL

Woodward-Clyde Consultants

Sheet No. 1 of 1

File

Made by C.F.P. Date 11/7/91

Checked by EDM Date [illegible]

FOR Action Level Calculations for Hand Auger Boring Teams

PASP Samples Collected during 11/4/91 thru 11/5/91.

Pump No.	Analytical Results (mg/filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (RL) (mg/m³)	Exposure Level (mg/m³)
PASP #1	0.000061 (<IDLH)	490	1500	0.0002 ✓	<RL (0.00008) ✓
PASP #2	0.000158	515	1500	0.0002 ✓	0.0002 ✓
PASP #3	0.000151	545	1500	0.0002 ✓	<RL (0.00019) ✓
PASP #4	0.000150	545	1500	0.0002 ✓	<RL (0.00018) ✓
PASP #5 (Blank)					

Laboratory Detection Limit for ICP Instrument Method 6010 0.00013 mg/filter

Reporting Limit Calculation

z = (Flowrate x Sample Time) (m³/10⁶cc)

[illegible] = (Reporting Limit mg/filter) / z

[illegible] = (1500 cc/min x 490 min)(m³/10⁶cc) = 0.735 m³ ✓

[illegible] = (0.00013 mg/filter) / (0.735 m³/filter) = 0.00018 mg/m³ ✓

Exposure Level Calculation

z = Sample Air Volume = [Flowrate (cc/min) / 10⁶cc/m³][Sample Time (min)]

y = Exposure Level = [Analytical Results (mg/filter)] / z

z = (1500 cc/min)(490 min)/(10⁶cc/m³) = 0.735 m³

y = (0.000061 mg/filter)/(0.735 m³) = 0.000083 mg/m³ ✓

[illegible] mg/m³

[illegible] PEL ⇒ ALL EXPOSURE ARE LESS THAN PEL

∴ OK

Woodward-Clyde Consultants

Sheet No. 1 of 1

File

Made by CFP Date 11/21/91

Checked by Date

FOR Action Level Calculations for Drilling Rig Crew

PASP Samples Collected during 11/15/91 and 11/18/91.

Sample	Analytical Result (mg/filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (mg/m³)	Exposure Level (mg/m³)
PASP #6	0.000223	480	2000	0.00014	0.000232
PASP #7	0.000213	480	2000	0.00014	0.000222
PASP #8	<0.00013	660	1500	0.00013	< Rep. Lim. (0.00013)
PASP #9	0.000775	660	1500	0.00013	0.000783
PASP #10	<0.00013	Blank		0.00013	< Rep. Lim. (0.00013)

Instrument Detection Limit <0.00013 mg/filter

Reporting Limit Calculation

z = (Flowrate × Sample Time) (m^3 / 10^6 cc)

x = [Lab. Reporting Limit (mg/filter)] / z

PASP #6 z = (2000 cc/min)(480 min) $m^3/10^6$ cc = 0.960 m^3

x = 0.00013 mg/filter / 0.96 m^3/filter = 0.00014 mg/m^3

Exposure Limit Calculation -

z - Sample Air Volume = [Flowrate (cc/min) / 10^6 cc/m^3][Sample Time (min)]

y = Exposure Level = [Analytical Results (mg/filter)] / z

PASP #6 z = (2000 cc/min)(480 min) / 10^6 cc/m^3 = 0.960 m^3

y = (0.000223 mg/filter) / 0.960 m^3 = 0.000232 mg/m^3

PEL (Permissible Exposure Limit) For Lead = 0.05 mg/m^3

Compare Exposure Levels to PEL ⇒ All Exposures are less than PEL

Woodward-Clyde Consultants

Sheet No. 01 of 2

File

Made by [illegible] Date [illegible]

Checked by CFP Date 12/2/91

FOR Lead Action levels for Drilling Rig Crew

PASP samples collected on 11/22/91

Sample No.	Analytical Results (mg/filter)	Sample Collection Period (min)	Flowrate (cc/min)	Reporting Limit (mg/m³)	Exposure Level (mg/m³)
PASP #11	0.0006	390	2000	CFP sig. dig. 0.00017 0.000167	CFP sig. dig. 0.00077 0.000764
PASP #12	0.002	390	2000	CFP sig. dig. 0.00017 0.000167	CFP sig. dig. 0.002564 0.0026

Instrument Detection Limit <0.00013 mg/filter

Reporting Limit =

x = (flow rate × sample time)(m³/10⁶ cc)

x = [Lowest Reporting Limit (mg/filter)] / x

PASP #1

x = 2000 cc/min × 390 min × m³/10⁶ cc = 0.780 m³

x = 0.00013 mg/filter / 0.780 m³ = 0.000167 mg/m³

CFP significant digits 5

0.00017 mg/m³

Exposure Level =

y = Exposure Level = [Total Analytical Results (mg/filter)] / x

PASP #1

x = 0.780 m³

y = 0.0006 mg/filter / 0.780 m³ = 0.000764 mg/m³

CFP sig. dig. 0.0008

PASP #2

x = 0.190 m³

y = 0.002 mg/filter / 0.190 m³ = 0.002564 mg/m³

CFP sig. dig. 0.003

Woodward-Clyde Consultants

Sheet No 2 Of 2

File

Made by Kmm Date [illegible]

Checked by CPP Date 12/2/91

FOR Lead Action levels for Drilling Rig Crew

PEL (Permissable Exposure Limits) for Lead = 0.05 mg/m³

Compare Exposure Levels to PEL ⇒ All exposure levels are less than PEL

PERSONAL AIR MONITORING

ANALYTICAL RESULTS

REPORT
OF
ANALYTICAL RESULTS

Project No.:
5912031 0100

Prepared For:
Woodward-Clyde Consultants
Maryland Heights, MO 63043

Submitted By:
St. Louis Chemistry Laboratory
Environmental Science &
Engineering, Inc.

December 10, 1991

Environmental
Science &
Engineering, Inc.

A CILCORP Company

Environmental
Science &
Engineering, Inc.
A CH2COMP Company

December 10, 1991
ESE No. 5912031 0100

Ms. Cynthia Pavelka
Woodward-Clyde Consultants
2318 Millpark Dr.
Maryland Heights, MO 63043

RE: **Report of Analytical Chemistry Results,**
NL/Tara Corp Superfund Site
Industrial Hygiene Samples (24 Hour Service)

Dear Ms. Pavelka:

Enclosed is the complete report of results for twelve (12) PASP filter samples received in the ESE St. Louis Laboratory on November 5, 6, 18 and 22, 1991. The preliminary results have been reported to you verbally on November 7 and 19, 1991 and via telecommunications on November 26, 1991. The samples were analyzed in accordance with the approved NIOSH methods as indicated in the report. Sample results are reported in mg/m^3 based upon volumes issued by you to the ESE Laboratory. Blanks and samples issued without volumes are reported in mg-total.

The QC results are composed of the following summaries: Method Blank for method background evaluation, Continuing Calibration Verification for instrument stability check and Standard Matrix Spike Recovery for method performance evaluation.

The QC results have been reviewed by the analysts and the Laboratory Manager. The QC results indicate that there were no technical problems with the analysis.

We appreciate the opportunity to be of technical service to you. If there are any questions with regard to this report, please feel free to call.

Sincerely,

ENVIRONMENTAL SCIENCE & ENGINEERING, INC.

John F. Gemoules

John F. Gemoules
Laboratory Project Manager

JFG/pl/REPORT/WWC-F.RP1

Enclosures

11605 Lilburn Park Road St. Louis, MO 63146-3535 Phone (314) 567-4600 Fax (314) 567-5030

Environmental Science & Engineering, Inc.

St. Louis Chemistry Laboratory

11665 Lilburn Park Road
St. Louis, Missouri 63146-3535

Phone (314) 567-4600
Fax (314) 567-5030

Analytical Chemistry Results

STATUS: FINAL

PROJECT NAME: WOODWARD CLYDE/NL-TARA CORP./FILTERS

PROJECT NUMBER: 5912031 0100

REPORT DATE: 11-27-91

SAMPLE MATRIX: FILTERS

LAB MANAGER/QC REVIEW: JEFFERY W. SIRIA

PROJECT MANAGER: JOHN F. GEMOULES

REPORT APPROVED BY: FRANCIS Y. HUANG

SAMPLE I.D.	LABORATORY I.D.	COLLECTION DATE	RECEIVED DATE	LEAD, MG/M3(AIR) METHOD: NIOSH 7300	ANALYSIS DATE	CHEM. INIT.
ASP#1	WWC-F*1	11/05/91	11/05/91	<0.0002	11-06-91	JWC
PASP#2	WWC-F*2	11/05/91	11/05/91	0.0002	11-06-91	JWC
PASP#3	WWC-F*3	11/05/91	11/05/91	0.0002	11-06-91	JWC
PASP#4	WWC-F*4	11/05/91	11/05/91	0.0002	11-06-91	JWC

SAMPLE I.D.	LABORATORY I.D.	COLLECTION DATE	RECEIVED DATE	LEAD, MG-TOTAL METHOD: NIOSH 7300	ANALYSIS DATE	CHEM. INIT.
PASP#5	WWC-F*5	11/06/91	11/06/91	<0.0001	11-20-91	JWC
PASP#6	WWC-F*6	11/15/91	11/18/91	0.0002	11-20-91	JWC
PASP#7	WWC-F*7	11/15/91	11/18/91	0.0002	11-20-91	JWC
PASP#8	WWC-F*8	11/15/91	11/18/91	<0.0001	11-20-91	JWC
PASP#9	WWC-F*9	11/15/91	11/18/91	0.0008	11-20-91	JWC
PASP#10	WWC-F*10	11/15/91	11/18/91	<0.0001	11-20-91	JWC
PASP#11	WWC-F*11	11/22/91	11/22/91	0.0006	11-26-91	JWC
ASP#12	WWC-F*12	11/22/91	11/22/91	0.002	11-26-91	JWC

SECTION 2

QC Summary

Method Blank Sample Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	FOUND	FOOTNOTE
BARIUM	MG-TOTAL	1007*SIHA	S6452	MB*NOFILTER*2	11/06/91	0.00001	
BARIUM	MG-TOTAL			MB*FILTER*2		0.00001	
BARIUM	MG-TOTAL			MB*NOFILTER*3		0.000006	
BARIUM	MG-TOTAL			MB*FILTER*3		0.00002	
BARIUM	MG-TOTAL			MB*NOFILTER*4		0.000002	
BARIUM	MG-TOTAL			MB*FILTER*4		0.00005	
BARIUM	MG-TOTAL			MB*NOFILTER*5		0.00005	
BARIUM	MG-TOTAL			MB*FILTER*5		0.00004	
BARIUM	MG-TOTAL		S6453	MB*NOFILTER*1	11/20/91	0.00002	
BARIUM	MG-TOTAL			MB*FILTER*1		0.00002	
BARIUM	MG-TOTAL			MB*NOFILTER*2		0.00001	
BARIUM	MG-TOTAL			MB*FILTER*2		0.000008	
BARIUM	MG-TOTAL			MB*NOFILTER*3		0.000009	
BARIUM	MG-TOTAL			MB*FILTER*3		0.00002	
LEAD	MG-TOTAL	1051*SIHA	S6452	MB*NOFILTER*2	11/06/91	0.0001	
LEAD	MG-TOTAL			MB*FILTER*2		0.00008	
LEAD	MG-TOTAL			MB*NOFILTER*3		0.00007	
LEAD	MG-TOTAL			MB*FILTER*3		0.00009	
LEAD	MG-TOTAL			MB*NOFILTER*4		0.0001	
LEAD	MG-TOTAL			MB*FILTER*4		0.00004	
LEAD	MG-TOTAL			MB*NOFILTER*5		0.00009	
LEAD	MG-TOTAL			MB*FILTER*5		0.0002	
LEAD	MG-TOTAL		S6453	MB*NOFILTER*1	11/20/91	0.00002	
LEAD	MG-TOTAL			MB*FILTER*1		0.0	
LEAD	MG-TOTAL			MB*NOFILTER*2		0.00003	
LEAD	MG-TOTAL			MB*FILTER*2		0.0	
LEAD	MG-TOTAL			MB*NOFILTER*3		0.0	
LEAD	MG-TOTAL			MB*FILTER*3		0.0	

Continuing Calibration Verification Sample Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	TARGET	FOUND	%RECV	RECV CRIT	FOOTNOTE
BARIUM	MG-TOTAL	1007*SIHA	S6452	CCV*CHECK*1	11/06/91	2.00	2.02	101	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*2		2.00	2.04	102	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*4		2.00	1.99	99.5	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*5		2.00	2.00	100.0	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*6		2.00	2.01	101	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*7		2.00	1.97	98.5	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*8		2.00	2.01	101	80-120	
BARIUM	MG-TOTAL		S6453	CCV*CHECK*1	11/20/91	2.00	2.04	102	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*2		2.00	2.10	105	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*3		2.00	2.07	104	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*4		2.00	2.08	104	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*5		2.00	2.07	104	80-120	
BARIUM	MG-TOTAL			CCV*CHECK*6		2.00	2.04	102	80-120	
LEAD	MG-TOTAL	1051*SIHA	S6452	CCV*CHECK*1	11/06/91	2.00	2.06	103	80-120	
LEAD	MG-TOTAL			CCV*CHECK*2		2.00	2.08	104	80-120	
LEAD	MG-TOTAL			CCV*CHECK*4		2.00	2.06	103	80-120	
LEAD	MG-TOTAL			CCV*CHECK*5		2.00	2.06	103	80-120	
LEAD	MG-TOTAL			CCV*CHECK*6		2.00	2.07	104	80-120	
LEAD	MG-TOTAL			CCV*CHECK*7		2.00	2.04	102	80-120	
LEAD	MG-TOTAL			CCV*CHECK*8		2.00	2.06	103	80-120	

Continuing Calibration Verification Sample Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	TARGET	FOUND	%RECV	RECV CRIT	FOOTNOTE
LEAD	MG-TOTAL		S6453	CCV*CHECK*1	11/20/91	2.00	2.05	103	80-120	
LEAD	MG-TOTAL			CCV*CHECK*2		2.00	2.13	107	80-120	
LEAD	MG-TOTAL			CCV*CHECK*3		2.00	2.09	105	80-120	
LEAD	MG-TOTAL			CCV*CHECK*4		2.00	2.07	104	80-120	
LEAD	MG-TOTAL			CCV*CHECK*5		2.00	2.07	104	80-120	
LEAD	MG-TOTAL			CCV*CHECK*6		2.00	2.04	102	80-120	

Standard Matrix Spike Recovery and Replicate Summary

NAME	UNITS	STOR*METH	BATCH	SAMPLE	DATE	TARGET	FOUND	%RECV	RECV CRIT	R.P.D.	R.P.D. CRIT.	FOOTNOTE
BARIUM	MG-TOTAL	1007*SIHA	S6452	SP1*NONE*2	11/06/91	0.300	0.294	98.0	N/A		20	
BARIUM	MG-TOTAL			SP2*NONE*2		0.300	0.262	87.3	N/A	11.5	20	
BARIUM	MG-TOTAL			SP1*NONE*3		0.300	0.291	97.0	N/A	RPD*1	20	
BARIUM	MG-TOTAL			SP2*NONE*3		0.300	0.300	100.0	N/A	3.05	20	
BARIUM	MG-TOTAL			SP1*NONE*4		0.300	0.281	93.7	N/A	RPD*1	20	
BARIUM	MG-TOTAL			SP2*NONE*4		0.300	0.286	95.3	N/A	1.69	20	
BARIUM	MG-TOTAL			SP1*NONE*5		0.300	0.300	100.0	N/A	RPD*1	20	
BARIUM	MG-TOTAL			SP2*NONE*5		0.300	0.291	97.0	N/A	3.05	20	
BARIUM	MG-TOTAL		S6453	SP1*NONE*1	11/20/91	3.00	2.72	90.7	N/A		20	
BARIUM	MG-TOTAL			SP2*NONE*1		0.030	0.023	76.7	N/A		20	
BARIUM	MG-TOTAL			SP1*NONE*2		0.300	0.258	86.0	N/A		20	
BARIUM	MG-TOTAL			SP2*NONE*2		0.300	0.290	96.7	N/A	11.7	20	
BARIUM	MG-TOTAL			SP1*NONE*3		0.030	0.027	90.0	N/A		20	
BARIUM	MG-TOTAL			SP2*NONE*3		0.030	0.028	93.3	N/A	3.60	20	
LEAD	MG-TOTAL	1051*SIHA	S6452	SP1*NONE*2	11/06/91	0.030	0.029	96.7	N/A		20	
LEAD	MG-TOTAL			SP2*NONE*2		0.030	0.029	96.7	N/A	0.0	20	
LEAD	MG-TOTAL			SP1*NONE*3		0.030	0.029	96.7	N/A	RPD*1	20	
LEAD	MG-TOTAL			SP2*NONE*3		0.030	0.030	100.0	N/A	3.36	20	
LEAD	MG-TOTAL			SP1*NONE*4		0.030	0.028	93.3	N/A	RPD*1	20	
LEAD	MG-TOTAL			SP2*NONE*4		0.030	0.028	93.3	N/A	0.0	20	
LEAD	MG-TOTAL			SP1*NONE*5		0.030	0.029	96.7	N/A	RPD*1	20	
LEAD	MG-TOTAL			SP2*NONE*5		0.030	0.029	96.7	N/A	0.0	20	
LEAD	MG-TOTAL		S6453	SP1*NONE*1	11/20/91	3.00	2.60	86.7	N/A		20	
LEAD	MG-TOTAL			SP2*NONE*1		0.030	0.021	70.0	N/A		20	
LEAD	MG-TOTAL			SP1*NONE*2		0.030	0.029	96.7	N/A	RPD*1	20	
LEAD	MG-TOTAL			SP2*NONE*2		0.030	0.029	96.7	N/A	0.0	20	
LEAD	MG-TOTAL			SP1*NONE*3		0.030	0.026	86.7	N/A	RPD*1	20	
LEAD	MG-TOTAL			SP2*NONE*3		0.030	0.027	90.0	N/A	3.74	20	

N/A- Not applicable. Recovery criteria has yet to be established for this method.

CHAIN OF CUSTODY RECORD

WWCF

SHEET 1 of 1

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 87MC114V

PROJECT NAME: NL/Tam corp

SAMPLER'S: (Signature) Cynthia Pavelka

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	Total Lead PASP Filters					REMARKS
~~11/5~~	CFF	11/5/91							
11/4-5/91	11:00am ~~12:00pm~~ CFF 11/5/91	PASP #1 (Personel Air Sampling Pump Filter)	1	X					Flow Rate 1500 cc/min Sampling Time 8:10
2 11/4-5/91	11:00am ~~12:00pm~~	PASP #2 (Personel Air Sampling Pump Filter	1	X					Flow Rate 1500 cc/min Sampling Time 8:15
3 11/4-5/91	12:00pm	PASP #3 (Personel Air Sampling Pump Filter	1	X					Flow Rate 1500 cc/min Sampling Time 9:05
4 11/4-5/91	12:00pm	PASP #4 (Personel Air Sampling Pump Filter	1	X					Flow Rate 1500 cc/min Sampling Time 9:05

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Karen Meyer	11/5/91 5:43	[illegible signature]	11/5 5:43
RELINQUISHED BY: (Signature) [illegible signature]	DATE / TIME	RECEIVED AT LAB BY: (Signature) [illegible signature]	DATE / TIME 11/5 6:30 PM
METHOD OF SHIPMENT:		AIRBILL NO:	

CHAIN OF CUSTODY RECORD

SHEET 6 of 6

WWC-F

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89 MC 114V

PROJECT NAME: NL/Taracorp

SAMPLER'S: (Signature) Cynthia Pavlik

DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	Total Lead Air Filter					REMARKS
5 11/6/91	2:00 pm	PASP #5 (Personal Air Sampling Pump) Filter	1	X					(Blank)

CONTAINER DESCRIPTION / ANALYSES REQUESTED

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Karen Meyer	11/6 5:30	[illegible]	11/7/91 530
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
[illegible]	11/6 630	Ethan Litsey	11/6 630 PM

METHOD OF SHIPMENT: WCC Email

AIRBILL NO:

CHAIN OF CUSTODY RECORD

SHEET 6 of 6

WWC-F

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/Taracorp Superfund Site

SAMPLER'S: (Signature) Cynthia Pavelka

	DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	Total Lead	Filter Cartridge				REMARKS
					CONTAINER DESCRIPTION / ANALYSES REQUESTED					
6	11/15,16	4:30pm	PASP # 6 (Personal Air Sampling Pump)	1	X	✓				
7	11/15,16/91	4:30pm	PASP # 7 " " " "	1	X	✓				
8	11/15,18/91	4:30pm	PASP # 8 " " " "	1	X	✓				
9	11/15,18/91	4:30pm	PASP # 9 " " " "	1	X	✓				
10	11/15,18/91	4:30pm	PASP # 10 " " " "	1	X	✓				

Nothing Follows
11/18/91

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Karen Meyer	11/18 4:55	[illegible]	11/18 1830
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
[illegible]	11/18 1915	[illegible]	11/18 1915
METHOD OF SHIPMENT:		AIRBILL NO:	

WWC-7

CHAIN OF CUSTODY RECORD

SHEET 1 of 1
KMM

WOODWARD-CLYDE CONSULTANTS
2318 MILLPARK DR.
MARYLAND HEIGHTS, MISSOURI 63043
314-429-0100

PROJECT NO: 89MC114V

PROJECT NAME: NL/Taracorp Superfund Site

SAMPLER'S: (Signature)

	DATE	TIME	SAMPLE I.D. NUMBER	NO. OF CONTAINERS	Total Lead Filter Cartridge					REMARKS
11	11/22	1545	PASP #11 (Personal Air Sample Pump)	1	X					Need 24 hr. turnaround (11/25/91)
12	11/22	1545	PASP #12 (Personal Air Sample Pump)	1	X					Need 24 hr. turnaround (11/25/91)

CONTAINER DESCRIPTION / ANALYSES REQUESTED

RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED BY: (Signature)	DATE / TIME
Karen Meyer	11/22 4:12	[illegible]	11/22 1615
RELINQUISHED BY: (Signature)	DATE / TIME	RECEIVED AT LAB BY: (Signature)	DATE / TIME
[illegible]	11/22 500	[illegible]	11/22 5 PM

METHOD OF SHIPMENT: UPS employee

AIRBILL NO:

TABLE 1

Contact Residential Letter

March 6, 1992

Sam Avedisan
2128 Adams
Granite City, IL 62040

Dear Sam Avedisan:

Woodward-Clyde Consultants, representing the **United States Environmental Protection Agency, Region 5 (USEPA)**, will be inspecting the interior of your home(s) to determine what sources of lead contamination may be located inside your home. These home inspections are in connection with the cleanup of the NL Industries/Taracorp Superfund Site.

According to the USEPA, a "Consent for Access to Property and Home" was returned granting the USEPA and its representatives permission to conduct a home interior inspection(s). Two professional inspectors will walk through your home and visually identify possible sources of lead contamination. The home inspection will take approximately one half hour. This inspection will then be used to recommend ways that you may be able to reduce the levels and/or potential health impacts of any lead contamination in your home or homes.

Woodward-Clyde Consultants would like to schedule an appointment at your convenience for the inspection. Please call our Granite City office at **451-1447** to set up your appointment time. If you have questions regarding the clean up of the NL/Taracorp Superfund Site, please contact the USEPA representative, Mary Ann LaFaire, toll free, at 1-800-621-8431.

Sincerely,

Woodward-Clyde Consultants

TABLE 2

Home Inspection Surveys Conducted
Address List - Granite City

Resident ID Number	Street Address	City and Zip Code
AD1930	1930 ADAMS ST	GRANITE CITY, IL 62040
AD1938	1938 ADAMS ST	GRANITE CITY, IL 62040
AD1942	1942 ADAMS ST	GRANITE CITY, IL 62040
AD2034	2034 ADAMS ST	GRANITE CITY, IL 62040
AD2128	2128 ADAMS ST	GRANITE CITY, IL 62040
AD2138	2138 ADAMS ST	GRANITE CITY, IL 62040
AD2140	2140 ADAMS ST	GRANITE CITY, IL 62040
BE1911	1911 BENTON ST	GRANITE CITY, IL 62040
BE1925	1925 BENTON ST	GRANITE CITY, IL 62040
BE1926	1926 BENTON ST	GRANITE CITY, IL 62040
BE1941	1941 BENTON ST	GRANITE CITY, IL 62040
BE2038	2038 BENTON ST	GRANITE CITY, IL 62040
BE2103	2103 BENTON ST	GRANITE CITY, IL 62040
BE2153A	2153A BENTON AVE	GRANITE CITY, IL 62040
BE2153	2153 BENTON AVE	GRANITE CITY, IL 62040
BE2155A	2155A BENTON AVE	GRANITE CITY, IL 62040
BE2155	2155 BENTON AVE	GRANITE CITY, IL 62040
BE2157	2157 BENTON ST	GRANITE CITY, IL 62040
BE2158	2158 BENTON ST	GRANITE CITY, IL 62040
BE2159	2159 BENTON ST	GRANITE CITY, IL 62040
BE2163A	2163A BENTON REAR	GRANITE CITY, IL 62040
BE2163	2163 BENTON ST	GRANITE CITY, IL 62040
BE2228	2228 BENTON ST	GRANITE CITY, IL 62040
BE2232	2232 BENTON ST	GRANITE CITY, IL 62040
BE2248	2248 BENTON ST	GRANITE CITY, IL 62040
BE2254	2254 BENTON ST	GRANITE CITY, IL 62040

Resident ID Number	Street Address	City and Zip Code
BE2256	2256 BENTON ST	GRANITE CITY, IL 62040
BR2023	2023 BRYAN AVE	GRANITE CITY, IL 62040
CH1723	1723 CHESTNUT ST	GRANITE CITY, IL 62040
CH1728	1728 CHESTNUT ST	GRANITE CITY, IL 62040
CH1730	1730 CHESTNUT ST	GRANITE CITY, IL 62040
CH1750	1750 CHESTNUT ST	GRANITE CITY, IL 62040
CH1753	1753 CHESTNUT ST	GRANITE CITY, IL 62040
CL1640	1640 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1708A	1708A CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1708B	1708B CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1708	1708 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1710A	1710A CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1710	1710 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL1919	1919 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2055A	2055A CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2055B	2055B CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2131	2131 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2133	2133 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2157	2157 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2201A	2201A CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2201	2201 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2208	2208 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2217	2217 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2243	2243 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2246	2246 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2262	2262 CLEVELAND BLVD	GRANITE CITY, IL 62040
CL2264	2264 CLEVELAND BLVD	GRANITE CITY, IL 62040
DE1628	1628 DELMAR AVE	GRANITE CITY, IL 62040
DE1704	1704 DELMAR AVE	GRANITE CITY, IL 62040
DE1719	1719 DELMAR AVE	GRANITE CITY, IL 62040

Resident ID Number	Street Address	City and Zip Code
DE1728	1728 DELMAR AVE	GRANITE CITY, IL 62040
DE1747	1747 DELMAR AVE	GRANITE CITY, IL 62040
DE2133	2133 DELMAR AVE	GRANITE CITY, IL 62040
DE2135	2135 DELMAR AVE	GRANITE CITY, IL 62040
DE2218	2218 DELMAR AVE	GRANITE CITY, IL 62040
DE2233	2233 DELMAR AVE	GRANITE CITY, IL 62040
DE2235	2235 DELMAR AVE	GRANITE CITY, IL 62040
DE2247	2247 DELMAR AVE	GRANITE CITY, IL 62040
DE2253	2253 DELMAR AVE	GRANITE CITY, IL 62040
DE2257	2257 DELMAR AVE	GRANITE CITY, IL 62040
DE2258	2258 DELMAR AVE	GRANITE CITY, IL 62040
ED1700	1700 EDISON AVE	GRANITE CITY, IL 62040
ED1707	1707 EDISON AVE	GRANITE CITY, IL 62040
ED1715A	1715 A EDISON AVE	GRANITE CITY, IL 62040
ED1715B	1715 B EDISON AVE	GRANITE CITY, IL 62040
ED1715	1715 EDSION AVE	GRANITE CITY, IL 62040
ED2121	2121 EDISON AVE DOWN	GRANITE CITY, IL 62040
ED2137A	2137A EDISON AVE	GRANITE CITY, IL 62040
ED2137	2137 EDISON AVE	GRANITE CITY, IL 62040
ED2218A	2218A EDISON AVE	GRANITE CITY, IL 62040
ED2218	2218 EDISON AVE	GRANITE CITY, IL 62040
ED2219A	2219A EDISON AVE	GRANITE CITY, IL 62040
ED2219	2219 EDISON AVE	GRANITE CITY, IL 62040
ED2235	2235 EDISON AVE	GRANITE CITY, IL 62040
ED2237	2237 EDISON AVE	GRANITE CITY, IL 62040
ED2255	2255 EDISON AVE	GRANITE CITY, IL 62040
GR1410	1410 GRAND AVE	GRANITE CITY, IL 62040
GR1424	1424 GRAND AVE	GRANITE CITY, IL 62040
GR1443	1443 GRAND AVE	GRANITE CITY, IL 62040
GR2151	2151 GRAND AVE	GRANITE CITY, IL 62040

Resident ID Number	Street Address	City and Zip Code
GR2246	2246 GRAND AVE	GRANITE CITY, IL 62040
GR2247A	2247 A GRAND AVE	GRANITE CITY, IL 62040
GR2247	2247 GRAND AVE, DOWN	GRANITE CITY, IL 62040
IO1423	1423 IOWA ST	GRANITE CITY, IL 62040
LE2029	2029 LEE AVE	GRANITE CITY, IL 62040
LE2127	2127 LEE AVE	GRANITE CITY, IL 62040
LE2143	2143 LEE AVE	GRANITE CITY, IL 62040
LE2145	2145 LEE AVE	GRANITE CITY, IL 62040
LE2161	2161 LEE AVE	GRANITE CITY, IL 62040
MA1415	1415 MADISON AVE	GRANITE CITY, IL 62040
MA1420	1420 MADISON AVE	GRANITE CITY, IL 62040
MA1423	1423 MADISON AVE	GRANITE CITY, IL 62040
MP1610	1610 MAPLE ST	GRANITE CITY, IL 62040
MP1633	1633 MAPLE ST	GRANITE CITY, IL 62040
MP1640	1640 MAPLE ST	GRANITE CITY, IL 62040
MP1647	1647 MAPLE ST	GRANITE CITY, IL 62040
MP1713	1713 MAPLE ST	GRANITE CITY, IL 62040
MP1739	1739 MAPLE ST	GRANITE CITY, IL 62040
MP1741	1741 MAPLE ST	GRANITE CITY, IL 62040
MP1747	1747 MAPLE ST	GRANITE CITY, IL 62040
NI0807	807 NIEDRINGHAUS AVE	GRANITE CITY, IL 62040
NI0821	821 NIEDRINGHAUS AVE	GRANITE CITY, IL 62040
NI0830	830 NIEDRINGHAUS AVE	GRANITE CITY, IL 62040
NI0901	901 NIEDRINGHAUS AVE	GRANITE CITY, IL 62040
NI1245	1245 NIEDRINGHAUS AVE	GRANITE CITY, IL 62040
NI1255	1255 NIEDRINGHAUS	GRANITE CITY, IL 62040
OH2014	2014 OHIO AVE	GRANITE CITY, IL 62040
OL1601	1601 OLIVE ST	GRANITE CITY, IL 62040
OL1625	1625 OLIVE ST	GRANITE CITY, IL 62040
OL1629	1629 OLIVE ST	GRANITE CITY, IL 62040

Resident ID Number	Street Address	City and Zip Code
OL1639	1639 OLIVE ST	GRANITE CITY, IL 62040
OL1720	1720 OLIVE ST	GRANITE CITY, IL 62040
OL1721	1721 OLIVE ST	GRANITE CITY, IL 62040
OL1724	1724 OLIVE ST	GRANITE CITY, IL 62040
OL1725	1725 OLIVE ST	GRANITE CITY, IL 62040
OL1744	1744 OLIVE ST	GRANITE CITY, IL 62040
OL1747	1747 OLIVE ST	GRANITE CITY, IL 62040
OL1751	1751 OLIVE ST	GRANITE CITY, IL 62040
SP1602	1602 SPRUCE ST	GRANITE CITY, IL 62040
SP1614R	1614 SPRUCE REAR	GRANITE CITY, IL 62040
SP1614	1614 SPRUCE FRONT	GRANITE CITY, IL 62040
SP1626	1626 SPRUCE ST	GRANITE CITY, IL 62040
SP1744	1744 SPRUCE ST	GRANITE CITY, IL 62040
SP1754	1754 SPRUCE ST	GRANITE CITY, IL 62040
ST2039A	2039A STATE ST	GRANITE CITY, IL 62040
ST2039C	2039C STATE ST	GRANITE CITY, IL 62040
ST2039	2039 STATE ST	GRANITE CITY, IL 62040
ST2041	2041 STATE ST, DOWN	GRANITE CITY, IL 62040
ST2119	2119 STATE ST	GRANITE CITY, IL 62040
ST2141A	2141A STATE ST	GRANITE CITY, IL 62040
ST2141	2141 STATE ST	GRANITE CITY, IL 62040
ST2150	2150 STATE ST	GRANITE CITY, IL 62040
ST2158	2158 STATE ST	GRANITE CITY, IL 62040
ST2210	2210 STATE ST	2GRANITE CITY, IL 62040
ST2216	2216 STATE ST	GRANITE CITY, IL 62040
ST2228	2228 STATE ST	GRANITE CITY, IL 62040
ST2230	2230 STATE ST	GRANITE CITY, IL 62040
ST2235	2235 STATE ST	GRANITE CITY, IL 62040
ST2254	2254 STATE ST	GRANITE CITY, IL 62040
ST2256	2256 STATE ST	GRANITE CITY, IL 62040

Resident ID Number	Street Address	City and Zip Code
TF1313	1313 21ST ST	GRANITE CITY, IL 62040
TT1510	1510 23RD ST	GRANITE CITY, IL 62040
WA1713	1713 WALNUT ST	GRANITE CITY, IL 62040
WS2036A	2036A WASHINGTON AVE	GRANITE CITY, IL 62040
WS2036B	2036B WASHINGTON AVE	GRANITE CITY, IL 62040
WS2036C	2036C WASHINGTON AVE	GRANITE CITY, IL 62040
WS2036D	2036D WASHINGTON AVE	GRANITE CITY, IL 62040
WS2038	2038 WASHINGTON AVE	GRANITE CITY, IL 62040
WS2104L	2104 LOWER WASHINGTON AVE	GRANITE CITY, IL 62040
WS2104U	2104 UPPER WASHINGTON AVE	GRANITE CITY, IL 62040
WT2612	2612 W. 20TH ST	GRANITE CITY, IL 62040
WT2636	2636 W. 20TH ST	GRANITE CITY, IL 62040

TABLE

Home Inspection Surveys Conducted
Adress List - Madison

Resident ID Number	Street Address	City and Zip Code
AL1200	1200 ALTON AVE	MADISON, IL 62060
AL1218	1218 ALTON AVE	MADISON, IL 62060
EL1603	1603 ELIZABETH	MADISON, IL 62060
EL1606	1606 ELIZABETH	MADISON, IL 62060
EL1715	1715 ELIZABETH	MADISON, IL 62060
EL1717	1717 ELIZABETH	MADISON, IL 62060
EL1723	1723 ELIZABETH	MADISON, IL 62060
EL1918	1918 ELIZABETH	MADISON, IL 62060
ER1853	1853 EDWARDSVILLE ROAD	MADISON, IL 62060
GR0808	808 GRAND AVE	MADISON, IL 62060
GR0900A	900 GRAND AVE, UP	MADISON, IL 62060
GR0900	900 GRAND AVE	MADISON, IL 62060
GR1009R	1009R GRAND AVE	MADISON, IL 62060
GR1009	1009 GRAND AVE	MADISON, IL 62060
GR1225	1225 GRAND AVE	MADISON, IL 62060
GR1325	1325 GRAND AVE	MADISON, IL 62060
GW1001	1001 GREENWOOD	MADISON, IL 62060
GW1014R	1014R GREENWOOD	MADISON, IL 62060
GW1014	1014 GREENWOOD	MADISON, IL 62060
GW1015	1015 GREENWOOD	MADISON, IL 62060
GW1018	1018 GREENWOOD	MADISON, IL 62060
GW1028	1028 GREENWOOD	MADISON, IL 62060
GW1108	1108 GREENWOOD	MADISON, IL 62060
IO0820	820 IOWA ST	MADISON, IL 62060

Resident ID Number	Street Address	City and Zip Code
IO0823	823 IOWA ST	MADISON, IL 62060
IO0912	912 IOWA ST	MADISON, IL 62060
IO1018	1018 IOWA ST	MADISON, IL 62060
IO1122	1122 IOWA ST	MADISON, IL 62060
IO1124	1124 IOWA ST	MADISON, IL 62060
IO1211	1211 IOWA ST	MADISON, IL 62060
IO1238	1238 IOWA ST	MADISON, IL 62060
IO1311	1311 IOWA ST	MADISON, IL 62060
IO1316	1316 IOWA ST	MADISON, IL 62060
IO1324	1324 IOWA ST	MADISON, IL 62060
KE1604	1604 KENNEDY DR	MADISON, IL 62060
KE1608	1608 KENNEDY DR	MADISON, IL 62060
KE1609	1609 KENNEDY DR	MADISON, IL 62060
KE1616	1616 KENNEDY DR	MADSION, IL 62060
MA1230	1230 MADISON AVE	MADISON, IL 62060
MC1033	1033 MCCAMBRIDGE	MADISON, IL 62060
ME0618	618 MERIDOCIA	MADISON, IL 62060
ME0631	631 MEREDOCIA	MADISON, IL 62060
ME0636	636 MERIDOCIA	MADISON, IL 62060
ME0641	641 MEREDOCIA	MADISON, IL 62060
ME0645	645 MEREDOCIA	MADISON, IL 62060
RE1000	1000 REYNOLDS	MADISON, IL 62050
RE1030	1030 REYNOLDS	MADISON, IL 62060
RE1032	1032 REYNOLDS	MADISON, IL 62060
RE1112	1112 REYNOLDS	MADISON, IL 62060
SA0633	633 SALVETER	MADISON, IL 62060
ST1022	1022 STATE ST	MADISON, IL 62060
ST1102	1102 STATE ST	MADISON, IL 62060
WS0919	919 WASHINGTON AVE	MADISON, IL 62060
WS0921	921 WASHINGTON AVE	MADISON, IL 62060

Woodward-Clyde Consultants

Engineering & sciences applied to the earth & its environment

July 15, 1992

Mr. Eugene Liu
Corps of Engineers
215 North 17th St.
Omaha, Nebraska 68102-4978

Dear Mr. Liu:

As requested by Mrs. Terry Bucholz, enclosed is a summary report for the Home Inspection Survey (HIS) Recommendation Letters that were forwarded to Mr. Brad Bradley of the USEPA to sign and mail.

The summary lists residents and owners to whom letters were mailed, and is divided into Phases I and II. Phase I surveys were completed in November and December, 1991. The respective letters and recommendations were sent to Mr. Brad Bradley of the USEPA on June 30, 1992 to sign and mail. Phase II surveys were completed May, 1992. The respective letters and recommendations are being sent to Mr. Brad Bradley to sign and mail concurrent with this submittal.

The total number of letter packages to be mailed by the USEPA is as follows:

Phase I		
	Residents	91
	Property Owners	35
Phase II		
	Residents	100
	Property Owners	41
	Total	267

The recommendation checklist included with each letter is based upon the inspection data collected by the HIS inspectors during their inspection visits. The main pieces of data obtained by the inspectors on which the recommendations are based included the number of children living in the home, the percentage of peeling paint in each room, and the occurrence of lead pipes and solder joints.

2318 Millpark Drive • Maryland Heights, Missouri 63043
314-429-0100 • Fax 314-429-0462

Woodward-Clyde Consultants

Engineering & sciences applied to the earth & its environment

A complete copy of the appointment scheduling records, inspection forms, and letters to residents and owners with recommendations are part of the project files that will be forwarded to the Corps of Engineers at the conclusion of the project.

If you have any questions or would like more detailed information, please call.

Very truly yours,

Wendy Reinbolt

5 Enclosures

cc: B. Bradley, USEPA
K. Hagg
D. Pate

2318 Millpark Drive • Maryland Heights, Missouri 63043
314-429-0100 • Fax 314-429-0462

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

July 10, 1992

REPLY TO THE ATTENTION OF:

Sam Avedisan
2128 Adams
Granite City, IL 62040

A visual home inspection at 2128 Adams in Granite City, IL was recently performed as part of the NL Industries/ Taracorp Superfund Project. The purpose of the inspection was to identify potential sources of lead contamination inside your home. The following are the results of the inspection and recommendations to decrease your family's exposure to lead.

Since your home was built prior to the 1950's, there is the potential that lead-based paint, lead water pipes and solder joints may be present. Lead from these sources may be ingested or inhaled from chipping and peeling paint or dissolved lead in the water pipes. Another source of lead may be from outside soil tracked into your home by shoes and pets. The inspection did not include testing for lead but did identify possible exposure routes if lead is present.

In your home the visual inspection identified weathered paint within the utility/basement. The other rooms appeared to have no paint. There was no visual indication of lead water supply pipes and there may be lead solder joints in the kitchen, bath, or utility/basement.

The enclosed fact sheet gives a list of recommendations to reduce potential lead exposure in your home. Use of these recommendations by individual homeowners and residents is entirely voluntary. The recommendations that apply to your household are identified by a check in the corresponding box.

If you have any questions concerning your home inspection or regarding the cleanup of the NL/Taracorp Superfund Site, please contact me or Mary Ann Croce-LaFaire, toll free, at 1-800-621-8431.

Sincerely,

Brad W. Bradley
USEPA Project Manager

Enclosure

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

RECOMMENDATIONS TO ELIMINATE LEAD EXPOSURE IN YOUR HOME ARE:

Reduce Exposure to Lead Paint

Lead in paint is common in houses built prior to 1950. It is not a hazard unless it is available as chips or dust which may be ingested or inhaled by young children. Recommendations are:

- Vacuum areas where paint is chipping or flaking carefully and cover the areas with primer, fresh paint or wall paper.
- Replace woodwork that is in poor condition.
- As an interim measure, block access to areas in bad condition by a piece of furniture so children are not able to chew on paint chips.
- Supervise children to prevent chewing on painted windowsills, woodwork or other painted areas.

Reduce Lead Intake from Water

- Before using your water for drinking or cooking, let the water run for at least one minute. Teach children to do the same.
- Do not drink or cook with water from your hot water tap. Hot water is more likely to dissolve lead.
- Substitute bottled drinking water or keep a bottle of flushed water handy for children to drink (option if above not followed).
- Use only lead free solder and flux and new copper plumbing or plastic pipe when repairing water lines.

Reduce Other Indoor Sources of Lead

- Remove older cribs, furniture or toys which may have been painted with lead paint from your home.

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

- Do not use metal containers, such as pewter or brass pitchers, for food or beverages.

- Do not use old or imported ceramic containers or dishes which may be colored with lead glazes for food.

☐ Protect Your Child from Dust Ingestion - Indoors

- Replace furnace filters often.

- Place a good door mat at the door and teach children to wipe their feet before entering.

- Keep windows closed as much as possible to reduce dust in the house.

- Practice good housekeeping and good hygiene:
  - Vacuum rugs weekly and furniture and drapes often.
  - Damp mop floors with a high phosphate cleaner (such as Spic 'N' Span).
  - Dust furniture with an oiled cloth or damp cloth wetted with a high phosphate cleaner.
  - Wash toddlers hands and toys often.
  - Discourage thumb-sucking.

☐ Protect Your Child from Soil Ingestion - Outdoors

- Limit exposure to dirt:
  - Cover areas of exposed dirt with grass, flowers, mulch or concrete.
  - Wash down very dusty areas with a hose.
  - Discourage children from playing in dirt not covered with grass, gravel or groundcover.
  - Supervise young children to prevent the eating of dirt.

- Practice good hygiene:
  - No eating outdoors.
  - Wash hands frequently.
  - Wash toys that have been taken outdoors.

Printed on Recycled Paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

☒ Alter Gardening Activities

- Do not dig or turn soil on windy days.
- Do not grow root vegetables (such as carrots) or leafy vegetables (such as lettuce or cabbage).
- Use gloves while gardening. Wash hands and change clothes before preparing food.
- Mulch gardens to keep the dust movement down.
- Wash all home-grown fruits and vegetables well.

☒ Practice Good Nutrition

- Maintain a well balanced diet high in Calcium, Iron and Vitamin C.
  - Foods that are High in Iron:
    - Liver, lean meat
    - Tuna fish (packed in water)
    - Eggs
    - Raisins
    - Spinach and greens
  - Foods that are High in Calcium:
    - Milk and Cheese
    - Cottage cheese and Yogurt
    - Ice Milk
  - Foods that are High in Vitamin C:
    - Fruits and Fruit Juice
    - Bell Peppers and Tomatoes
    - Potatoes, Sweet Potatoes (cooked in their skins)
- Reduce the intake of foods high in fats and oil (these foods make it easier for the body to absorb lead:
  - Foods that should be limited:
    - Butter, oil, lard, margarine
    - Potato Chips, Corn Chips, French Fries
    - Fried Foods (remove skin from chicken and fat from meat)
- Throw away food that falls on the floor.

Printed on Recycled Paper

PHASE I HOME INSPECTION SURVEY
RECOMMENDATION LETTERS SENT TO THE FOLLOWING PROPERTY OWNERS:

PROPERTY OWNER	PROPERTY SURVEYED
EDWARD MELTON 2509 W MORELAND DR GRANITE CITY, IL 62040	1938 ADAMS
PHILLIP JAIME 1643 SPRUCE GRANITE CITY, IL 62040	2157 BENTON 2159 BENTON
MYLES J MIDGLEY JR 600 AUDUBON PLACE CT BALLWIN, MO 63021	2163A BENTON 2163 BENTON
KHALDOUN SAFFAF 1728 CHESTNUT ST GRANITE CITY, IL 62040	1728 CHESTNUT 1730 CHESTNUT
SHELBY KESSEL 7516 SUFFILD ST LOVE PARK, IL 61103	2023 BRYAN
CHARLES STONE 3010 BUXTON GRANITE CITY, IL 62040	1708A CLEVELAND 1708B CLEVELAND 1708 CLEVELAND 1710A CLEVELAND 1710B CLEVELAND 1715 EDISON 1715A EDISON 1715B EDISON 1014R GREENWOOD 1014 GREENWOOD
BRADLEY ROSS 2055b CLEVELAND BLVD GRANITE CITY, IL 62040	2055A CLEVELAND

JOHN LARGE 2408 SUNBURY GRANITE CITY, IL 62040	1719A DELMAR 1719B DELMAR
CAROL COREY 4005 NORTH GRANITE CITY, IL 62040	807 NIEDRINGHAUS
DAVE MITCHELL 20TH AND EDISON GRANITE CITY, IL 62040	1245 NIEDRINGHAUS 1255 NIEDRINGHAUS
GARY MILLER 2207 ILLINOIS GRANITE CITY, IL 62040	1614 SPRUCE REAR 1614 SPRUCE FRONT
BRAD WALLACE 2039 STATE ST GRANITE CITY, IL 62040	2039A STATE 2039C STATE
WILLIAM A DALTON 2036B WASHINGTON GRANITE CITY, IL 62040	2036A WASHINGTON 2036B WASHINGTON 2036D WASHINGTON
DAVID D BRAWLEY 4724 NAMEOKI RD GRANITE CITY, IL 62040	2038 WASHINGTON
BEATRICE STENITZER 1009 GRAND MADISON, IL 62060	1009R GRAND
HATTIE MULNIK 626 LINCOLN AVE VENICE, IL 62050	1311 IOWA
DAVID CAUSEY 1033 MCCAMBRIDGE MADISON, IL 62060	1033 MCCAMBRIDGE

PHASE I HOME INSPECTION SURVEY
RECOMMENDATION LETTERS SENT TO THE FOLLOWING RESIDENTS:

TERRI L FINCK
1930 ADAMS ST.
GRANITE CITY, IL 62040

DAVID TRIPP
1938 ADAMS ST
GRANITE CITY, IL 62040

DELORES J WOLFE
1942 ADAMS ST.
GRANITE CITY, IL 62040

ALBERT PAUL
2034 ADAMS ST
GRANITE CITY, IL 62040

GENEVA BROOKS
2138 ADAMS ST
GRANITE CITY, IL 62040

THOMAS POLLARD
1911 BENTON ST
GRANITE CITY, IL 62040

GEORGE COOK
1925 BENTON ST
GRANITE CITY, IL 62040

DAVE BENNETT
2038 BENTON
GRANITE CITY, IL 62040

FAY DUKES
2157 BENTON ST
GRANITE CITY, IL 62040

LARRY J LEMASTER
2158 BENTON ST
GRANITE CITY, IL 62040

RUBY TINSLEY
2159 BENTON ST
GRANITE CITY, IL 62040

DAVID SIEGLE
2163A BENTON REAR
GRANITE CITY, IL 62040

LLOYD L CAVANESS
2228 BENTON ST
GRANITE CITY, IL 62040

MICHAEL UNFRIED
2248 BENTON ST
GRANITE CITY, IL 62040

FRED STITCH
2254 BENTON ST
GRANITE CITY, IL 62040

MELBA ANDERSON
2023 BRYAN AVE
GRANITE CITY, IL 62040

KHALDOUN SAFFAF
1728 CHESTNUT ST
GRANITE CITY, IL 62040

RESIDENT
1730 CHESTNUT ST
GRANITE CITY, IL 62040

ROBERT SCHILDMAN
1750 CHESTNUT ST
GRANITE CITY, IL 62040

RESIDENT
1708A CLEVELAND
GRANITE CITY, IL 62040

RESIDENT
1708B CLEVELAND
GRANITE CITY, IL 62040

RESIDENT
1708 CLEVELAND BLVD
GRANITE CITY, IL 62040

EUGENE HALYAMA
1919 CLEVELAND BLVD
GRANITE CITY, IL 62040

TIMOTHY VENNE
2029 CLEVELAND BLVD
GRANITE CITY, IL 62040

RESIDENT
2055A CLEVELAND BLVD
GRANITE CITY, IL 62040

BRADLEY W ROSS
2055B CLEVELAND BLVD
GRANITE CITY, IL 62040

ORLO C DERMOTT
1628 DELMAR AVE
GRANITE CITY, IL 62040

JOSEPH J YELINEK
1704 DELMAR
GRANITE CITY, IL 62040

EFFIE BAYS
1728 DELMAR AVE
GRANITE CITY, IL 62040

LORRAINE RODRIGUEZ
1747 DELMAR
GRANITE CITY, IL 62040

PAUL D WILSON
1707 EDISON AVE
GRANITE CITY, IL 62040

RESIDENT
1715 EDISON
GRANITE CITY, IL 62040

RESIDENT
1715A EDISON
GRANITE CITY, IL 62040

RESIDENT
1715B EDISON AVE
GRANITE CITY, IL 62040

LAWRENCE HOPKINS
2143 LEE AVE
GRANITE CITY, IL 62040

DENNIS CARDIN
1610 MAPLE ST
GRANITE CITY, IL 62040

BARBARA HANKS
1640 MAPLE ST
GRANITE CITY, IL 62040

JESSICA JAIME
1647 MAPLE ST
GRANITE CITY, IL 62040

JANICE MCGINNES
1713 MAPLE ST
GRANITE CITY, IL 62040

THOMAS MARSH
1739 MAPLE ST
GRANITE CITY, IL 62040

FRANK KITTEL
1741 MAPLE ST
GRANITE CITY, IL 62040

KIM LIGNOUL
807 NIEDRINGHAUS
GRANITE CITY, IL 62040

DALLAS BYRD
2014 OHIO AVE
GRANITE CITY, IL 62040

ELVA E BURCHAM
1601 OLIVE ST
GRANITE CITY, IL 62040

HARRY CHORNISTER
1625 OLIVE ST
GRANITE CITY, IL 62040

MARGUERITE MANOOGIAN
1629 OLIVE ST
GRANITE CITY, IL 62040

JOSEPH VERES
1639 OLIVE ST
GRANITE CITY, IL 62040

JAMES GARNER
1720 OLIVE ST
GRANITE CITY, IL 62040

DENNIS MCGUIRE
1721 OLIVE ST
GRANITE CITY, IL 62040

ETHEL HARRIS
1744 OLIVE ST
GRANITE CITY, IL 62040

DARRIN MILLER
1614 SPRUCE REAR
GRANITE CITY, IL 62040

MATTHEW MILLER
1614 SPRUCE FRONT
GRANITE CITY, IL 62040

FLOYD BAXTER
1626 SPRUCE ST
GRANITE CITY, IL 62040

PAUL CASS
1744 SPRUCE ST
GRANITE CITY, IL 62040

STEVE HORVATH
1754 SPRUCE ST
GRANITE CITY, IL 62040

HAROLD CHANDLER
2036A WASHINGTON
GRANITE CITY, IL 62040

SHEILA DAVIS
2036D WASHINGTON
GRANITE CITY, IL 62040

ELSIE TAYLOR
2038 WASHINGTON
GRANITE CITY, IL 62040

DORA MCCANCE
2104 WASHINGTON AVE
GRANITE CITY, IL 62040

LINDA AUSTIN
2612 W 20TH ST
GRANITE CITY, IL 62040

JAMES CAFFREY
1200 ALTON AVE
MADISON, IL 62060

ROBERT MCBRIDE
1218 ALTON AVE
MADISON, IL 62060

MARILYN SCHAFFNER
1606 ELIZABETH
MADISON, IL 62060

JOSEPH KUBELKA
1715 ELIZABETH
MADISON, IL 62060

ROBERT BARNHART
1723 ELIZABETH
MADISON, IL 62060

JOHN GORKA
1853 EDWARDSVILLE ROAD
MADISON, IL 62060

JOSEPH KEZELE
808 GRAND AVE
MADISON, IL 62060

BEATRICE STENITZER
1009 GRAND AVE
MADISON, IL 62060

FRANK LISAC
1325 GRAND AVE
MADISON, IL 62060

JAMES BELCHER
1001 GREENWOOD
MADISON, IL 62060

HARRY WASYLAK
1018 GREENWOOD
MADISON, IL 62060

KENNY NOLAN
1108 GREENWOOD
MADISON, IL 62060

STEVE MCKINNEY
820 IOWA ST
MADISON, IL 62060

MARGARET KMETZ
823 IOWA ST
MADISON, IL 62060

WILLIAM VERBA
912 IOWA ST
MADISON, IL 62060

HAROLD FISK
1124 IOWA ST
MADISON, IL 62060

RUTH STOYANOFF
1211 IOWA
MADISON, IL 62060

ENRIQUE LOPEZ
1238 IOWA ST
MADISON, IL 62060

SIGMUND MULNICK
1311 IOWA
MADISON, IL 62060

BARBARA BOLF
1316 IOWA
MADISON, ILLINOIS 62060

SHIRLEY BOLF
1324 IOWA
MADISON, IL 62060

EARL WARREN
1609 KENNEDY
MADISON, IL 62060

PETER KOSTECKI
1616 KENNEDY
MADSION, IL 62060

CHRIST PASHOFF
1230 MADISON AVE
MADISON, IL 62060

MARK J ROSEMAN
1033 MCCAMBRIDGE
MADISON, IL 62060

ADA BUSH
618 MERIDOCIA
MADISON, IL 62060

P.A. BUTLER
631 MEREDOCIA
MADISON, IL 62060

NATHANIEL BOYCE
636 MERIDOCIA
MADISON, IL 62060

HENRY LEONARD
641 MEREDOCIA AVE
MADISON, IL 62060

DAVID ANDERSON
645 MEREDOCIA
MADISON, IL 62060

LARRY MILLER
1102 STATE ST
MADISON, IL 62060

PHASE II HOME INSPECTION SURVEY
RECOMMENDATION LETTERS SENT TO THE FOLLOWING PROPERTY OWNERS:

PROPERTY OWNER	PROPERTY SURVEYED
BOB APPLEGATE PO BOX 513 ST. JO TEX, TX 76265	1926 BENTON
RICHARD REUTEBUCH 403 WINDRIDGE COLLINSVILLE, IL 62234	2153A BENTON 2153 BENTON 2155A BENTON 2155 BENTON
MARIE & GEORGE EHLERT 2131 CLEVELAND BLVD GRANITE CITY, IL 62040	2131 CLEVELAND
TR NO 8-75 CENTRAL BANK 1909 EDISON AVE GRANITE CITY, IL 62040	2133 CLEVELAND
MICHELE MOURY 2201 CLEVELAND BLVD GRANITE CITY, IL 62040	2201 CLEVELAND
DENNIS J REUTEBUCH 2836 DOGWOOD DR GRANITE CITY, IL 62040	2133 DELMAR 2135 DELMAR
JAMES & LAVERNE CORBITT 2235 DELMAR AVE GRANITE CITY, IL 62040	2233 DELMAR
JERRY R KORANDO 4215 RACE COURSE AVE ST. LOUIS, MO 63110	2121 EDISON
DAVID LEGGET 141 LOTUS DR EDWARDSVILLE, IL 62025	2137A EDISON 2137 EDISON

RICHARD MILLER 2218 EDISON GRANITE CITY, IL 62040	2218A EDISON
NOEL BAILEY 10 GLORY LANE GRANITE CITY, IL 62040	2219A EDISON 2219 EDISON
MARY O WINTER 3340 COLGATE GRANITE CITY, IL 62040	2151 GRAND
VICKI WILLIAMS 2247A GRAND GRANITE CITY, IL 62040	2247B GRAND 2247 GRAND REAR 2247A GRAND DOWNSTAIRS
JERRY WINCHESTER 1417 MADISON GRANITE CITY, IL 62040	1415 MADISON
JOSEPH G MARSALA 205 MADISON AVE GRANITE CITY, IL 62040	1633 MAPLE
NELLE BOGOSIAN 1525 CLARK AVE GRANITE CITY, IL 62040	901 NIEDRINGHAUS
MARY JANE ANRIA 209 SUNNYSLOPE DR BELLEVILLE, IL 62221	1747 OLIVE
CRAIG J NYERS 2348 O'HARE AVE GRANITE CITY, IL 62040	1751 OLIVE
MERCIE MENDOZA 2805 MARYVILLE RD. GRANITE CITY, IL 62040	1602 SPRUCE
CLARENCE BAKER 5101 BUENNA DR GRANITE CITY, IL 62040	2041 STATE

JERRELL MILES 1 NASSAU GRANITE CITY, IL 62040	2141A STATE 2141 STATE
EDWARD BOYER 2228 STATE GRANITE CITY, IL 62040	2230 STATE
WINONA BAKER 5101 BUENNA DR GRANITE CITY, IL 62040	2216 STATE
CHARLES PASCO 5208 LAKEVIEW DR GRANITE CITY, IL 62040	2636 W 20TH ST
ROSE KOSTECKI 800 LEE MADISON, IL 62060	1918 ELIZABETH
ROSALIE ENGLISH 900 GRAND HIGHLAND, IL 62249	900 GRAND UPSTAIRS 900 GRAND
JULIA ANN WOODROME 267 SUNNY SHORES GRANITE CITY, IL 62040	1028 GREENWOOD
DELMAR FINANCE 4 EXECUTIVE WOODS CT GRANITE CITY, IL 62040	1604 KENNEDY
1ST NATIONAL GRANITE CITY BANK 929 GREENWOOD GRANITE CITY, IL 62040	1032 REYNOLDS
B C GITCHO 9 SHIRLWIN GRANITE CITY, IL 62040	1112 REYNOLDS
HAROLD MILLER 921 WASHINGTON AVE MADISON, IL 62060	919 WASHINGTON

PHASE II HOME INSPECTION SURVEY
RECOMMENDATION LETTERS SENT TO THE FOLLOWING RESIDENTS:

SAM AVEDISAN
2128 ADAMS
GRANITE CITY, IL 62040

JACQUILINE YEAGER
2140 ADAMS ST
GRANITE CITY, IL 62040

ARTHUR ANGELLY
1926 BENTON ST
GRANITE CITY, IL 62040

ROBERTA LEWIS
1941 BENTON ST
GRANITE CITY, IL 62040

JAMES GAVIN
2103 BENTON ST
GRANITE CITY, IL 62040

JANE HAMILTON
2155 BENTON AVE
GRANITE CITY, IL 62040

GLEN BENNET
2232 BENTON ST
GRANITE CITY, IL 62040

ESTELLE K ROBERTS
2256 BENTON ST
GRANITE CITY, IL 62040

SAMUEL NIGHOHOSSIAN
1723 CHESTNUT ST
GRANITE CITY, IL 62040

YVONNE PASSIG
1753 CHESTNUT ST
GRANITE CITY, IL 62040

JANET RILEY
1640 CLEVELAND BLVD
GRANITE CITY, IL 62040

ROBERT L HOFFMAN
2131 CLEVELAND BLVD
GRANITE CITY, IL 62040

BAXTER CROCKARELL
2133 CLEVELAND BLVD
GRANITE CITY, IL 62040

JUAN JOSE ORTIZ
2157 CLEVELAND BLVD
GRANITE CITY, IL 62040

MINDY MOURY
2201A CLEVELAND BLVD
GRANITE CITY, IL 62040

CAROL MCCULLAN
2201 CLEVELAND
GRANITE CITY, IL 62040

CLAUD WARD
2208 CLEVELAND BLVD
GRANITE CITY, IL 62040

BASIL YURCISIN
2217 CLEVELAND BLVD
GRANITE CITY, IL 62040

METTELLA MASON
2243 CLEVELAND BLVD
GRANITE CITY, IL 62040

SIDNEY VAUGHN
2246 CLEVELAND BLVD
GRANITE CITY, IL 62040

MARJORIE REUTEBUCH
2262 CLEVELAND BLVD
GRANITE CITY, IL 62040

GERALD ROSENBURG
2264 CLEVELAND BLVD
GRANITE CITY, IL 62040

WILLIAM D COOKRIA
2218 DELMAR AVE
GRANITE CITY, IL 62040

MYRA D GROTE
2233 DELMAR AVE
GRANITE CITY, IL 62040

JAMES CORBITT
2235 DELMAR AVE
GRANITE CITY, IL 62040

JANE MASON
2247 DELMAR AVE
GRANITE CITY, IL 62040

EDNA FRIEND
2253 DELMAR AVE
GRANITE CITY, IL 62040

SAMMIE D CALVIN
2257 DELMAR AVE
GRANITE CITY, IL 62040

JOHN ORTOLAN
2258 DELMAR AVE
GRANITE CITY, IL 62040

JACK TELLOR
1700 EDISON
GRANITE CITY, IL 62040

KENNETH WALLER
2121 EDISON AVE DOWNSTAIRS
GRANITE CITY, IL 62040

RALPH LEE
2137A EDISON AVE
GRANITE CITY, IL 62040

FRANK GAVEVICH
2137 EDISON AVE
GRANITE CITY, IL 62040

DUANE JONES
2218A EDISON
GRANITE CITY, IL 62040

RICHARD MILLER
2218 EDISON AVE
GRANITE CITY, IL 62040

RESIDENT
2219A EDISON
GRANITE CITY, IL 62040

TOMMY DONG
2219 EDISON AVE
GRANITE CITY, IL 62040

ROBERT R MALONE
2235 EDISON AVE
GRANITE CITY, IL 62040

DANIEL M MCDOWELL
2237 EDISON AVE
GRANITE CITY, IL 62040

ANTHONY BOYER
2255 EDISON AVE
GRANITE CITY, IL 62040

SANDRA MIFFLIN
1410 GRAND
GRANITE CITY, IL 62040

MARY BORICH
1424 GRAND
GRANITE CITY, IL 62040

RALPH CLUTTS JR
1443 GRAND
GRANITE CITY, IL 62040

MIKE J. COUGHLIN
2151 GRAND AVE
GRANITE CITY, IL 62040

CHARLOTTE SUHRE
2246 GRAND AVE
GRANITE CITY, IL 62040

MABEL JOHNSON
2247 GRAND
GRANITE CITY, IL 62040

CINDY JOHNSON
2247 GRAND REAR
GRANITE CITY, IL 62040

MICHAEL R JONES
1423 IOWA ST
GRANITE CITY, IL 62040

JOHN J BELUSKO
2029 LEE AVE
GRANITE CITY, IL 62040

FRANK R COFFMAN
2127 LEE AVE
GRANITE CITY, IL 62040

JOYCE HOPKINS
2145 LEE
GRANITE CITY, IL 62040

JOHN D WAYNICK JR
2161 LEE AVE
GRANITE CITY, IL 62040

BIRDIE SMITH
1415 MADISON
GRANITE CITY, IL 62040

GEORGE POPOVSKY
1420 MADISON AVE
GRANITE CITY, IL 62040

MICHAEL CUNNINGHAM
1423 MADISON
GRANITE CITY, IL 62040

GENEVIEVE CILUFTRO
1633 MAPLE ST
GRANITE CITY, IL 62040

FRANK KITTEL
1747 MAPLE ST
GRANITE CITY, IL 62040

JEFFREY COX
821 NIEDRINGHAUS AVE
GRANITE CITY, IL 62040

VELMA CANTLON
830 NIEDRINGHAUS AVE
GRANITE CITY, IL 62040

JOAN MILLER
901 NIEDRINGHAUS AVE
GRANITE CITY, IL 62040

RICHARD FRANKLIN
1724 OLIVE ST
GRANITE CITY, IL 62040

LILLIE SKALSKY
1725 OLIVE ST
GRANITE CITY, IL 62040

LISA PERRY
1747 OLIVE ST
GRANITE CITY, IL 62040

LARRY ROBINSON
1751 OLIVE ST
GRANITE CITY, IL 62040

MARK DONALDSON
1602 SPRUCE ST
GRANITE CITY, IL 62040

VIRGINIA ZUNIGA
2041 STATE ST, DOWNSTAIRS
GRANITE CITY, IL 62040

ALCOHOL REHAB COMMUNITY HOME
1313 21ST ST
GRANITE CITY, IL 62040

BESSIE B COOLIDGE
2119 STATE ST
GRANITE CITY, IL 62040

THOMAS MILES
2141A STATE ST
GRANITE CITY, IL 62040

CHARLES TANKSLEY
2141 STATE ST
GRANITE CITY, IL 62040

ROBERT E PFEIFFER
2150 STATE ST
GRANITE CITY, IL 62040

ROBERT MINK JR
2158 STATE ST
GRANITE CITY, IL 62040

NATHAN KESSLER
2210 STATE ST
GRANITE CITY, IL 62040

DENISE BAKER
2216 STATE ST
GRANITE CITY, IL 62040

EDWARD BOYER
2228 STATE ST
GRANITE CITY, IL 62040

JAMES WAGNER
2235 STATE ST
GRANITE CITY, IL 62040

VICKI WESTBROOK
2254 STATE ST
GRANITE CITY, IL 62040

DARLENE TAYLOR
2256 STATE ST
GRANITE CITY, IL 62040

RAYMOND L BECERRA
1713 WALNUT ST
GRANITE CITY, IL 62040

GARY HOFFMAN
2636 W 20TH ST
GRANITE CITY, IL 62040

JOHN CAUSEY
1510 23RD ST
GRANITE CITY, IL 62040

STEVE BUCHERICH JR
1603 ELIZABETH
MADISON, IL 62060

FRANK BACZEWSKI
1717 ELIZABETH
MADISON, IL 62060

DAVID DANIELS
1918 ELIZABETH
MADISON, IL 62060

RESIDENT
900 GRAND UPSTAIRS
GRANITE CITY, IL 62040

JACKIE DOWNS
900 GRAND AVE
MADISON, IL 62060

FRANK OBREMSKI
1225 GRAND AVE
MADISON, IL 62060

EDWARD GOCLAN
1015 GREENWOOD
MADISON, IL 62060

JAMES WOODROME
1028 GREENWOOD
MADISON, IL 62060

WILLIAM SCHERMER
1018 IOWA ST
MADISON, IL 62060

GREG GROOMS
1122 IOWA ST
MADISON, IL 62060

DONALD WHITECOTTON
1604 KENNEDY DR
MADISON, IL 62060

JOSEPH ASPERGER
1608 KENNEDY
MADISON, IL 62060

WILLIAM CHAMPION
1000 REYNOLDS
MADISON, IL 62060

ROBERT BURNETT
1030 REYNOLDS
MADISON, IL 62060

ALOYES RUESING
1032 REYNOLDS
MADISON, IL 62060

SHARON ROBBINS
1112 REYNOLDS
MADISON, IL 62060

BOBBY SIMMS
633 SALVETER
MADISON, IL 62060

MARLIN ROGERS
1022 STATE ST
MADISON, IL 62060

HAROLD MILLER
921 WASHINGTON AVE
MADISON, IL 62060

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

July 10, 1992

Resident File Example
(Records kept for each resident)

REPLY TO THE ATTENTION OF:

Jacquiline Yeager
2140 Adams St
Granite City, IL 62040

A visual home inspection at 2140 Adams St in Granite City, IL was recently performed as part of the NL Industries/ Taracorp Superfund Project. The purpose of the inspection was to identify potential sources of lead contamination inside your home. The following are the results of the inspection and recommendations to decrease your family's exposure to lead.

Since your home was built prior to the 1950's, there is the potential that lead-based paint, lead water pipes and solder joints may be present. Lead from these sources may be ingested or inhaled from chipping and peeling paint or dissolved lead in the water pipes. Another source of lead may be from outside soil tracked into your home by shoes and pets. The inspection did not include testing for lead but did identify possible exposure routes if lead is present.

In your home the visual inspection identified major chipping and peeling paint within the utility/basement; and weathered paint in the kitchen. The paint in the other rooms appeared to be in good condition. There was no visual indication of lead water supply pipes but there may be lead solder joints in the kitchen, bath, and utility/basement.

The enclosed fact sheet gives a list of recommendations to reduce potential lead exposure in your home. Use of these recommendations by individual homeowners and residents is entirely voluntary. The recommendations that apply to your household are identified by a check in the corresponding box.

If you have any questions concerning your home inspection or regarding the cleanup of the NL/Taracorp Superfund Site, please contact me or Mary Ann Croce-LaFaire, toll free, at 1-800-621-8431.

Sincerely,

Brad W. Bradley
USEPA Project Manager

Enclosure

Printed on Recycled Paper