

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE					
6/2/81		G. Cotcamp		T. Grady		6834		TG <i>new</i>			4		1					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER				
Kansas		Randolph		Kansas		Riley		75/65		6E				L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS
												LAT.	DEP.	Y	X			
±/±										1256.0						422,350	2,335,780	instrument - Wild T1A chaining - 330 steel cable + pins.
	2220		352°56' -180°	+6.7°	+4.9	89°	-38.7	-33.87	1222.2		BS	-2220	+14					4-way Intersect. el. 1256
	2220		172°41'		+11.4	88°50'	-45.2	-33.87			BS							
1	1650		172°41'	+6.7°	8.1	92°	-57.6	-65.7		1156.5		-1650	+18	418,480	2,335,812			
2	1320		" "	"	10.2	92°	-46.0	-56.2		1166.0		-1320	+14	418,810	2,335,808			
3	990		" "	"	9.2	92°	-34.5	-43.7		1178.5		-990	+11	419,140	2,335,805			
4	660		" "	"	9.9	92°	-22.0	-32.9		1189.3		-660	+7	419,470	2,335,801			
5	330		" "	"	11.6	BH	-1.7	-13.3		1208.9		-330	+4	419,800	2,335,798			
6	0		" "	"	5.4	-		-5.4		1216.8	X	0	0	420,130	2,335,794			
7	330		353°07'	+6.7°	4.4	89°	+5.8	+1.4		1223.6		+330	-1	420,460	2,335,793			
8	660		" "	"	3.1	89°	+11.5	+8.4		1230.6		+660	-2	420,790	2,335,792			
9	990		" "	"	8.4	89°	+17.3	+8.9		1231.1		+990	-3	421,120	2,335,791			
10	1320		" "	"	10.9	89°	+23.0	+12.1		1234.3		+1320	-4	421,450	2,335,790			
11	1650		" "	"	8.3	89°	+28.8	+20.5		1242.7		+1650	-5	421,780	2,335,789			
12	1980		" "	"	4.6	89°	+34.6	+30.0		1252.2		+1980	-6	422,110	2,335,788			
±/±	2220		352°56'	+6.7°	4.9	89°	+38.7	+33.8		1256.0		+2220	-14	422,350	2,335,780			4-way Intersect.
13	2310		353°07' 22"	+6.7°	6.0	89°	+40.3	+34.3		1256.5	TP	+2310	-7	422,440	2,335,787			
13	2310				12.8	88°50'	+47.0	+34.2			TP							
	2310		173°04' +180°	+6.7°	+14.3	BH	+11.6	+25.9	1282.4		BS	+2310	-9					
	2310				+13.7	90°18'	+12.1	+25.8			BS							
14	1980		173°04'	+6.7°	6.1	90°30'	-17.3	-23.4		1259.0		-1980	+8	422,770	2,335,786			

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/2/81		G. Cotcamp		T. Grady		6834		T.G. rdw		4	2				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Kansas		Randolph/Greenleaf		Kansas	Riley		6S	6E		L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1282.4						
15	1650		173°04'	+6.7°	10.3	90°30'	-14.4	-24.7		1257.7		-1650	+7	423,100	2,335,785
16	1320		" "	"	7.8	90°50'	-19.2	-22.0		1255.4		-1320	+5	423,430	2,335,783
17	990		" "	"	6.2	91°30'	-25.9	-32.1		1250.3		-990	+4	423,760	2,335,782
18	660		" "	"	12.4	91°-	-11.5	-23.9		1258.5		-660	+3	424,090	2,335,781
19	330		" "	"	12.8	-		-12.8		1269.6		-330	+1	424,420	2,335,779
20	0				5.4	-		-5.4		1277.0	π	0	0	424,750	2,335,778
21	330		353°16'	+6.7°	3.5	-		-3.5		1278.9		+330	-0	425,080	2,335,778
22	660		" "	"	7.8	-		-7.8		1274.6		+660	-0	425,410	2,335,778
23	990		" "	"	6.0	-		-6.0		1276.4		+990	-1	425,740	2,335,777
24	1320		353°16' 20"	+6.7°	1.9	-		-1.9		1280.5	TP	+1320	-1	426,070	2,335,777
24	1320				8.5	TH	+6.6	-1.9			TP				
	1650		172°41' +180°	+6.7°	+8.1	BH	+8.3	+16.4	1296.9		BS	+1650	-18		
	1650				+14.4	90°4'	+1.9	+16.3			BS				
25	1320		172°41'	+6.7°	10.9	90°30'	-11.5	-22.4		1274.5		-1320	+14	426,400	2,335,773
26	990		" "	"	7.1	91°-	-17.3	-24.4		1272.5		-990	+11	426,730	2,335,770
27	660		" "	"	11.0	91°20'	-15.4	-26.4		1270.5		-660	+7	427,060	2,335,766
28	330		" "	"	12.7	90°30'	-2.9	-15.6		1281.3		-330	+4	427,390	2,335,763
29	0				5.4	-		-5.4		1291.5	π	0	0	427,720	2,335,759
30	330		352°50'	+6.7°	5.1	-		-5.1		1291.8		+330	-3	428,050	2,335,756
31	660		" "	"	10.8	BH	-3.3	-14.1		1282.8		+660	-5	428,380	2,335,754

Randolph Quad.
Greenleaf SE Quad.

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/2/81		G. Cotcamp		T. Grady		6834		T.G. <i>adw</i>		4	3				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Kansas		Greenleaf SE		Kansas	Riley		65	6E		L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1296.9						
32	990		352° 50'	+6.7°	12.1	90° 50'	-14.4	-26.5		1270.4		+990	-8	429,710	2,335,751
33	1320		" "	"	11.2	90° 30'	-11.5	-22.7		1274.2		+1320	-11	429,040	2,335,748
34	1650		" "	"	7.4	TH	+8.3	+0.9		1297.8		+1650	-13	429,370	2,335,746
35	1980		" "	"	5.0	89° 30'	+12.2	+12.3		1309.2		+1980	-16	429,700	2,335,743
36	2310		352° 50' 20"	+6.7°	4.7	89° 20'	+76.9	+22.2		1319.1	TP	+2310	-19	430,030	2,335,740
36	2310				0.7	89° 26'	+22.8	+22.1			TP				
	2310		172° 20' 20" +180°	+6.7°	+12.3	-		+12.3	1331.4		BS	+2310	-39		
	2310				+15.0	89° 56'	-2.7	+12.3			BS				
IF	2050 2250		172° 44'	+6.7°	9.4	-		-0.4		1322.0		-2060	+20	430,280	2,335,721
37	1980		172° 20'	+6.7°	10.2	-		-10.2		1321.2		-1980	+33	430,360	2,335,734
38	1650		" "	"	11.1	-		-11.1		1320.3		-1650	+28	430,690	2,335,729
39	1320		" "	"	3.6	-		-3.6		1327.8		-1320	+22	431,020	2,335,723
40	990		" "	"	4.0	-		-4.0		1327.4		-990	+17	431,350	2,335,718
41	660		" "	"	8.7	-		-8.7		1322.7		-660	+11	431,680	2,335,712
42	330		" "	"	7.7	-		-7.7		1323.7		-330	+6	432,010	2,335,707
43	0				5.4	-		-5.4		1326.0	X	0	0	432,340	2,335,701
44	330		352° 26'	+6.7°	1.4	-		-1.4		1330.0		+330	-5	432,670	2,335,696
45	660		" "	"	0.3	TH	+3.3	+3.0		1334.4		+660	-10	433,000	2,335,691
46	990		" "	"	8.8	89° -	+12.2	+8.5		1339.9		+990	-15	433,330	2,335,686
47	1320		" "	"	3.7	89° -	+23.0	+19.3		1350.7		+1320	-20	433,660	2,335,681

430,300 + 2,335,720
T-rd (east) 21.1323

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/2/81		G. Catcamp		T. Grady		6834		T.G. <i>John</i>		4	5				
AREA		TOPO MAP		STATE		COUNTY		RANGE	PPM	PARTY MANAGER					
Kansas		Greenleaf SE		Kansas		Riley		65	6E	L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1379.5						
63	1650		353°04'38"	+6.7°	7.0	-		-2.0		1372.5	TP	+1650.2	-6	438,937	2,335,648
63	1650				5.1	90°4'	-1.2	-7.0			TP				
	1980		172°40'42"+180°	+6.7°	+3.1	TH	-9.9	-6.8			BS	+1980.2	-21		
	1980				+4.6	89°40'	-11.5	-6.2			BS				
64	1650		172°41'	+6.7°	3.5	TH	+8.3	+4.8		1370.5		-1650	+18	439,265	2,335,645
65	1320		" "	"	3.4	TH	+6.6	+3.2		1368.9		-1320	+14	439,595	2,335,641
66	990		" "	"	3.8	TH	+5.0	+1.2		1366.9		-990	+11	439,925	2,335,638
67	660		" "	"	1.6	-		-1.2		1364.1		-660	+7	440,255	2,335,634
68	330		" "	"	1.3	-		-1.2		1364.4		-330	+4	440,585	2,335,631
IF	62		176°41'	+6.7°	3.6	-		-3.6		1262.1		-62	-4	440,853	2,335,623
69	0				5.4	-		-5.4		1260.3	X	0	0	440,915	2,335,627
70	330		352°47'	+6.7°	10.8	91°-	-5.8	-16.6		1248.1		+330	-3	441,245	2,335,624
71	660		" "	"	10.6	92°-	-23.0	-33.6		1232.1		+660	-6	441,575	2,335,621
72	990		" "	"	12.2	92°20'	-40.3	-52.5		1213.2		+990	-9	441,905	2,335,618
73	1320		" "	"	10.7	92°40'	-61.3	-72.0		1298.7		+1320	-12	442,235	2,335,615
74	1650		" "	"	11.5	92°34'	-73.8	-85.3		1280.4		+1650	-15	442,565	2,335,612
75	1980	1978.4	352°46'45"	+6.7°	8.4	92°20'	-80.5	-88.9		1276.8	TP	+1978.2	-18	442,891	2,335,609
75	1980				14.1	92°10'	-74.8	-88.9			TP				
	1320		172°46'40"+180°	+6.7°	+13.9	91°24'	+32.2	+46.1	1320.3		BS	+1320.2	-12		
	1320				+11.6	91°30'	+34.5	+46.1			BS				

440,860 + 2,335,615
4-Way Intersect. 1363

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/2/81		G. Cotcamp		T. Grady		6839		GVL rldw		4	7						
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Greenleaf SE		Kansas	Riley	65	6E		L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1281.1								
91	990		355°14'	+6.7°	8.0	89°-	+17.3	+9.3		1290.4	TP	+989-2	+33	448,161	2,335,582		
91	990				2.2	89°20'	+11.5	+3.3			TP						
	1650		173°14'+180°	+6.7°	+13.3	91°-	-28.8	+42.1	1332.5		BS	+1650-2	-2				
	1650				+8.4	91°10'	+33.6	+42.0			BS						
92	1320		173°14'	+6.7°	12.1	91°-	-23.0	-35.1		1297.4		-1320	+2	448,489	2,335,582		
93	990		" "	"	10.4	91°-	-17.3	-27.7		1304.8		-990	+1	448,819	2,335,581		
94	660		" "	"	10.7	90°30'	-5.8	-16.5		1316.0		-660	+1	449,149	2,335,581		
95	330		" "	"	12.0	BH	-6.7	-13.7		1318.8		-330	0	449,479	2,335,580		
96	0				5.4	-		-5.4		1327.1	TP	0	0	449,809	2,335,580		
97	330		353°15'	+6.7°	8.8	92°-	-11.5	-20.3		1312.2		+330	0	450,139	2,335,580		
98	660		" "	"	4.2	91°-	-11.5	-15.7		1316.8		+660	-1	450,469	2,335,579		
99	990		" "	"	4.6	TH	+5.0	+0.4		1332.9		+990	-1	450,799	2,335,579	horiz. coord. y = -16', x = 0	
100	1320		" "	"	0.7	TH	+6.6	+5.9		1338.4		+1320	-1	451,129	2,335,579	451,300 + 2,335,575	
TP	1491		353°07'	+6.7°	3.9	TH	+7.5	+3.6		1336.1	TP	+1491	-5	451,300	2,335,575	T-intersect.	
TP	1491				5.1	89°40'	+8.7	+3.6			TP						
	522		262°11'20"-180°	+6.6°	+11.0	-		+11.0	1347.1		BS	+11-1	+522			Note: 995 (stadia)	
	522				+13.6	TH	-2.6	+11.0			BS					offset east	
TP	0				5.4	-		-5.4		1341.7	TP	0	0	451,310	2,336,097		
TP	473		83°16'30"	+6.6°	11.7	-		-11.7		1335.4	TP	+1-1	+473	451,310	2,336,570	T-intersect.	
TP	473				14.1	TH	+2.4	-11.7			TP						

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6/3/81		G. Cotcamp		T. Grady		6834		T.G. rluw		4	8						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Kansas		Greenleaf SE		Kansas	Marshall		5S	6E		L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
<u>11</u>										1335.4							
	489		173°27' +180°	+6.6°	+10.9	91°-	+8.5	+19.4	1354.8		BS	+489-	0				
	489				+13.8	90°40'	+5.7	+19.5			BS						
101	330		173°11'	+6.6°	9.5	91°-	-5.8	-15.3		1339.5		-330	+1	451,468	2,336,571		
102	0				5.4	-		-5.4		1349.4	π	0	0	451,798	2,336,570		
103	330		352°24'	+6.6°	10.0	-		-10.0		1344.8		+330	-6	452,128	2,336,569		
104	660		"	"	6.8	-		-6.8		1348.0		+660	-12	452,458	2,336,558		
105	990		352°24'	+6.6°	1.6	TH	+5.0	+3.4		1358.2	TP	+990-	-17	452,787	2,336,553		
105	990				5.3	89°30'	+8.6	+3.3			TP						
	660		172°44' +180°	+6.6°	+7.7	92°-	+23.0	+30.7	1388.9		BS	+660	-8				
	660				+14.2	91°26'	+16.5	+30.7			BS						
106	330		172°44'	+6.6°	11.1	91°30'	-8.6	-19.7		1369.2		-330	+4	453,117	2,336,549		
107	0				5.4	-		-5.4		1383.5	π	0	0	453,447	2,336,545		
108	330		352°37'	+6.6°	12.7	-		-12.7		1376.2		+330	-5	453,777	2,336,540		
109	660		"	"	10.4	91°-	-11.5	-21.9		1367.0		+660	-9	454,107	2,336,536		
110	990		352°37'	+6.6°	4.8	91°-	-17.3	-22.17		1366.8	TP	+990	-14	454,437	2,336,531		
110	990				7.8	90°50'	-14.4	-22.2			TP						
	990		172°45' +180°	+6.6°	+9.7	91°-	+17.3	+27.0	1393.8		BS	+990	-11-2				
	990				+7.9	91°06'	+19.0	+26.9			BS						
111	660		172°45'	+6.6°	11.9	91°-	-11.5	-23.4		1370.4		-660	+7	454,767	2,336,525		
112	330		"	"	8.0	-		-8.0		1385.8		-330	+4	455,097	2,336,522		

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6/3/81		G. Cotcamp		T. Grady		6834		TG <i>adw</i>		4		9		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Kansas		GREENleaf SE		Kansas		MARSHALL		GE				L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									1393.8					
113	0				5.4	-		-5.4		1388.4	π	0	0	455,427 2,336,518
114	330		352°40'	+6.6°	4.7	-		-4.7		1389.1		+330	-4	455,757 2,336,514
115	660		"	"	0.4	-		-0.4		1393.4		+660	-8	456,087 2,336,510
116	990		352°40'	+6.6°	10.1	TH	+5.0	-5.2		1388.6	TP	+990	-13-2	456,417 2,336,503
116	990				8.1	89°50'	+2.9	-5.2			TP			
	1320		172°31'20"+180°	+6.6°	+7.9	91°	+23.0	+30.9	1419.5		BS	+1320	-20-2	
	1320				+13.3	90°46'	+17.7	+31.0			BS			
117	1130		172°27'	+6.6°	13.3	91°06'	-21.7	-35.0		1384.5		-1130	+19	456,607 2,336,500 <i>4-way Intersect el. 1384</i>
117	990		172°31'	+6.6°	8.7	91°30'	-25.9	-34.6		1384.9		-990	+15	456,747 2,336,496
118	660		"	"	11.2	91°30'	-17.3	-28.5		1391.0		-660	+10	457,077 2,336,491
119	330		"	"	12.7	90°30'	-2.9	-15.6		1403.9		-330	+5	457,407 2,336,486
120	0				5.4	-		-5.4		1414.1	π	0	0	457,737 2,336,481
121	330		352°30'	+6.6°	8.7	-		-8.7		1410.8		+330	-5	458,067 2,336,476
122	660		"	"	7.9	-		-7.9		1411.6		+660	-10	458,397 2,336,471
123	990		"	"	10.2	-		-10.2		1409.3		+990	-16	458,727 2,336,465
124	1320		352°30'	+6.6°	4.2	-		-4.2		1415.3	TP	+1320	-21-2	459,057 2,336,458
124	1320				10.8	TH	+6.6	-4.2			TP			
	660		172°30'+180°	+6.6°	+11.7	91°	+11.5	+23.2	1438.5		BS	+660	-10-2	
	660				+13.7	90°50'	+9.6	+23.3			BS			
125	330		172°30'	+6.6°	12.4	-		-12.4		1426.1		-330	+5	459,387 2,336,451

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6/3/81		G. Cotcamp		T. Grady		6834		T.G. rdw		4		10			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Kansas		Greenleaf SE		Kansas		Marshall		55		6E				L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1438.5						
126	0				5.4	-		-5.4		1433.1	π	0	0	459,717	2,336,446
127	330		352°41'	+6.6°	9.3	-		-9.3		1429.2		+330	-4	460,047	2,336,442
128	660		" "	"	20.6	BH	-3.3	-23.9		1414.6		+660	-8	460,377	2,336,438
129	990		352°41'	+6.6°	5.6	BH	-5.0	-10.6		1427.9	TP	+990	-12-2	460,707	2,336,432
129	990				6.0	90°16'	-4.6	-10.6			TP				
	1650		172°50'40" + 180°	+6.6°	+7.6	BH	+8.3	+15.9	1443.8		BS	+1650	-16-2		
	1650				+13.9	90°4'	+1.9	+15.8			BS				
130	1320		172°51'	+6.6°	9.0	91°-	-23.0	-32.0		1411.8		-1320	+13	461,037	2,336,427
131	990		" "	"	19.2	91°30'	-25.9	-45.1		1398.7		-990	+10	461,367	2,336,424
132	660		" "	"	20.3	91°30'	-17.3	-37.6		1406.2		-660	+6	461,697	2,336,420
132	467		172°37'	+6.6°	13.7	BH	-2.3	-16.0		1427.8		-467	+6	461,890	2,336,420
133	330		172°51'	+6.6°	11.3	-		-11.3		1432.5		-330	+3	462,027	2,336,417
134	0				5.4	-		-5.4		1438.4	π	0	0	462,357	2,336,414
135	330		352°49'	+6.6°	10.4	91°-	-5.8	-16.2		1427.6		+330	-3	462,687	2,336,411
136	660		" "	"	4.3	-		-4.3		1439.5		+660	-7	463,017	2,336,407
137	990		352°49'	+6.5°	8.3	-		-8.3		1435.5	TP	+990-3	-12	463,344	2,336,402
137	990				13.3	TH	+5.0	-8.4			TP				
	1320		172°17' + 180°	+6.5°	+3.8	-		+3.8	1439.3		BS	+1320-3	-28		
	1320				+10.4	TH	-6.6	+3.8			BS				
138	990		172°17'	"	11.2	-		-11.2		1428.1		-990	+21	463,671	2,336,395

horiz. correct. y = -4'
x = -19'
461,890 + 2,336,420
4-way Intersect. el. 1428.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/3/81		G. Cotcamp		T. Grady		6834		TG ulw		4	11						
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Greenleaf SE	Kansas	Marshall		5S	6E		L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1439.3								
139	660		172°17'	+6.5°	9.6	91°30'	-17.3	-26.9		1412.4		-660	+14	464,001	2,336,388		
140	330		" "	"	11.1	93°30'	-20.1	-31.2		1408.1		-330	+7	464,331	2,336,381		
141	0				5.4	-		-5.4		1433.9	π	0	0	464,661	2,336,374		
142	330		353°06'	+6.5°	11.5	-		-11.5		1427.8		+330	-2	464,991	2,336,372		
143	660		" "	"	22.0	0H	-3.3	-25.3		1414.0		+660	-5	465,321	2,336,369		
144	990		" "	"	10.0	-		-10.0		1429.3		+990	-7	465,651	2,336,367		
145	1320		" "	"	9.0	BH	-6.6	-15.6		1423.7		+1320	-9	465,981	2,336,365		
146	1650		353°06'	+6.5°	14.3	-		-14.3			TP	+1650.3	-12	466,308	2,336,362		
146	1650				11.3	90°6'	-2.9	-14.2		1425.1	TP						
	1650		172°43'45"+180°	+6.5°	+14.0	88°20'	-48.0	-34.0	1391.1		BS	+1699.3	-22				
	1650				+14.9	88°18'	-48.9	-34.0			BS						
147	1320		172°44'	+6.5°	2.6	88°20'	+38.4	+35.8		1426.9		-1320	+18	466,634	2,336,358		
148	990		" "	"	5.5	88°20'	+28.8	+23.3		1414.4		-990	+13	466,964	2,336,353		
148	785		172°57'	+6.5°	0.3	89°	+13.7	+13.4		1404.5		-785	+8	467,169	2,336,348	467,160 + 2,336,355 4 Way Intersect. el. 1404	
149	660		172°44'	+6.5°	1.7	89°	+11.5	+9.8		1400.9		-660	+9	467,294	2,336,349		
150	330		" "	"	3.9	89°	+5.8	+1.9		1393.0		-330	+4	467,624	2,336,344		
151	0				5.4	-		-5.4		1385.7	π	0	0	467,954	2,336,310		
152	330		352°32'	+6.5°	7.9	92°	-11.5	-19.4		1371.7		+330	-6	468,284	2,336,334		
153	660		" "	"	10.9	92°	-23.0	-33.9		1357.2		+660	-11	468,614	2,336,329		
154	990		" "	"	5.8	91°	-17.3	-23.1		1368.0		+990	-17	468,944	2,336,323		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/4/81		G. Cotcamp		T. Grady		6834		T.G. <i>mdw</i>		4	12				
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Kansas		Greenleaf	Kansas	Marshall		5S	6E		L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1391.1						
155	1320		352° 32'	+6.5°	11.0	-		-11.0		1380.1		+1320	-22	469,274	2,336,318
156	1650		352° 31' 42"	+6.5°	14.5	-		-14.5		1376.6	TP	+1650	-28-2	469,602	2,336,310
156	1650				6.2	BH	-8.3	-14.5			TP				
	2310		172° 45' 18" +180°	+6.5°	+4.9	89°-	-40.3	-35.4	1341.2		BS	+2309.2	-30-2		
	2310				+2.1	89° 04'	-37.6	-35.5			BS				
157	1980		172° 45'	+6.5°	3.7	89°-	+34.6	+30.9		1372.1		-1980	+26	469,929	2,336,304
158	1650		" "	"	7.0	89°-	+28.8	+21.8		1363.0		-1650	+22	470,259	2,336,300
159	1320		" "	"	0.7	89° 30'	+11.5	+10.8		1352.0		-1320	+17	470,589	2,336,295
160	990		" "	"	1.9	89° 30'	+8.6	+6.7		1347.9		-990	+13	470,919	2,336,291
161	660		" "	"	2.6	TH	+3.3	+0.7		1341.9		-660	+9	471,249	2,336,287
162	330		" "	"	0.4	TH	+1.7	+1.3		1342.5		-330	+4	471,579	2,336,282
163	0				5.4	-		-5.4		1335.8	π	0	0	471,909	2,336,278
164	330		353° 02'	+6.5°	7.8	-		-7.8		1333.4		+330	-3	472,239	2,336,275
164	540		352° 36'	+6.5°	14.7	-		-14.7		1326.5		+540	-8	472,449	2,336,270
165	660		353° 02'	+6.5°	6.9	91°-	-11.5	-18.4		1322.8		+660	-5	472,569	2,336,273
166	990		" "	"	11.2	91°-	-17.3	-28.5		1312.7		+990	-8	472,899	2,336,270
167	1320		" "	"	4.2	91°-	-23.0	-27.2		1314.0		+1320	-11	473,229	2,336,267
168	1650		" "	"	10.4	90° 30'	-14.4	-24.8		1316.4		+1650	-13	473,559	2,336,265
169	1980		353° 02'	+6.5°	4.6	90° 30'	-17.3	-21.9		1319.3	TP	+1980-2	-16-1	473,887	2,336,261
169	1980				11.9	BH	-9.9	-21.8			TP				

472,440 + 2,336,270
 4-Way Intersect @ 1327
 Line # 1 tie
 Greenleaf SE Quad.
 Barnes Quad.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/4/81		G. Cotcamp		T. Grady		6834		T.G. [initials]		4	13						
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER									
Kansas		BARNES	Kansas	Marshall	55	6E		L. Davis									
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
169										1319.3							
	1320		172°04' +180°	+6.5°	+14.7	88°-	-46.0	-31.3	1288.0		BS	+1319-2	-33				
	1320				+7.1	88°20'	-38.4	-31.3			BS						
170	990		172°04'	+6.5°	7.4	88°-	+34.5	+27.1		1315.1		-990	+25	474,214	2,336,253		
171	660		"	"	3.1	TH	+3.3	+0.2		1288.2		-660	+17	474,549	2,336,245		
172	330		"	"	4.4	-	-	-4.4		1283.6		-330	+8	474,874	2,336,236		
173	0				5.4	-	-	-5.4		1282.6	π	0	0	475,209	2,336,228		
174	308		19°53'	+6.5°	14.2	91°30'	-8.1	-22.3			TP	+276-2	+137	475,478	2,336,365		
174	308				12.5	91°50'	-9.9	-22.4		1265.6	TP						
	148	147.2	202°38' +180°	+6.5°	+1.5	84°-	-15.4	-13.9			BS	+129-2	+72				
	148				+1.0	84°10'	-15.0	-14.0	1251.6		BS						
π	0				5.4	-	-	-5.4		1246.2	π	0	0	475,605	2,336,437	split sta. - curve	
175	170	169.4	310°04'	+6.5°	8.6	95°-	-14.8	-23.4		1228.2	TP	+123-2	-116	475,726	2,336,321		
175	170				10.6	94°20'	-12.8	-23.4			TP						
	331		156°18' +180°	+6.5°	+0.5	-	-	+0.5	1228.7		BS	+316	-98				
	331				+2.2	TH	-1.7	+0.5			BS						
π	258		156°33'	+6.5°	1.8	-	-	-1.8		1226.9		-247	+75	475,715	2,336,298	bridge 4-Tonel. 1226	
176	0				5.4	-	-	-5.4		1223.3	π	0	0	476,042	2,336,223		
177	330		352°54'	+6.5°	2.0	89°-	+5.8	+3.8		1232.5		+330	-3	476,372	2,336,220		
178	660		"	"	3.8	88°-	+23.0	+19.2		1247.9		+660	-7	476,702	2,336,216		
179	990		"	"	5.3	87°30'	+43.1	+37.8		1266.5		+990	-10	477,032	2,336,213		

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/4/81		G. Cotcamp		T. Grady		6834		TG J.D.W.		4	14				
AREA		TOPO MAP		STATE		COUNTY		RANGE		PARTY MANAGER					
Kansas		BARNES		Kansas		Marshall		6E		L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1228.8						
180	1320		352° 54'	+6.5°	9.5	87° -	+69.0	+59.5		1288.3		+1320	-14	477,362	2,336,209
181	1650	1647.7	352° 53' 40"	+6.5°	7.3	87° -	+86.2	+78.9		1307.7	TP	+1698	-17	477,690	2,336,206
181	1650				4.4	87° 6'	+83.4	+79.0			TP				
	990		172° 10' +180°	+6.5°	+10.3	BH	+5.6	+15.3	1323.0		BS	+990	-23		
	990				+14.1	90° 4'	+1.1	+15.2			BS				horiz. correct. y = -26' x = -5'
JL	970		172° 31'	+6.5°	14.8	-	-	-14.8		1308.2		-970	+17	477,710	2,336,200
182	660		172° 10'	+6.5°	11.2	BH	-3.3	-14.5		1308.5		-660	+15	478,020	2,336,198
183	330		" "	"	11.4	91° -	-5.8	-17.2		1305.8		-330	+8	478,350	2,336,191
184	0				5.4	-	-	-5.4		1317.6	X	0	0	478,680	2,336,183
185	330		353° 07'	+6.5°	12.6	-	-	-12.6		1310.4		+330	-2	479,010	2,336,181
186	660		" "	"	12.5	BH	-3.3	-15.8		1307.2		+660	-4	479,340	2,336,179
187	990		" "	"	11.7	BH	-5.0	-16.7		1306.3		+990	-7	479,670	2,336,176
188	1320		" "	"	8.4	-	-	-8.4		1314.6		+1320	-9	480,000	2,336,174
189	1650		353° 07' 20"	+6.4°	2.9	-	-	-2.9		1320.1	TP	+1650.3	-14	480,327	2,336,169
189	1650				11.2	TH	+8.3	-3.0			TP				
	1650		172° 17' +180°	+6.4°	+2.0	TH	-8.3	-6.3	1313.8		BS	+1650.3	-38		
	1650				+3.4	89° 40'	-9.6	-6.2			BS				
190	1320		172° 17'	+6.4°	6.8	-	-	-6.8		1307.0		-1320	+30	480,654	2,336,161
191	990		" "	"	6.0	91° -	-17.3	-23.3		1290.5		-990	+23	480,984	2,336,154
192	660		" "	"	7.3	91° -	-11.5	-18.8		1295.0		-660	+15	481,314	2,336,146

horiz. correct. y = -26'
x = -5'
477,710 + 2,336,200
4 Way Intersect. C.I.
1309

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/4/81		G. Cotcamp		T. Grady		6839		GWC DW		4	15						
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Barnes		Kansas	Marshall	55/45	6E		L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1313.8								
193	330		172°17'	+6.4°	11.0	91°30'	-8.6	-19.6		1294.2		-330	+8	481,644	2,336,139		
194	0				5.4	-		-5.4		1308.4	π	0	0	481,974	2,336,131		
195	330		353°05'	+6.4°	1.3	-		-1.3		1312.5		+330	-3	482,304	2,336,128		
196	660		"	"	6.2	-		-6.2		1307.6		+660	-6	482,634	2,336,125		
197	990		353°05'	+6.4°	0.8	-		-0.8		1313.0	TP	+990-3	-9	482,961	2,336,122		
197	990				5.8	TH	+5.0	-0.9			TP						
	330		171°50'+180°	+6.4°	+12.4	-		+12.4	1325.9		BS	+330-3	-10				
	330				+14.1	TH	-1.7	+12.4			BS						
198	0				5.4	-		-5.4		1320.0	π	0	0	483,288	2,336,112		
199	330	329.6	351°21'	+6.4°	11.5	93°-	-17.2	-28.7		1296.7	TP	+329-3	-13	483,614	2,336,099		
199	330				13.5	92°40'	-15.3	-28.8			TP						
	337	334.1	207°12'-180°	+6.4°	+10.8	82°30'	-43.6	-32.8	1263.9		BS	+278-3	+185				
	337				+8.8	82°50'	-41.7	-32.9			BS						
200	0				5.4	-		-5.4		1258.5	π	0	0	483,889	2,336,284		
201	324	322.8	20°13'	+6.4°	8.9	95°-	-28.1	-37.0		1226.9	TP	+289-3	+145	484,175	2,336,429		
201	324				9.9	94°50'	-27.2	-37.1			TP						
	144		185°20'-180°	+6.4°	+1.0	89°-	-2.5	-1.5	1225.4		BS	+141-3	+29				
	144				+0.3	89°16'	-1.8	-1.5			BS						
π	0				5.4	-		-5.4		1220.0	π	0	0	484,313	2,336,458		
202	186		329°24'	+6.4°	6.9	-		-6.9		1218.5		+170	-76	484,483	2,336,382		

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/5/81		G. Cotcamp		T. Grady		6834		G.W.C. <i>sdw</i>		4	16				
AREA		TOPO MAP		STATE		COUNTY		RANGE		TWP		PARTY MANAGER			
Kansas		Barnes		Kansas		Marshall		6E		4S		L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1225.4						
203	505		325°36'	+6.4°	13.9	90°30'	-4.4	-18.3		1207.1	TP	+446-3	-237	484,756	2,336,221
203	505				12.5	90°40'	-5.9	-18.4			TP				
	951		165°26'+180°	+6.4°	+6.7	88°40'	-22.1	-15.4	1191.7		BS	+941-3	-135		curve
	951				+9.4	88°30'	-24.9	-15.5			BS				
204	660		172°53'	+6.4°	7.7	89°-	+11.5	+3.8		1195.5		-660	+8	485,034	2,336,094
205	330		" "	"	1.3	-	-	-1.3		1190.4		-330	+4	485,364	2,336,090
206	0				5.4	-	-	-5.4		1186.3	X	0	0	485,694	2,336,086
207	330		353°35'	+6.4°	9.7	-	-	-9.7		1182.0		+330	-0	486,024	2,336,086
≡	585		352°55'	+6.4°	11.5	-	-	-11.5		1180.2		+585	-7	486,279	2,336,079 bridge el. 1180
208	660		353°35'	+6.4°	11.6	-	-	-11.6		1180.1		+660	0	486,354	2,336,086
209	980		356°40'	+6.4°	10.6	-	-	-10.6		1181.1	TP	+979-3	+52	486,670	2,336,138 curve
209	980				13.5	89°50'	+2.9	-10.6			TP				
	330		162°20'+180°	+6.4°	+5.5	TH	-1.7	+3.8	1184.9		BS	+324-3	-64		
	330				+7.6	89°20'	-3.8	+3.8			BS				
210	0				5.4	-	-	-5.4		1179.5	X	0	0	486,991	2,336,074
211	330		352°43'	+6.4°	3.5	-	-	-3.5		1181.4		+330	-5	487,321	2,336,069
212	660		" "	"	2.2	-	-	-2.2		1182.7		+660	-10	487,651	2,336,064
213	990		352°13'	+6.4°	2.0	89°30'	+8.6	+6.6		1191.5	TP	+990-3	-24	487,978	2,336,050
213	990				4.8	89°20'	+11.5	+6.7			TP				

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/5/81		G. Cotcamp		T. Grady		6834		GWC, JEW		4	17						
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Barnes	Kansas	Marshall		45	6E		L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
213										1191.5							
	2310		173°26'30" +180°	+6.4°	+9.4	-		+9.4	1200.9		BS	+2310.3	-6				
	2310				+13.6	89°54'	-4.0	+9.6			BS						
214	2065		173°15'	+6.4°	11.1	-		-11.1		1189.8		-2065	+13	488,220	2,336,057	488,205 + 2,336,065 T-rd (west) el. 1189	
215	1980		173°13'	+6.4°	12.8	-		-12.8		1188.1		-1980	+13	488,305	2,336,057		
216	1650		" "	"	5.0	0H	-8.3	-13.3		1187.6		-1650	+11	488,635	2,336,055		
217	1320		" "	"	11.1	-		-11.1		1189.8		-1320	+9	488,965	2,336,053		
218	990		" "	"	6.7	-		-6.7		1194.2		-990	+7	489,295	2,336,051		
219	660		" "	"	6.2	-		-6.2		1194.7		-660	+4	489,625	2,336,048		
220	330		" "	"	5.4	-		-5.4		1195.5		-330	+2	489,955	2,336,046		
221	0				5.4	-		-5.4		1195.5	π	0	0	490,285	2,336,044		
222	330		352°59'	+6.4°	5.9	-		-5.9		1195.0		+330	-4	490,615	2,336,042		
223	660		" "	"	2.3	-		-2.3		1198.6		+660	-7	490,945	2,336,037		
224	990		" "	"	1.5	TH	+5.0	+3.5		1204.4		+990	-11	491,275	2,336,033		
225	1320		" "	"	5.3	89°20'	+15.4	+10.1		1211.0		+1320	-14	491,605	2,336,030		
225	1650		352°59'40"	+6.4°	4.4	88°36'	+40.3	+35.9		1236.8	TP	+1699.2	-17-2	491,932	2,336,025		
225	1650		" "	"	2.6	88°40'	+38.4	+35.8			TP						
	807		172°55' +180°	+6.4°	+14.1	92°14'	+31.4	+45.5	1282.3		BS	+806.2	-10-2				
	807		" "	"	+12.7	92°20'	+32.8	+45.5			BS						
226	477		172°55'	+6.4°	9.8	92°-	-16.6	-26.4		1255.9		-477	+6	492,259	2,336,019		
227	147		" "	"	12.7	92°-	-5.1	-17.8		1264.5		-147	+2	492,589	2,336,015		

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/5/81		G. Cotcamp		T. Grady		6834		G.W.C. J.S.W.		4	18						
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Barnes	Kansas	Marshall		4S	6E		L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1282.3								
π	0				5.4	-		-5.4		1276.9	π	0	0	492,736	2,336,013	split sta. - steep hill	
228	183		353°27'	+6.2°	10.7	-		-10.7		1271.6		+183	-1	492,919	2,336,012		
229	513		" "	"	12.5	92°-	-17.9	-30.4		1251.9		+513	-3	493,249	2,336,010		
71	760		352°58'	+6.4°	12.4	92°-	-26.5	-38.9		1243.4		+759	-8	493,495	2,336,005	493,515 + 2,336,000 T-rd (west) el. 1244	
230	843		353°27'	+6.2°	7.2	92°-	-29.4	-36.6		1245.7		+843	-5	493,579	2,336,008		
231	1170		353°27'	+6.2°	11.8	-		-11.8		1270.5	TP	+1170-	-7.2	493,905	2,336,004		
231	1170				5.9	BH	-5.9	-11.8			TP						
	1320		173°0' + 180°	+6.2°	+12.9	91°-	+23.0	+35.9	1306.4		BS	+1320	-18-1				
	1320				+14.5	90°56'	+21.5	+36.0			BS						
232	990		173°0'	+6.2°	6.9	91°-	-17.3	-24.2		1282.2		-990	+14	494,235	2,335,999		
233	660		" "	"	11.2	BH	-3.3	-14.5		1291.9		-660	+9	494,565	2,335,994		
234	330		" "	"	9.2	-		-9.2		1297.2		-330	+5	494,895	2,335,990		
235	0				5.4	-		-5.4		1301.0	π	0	0	495,225	2,335,985		
236	330		353°21'	+6.2°	1.1	-		-1.1		1305.3		+330	-3	495,555	2,335,982		
237	660		" "	"	0.7	TH	+3.3	+2.6		1309.0		+660	-5	495,885	2,335,980		
238	990		" "	"	1.0	TH	+5.0	+4.0		1310.4		+990	-8	496,215	2,335,977		
239	1320		353°21'20"	+6.2°	1.0	TH	+6.6	+5.6		1312.0	TP	+1320	-10	496,545	2,335,975		
239	1320				5.9	89°30'	+11.5	+5.6			TP						
	990		173°01' + 180°	+6.2°	+4.9	89°30'	-8.6	-3.7	1308.3		BS	+990	-14				
	990				+7.7	89°20'	-11.5	-3.8			BS						

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/5/81		G. Cotcamp		T. Grady		6834		Guc <i>sdw</i>		4	19						
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER								
Kansas		Barnes	Kansas	Marshall					L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1308.3								
240	660		173°01'	+6.2°	0.2	TH	+3.3	+3.1		1311.4		-660	+9	496,875	2,335,970		
241	330		" "	"	3.0	-		-3.0		1305.3		-330	+5	497,205	2,335,966		
242	0				5.4	-		-5.4		1302.9	π	0	0	497,535	2,335,961		
243	330		352°58'	+6.2°	10.4	-		-10.4		1297.9		+330	-5	497,865	2,335,956		
244	660		" "	"	5.4	-		-5.4		1302.9		+660	-10	498,195	2,335,951	horiz. coord. y = -47'	
245	990		" "	"	4.8	-		-4.8		1303.5		+990	-14	498,525	2,335,947	x = -7'	
$\frac{1L}{7F}$	1240		352°36'	+6.2°	6.5	-		-6.5		1301.8		+1240	-26	498,775	2,335,935	4-way Intersect. 1302	
246	1320		352°58'	+6.0°	8.1	-		-8.1		1300.2	TP	+1320+2	-24	498,857	2,335,937		
246	1320				5.8	90°6'	-2.3	-8.1			TP						
	1650		172°37'34" +160°	+6.0°	+0.1	89°40'	-9.6	-9.5	1290.7		BS	+1650+2	-40				
	1650				+4.8	89°30'	-14.4	-9.6			BS						
247	1320		172°37'	+6.0°	1.7	TH	+6.6	+4.9		1295.6		-1320	+32	499,189	2,335,929		
248	990		" "	"	4.1	TH	+5.0	+0.9		1291.6		-990	+24	499,519	2,335,921		
249	660		" "	"	2.3	-		-2.3		1288.4		-660	+16	499,849	2,335,913		
250	330		" "	"	3.9	-		-3.9		1286.8		-330	+8	500,179	2,335,905		
251	0				5.4	-		-5.4		1285.3	π	0	0	500,509	2,335,897		
252	330		353°02'	+6.0°	12.6	-		-12.6		1278.1		+330	-6	500,839	2,335,891		
253	660		" "	"	9.8	91°40'	-19.2	-29.0		1261.7		+660	-11	501,169	2,335,886		
254	990		" "	"	8.9	91°40'	-28.8	-37.7		1253.0		+990	-17	501,499	2,335,880		
255	1320		" "	"	10.8	91°20'	-30.7	-41.5		1249.2		+1320	-22	501,829	2,335,875		

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/6/81		G. Cotcamp		T. Grady		6834		GWC <i>sdw</i>		4	20						
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER									
Kansas		Barnes	Kansas	Marshall				L. Davis									
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1290.7								
256	1650		353°02'	+6.0°	10.9	90°40'	-19.2	-30.1		1260.6		+1650	-28	502,159	2,335,869		
257	1980		353°02'30"	+6.0°	9.7	90°20'	-11.5	-21.2	}	1269.5	TP	+1980±2	-33	502,491	2,335,864		
257	1980				14.3	90°12'	-6.9	-21.2		TP							
	1980		172°48'50"+180°	+6.0°	8.7	BH	+9.9	+18.6		1288.1	BS	+1980±2	-41				
	1980				13.9	90°08'	+4.6	+18.5			BS						
258	1650		172°49'	+6.0°	10.8	BH	-8.3	-19.1		1269.0		-1650	+34	502,823	2,335,857		
259	1320		" "	"	10.3	-		-10.3		1277.8		-1320	+27	503,153	2,335,850		
260	990		" "	"	9.0	-		-9.0		1279.1		-990	+20	503,483	2,335,843		
261	660		" "	"	11.9	-		-11.9		1276.2		-660	+14	503,813	2,335,837		
$\frac{1}{2}$	407		172°54'	+6.0°	13.1	-		-13.1		1275.0		-407	+8	504,066	2,335,831	504,065+2,335,835 4-way Intersect. el. 1275	
262	330		172°49'	+6.0°	12.4	-		-12.4		1275.7		-330	+7	504,143	2,335,830		
263	0				5.4	-		-5.4		1282.7	X	0	0	504,473	2,335,823		
264	330		353°03'	+6.0°	6.9	-		-6.9		1281.2		+330	-5	504,803	2,335,818		
265	660		" "	"	12.6	-		-12.6		1275.5		+660	-11	505,133	2,335,812		
266	990		" "	"	4.5	91°-	-17.3	-21.8		1266.3		+990	-16	505,463	2,335,807		
267	1320		" "	"	3.7	91°-	-23.0	-26.7		1261.4		+1320	-22	505,793	2,335,801		
268	1650		353°03'20"	+6.0°	2.6	91°-	-28.8	-31.4	}	1256.7	TP	+1650	-27	506,123	2,335,796		
268	1650				13.2	90°38'	-18.2	-31.4		TP							
	660	658.0	174°33'+180°	+6.0°	5.8	85°30'	-51.6	-45.8	1210.9		BS	+658	+6				
	660				7.7	85°20'	-53.5	-45.8			BS						

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
6/6/81		G. Catcamp		T. Grady		6834		G.W.C. <i>ad. w.</i>		4		21		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Kansas		Barnes		Kansas		Marshall						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	
									1210.9					
269	330		174° 33'	+6.0°	3.5	86° -	+23.0	+19.5		1230.4		-330	-3	506,451 2,335,799
270	0				5.4	-		-5.4		1205.5	π	0	0	506,781 2,335,802
271	330		11° 17'	+6.0°	11.4	95° -	-28.7	-40.1		1170.8		+315	+98	507,096 2,335,900
272	660	658.0	11° 17'	+6.0°	5.3	94° 30'	-51.6	-56.9		1159.0	TP	+628	+195	507,409 2,335,997 bridge
272	660				9.1	94° 10'	-47.8	-56.9			TP			
	964		157° 33' +180°	+6.0°	+11.3	BH	+4.8	+16.1	1170.1		BS	+925	-273	curve
	964				+7.8	90° 30'	+8.4	+16.2			BS			" "
273	655		161° 46'	+6.0°	7.0	91° -	-11.4	-18.4		1151.7		-640	+139	507,694 2,335,863
274	330		168° 48'	+6.0°	9.0	91° -	-5.8	-14.8		1155.3		-329	+30	508,005 2,335,754
275	0				5.4	-		-5.4		1164.7	π	0	0	508,334 2,335,724
276	330		347° 45'	+6.0°	4.5	89° -	+5.8	+1.3		1171.4		+328	-36	508,662 2,335,688
277	660		" "	"	11.1	89° -	+11.5	+0.4		1170.6		+656	-72	508,990 2,335,652
278	990		347° 45'	+6.0°	13.3	89° 30'	+8.6	-4.7		1165.4		+984	-108	509,318 2,335,616
TF	1038		347° 15'	+6.0°	14.7	89° 32'	+8.4	-6.3		1163.8	TP	+1031	-122	509,365 2,335,602 T-intersect
TF	1038				12.3	89° 40'	+6.0	-6.3			TP			
	842		262° 54' 50" -180°	+6.0°	+5.8	88° 56'	-15.7	-9.9	1153.9		BS	+16+2	+842	Note: 5,250'
	842				+8.3	88° 46'	-18.1	-9.8			BS			(stadia) offset
π	0				5.4	-		-5.4		1148.5	π	0	0	509,383 2,336,444 east-278-279.
TP	1280		82° 03'	+6.0°	2.8	TH	+6.4	+3.6			TP	+44+2	+1279	509,429 2,337,723 ↓
TP	1280				3.9	89° 40'	+7.4	+3.5		1157.4	TP			

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
6/6/81		G. Cotcamp		T. Grady		6834		CWC JLD		4	22			
AREA		TOPO MAP		STATE		COUNTY		RANGE		PARTY MANAGER				
Kansas		Barnes		Kansas		Marshall				L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
TP										1157.4				
	2040		260°51'-180°	+6.0°	+12.4	-		+12.4	1169.8		BS	+112+2	+2037	
	2040				+2.3	BH	+10.2	+12.5			BS			
O	π				5.4	-		-5.4		1164.4	π	0	0	509,543 2,339,760
IL	1088		87°22'20"	+6.0°	2.5	TH	+5.4	+2.9		1172.7	TP	-64+2	+1086	509,481 2,340,846 Y-intersect pt. 1173.
IL	1088				8.5	89°24'	+11.4	+2.9			TP			
	1088	1087.3	173°32'+180°	+6.2°	+13.4	92°-	+37.9	+51.3	1224.0		BS	+1087+2	-5	
	1088				+10.2	92°16'	+41.1	+51.3			BS			
279	660		173°15'	+6.2°	8.4	92°-	-23.0	-31.4		1192.6		-660	+6	509,910 2,340,847
280	330		" "	"	11.5	91°-	-5.8	-17.3		1206.7		-330	+3	510,240 2,340,844
281	0				5.4	-		-5.4		1218.6	π	0	0	510,570 2,340,841
282	330		354°01'	+6.2°	1.7	89°-	+5.8	+4.1		1228.1		+330	+1	510,900 2,340,842
283	660		" "	"	0.2	89°-	+11.5	+11.3		1235.3		+660	+3	511,230 2,340,844
284	990		" "	"	8.1	88°-	+34.5	+26.4		1250.4		+990	+4	511,560 2,340,845
285	1320		" "	"	8.2	88°-	+46.0	+37.8		1261.8		+1320	+5	511,890 2,340,846
286	1650	1649	354°01'	+6.2°	12.8	88°-	+57.6	+44.8		1268.8	TP	+1649+2	+6	512,221 2,340,847
286	1650				5.1	88°16'	+49.9	+44.8			TP			
	1980		173°55'30"+180°	+6.2°	+12.6	BH	+9.9	+22.5			BS	+1980+2	+4	
	1980				+14.4	90°16'	+9.2	+23.6	1292.4		BS			
287	1650		173°55'	+6.2°	11.9	BH	-8.3	-20.2		1272.2		-1650	-3	512,553 2,340,848
288	1320		" "	"	12.2	91°-	-23.0	-35.2		1257.2		-1320	-3	512,883 2,340,848

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
6/6/81		G. Cotcamp		T. Grady		6834		G.W. J.D.W.		4	23						
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER									
Kansas		Barnes	Kansas	Marshall				L. Davis									
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH-	EAST+ WEST-	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1292.4								
289	990		173°55'	+6.2°	9.2	91°40'	-28.8	-38.0		1254.4		-990	-2	513,213	2,340,849		
290	660		" "	"	9.5	91°40'	-19.2	-28.7		1263.7		-660	-1	513,543	2,340,850		
291	330		" "	"	12.7	BH	-1.7	-14.4		1278.0		-330	-1	513,873	2,340,850		
292	0				5.4	-		-5.4		1287.0	TP	0	0	514,203	2,340,851		
293	330		353°38'	+6.2°	1.3	-		-1.3		1291.1		+330	-1	514,533	2,340,850		
294	660		" "	"	9.3	-		-9.3		1283.1		+660	-2	514,863	2,340,849		
295	990		353°38'	+6.2°	11.1	90°16'	-2.9	-14.0		1278.4	TP	+990	-3	515,195	2,340,848		
295	990				14.0	-		-14.0			TP						
	1320		173°12'20"+180°	+6.2°	+10.3	90°40'	+15.4	+25.7			BS	+1320	+2	-14			
	1320				+14.1	90°30'	+11.5	+25.6	1304.0		BS						
296	990		173°12'	+6.2°	11.9	91°-	-17.3	-29.2		1274.8		-990	+10	515,527	2,340,844		
297	660		" "	"	10.7	91°-	-11.5	-22.2		1281.8		-660	+7	515,857	2,340,841		
298	330		" "	"	11.6	-		-11.6		1292.4		-330	+3	516,187	2,340,837		
299	0				5.4	-		-5.4		1298.6	TP	0	0	516,517	2,340,834		
300	330		352°57'	+6.2°	4.3	-		-4.3		1299.7		+330	-5	516,847	2,340,829		
301	660		" "	"	3.7	-		-3.7		1300.3		+660	-10	517,177	2,340,824		
302	990		" "	"	0.9	-		-0.9		1303.1		+990	-15	517,507	2,340,819		
303	1320		" "	"	2.0	-		-2.0		1302.0		+1320	-20	517,837	2,340,814	↑	
304	1650		352°57'30"	+6.2°	5.0	TH	+8.3	+3.3		1307.3	TP	+1650	-24	518,168	2,340,810	Barnes Quad.	
304	1650				6.3	89°40'	+9.6	+3.3			TP						

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6/8/81		G. Cotcamp		J. Wingo		6834		GWC. J.W.W.		4	24				
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER							
Kansas		Hanover SE	Kansas	Marshall				L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
304										1307.3					
	2310		173°16.50" + 180°	+6.2°	+6.0	84	+11.6	+17.6			BS	+2310	-21		Hanover SE Quad.
	2310				+14.8	90°4'	+2.7	+17.5	1324.8		BS				↓
305	1980		173°17'	+6.2°	11.9	84	-9.9	-21.8		1303.0		-1980	+18	518,498	2,340,807
306	1650		"	"	8.0	84	-8.3	-16.3		1308.5		-1650	+15	518,828	2,340,804
307	1320		"	"	3.5	91°-	-23.0	-26.5		1298.3		-1320	+12	519,158	2,340,801
308	990		"	"	8.2	91°-	-17.3	-25.5		1299.3		-990	+9	519,488	2,340,798
309	660		"	"	11.3 13.5	91°20'	-15.4	-26.7		1298.1		-660	+6	519,818	2,340,795
310	456		174°30'	+6.2°	10.8	91°-	-8.0	-18.8		1306.0		-456	-6	520,022	2,340,783 520,035 + 2,340,780 4-way Intersect. el. 1306
310	330		173°17'	+6.2°	7.9	91°-	-5.8	-13.7		1311.1		-330	+3	520,148	2,340,792
311	0				5.4	-		-5.4		1319.4	X	0	0	520,478	2,340,789
312	330		353°01'	+6.2°	11.7	-		-11.7		1313.1		+330	-5	520,808	2,340,784
313	660		"	"	11.1	91°-	-11.5	-22.6		1302.2		+660	-9	521,138	2,340,780
314	990		"	"	10.9	91°10'	-20.2	-31.1		1293.7		+990	-14	521,468	2,340,775
315	1320		"	"	10.1	91°-	-23.0	-33.1		1291.7		+1320	-18	521,798	2,340,771
316	1650		"	"	5.0	91°-	-28.8	-33.8		1291.0		+1650	-23	522,128	2,340,766
317	1980		"	"	11.7	90°40'	-23.0	-34.7		1290.1		+1980	-27	522,458	2,340,762
318	2310		"	"	13.2	90°40'	-26.9	-40.1		1284.7		+2310	-32	522,788	2,340,757
319	2640		"	"	11.6	90°20'	-15.4	-27.0		1297.8		+2640	-36	523,118	2,340,753
320	2970		353°01'	+6.2°	13.2	-		-13.2		1311.6	TP	+2970	-41 +2	523,448	2,340,750
320	2970				15.0	89°58'	+11.7	-13.3			TP				

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
6/8/81		G. Cotcamp		J. Wingo		6834		Gwc - Swo		4		25							
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER							
Kansas		Hanover SE		Kansas		Marshall						L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS	
												LAT.	DEP.	Y	X				
320										1311.6									
	1980		173°08'42"+180°	+6.2°	+5.5	89°36'	-13.8	-8.3	1303.3		BS	+1980	-23+2						
	1980				+10.1	89°28'	-18.4	-8.3			BS								
321	1650		173°09'	+6.2°	5.7	89°30'	+14.4	+8.7		1312.0		-1650	+19	523,778	2,340,748				
322	1320		" "	"	5.1	-		-5.1		1298.2		-1320	+15	524,108	2,340,744				
323	990		" "	"	9.0	8H	-5.0	-14.0		1289.3		-990	+11	524,438	2,340,740				
324	660		" "	"	8.0	91°-	-11.5	-19.5		1283.8		-660	+7	524,768	2,340,736				
325	330		" "	"	11.4	-		-11.4		1291.9		-330	+4	525,098	2,340,733				
$\frac{11}{12}$	120		177°06'	+6.2°	6.0	-		-6.0		1297.3		-120	-7	525,308	2,340,722			525,310+2,340,705 4-way Intersect. el. 1297	
326	0				5.4	-		-5.4		1297.9	TP	0	0	525,428	2,340,729				
327	330		353°22'	+6.2°	8.2	-		-8.2		1295.1		+330	-3	525,758	2,340,726				
328	660		" "	"	5.8	91°-	-11.5	-17.3		1286.0		+660	-5	526,088	2,340,724				
329	990		" "	"	7.8	91°-	-17.3	-25.1		1278.2		+990	-7	526,418	2,340,722				
330	1320		" "	"	10.5	91°-	-23.0	-33.5		1269.8		+1320	-10	526,748	2,340,719				
331	1650		" "	"	12.4	91°-	-28.8	-41.2		1262.1		+1650	-12	527,078	2,340,717				
332	1980		353°21'50"	+6.2°	11.4	91°-	-34.6	-46.0		1257.3	TP	+1980	-15+3	527,408	2,340,717				
332	1980				15.0	90°54'	-31.1	-46.1			TP								
	2310		173°31'18"+180°	+6.2°	+13.6	90°26'	+17.5	+31.1	1288.4		BS	+2310	-11+3						
	2310				+10.9	90°30'	+20.2	+31.1			BS								
333	1980		173°31'	+6.2°	13.0	90°30'	-17.3	-30.3		1258.1		-1980	+10	527,738	2,340,719				
334	1650		" "		8.8	90°30'	-14.4	-23.2		1265.2		-1650	+8	528,068	2,340,717				

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
6/8/81		G. Cotcamp		J. Wingo		6834		GWC. J.D.W.		4		26		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Kansas		Hanover SE		Kansas		Marshall						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									1288.4					
335	1320		173°31'	+6.2°	10.3	BH	-6.6	-16.9		1271.5		-1320	+7	528,398 2,340,716
336	990		"	"	11.3	BH	-5.0	-16.3		1272.1		-990	+5	528,728 2,340,714
337	660		"	"	11.2	90°30'	-5.8	-17.0		1271.4		-660	+3	529,058 2,340,712
338	330		"	"	10.2	91°	-5.8	-16.0		1272.4		-330	+2	529,388 2,340,711
339	0				5.4	-		-5.4		1283.0	TP	0	0	529,718 2,340,709
340	330		352°46'	+6.2°	8.3	91°	-5.8	-14.1		1274.3		+330	-6	530,048 2,340,703 horiz. coord. y = +27, x = +10
341	660		"	"	9.7	91°	-11.5	-21.2		1267.2		+660	-12	530,378 2,340,697 530,600 + 2,340,690 4-way Intersect. of 1275
342	990		352°35'	+6.2°	13.4	-		-13.4		1275.0		+882	-19	530,600 2,340,690
343	1320		352°46'	+6.2°	9.9	-		-9.9		1278.5		+990	-18	530,708 2,340,691
344	1650		"	"	2.3	TH	+6.6	+4.3		1292.7		+1320	-24	531,038 2,340,685
344	1650		352°45'40"	+6.0°	4.7	89°20'	+19.2	+14.5		1302.9	TP	+1650.2	-36	531,366 2,340,673
344	1650				9.5	89°10'	+24.0	+14.5			TP			
	1650		172°40' + 180°	+6.0°	+3.7	88°30'	-43.2	-39.5	1263.4		BS	+1649.2	-38	
	1650				+8.5	88°20'	-48.0	-39.5			BS			
345	1320		172°40'	+6.0°	4.9	88°20'	+38.4	+33.5		1296.9		-1320	+31	531,693 2,340,666 E.O.L. #4
346	990		"	"	5.2	88°40'	+23.0	+17.8		1281.2		-990	+23	532,023 2,340,658 original line
347	660		"	"	3.3	89°20'	+7.7	+4.4		1267.8		-660	+15	532,353 2,340,650 shortened 6-11-81
348	330		"	"	2.2	-		-2.2		1261.2		-330	+8	532,683 2,340,643
349	0				5.4	-		-5.4		1258.0	TP	0	0	533,013 2,340,635
350	330		353°01'	+6.0°	4.5	-		-4.5		1258.9		+330	-6	533,343 2,340,629