

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7/3/86		G. Cotcamp		J. Middleton		6834		J.M.		6		1			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Montana		Lone Tree Coulee		Montana		Choteau								S. Binns	
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
										2818.0					
	2614		253°40'	+17.0	+114	91° -	+45.6	+57.0			BS	+30	-2614		Tk fence line +
	2614				+11.2	269° -	+45.6	+56.8	2874.9		BS				90° bend. cl. 2818.0
1	2310		253°07'	--	9.8	91°06'	-44.3	-54.1		2820.8		+5	-2310	405.829	1,860,410
2	1980		"	--	11.2	91°06'	-38.0	-49.2		2825.7		+4	-1980	405.828	1,860,240
3	1650		"	--	10.6	91°06'	-31.7	-42.3		2832.6		+3	-1650	405.827	1,861,070
4	1320		"	--	10.0	91°06'	-25.3	-35.3		2839.6		+3	-1320	405.827	1,861,400
5	990		"	--	8.1	91° -	-17.3	-25.4		2849.5		+2	-990	405.826	1,861,730
6	660		"	--	5.2	91° -	-11.5	-16.7		2858.2		+1	-660	405.825	1,862,060
7	330		"	--	12.2	-	-	-12.2		2862.7		+1	-330	405.825	1,862,390
8	0				5.2	-	-	-5.2		2869.7	π	0	0	405.824	1,862,720
9	330		73°31'	+17.0	0.9	-	-	-0.9		2874.0		-3	+330	405.821	1,863,050
10	660		"	--	2.1	TH	+3.3	+1.2		2876.1		-6	+660	405.818	1,863,380
11	990		"	--	1.1	TH	+5.0	+3.9		2878.8		-9	+990	405.815	1,863,710
12	1320		"	--	4.8	89°30'	+11.5	+6.7		2881.6		-12	+1320	405.812	1,864,040
13	1650		"	--	7.8	89°30'	+14.4	+6.6		2881.5		-15	+1650	405.809	1,864,370
14	1980		"	--	8.2	89°30'	+17.3	+9.1		2884.0		-18	+1980	405.806	1,864,700
15	2310		"	--	8.3	89°30'	+20.2	+11.9		2886.8		-21	+2310	405.803	1,865,030
16	2640		"	--	11.3	89°30'	+23.0	+11.7		2886.6		-24	+2640	405.800	1,865,360
17	2680		73°11'30"	--	11.7	89°30'	+23.4	+11.7		2886.6		+9	-2680	405.815	1,865,400
	2970		73°31'	--	12.2	89°30'	+25.9	+13.7		2888.6		-27	+2970	405.797	1,865,690

3-405.815 x -1,865,400
 4-way Int. 2887.0
 R HORIZONTAL

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
7/3/86		G. Cotcamp		J. Middleton		6834		F.M.		6	2				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Montana		Lonetree Coulee		Montana	Choteau					S. Binns					
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
									2874.9						
18	3300		73° 31'	+17.0	11.1	89° 36'	+23.0	+11.9		2886.8		-30	+3300	405.794	1,866,030
19	3630		"	--	21.1	89° 37'	+24.3	+3.2		2878.1		-33	+3630	405.791	1,866,350
20	3960		"	--	19.8	89° 37'	+26.5	+6.7		2881.6		-36	+3960	405.788	1,866,680
21	4290		"	--	10.8	89° 30'	+37.4	+26.6		2901.5		-39	+4290	405.785	1,867,010
22	4620		"	--	1.7	89° 30'	+40.3	+38.6		2913.5		-42	+4620	405.782	1,867,340
23	4950		"	+17.0	7.8	89° 17'	+61.9	+54.1		2929.0		-45	+4950	405.779	1,867,670
24	5280	5279.4	"	--	9.0	89° 07'	+81.4	+72.4		2947.3		-48	+5279	405.776	1,867,999
25	5610	5609.2	"	--	5.8	89° -	+97.9	+92.1		2967.0		-51	+5609	405.773	1,868,329
26	5940	5938.5	"	--	10.1	88° 42'	+134.7	+124.6		2999.5		-54	+5938	405.770	1,868,658
27	6270	6268.6	"	--	9.6	88° 46'	+134.9	+125.3		3000.2		-57	+6268	405.767	1,868,988
28	6600	6598.3	74° 22'	--	9.3	88° 43'	+147.8	+138.5		3013.4		-157	+6596	405.667	1,869,316 Curve
29	6897	6894.9	75° 16' 42"	--	13.7	88° 36'	+168.5	+154.8		3029.7	TP	-274	+6889	405.550	1,869,612 335.0' rollover
29	6897				13.5	271° 24'	+168.5	+155.0			TP		+3		
	2308	2306.6	274° 00' 24"	+17.0	+5.4	92° -	+80.5	+85.9	3115.6		BS	-827	+2153		
	2308				+5.4	268° -	+80.5	+85.9			BS		+3		
30	1980	1978.4	274° 0'	--	7.5	92° 10'	-74.8	-82.3		3033.3		+709	-1847	405.432	1,869,921
31	1650	1647.7	"	--	1.0	93° -	-86.2	-87.2		3028.4		+590	-1538	405.313	1,870,230
32	1320	1317.5	"	--	6.8	93° 30'	-80.4	-87.2		3028.4		+472	-1230	405.195	1,870,538
33	990	987.9	"	--	9.9	93° 42'	-63.8	-73.7		3041.9		+354	-922	405.077	1,870,846
34	660	658.6	"	--	10.3	93° 42'	-42.5	-52.8		3062.8		+236	-615	404.959	1,871,153

SURVEY NOTES-HIGH RESOLUTION DATA
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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
7/3/86		G. Cotcamp		J. Middleton		6834		J.M.		6	3				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Montana		Lone tree Coulee		Montana	Choteau					S. Binns					
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
									3115.6						
35	330		274° -	+17.0	10.9	93° -	-17.3	-28.2		3087.4		+118	-308	404.841	1,821,460
36	0				5.2	-		-5.2		3110.4	TP	0	0	404.723	1,811,768
37	330		84° 50'	--	2.2	TH	+1.7	-0.5		3115.1		-68	+323	404.655	1,822,091 curve
38	655		78° 07'	--	7.3	89° 28'	+6.1	-1.2		3114.4		-58	+652	404.665	1,822,420 "
39	971		71° 33'	--	10.0	89° -	+16.9	+6.9		3122.5		+25	+970	404.748	1,822,238 "
40	1282		65° 56'	--	1.1	89° -	+22.4	+21.3		3136.9		+158	+1272	404.881	1,823,040 "
41	1601		62° 24'	+17.0	6.2	88° 42'	+36.3	+30.1		3145.7		+295	+1574	405.018	1,823,342
42	1923		60° 03'	--	5.8	88° 42'	+43.6	+37.8		3153.4		+431	+1874	405.154	1,823,642
43	2248	2247.3	58° 25'	--	5.8	88° 32'	+57.5	+51.7		3167.3		+566	+2175	405.289	1,823,943
44	2574	2573.1	57° 13' 30"	+17.4	14.0	88° 28'	+68.9	+54.9		3170.5	TP	+682	+2481	405.405	1,874,252
44	2574				13.9	271° 32'	+68.9	+55.0			TP		+3		
	3546		254° 15'	--	+12.2	TH ^{90°}	-17.7	-5.5			BS	-102	+3545		curve
	3546				+12.1	TH ^{27°}	-17.7	-5.6	3164.9		BS	+2	+3		"
45	3253		256° 46'	--	4.9	-		-4.9		3160.0		+236	-3244	405.541	1,824,556
46	2958		259° 26'	--	8.0	-		-8.0		3156.9		+352	-2937	405.657	1,824,863
47	2640		261° 02'	--	2.9	0H	-13.2	-16.1		3148.8		+387	-2611	405.692	1,825,189
48	2310		"	--	6.0	0H	-11.6	-17.6		3147.3		+339	-2285	405.644	1,825,515
49	1980		"	--	5.4	90° 34'	-19.6	-25.0		3139.9		+290	-1959	405.595	1,825,841
49	1839		261° 34'	--	4.5	90° 42'	-22.5	-27.0		3137.9		+287	-1816	405.592	1,875,984 S-405,575x-1,876,000 Track(n) 3135.0
50	1650		261° 13'	--	6.3	90° 42'	-20.2	-26.5		3138.4		+247	-1631	405.552	1,826,169

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7/3/86		G. Cotcamp		J. Middleton		6834		J.M.		6		4			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Montana		LOWETREE Coulee-7 1/2		Montana		Choteau								S. Binns	
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
									3164.9						
51	1320		261°13'	+17.4	6.3	90°40'	-15.4	-21.7		3143.2		+198	-1305	405.503	1,876,495
52	990		"	--	12.2	91°-	-17.3	-29.5		3135.4		+148	-979	405.453	1,876,821
53	660		"	--	10.9	92°-	-23.0	-33.9		3131.0		+99	-653	405.404	1,877,147
54	330		"	--	6.3	92°-	-11.5	-17.8		3147.1		+49	-326	405.354	1,877,474
55	0				5.2	-		-5.2		3159.7	TP	0	0	405.305	1,877,800
56	330		89°07'	+17.4	3.4	-		-3.4		3161.5		-94	+316	405.211	1,878,116
57	660		"	--	12.3	90°37'	-7.1	-14.4		3145.5		-188	+633	405.117	1,878,433
58	990		"	--	11.4	90°37'	-10.7	-22.1		3142.8		-281	+949	405.024	1,878,749
59	1320		"	--	7.0	90°37'	-14.2	-21.2		3143.7		-375	+1266	404.930	1,879,066
60	1650		"	--	12.9	-		-12.9		3152.0		-469	+1582	404.836	1,879,382
61	1980		"	--	5.7	-		-5.7		3159.2		-563	+1898	404.742	1,879,698
62	2310		"	--	1.1	TH	+11.6	+10.5		3175.4		-657	+2215	404.648	1,880,015
63	2640		"	--	12.2	89°-	+46.1	+33.9		3198.8		-751	+2531	404.554	1,880,331
64	2969		89°06'48"	--	10.3	89°-	+51.8	+41.5	+41.6	3206.5	TP	-844	+2846	404.463	1,880,649
64	2969		"	--	10.0	27°-	+51.8	+41.8			TP	+2	+3		
	5279	5277.6	274 35 06	+17.8	+12.0	91 18	+119.8	+131.8	+131.9	3338.4	BS	-2010	+4880		
	5279		"	--	+12.3	268 42	+119.8	+132.1			BS	+2	+3		
65	4950		274 38	--	6.3	91 28	-126.7	-133.0		3205.4		+1889	-4575	404.344	1,880,952
66	4620		--	--	9.7	91 28	-118.3	-128.0		3210.4		+1763	-4270	404.218	1,881,262
67	4290		--	--	10.9	91 28	-109.8	-120.7		3217.7		+1637	-3965	404.092	1,881,567

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LOWETREE Coulee?
STUDHORSE Butte-7 1/2

SURVEY NOTES-HIGH RESOLUTION DATA
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7-10-86		B. C. Camp		J. Middleton		6834		F.M.		6		5			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Strohse Butte-7 1/2		MONT.		HOTEAU								S. Binns	
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
									3338.4						
68	3960		274 34	+17.8	7.1	91.36	-110.6	-117.7		3220.7		+1507	-3662	403.962	1,881,870
69	3630		- -	--	10.9	91.36	-101.4	-112.3		3226.1		+1381	-3357	403.836	1,882,175
70	3300		- -	--	7.0	91.44	-99.8	-106.8		3231.6		+1256	-3052	403.711	1,882,480
71	2970		- -	--	10.1	91.44	-89.8	-99.9		3238.5		+1130	-2747	403.585	1,882,785
72	2640		- -	--	9.6	91.44	-79.9	-89.5		3248.9		+1005	-2441	403.460	1,883,091
73	2310		274 34	+17.8	6.3	92 -	-80.6	-86.9		3251.5		+879	-2136	403.334	1,883,396
74	1980		- -	--	4.0	92 30	-86.4	-90.4		3248.0		+753	-1831	403.208	1,883,701
75	1650		- -	--	9.6	92 30	-72.0	-81.6		3256.8		+628	-1526	403.083	1,884,006
76	1320		- -	--	7.2	92 30	-57.6	-64.8		3273.6		+502	-1221	402.957	1,884,311
77	990		- -	--	10.7	92 30	-43.2	-53.9		3284.5		+377	-916	402.832	1,884,616
78	660		- -	--	13.0	92 30	-28.8	-41.8		3296.6		+251	-610	402.706	1,884,922
79	330		- -	--	9.3	92 30	-14.4	-23.7		3314.7		+126	-305	402.581	1,885,227
80	0				5.1	-		-5.1		3333.3	X	0	0	402.455	1,885,532
81	330		98 38	+17.8	6.4	88 46	+7.1	+0.7		3339.1		-147	+296	402.308	1,885,828
82	660		- -	--	6.6	88 46	+14.2	+7.6		3346.0		-294	+591	402.161	1,886,123
83	990		- -	--	7.6	88 46	+21.3	+14.2		3352.6		-441	+887	402.014	1,886,419
84	1312		95 25	-	9.8	88 46	+28.2	+18.4		3356.8		-517	+1206	401.938	1,886,728
85	1633		92 30	-	7.1	88 46	+35.1	+28.0		3366.4		-567	+1532	401.888	1,887,064
86	1956		90 15	-	7.9	88 54	+37.6	+29.7		3368.1		-606	+1860	401.849	1,887,392

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7-10-86		B. Cotamp		J. Middleton		6834		F.M.		6		6			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Stuohorse Butte		Mont.		Choctaw								S. Binns	
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
									33384						
87	2281		89° 07' 16"	+17.8	14.8	89° -	+39.8	+25.0	325.1	3363.5	TP	-664	+2182	401,793	1,887,717
87	2281				14.5	271° -	+39.8	+25.3			TP	+2	+3		
	2958		296° 26' 27"	--	+5.5	89° 20'	-34.4	-28.9			BS	-2064	+2119		
	2958				+5.4	270° 40'	-34.4	-29.0	3334.5		BS	+2	+3		
88	2636		297° 40'	--	8.9	89° 22'	+29.1	+20.2		3354.7		+1879	-1849	401,610	1,887,990
89	2310		-	--	12.7	-	-	-12.7		3321.8		+1647	-1620	401,378	1,888,219
90	1980		-	--	11.0	90° 30'	-17.3	-28.3		3306.2		+1411	-1389	401,142	1,888,450
91	1650		-	--	10.0	90° 44'	-21.1	-31.1		3303.4		+1176	-1157	400,907	1,888,682
1F	1423		298° 44'	+17.8	6.8	90° 44'	-18.2	-25.0		3309.5	1F	+1033	-979	400,764	1,888,860
92	1320		297° 55'	--	6.7	90° 50'	-19.2	-25.9		3308.6		+945	-922	400,676	1,888,917
93	990		-	--	12.2	90° 50'	-14.4	-26.6		3307.9		+709	-691	400,440	1,889,148
94	660		-	--	6.7	90° 50'	-9.6	-16.3		3318.2		+472	-461	400,203	1,889,378
95	330		-	--	8.1	90° 50'	-4.8	-12.9		3321.6		+236	-230	399,967	1,889,609
96	0		-	--	5.1	-	-	-5.1		3329.4	X	0	0	399,731	1,889,839
97	330		123° 20'	+17.8	9.7	91° 50'	-10.6	-20.3		3314.2		-257	+207	399,474	1,890,046
98	660		-	--	6.2	90° 50'	-9.6	-15.8		3318.7		-514	+414	399,217	1,890,253
99	990		123° 32'	--	9.0	90° 50'	-14.4	-23.4		3311.1		-773	+619	398,958	1,890,458
100	1316		125° 15'	-	6.2	90° 30'	-11.5	-17.7		3316.8		-1052	+791	398,679	1,890,630
101	1629		129° 10'	--	11.8	90° 30'	-14.2	-26.0		3308.5		-1366	+888	398,365	1,890,827
102	1942		132° 30'	--	7.0	90° 20'	-11.3	-18.3		3316.2		-1687	+962	398,044	1,890,801

3-400,700 x -1,888,800
1/7-Inter. 3304.6

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-10-86		B. Cotcamp		J. Middleton		6834		J.M.		6		7			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Strohse Butte-7 1/2		MONT.		CHOTEAU								S. Binns	
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
									3334.5						
103	2265		134.23	+17.8	10.9	-		-10.9		3323.6		-2003	+1057	397.728	1,890,896
104	2593		133.50	--	7.2	89 50	+7.5	+0.3		3334.8		-2282	+1232	397.449	1,891,071
105	2904		131.35	--	5.7	89 40	+16.9	+11.2		3345.7		-2499	+1479	397.232	1,891,318
106	3217		129.35	--	9.4	89 30	+28.1	+18.7		3353.2		-2710	+1734	397.021	1,891,573
107	3532		128.-	--	9.7	89 20	+41.1	+31.4		3365.9		-2901	+1985	396.810	1,891,824
108	3850		126.35	--	9.2	89 14	+51.5	+42.3		3376.8		-3130	+2242	396.601	1,892,081
109	4167		125.10	--	6.9	89 06	+65.5	+58.6		3393.1		-3326	+2510	396.405	1,892,349
110	4457		123.-	--	7.0	88 56	+83.0	+76.0		3410.5		-3454	+2817	396.277	1,892,656
111	4695		120.20	-	7.0	88 34	+117.4	+110.4		3444.9		-3496	+3133	396.235	1,892,922
112	4884		117.10	-	8.1	88 14	+150.6	+142.5		3477.0		-3452	+3456	396.279	1,893,295
113	5078	5075.1	114 00 16	+17.4	12.9	88 04	+171.3	+158.4	458.7	3493.2	TP	-3357	+3807	396.377	1,893,649
113	5078				15.2	271 58	+174.3	+159.1			TP	+3	+3		
	1311		259 40 40	+17.0	11.9	91 10	+26.7	+38.6			BS	-152	+1302		
	1311				11.8	268 50	+26.7	+38.5	3531.7		BS	+3	+3		
114	986		262.15	--	11.4	91 10	-20.1	-31.5		3500.2		+158	-973	396.386	1,893,981
115	657		263.55	--	9.8	91 40	-19.1	-28.9		3502.8		+124	-645	396.352	1,894,309
116	329		268 40	--	9.1	91 40	-9.6	-18.7		3513.0		+89	-317	396.317	1,894,632
117	0				5.1	-		-5.1		3526.6	X	0	0	396.228	1,894,954
118	330		99 10	-	6.0	90 40	-3.8	-9.8		3521.9		-146	+296	396.082	1,895,250
119	660		-	-	3.8	90 40	-7.7	-11.5		3520.2		-291	+592	395.937	1,895,546

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-10-86		B. Cotcamp		J. Middleton		6834		F.M.		6		8			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Stanhorse Butte-74		MONT.		CHOTEAU								S. Binns	
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-	EAST+ WEST-		Y
									3531.7						
120	990		99 10	+17.0	5.4	90 40	-11.5	-16.9		3514.8		-437	+889	395.791	1895.843
121	1320		-	--	5.7	90 40	-15.4	-21.1		3510.6		-582	+1185	395.646	1896.139
122	1650		-	--	8.2	90 40	-19.2	-27.4		3504.3		-728	+1481	395.500	1896.435
123	1980		-	--	7.0	90 40	-23.0	-30.0		3501.7	Pipe line	-873	+1777	395.355	1896.731
124	2310		99 25	--	9.7	90 30	-20.2	-29.9		3501.8		-1028	+2069	395.200	1897.023
125	2618		101 05	--	12.3	90 30	-22.8	-35.1		3496.6		-1232	+2310	394.996	1897.264
TP	2750		102 13 40	--	14.2	90 30	-24.0	-38.2		3493.5	TP	-1343	+2400	394.889	1897.357
TP	2750			--	14.1	269 30	-24.0	-38.1			TP	+4	+3		
	853		311 59 34	+16.6	4.2	-		+4.2			BS	-728	+445		
	853			--	4.1	270 -		+4.1	3497.6		BS	+4	+3		
126	659		313 25	--	6.2	-		-6.2		3491.4		+571	-329	394.736	1897.476
127	330		317 30	--	7.6	-		-7.6		3490.0		+297	-144	394.462	1897.661
IF	106		336 06 34	--	1.9	-		-1.9		3495.7	IF	+105	-13	394.270	1897.792
128	0			--	5.1	-		-5.1		3492.5	IF	0	0	394.165	1897.805
129	330		149 45	--	7.9	92 -	-11.5	-19.4		3478.2		-321	+78	393.844	1897.883
130	660		-	--	6.0	91 -	-11.5	-17.5		3480.1		-641	+156	393.524	1897.961
TP	732		147 51 30	--	4.0	91 -	-12.8	-16.8		3480.8	TP	-705	+196	393.463	1898.004
TP	732			--	4.0	269 -	-12.8	-16.8			TP	+3	+3		

IF - 394.300 x 1.897.805
IF - Inter

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Cotcamp		J. Middleton		6834		F.M.		6		9			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Stuohorse Butte-7 1/2		mont.		MONTANA								S. B. INNS	
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
										3480.8					
	5069		292 17 01	+16.2	13.2	90 42	+61.9	+75.1	3555.9		BS	-3154	+3968		
	5069				+13.3	269 18	+61.9	+75.2			BS	+3	+3		
131	4818		292 55	--	5.2	90 50	-70.1	-75.3		3480.6		+3040	-3788	393.352	1,898,237
132	4513		294 30	--	10.2	90 44	-57.8	-68.0		3487.9		+2943	-3421	393.255	1,898,554
133	4211		296 17	--	6.7	90 44	-53.9	-60.6		3495.3		+2844	-3106	393.156	1,898,869
134	3891		297 10	--	10.9	91 -	-67.9	-78.8		3477.1		+2672	-2829	392.984	1,899,146
135	3575		296 -	--	8.9	91 34	-97.7	-106.6		3449.3		+2401	-2648	392.713	1,899,327
136	3268		294 10	+16.2	8.1	92 20	-133.1	-141.2		3414.7		+2117	-2490	392.429	1,899,485
137	2941		293 30	--	11.9	92 52	-147.1	-159.0		3396.9		+1879	-2263	392.191	1,899,712
138	2613		293 30	--	11.8	92 52	-130.7	-142.5		3413.4		+1669	-2010	391.981	1,899,965
139	2281		293 20	--	10.4	92 40	-106.1	-116.5		3439.4		+1452	-1759	391.764	1,900,216
140	1959		295 20	--	9.0	92 40	-91.1	-100.1		3455.8		+1299	-1466	391.611	1,900,509
141	1648		298 45	--	7.9	93 -	-86.3	-94.2		3461.7		+1164	-1166	391.476	1,900,809
142	1320		300 -	--	12.0	93 -	-69.1	-81.1		3474.8		+953	-914	391.265	1,901,061
143	990		- -	--	10.8	93 20	-57.6	-68.4		3487.5		+715	-685	391.027	1,901,290
144	660		- -	--	7.8	93 -	-34.5	-42.3		3513.6		+476	-457	390.788	1,901,518
145	330		- -	--	8.0	93 -	-12.3	-25.3		3530.6		+238	-228	390.550	1,901,747
146	0		- -	--	5.1	-	-	-5.1		3550.8	X	0	0	390.312	1,901,975
147	330		119 50	+16.2	9.8	88 -	+11.5	+1.7		3552.6		-238	+229	390.074	1,902,204
148	660		- -	--	6.0	88 -	+23.0	+12.0		3572.9		-475	+458	389.837	1,902,433

SURVEY NOTES-HIGH RESOLUTION DATA
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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Cotcamp		J. Middleton		6834		J.M.		6		10			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		STUBHORSE Butte-74		MONT.		CHouteau								S. Binns	
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
									3555.9						
TP	899		119 00 42	+16.2	14.2	88 14	+27.7	+13.5		3569.4	TP	-638	+633	389,677	1,902,611
TP	899				14.1	271 46	+27.7	+13.6			TP	+3	+3		
	4509		266 37 25	+6.2	-			+6.2			BS	-1001	+4397		
	4509			+6.1	270 -			+6.1	3575.5		BS	+3	+3		
149	4422		266 20	--	9.8	-		-9.8		3565.7		+760	-4317	389,639	1,902,694
150	4093		266 09	--	8.9	BH	-20.5	-29.4		3546.1		+875	-3778	389,554	1,903,013
151	3764		-	--	7.2	BH	-18.8	-26.0		3549.5		+805	-3677	389,484	1,903,334
152	3434		-	--	10.3	BH	-17.2	-27.5		3548.0		+734	-3355	389,413	1,903,656
153	3104		-	--	8.0	90 26	-23.5	-31.5		3544.0		+664	-3032	389,343	1,903,979
154	2775		266 09	+16.2	7.7	90 26	-21.0	-28.7		3546.8		+594	-2711	389,273	1,904,300
155	2445		-	--	7.7	90 26	-18.5	-26.2		3549.3		+523	-2388	389,202	1,904,623
156	2115		-	--	8.2	90 26	-16.0	-24.2		3551.3		+452	-2066	389,131	1,904,945
157	1785		266 09	--	6.7	90 26	-13.5	-20.2		3555.3		+382	-1744	389,061	1,905,267
158	1455		-	--	6.9	90 30	-12.7	-19.6		3555.9		+311	-1421	388,990	1,905,590
159	1125		-	--	7.1	90 30	-9.8	-16.9		3558.6		+241	-1077	388,920	1,905,912
160	795		-	--	11.5	90 30	-6.9	-18.4		3557.1		+170	-777	388,849	1,906,234
161	465		-	--	10.6	90 30	-4.1	-14.7		3560.8		+99	-454	388,778	1,906,557
162	135		-	--	8.1	90 30	-1.2	-9.3		3566.2		+29	-132	388,708	1,906,879
π	0				5.1	-		-5.1		3570.4	π	0	0	388,679	1,907,011

SURVEY NOTES-HIGH RESOLUTION DATA
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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Cotcamp		J. Middleton		6834		J.M.		6		11			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		SturHorse Butte-76		MONT.		CHouteau								S. Binns	
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
									3575.5						
163	193		93 40	+16.2	6.1	90 30	-1.7	-7.8		3567.7		-66	+182	388.613	1,907,193
164	523		- -	--	9.3	90 40	-6.1	-15.4		3560.1		-178	+492	388.501	1,907,503
165	853		- -	--	10.0	90 40	-9.9	-19.9		3555.6		-270	+852	388.389	1,907,813
166	1183		93 40	--	7.2	89 40	+6.9	-0.3		3575.2		-402	+1113	388.277	1,908,124
167	1513		- -	--	9.1	89 10	+22.0	+12.9		3588.4		-514	+1423	388.165	1,908,434
168	1843		- -	--	10.0	88 40	+42.9	+32.9		3608.4		-626	+1733	388.053	1,908,744
169	1881		93 27 38	--	8.2	88 40	+43.8	+35.6		3611.1	16	-633	+1771	388.046	1,908,782
169	2172		93 40	--	5.5	88 40	+50.5	+45.0		3620.5		-738	+2043	387.941	1,909,054
TP	2390	2389.4	94 16 06	--	12.6	88 40	+55.6	+43.0		3618.5	TP	-832	+2240	387.850	1,907,254
TP	2390				12.5	271 26	+55.6	+43.1			TP	+3	+3		
	2930		296 55 46	+16.2	12.7	90 16	+8.5	+21.2			BS	-2003	+2138		
	2930			+12.6	12.6	269 50	+8.5	+21.1		3639.6	BS	+3	+3		
170	2824		297 30	--	10.7	90 16	-13.1	-23.8		3615.8		+1951	-2042	387.801	1,909,353
171	2496		298 20	--	8.2	90 10	-7.3	-15.5		3624.1		+1751	-1779	387.601	1,909,616
172	2166		- -	--	5.7	90 10	-6.3	-12.0		3627.6		+1519	-1544	387.369	1,909,851
173	1836		- -	--	8.3	90 10	-5.3	-13.6		3626.0		+1288	-1309	387.138	1,910,086
174	1506		298 20	--	7.5	90 10	-4.4	-11.9		3627.7		+1056	-1074	386.906	1,910,321
175	1176		- -	--	8.1	90 10	-3.4	-11.5		3628.1		+825	-838	386.675	1,910,555
176	846		- -	--	11.9	90 10	-2.5	-14.4		3625.2		+593	-603	386.443	1,910,792
177	516		- -	--	10.2	90 10	-1.5	-11.7		3627.9		+362	-368	386.212	1,911,027

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STURHORSE Butte-76
RYAN Butte-76
y-388,070 x-1,908,805
Fence line

SURVEY NOTES-HIGH RESOLUTION DATA
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7-11-86		B. Cotcamp		J. Middleton		6834		J.M.		6		12			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte-7 1/2'		MONT.		CHouteau								S. Binns	
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 A TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									3639.6						
178	186		298° 20'	+16.2	5.4	90 10	-0.5	-5.9		3633.7		+130	-133	385.980	1,911,262
	0				5.1	-		-5.1		3634.5	π	0	0	385.850	1,911,395
179	143		118° 20'	--	5.6	91 50	-4.6	-10.2		3629.4		-100	+102	385.750	1,911,497
180	473		-	--	5.2	91 30	-12.4	-17.6		3622.0		-332	+337	385.518	1,911,732
181	803		-	--	8.2	91 30	-21.0	-29.2		3610.4		-563	+572	385.287	1,911,967
182	1133		-	--	9.0	91 40	-33.0	-42.0		3597.6		-795	+808	385.055	1,912,203
183	1463		-	--	11.7	91 40	-42.6	-54.3		3585.3		-1026	+1043	384.824	1,912,438
184	1793		-	--	7.2	91 50	-57.4	-64.6		3575.0		-1257	+1278	384.593	1,912,673
185	2120		117.40,	--	9.0	91 50	-67.8	-76.8		3562.8		-1469	+1528	384.381	1,912,923
186	2429	2427.7	114 50	--	14.6	91 53	-79.8	-94.4		3545.2	TP	-1594	+1831	384.259	1,913,229
186	2429			--	14.5	268 07	-79.8	-94.3			TP	+3	+3		
	2968		262 44 04	+16.2	10.1	BH	+14.8	+24.9			BS	-461	+2932		
	2968				10.0	BH 270	+14.8	+24.8	3570.0		BS	+3	+3		
187	2640		261 55	--	3.9	90 30	-23.0	-26.9		3543.1		+373	-2614	384.174	1,913,550
188	2310		-	--	7.7	90 30	-20.2	-27.9		3542.1		+326	-2287	384.127	1,913,875
189	1980		-	--	10.8	90 30	-17.3	-28.1		3541.9		+280	-1960	384.081	1,914,204
190	1650		-	--	11.6	90 30	-14.4	-26.0		3544.0		+233	-1633	384.034	1,914,531
191	1320		261 55	--	9.7	90 30	-11.5	-21.2		3548.8		+186	-1367	383.987	1,914,857
192	990		-	--	10.3	90 30	-8.6	-18.9		3551.1		+140	-980	383.941	1,915,184
193	660		--	--	8.1	90 30	-5.8	-13.9		3556.1		+93	-653	383.894	1,915,511

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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Cotcamp		J. Middleton		6834		J.M.		6		13			
AREA		TPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte-7 1/2'		MONT.		CHOUTEAU								S. Binns	
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
									3570.0						
194	330		261° 55'	+16.2	6.3	90° 30'	-2.9	-9.2		3560.8		+47	-327	383.848	1,915,835
195	0				5.1	-		-5.1		3564.9	X	0	0	383.801	1,916,164
196	330		72° 34'	--	4.3	-		-4.3		3565.7		+7	+330	383.808	1,916,494
197	660		--	--	4.2	-		-4.2		3565.8		+14	+660	383.815	1,916,824
198	990		--	--	8.7	TH	+5.0	-3.7		3566.3		+21	+990	383.822	1,917,154
199	1320		--	--	10.0	TH	+6.6	-3.4		3566.6		+28	+1320	383.829	1,917,484
200	1462		72° 20' 53"	+16.2	3.0	-		-3.0		3567.0		+37	+1462	383.838	1,917,626 3-38355x-1917,680 Fence line
201	1650		72° 34'	--	11.0	TH	+8.3	-2.7		3567.3		+36	+1650	383.837	1,917,814
202	1980		--	--	10.4	TH	+9.9	-0.5		3569.5		+43	+1980	383.844	1,918,144
203	2310		--	--	8.2	89° 50'	+6.7	-1.5		3568.5		+50	+2309	383.851	1,918,473
204	2640		72° 12'	--	7.8	89° 50'	+7.7	-0.1		3569.9		+74	+2639	383.875	1,918,803
205	2966		71° 18'	--	7.0	89° 50'	+8.6	+1.6		3571.6		+129	+2963	383.930	1,919,127
TP	3143		72° 07' 32"	--	14.3	89° 40'	+18.3	+4.0			TP	+92	+3142	383.896	1,919,310
TP	3143				14.4	270° 20'	+18.3	+3.9		3573.9	TP	+3	+4		
	491		314° 17' 57"	+16.2	11.4	88° -	-17.1	-5.7	3568.2		BS	-427	+242		
	491				11.4	272° -	-17.1	-5.7			BS	+3	+4		
205	331		316° 20'	--	8.2	88° -	+11.6	+3.4		3571.6		+294	-153	383.766	1,919,403
206	0				5.1	-		-5.1		3563.1	X	0	0	383.472	1,919,556 Access Sta.
207	332		159° 40'	--	10.3	91° 30'	-8.7	-19.0		3549.2		-331	+24	383.141	1,919,580 3-382965x-1,919,660
21	558		156° 57' 50"	--	7.3	91° -	-9.7	-15.0		3551.2		-554	+66	382.918	1,919,622 T-Inter

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Cotcamp		J. Middleton		6834		J.M.		6		14			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte - 7 1/2'		MONT.		CHouteau								S. Binns	
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
									3568.2						
208	661		158. -	+16.2	4.5	91 -	-11.5	-16.0		3552.2		-658	+67	382,814	1,919,623
209	989		160.36	--	9.5	-		-9.5		3558.7		-987	+55	382,485	1,919,611
210	1318		160 53 50	--	10.5	-		-10.5		3557.7	TP	-1316	+67	382,159	1,919,627
210	1318			--	10.4	270 -		-10.4			TP	+3	+4		
	2826		348 32 40	+16.2	7.3	89 26	-32.9	-25.6	3532.1		BS	-2816	-234		
	2826			--	7.4	270 40	-32.9	-25.5			BS	+3	+4		
211	2495		348 20	--	10.0	89 30	+21.8	+11.8		3543.9		+2487	+197	381,833	1,919,594
212	2167		347 50	--	8.9	89 30	+18.9	+10.0		3542.1		+2162	+152	381,508	1,919,549
213	1860		344 33	--	11.9	89 30	+16.2	+4.3		3536.4		+1860	+24	381,206	1,919,421
214	1562		339 48	--	9.1	89 06	+24.5	+15.4		3547.5		+1558	-109	380,904	1,919,288
215	1251		335 16	--	7.8	89 40	+7.3	-0.5		3531.6		+1237	-186	380,583	1,919,211
216	940		329 22	+16.2	7.1	89 40	+5.5	-1.6		3530.5		+910	-234	380,256	1,919,163
217	649		318 10	--	8.0	89 -	+11.3	+3.3		3535.4		+585	-281	379,931	1,919,116
Bm	459		309 11 46	--	7.8	89 -	+8.0	+0.2		3532.3	Bm	+378	-261	379,725	1,917,140
218	330		312 10	--	8.7	89 -	+5.8	-2.9		3529.2		+281	-173	379,627	1,919,224
219	0			--	5.1	-		-5.1		3527.0	TP	0	0	379,346	1,917,397
220	330		132 13	--	5.3	-		-5.3		3526.8		-281	+173	379,065	1,919,520
221	660		- -	--	7.8	-		-7.8		3524.3		-562	+346	378,784	1,919,243
222	990		- -	--	8.6	-		-8.6		3523.5		-843	+519	378,503	1,919,916
223	1320		- -	--	7.1	-		-7.1		3525.0		-1124	+691	378,222	1,920,088

$y = 379,725$
 $x = 1,919,140$
 WDC 1957 3531.0
 Horiz. y + 61'
 CORR. x + 80'

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-11-86		B. Potcamp		J. Middleton		6834		J.M.		6		15			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte - 7 1/2		MONT.		CHOUTEAU								S. Binns	
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
									3532.1						
224	1649		132 22 46	+16.2	12.1	-	-12.1		3520.0		TP	-1407	+860	377,940	1,920,259
224	1649				12.0	270 -	-12.0				TP		+2		
	1647		305 48 52	--	8.1	87 30	-71.8	-63.7			BS	-1297	+1013		
	1647				8.0	272 30	-71.8	-63.8	3456.2		BS		+2		
225	1317		305 20	--	7.8	88 20	+38.3	+30.5		3486.7		+1031	-819	377,675	1,920,455
226	988		304 55	--	17.0	88 20	+28.7	+11.7		3467.9		+769	-620	377,413	1,920,654
227	659		303 35	--	6.5	88 20	+19.2	+12.7		3468.9		+503	-426	377,147	1,920,848
228	329		300 35	--	7.9	87 20	+15.3	+7.4		3463.6		+240	-225	376,884	1,921,049
229	0				5.1	-	-5.1			3451.1	X	0	0	376,644	1,921,274
230	330		107 35	+16.2	6.1	90 30	-2.9	-9.0		3447.2		-184	+274	376,460	1,921,548
231	660		107 30	--	6.5	90 30	-5.8	-12.3		3443.9		-366	+549	376,278	1,921,823
232	990		108 25	--	10.0	90 30	-8.6	-18.6		3437.6		-562	+815	376,082	1,922,089
233	1315		110 35	--	10.3	90 30	-11.5	-21.8		3434.4		-787	+1053	375,857	1,922,327
234	1644		112 16	--	8.0	90 42	-20.1	-28.1		3428.1		-1023	+1287	375,621	1,922,561
235	1973		111 43	--	10.3	90 42	-24.1	-34.4		3421.8		-1212	+1557	375,432	1,922,831
TP	2140		110 41 28	--	11.2	90 40	-24.9	-36.1		3420.2	TP	-1285	+1711	375,360	1,922,987
TP	2140				10.9	269 20	-24.9	-35.8	36.0		TP		+2		
	1267	1266.2	243 07 46	+16.2	10.4	92 -	+44.2	+54.6			BS	+234	+1244		
	1267				10.3	268 -	+44.2	+54.5	3474.7		BS		+2		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7- -86		B. Cotcamp		J. Middleton		6834		J.M.		6		16			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte 7 1/2'		Mont.		CHouteau								S. Binns	
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
									3474.7						y=375.375 x -1,923.200
236	1104		242 28	+16.2	5.8	92 30	-48.2	-54.0		3420.7	#	-217	-1081	375,328	1,923,152 # creek fence line EL. 3420.0
237	774		-	-	10.0	93 30	-47.3	-57.3		3417.4		-157	-759	375,443	1,923,474
238	445		-	-	10.7	94 -	-31.0	-41.7		3433.0		-87	-436	375,508	1,923,297
239	116		-	-	7.9	91 -	-2.0	-9.9		3464.8		-23	-114	375,522	1,924,119
K	0		-	-	5.1	-	-	-5.1		3469.6	K	0	0	375,595	1,924,233
240	225		100. -	+16.2	7.0	-	-	-7.0		3467.7		-99	+202	375,496	1,924,435
241	555		99 10	-	7.3	-	-	-7.3		3467.4		-238	+501	375,357	1,924,734
242	882		102 05	-	7.6	-	-	-7.6		3467.1		-418	+777	375,177	1,925,010
243	1207		103 45	-	6.0	90 20	-7.0	-13.0		3461.7		-603	+1046	374,992	1,925,279
244	1538		104 45	-	6.0	90 20	-8.9	-14.9		3459.8		-791	+1319	374,804	1,925,552
245	1869		105 25	+16.2	7.5	90 20	-10.9	-18.4		3456.3		-980	+1592	374,615	1,925,825
246	2198		106 -	-	7.3	90 20	-12.8	-20.1		3454.6		-1171	+1860	374,424	1,926,093
247	2527		106 20	-	11.7	90 20	-14.7	-26.4		3448.3		-1359	+2130	374,236	1,926,363
248	2852		107 30	-	11.0	90 25	-20.7	-31.7		3443.0		-1582	+2373	374,03	1,926,606
249	3177		108 38 23	-	13.8	90 12	-11.1	-24.9	-24.8	3449.9	TP	-1815	+2608	373,781	1,926,843
249	3177				13.5	269 48	-11.1	-24.6			TP	+1	+2		
	2619		294 33 42	+16.2	9.0	89 26	-25.9	-16.9	-17.1		BS	-1710	+1984		
	2619				8.7	276 34	-25.9	-17.2		3432.8	BS	+1	+2		
250	2293		295 33	-	9.0	89 30	+20.0	+11.0		3443.8		+1527	-1711	373,599	1,927,118
251	1970		297 30	-	7.0	89 46	+8.0	+1.0		3433.8		+1361	-1424	373,433	1,927,405

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
7- -86		B. Cotnam		J. Middleton		6834		J.M.		6		17					
AREA		TPO MA		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER			
MONTANA		Ryan Butte-7 1/2'		mont.		CHouteau								S. Binns			
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 - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									3432.8								
252	1649		299 40	+16.2	7.2	89 50	+4.8	-2.4		3430.4		+1184	-1148	373,256	1,927,681		
253	1320		300 35	--	8.1	89 50	+3.8	-4.3		3428.5		+962	-904	373,034	1,927,925		
254	990		300 50	--	7.9	BH	-5.0	-12.9		3419.9		+724	-675	372,796	1,928,154		
255	660		- -	--	11.0	-	-	-11.0		3421.8		+483	-450	372,555	1,928,379		
#	583		301 46	--	11.6	-	-	-11.6		3421.2	#	+433	-30	372,565	1,928,479	# -372,500 x -1,928,430 creek EL. 3421.0	
256	330		301 55	--	9.2	-	-	-9.2		3423.6		+246	-220	372,318	1,928,609		
257	0				5.1	-	-	-5.1		3427.7	X	0	0	372,072	1,928,829		
258	330		150 10	+16.2	4.7	-	-	-4.7		3428.1		-321	+78	371,751	1,928,907		
259	660		151 20	--	8.3	-	-	-8.3		3424.5		-644	+142	371,428	1,928,971		
260	990		- -	--	6.3	-	-	-6.3		3426.5		-967	+214	371,105	1,929,043		
261	1321		150 55	--	8.1	TH	+6.6	-1.5		3431.3		-1288	+295	370,784	1,929,124		
262	1648		149 00 05	+15.9	11.8	89 50	+4.8	-7.0		3425.8	TP	-1591	+429	370,482	1,929,260		
262	1648				11.7	270 10	+4.8	-6.9			TP	+	+				
	2281		287 50 42	--	8.7	-	-	+8.7			BS	-1267	+1897				
	2281				8.4	16 -	-	+8.4	+8.5	3434.3	BS	+	+				
263	1954		286 20	--	8.4	90 10	-5.7	-14.1		3420.2		+1042	-1653	370,258	1,929,506		
264	1627		285 -	--	11.4	90 10	-4.7	-16.1		3418.2		+836	-1396	370,052	1,929,763		
265	1301		282 55	--	9.1	90 10	-3.8	-12.9		3421.4		+627	-1140	369,843	1,930,019		
266	979		279 12	--	9.9	90 10	-2.8	-12.7		3421.6		+415	-887	369,631	1,930,272		
267	660		273 05	--	8.3	90 10	-1.9	-10.2		3424.1		+215	-624	369,431	1,930,535		

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE	7-14-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	J.M.	LINE NO.	6	PAGE	18	
AREA	MONTANA	TOPO MAP	Ryan Butte - 7 1/2'	STATE	mont.	COUNTY	CHouteau	TWP		RANGE		PPM	PARTY MANAGER	S. Dinns

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				
									3434.3										
268	330		270 35	+15.9	6.1	90 10	-1.0	-7.1		3422.2		+94	-316	369,310	1,930,843				
269	0				5.1	-		-5.1		3429.2	X	0	0	369,216	1,931,159				
270	330		96 20	--	7.6	90 10	-1.0	-8.6		3425.7		-125	+305	369,091	1,931,464				
271	660		95 55	--	7.5	90 10	-1.9	-9.4		3424.9		-245	+613	368,971	1,931,772				
272	990		97 30	-	7.5	90 30	-8.6	-16.1		3418.2		-393	+909	368,823	1,932,068				
273	1317		99 18 39	-	10.6	90 30	-11.5	-22.1		3412.2	TP	-561	+1192	368,656	1,932,353				
273	1317				10.5	269 30	-11.5	-22.0			TP	+1	+2						
	3955		282 15 40	+15.9	13.5	TH	-19.8	-6.3	663		BS	-1867	+3487						
	3955			+12.8	TH	20	-19.8	-7.0	3405.6		BS	+1	+2						
274	3626		282 -	--	6.8	89 50	+10.5	+3.7		3409.3		+1697	-3205	368,487	1,932,637				
275	3297		281 40	--	7.9	89 50	+9.6	+1.7		3407.3		+1526	-2923	368,316	1,932,919				
#1	3272		281 50	--	7.8	89 50	+9.5	+1.7		3407.3	#1	+1523	-2896	368,313	1,932,946			y = 368.350 x - 1.932946 #1 - intersect 3406.0	
276	2968		281 20	-	9.4	89 50	+8.6	-0.8		3404.8		+1358	-2639	368,148	1,933,203				
277	2640		- -	+15.9	10.0	89 50	+7.7	-2.3		3403.3		+1188	-2358	367,978	1,933,484				
278	2310		280 50	--	11.4	89 50	+6.7	-4.7		3400.9		+1039	-2063	367,829	1,933,779				
279	1980		- -	--	11.0	89 50	+5.8	-5.2		3400.4		+891	-1768	367,681	1,934,074				
280	1650		- -	--	10.0	89 50	+4.8	-5.2		3400.4		+742	-1474	367,532	1,934,368				
281	1320		- -	--	9.2	89 50	+3.8	-5.4		3400.2		+594	-1179	367,384	1,934,663				
282	990		- -	--	8.3	89 50	+2.9	-5.4		3400.2		+445	-884	367,235	1,934,958				
283	660		- -	--	6.2	89 50	+1.9	-4.3		3401.3		+297	-589	367,087	1,935,253				

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-14-86		B Camp		J. Middleton		6834		F.M.		6		19			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Ryan Butte - 7k		MONT.		Chouteau								S. Binns	
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
									3405.6						
284	330		280 50	+15.9	8.8	89 50	+1.0	-7.8		3397.8		+148	-295	366,938	1,935,547
285	0				5.1	-		-5.1		3400.5	X	0	0	366,290	1,935,842
1F	287		92.3724	-	4.9	89.50	+0.8	-4.1		3401.5	1F	-91	+272	366,699	1,936,114
286	330		94. -	-	6.3	89.50	+1.0	-5.3		3400.3		-112	+310	366,678	1,936,152
287	666		94 50	-	10.9	89.50	+1.9	-9.0		3396.6		-234	+617	366,556	1,936,459
288	968		102 50	-	8.3	-		-8.3		3397.3		-465	+849	366,325	1,936,691
289	1279		108 35	-	10.6	-		-10.6		3395.0		-724	+1054	366,066	1,936,896
290	1598		112. -	+15.9	8.0	-		-8.0		3397.6		-982	+1261	365,808	1,937,103
291	1923		113 50	-	5.0	-		-5.0		3400.6		-1229	+1479	365,561	1,937,321
292	2252		114 30	-	7.9	89.50	+6.6	-1.3		3404.3		-1460	+1715	365,330	1,937,557
293	2582		114 50	-	8.2	89.44	+12.0	+3.8		3409.4		-1685	+1957	365,105	1,937,799
294	2912		115. 10	-	6.8	89.70	+16.9	+10.1		3415.7		-1913	+2195	364,877	1,938,037
295	3242		115 20	-	8.8	89.34	+24.5	+15.7		3421.3		-2137	+2438	364,653	1,938,280
296	3572		-	-	10.0	89.34	+27.0	+17.0		3422.6		-2354	+2686	364,436	1,938,528
297	3901		115.05	-	5.8	89.40	+22.7	+16.9		3422.5		-2558	+2745	364,232	1,938,787
298	4230		114 55 15	+15.6	13.8	89.38	+27.1	+13.3	+BS	3419.1	TP	-2748	+3215	364,043	1,939,059
298	4230				13.3	270.22	+27.1	+13.8			TP	"	"		
	1543		302 30 28	-	11.0	89.10	-22.4	-11.4			BS	-1148	+1030		
	1543				+10.9	270.50	-22.4	-11.5		3407.6	BS	"	"		

366,725 x +1,936,120
T - intersect ca. 3400

Ryan Butte - 7k
Eskay N.W. - 7k

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-14-86		B. Cotamp		J. Middleton		6834		J.M.		6		20			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Eskay N.W-7 1/2'		Mont.		CHAUTEAU								S. Binns	
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
									3407.6						
299	1241		297 30'	+15.6	9.2	89 -	+21.7	+12.5		3420.1		+848	-906	363,744	1,939,185
300	1045		284 -	--	6.7	89 -	+18.2	+11.5		3419.1		+516	-909	363,412	1,939,182
301	927		266 -	--	5.4	89 30	+8.1	+2.7		3410.3		+186	-908	363,082	1,939,183
TP	902		255 39 16	--	8.1	89 30	+7.9	-0.2		3407.4		+20	-902	362,916	1,939,189
302	660		255 25'	--	7.8	89 30	+1.9	-5.9		3401.7		+12	-660	362,908	1,939,431
303	330		- -	--	7.2	89 30	+1.0	-6.2		3401.4		+6	-330	362,902	1,939,261
304	0			--	5.1	-		-5.1		3402.5	X	0	0	362,896	1,940,091
305	330		75 05	+15.6	6.7	89 -	+5.8	-0.9		3406.7		-4	+330	362,892	1,940,421
306	660		- -	--	9.9	89 -	+11.5	+1.6		3409.2		-8	+660	362,888	1,940,751
307	990		- -	--	10.3	89 -	+17.3	+7.0		3414.6		-12	+990	362,884	1,941,081
308	1320		- -	--	11.4	89 -	+23.0	+11.6		3419.2		-16	+1320	362,880	1,941,411
309	1650		- -	--	11.6	89 -	+28.8	+12.2		3424.8		-20	+1650	362,876	1,941,741
310	1980		75 05	+15.6	7.8	89.14	+26.5	+18.7		3426.3		-24	+1980	362,872	1,942,071
311	2310		- -	--	5.3	89.14	+30.9	+25.6		3433.2		-28	+2310	362,868	1,942,401
312	2640		- -	--	7.7	89.14	+35.3	+27.6		3435.2		-31	+2640	362,865	1,942,731
TP	2816		75 06 21	+15.3	14.8	89.15	+36.9	+22.1	+22.2	3429.8	TP	-20	+2816	362,877	1,942,909
TP	2816				14.5	210 45	+36.9	+22.4			TP				
	1142		255 08 57	--	9.6	89 -	-19.9	-10.3			BS	-9	+1142		
	1142				9.5	211 -	-19.9	-10.4	3419.4		BS				

362,920 x 1,939,210
TP - later 3407.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-14-86		B. Cotcamp		J. Middleton		6834		J.M.		6		21			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W-7E		MONT.		CHOUTEAU								S. Binns	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
											NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
								3419.4							
313	990		255 08	+15.3	11.8	89 10	+14.4	+2.6	3422.0		+7	-990	362,876	1,943,063	
314	660		- -	--	8.7	89 10	+9.6	+0.9	3420.3		+5	-660	362,874	1,943,393	
315	336		- -	--	9.8	88 10	+10.6	+0.8	3420.9		+3	-330	362,872	1,943,723	
316	0				5.1	-		-5.1	3414.3	X	0	0	362,869	1,944,053	
317	330		88 30	+15.3	6.0	92 10	-12.5	-18.5	3400.9		-79	+320	362,790	1,944,373	
318	660		88 50	--	7.0	92 10	-25.0	-32.0	3387.4		-161	+640	362,708	1,944,693	
TP	844		85 02 16	--	11.8	92 10	-31.9	-43.7	3375.7	TP	-151	+830	362,719	1,944,885	
TP	844				11.7	267 50	-31.9	-43.6		TP	+1	+2			
	2941		237 37 14	--	8.2	TH	-14.7	-6.5	-6.7	BS	+864	+2811			
	2941				7.9	TH 270	-14.7	-6.8	3369.0	BS	+1	+2			
319	2803		238 -	--	12.0	TH	+14.0	+2.0	3371.0		-805	-2685	362,779	1,945,013	
320	2486		240 -	--	5.4	-		-5.4	3363.6		-631	-2405	362,953	1,945,293	
321	2177		242 50	--	5.7	-		-5.7	3363.3		-448	-2130	363,136	1,945,568	
322	1872		246 30	--	5.1	-		-5.1	3363.9		-267	-1853	363,317	1,945,845	
323	1576		251 10	+15.3	6.9	-		-6.9	3362.1		-97	-1573	363,487	1,946,125	
324	1260		255 05	--	8.0	-		-8.0	3361.0		+8	-1260	363,592	1,946,438	
325	947		260 30	--	8.2	-		-8.2	3360.8		+96	-942	363,680	1,946,756	
326	650		271 10	--	6.9	-		-6.9	3362.1		+184	-623	363,768	1,947,075	
X	594		276 19 55	--	5.9	-		-5.9	3363.1	X	+219	-552	363,803	1,947,146	
327	330		276 -		5.6	TH	+1.7	-3.9	3365.1		+120	-307	363,704	1,947,391	

Y=363,800 X=1,947,170
X-checked EL. 3262.

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-14-86		B. Cotcamp		J. Middleton		6834		J.M.		6		22			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W.-7 1/2'		MONT.		CHouteau								S. Binns	
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
									3369.0						
328	0				5.1	-		-5.1		3363.9	X	0	0	363,584	1,947,698
329	330		100 35	+15.3	7.3	-		-7.3		3361.7		-144	+297	363,440	1,947,995
330	517		103 23 24	--	6.5	-		-6.5		3362.5	Y	-248	+454	363,336	1,948,152
	654		107 -	--	8.6	-		-8.6		3360.4		-349	+553	363,235	1,948,251
331	975		112 20	--	10.5	BH -4.9		-15.4		3353.6		-595	+772	362,989	1,948,470
332	1291		117 10	--	11.1	BH -6.5		-17.6		3351.4		-872	+952	362,712	1,948,650
333	1559		124 40	+15.3	9.3	90 20 -9.1		-18.4		3350.6		-1194	+1003	362,390	1,948,701
334	1819		131 35	--	8.8	90 20 -10.6		-19.4		3349.6		-1524	+994	362,060	1,948,692
335	2134		132 30	--	7.8	90 20 -12.4		-20.2		3348.8		-1806	+1137	361,778	1,948,835
TP	2232		130 27 57	-	13.3	90 10 -6.5		-19.8	-19.7	3349.3	TP	-1845	+1256	361,741	1,948,956
TP	2232				13.0	269 50 -6.5		-19.5			TP	+2	+2		
	524		255 49 48	+15.3	10.3	91 - +9.1		+19.4			BS	-10	+524		
	524				10.2	269 - +9.1		+19.3	3368.6		BS	+2	+2		
336	327		249 50	--	7.5	91 30 -8.6		-16.1		3352.5		-28	-326	361,705	1,949,156
337	0				5.1	-		-5.1		3363.5	X	0	0	361,733	1,949,482
338	329		53 30	--	3.3	89 30 +2.9		-0.4		3368.2		+119	+307	361,852	1,949,789
339	644		65 20	--	5.8	89 30 +5.6		-0.2		3368.4		+105	+635	361,838	1,950,117
TP	876		63 13 52	--	9.9	89 30 +2.6		-2.3		3366.3	TP	+174	+858	361,909	1,950,342
TP	876				9.8	270 30 +2.6		-2.2			TP	+2	+2		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-15-86		B. Cotcamp		J. Middleton		6834		J.M.		6		23			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W-7E		MONT.		CMOUTEAU								S. Binns	
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
										3366.3					
	1075		236 12 39	+15.3	13.3	BH	+5.4	+18.7			BS	+341	+1020		
	1075				+13.2	BH 270	+5.4	+18.6	3384.9		BS	+2	+3		
340	980		236 50	--	7.3	90 40	-11.4	-18.7		3366.2		-301	-933	361,951	1,950,432
341	657		241 30	--	7.3	90 20	-3.8	-11.1		3373.8		-150	-640	362,102	1,950,725
342	328		238 -	--	8.8	90 20	-1.9	-10.7		3374.2		-94	-314	362,158	1,951,051
343	0				5.1			-5.1		3379.8	X	0	0	362,252	1,951,365
344	329		64 35	+15.3	5.2	90 20	-1.9	-7.1		3377.8		+58	+324	362,310	1,951,689
345	656		69 10	--	12.0	88 50	+13.4	+1.4		3386.3		+63	+653	362,315	1,952,018
346	985		67 40	--	26.0	88 10	+31.5	+5.5		3390.4		+121	+978	362,373	1,952,343
TP	1286		65 47 25	--	12.1	88 40	+29.9	+17.8		3402.7	TP	+199	+1270	362,453	1,952,638
TP	1286				12.0	271 20	+29.9	+17.9			TP	+2	+3		
	2612		254 58 59	+15.3	11.8	BH	+13.1	+24.9	+24.7		BS	-13	+2612		
	2612				+11.5	BH 270	+13.1	+24.6	3427.4		BS	+2	+3		
347	2577		254 10	--	7.7	90 30	-22.5	-30.2		3397.2		-24	-2577	362,418	1,952,676
348	2250		255 -	--	6.0	90 30	-19.6	-25.6		3401.8		+12	-2250	362,454	1,953,003
349	1923		256 10	--	10.0	90 30	-16.8	-26.8		3400.6		+49	-1922	362,491	1,953,331
350	1596		257 30	--	9.1	90 30	-13.9	-23.0		3404.4		+78	-1594	362,520	1,953,659
351	1283		261 50	--	6.5	90 30	-11.2	-17.7		3409.7		+159	-1273	362,601	1,953,980
352	982		268 40	--	6.8	90 30	-8.6	-15.4		3412.0		+237	-953	362,679	1,954,300
353	660		272 35	--	7.1	90 30	-9.6	-16.7		3410.7		+203	-628	362,645	1,954,625

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-15-86		B. Cotamp		J. Middleton		6834		J.M.		6		24			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W. - 7 1/2'		MONT		CHOUTEAU								S. Binns	
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
									3427.4						
354	330		275 15	+15.3	6.6	90 50	-4.8	-11.4		3416.0		+116	-309	362,558	1,954,944
355	0				5.1	-		-5.1		3422.3	X	0	0	362,442	1,955,253
356	329		108 45	--	6.0	90 30	-2.9	-8.9		3418.5	#	-184	+273	362,258	1,955,526
357	658		107 50	--	6.9	88 56	+12.2	+5.3		3432.7		-360	+551	362,082	1,955,804
358	983		103 40	--	7.7	88 40	+22.9	+15.2		3442.6		-476	+860	361,966	1,956,113
359	1311		103 20	--	10.0	88 40	+30.5	+20.5		3447.9		-628	+1151	361,814	1,956,404
360	1628		106 40	+15.3	11.8	88 40	+37.9	+26.1		3453.5		-862	+1381	361,580	1,956,634
361	1950		108 40	--	21.6	88 30	+51.0	+29.4		3456.8		-1089	+1617	361,353	1,956,870
362	2270		107 20	--	18.8	88 34	+56.8	+38.0		3465.4		-1224	+1912	361,218	1,957,165
363	2600		106 -	--	8.1	88 40	+60.5	+52.4		3479.8		-1351	+2222	361,091	1,957,475
364	2925		104 55	--	5.8	88 40	+68.1	+62.3		3489.7		-1472	+2528	360,970	1,957,781
365	3249		103 40	--	5.0	88 40	+75.6	+70.6		3498.0		-1573	+2843	360,869	1,958,096
366	3570	3568.5	102 30 27	--	10.3	88 20	+103.8	+93.5	+93.2	3521.1	TP	-1665	+3156	360,799	1,958,412
366	3570				10.0	271 40	+103.8	+93.8			TP				
	2850	2849.2	266 53 07	+15.3	13.6	91 20	+66.3	+79.9		3601.0	BS	-601	+2785		
	2850				13.5	268 40	+66.3	+79.8			BS				
367	2520		266 50	--	10.2	91 30	-66.0	-76.2		3524.8		+530	-2464	360,710	1,958,730
368	2190			--	10.8	91 30	-57.3	-68.1		3532.9		+460	-2141	360,640	1,959,059
369	1860			--	10.7	91 40	-54.1	-64.8		3536.2		+391	-1818	360,571	1,959,382
370	1530		267 07	-	6.2	91 40	-44.5	-50.7		3550.3		+329	-1494	360,509	1,959,706

362,240 x 1,955,535
fence line 349.

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-15-86		B. Cotcamp		J. Middleton		6834		J.M.		6		35			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W-7 1/2'		MONT.		CHouteau								S. Binns	
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
									3601.0						
371	1200		267 30	+15.3	5.9	91.30	-31.4	-37.3		3563.7		+266	-1170	360,446	1,960,030
372	870		- -	--	9.0	92 -	-30.4	-39.4		3561.6		+193	-848	360,373	1,960,352
373	540		266 45	--	11.0	93 -	-28.3	-39.3		3561.7		+113	-528	360,293	1,960,672
374	210		266 -	--	6.9	92 -	-7.3	-14.2		3586.8		+41	-206	360,221	1,960,994
TP	0		.		5.1	-		-5.1		3595.9	X	0	0	360,180	1,961,200
375	118		85 -	+15.3	4.8	90 40	-1.4	-6.2		3594.8		-21	+116	360,159	1,961,316
376	448		79 40	--	9.8	90 40	-5.2	-15.0		3586.0		-39	+446	360,141	1,961,646
377	778		- -	--	10.0	90 40	-9.1	-19.1		3581.9		-67	+775	360,113	1,961,975
378	1108		79 30	--	8.2	90 40	-12.9	-21.1		3579.9		-93	+1104	360,087	1,961,304
379	1438		79 20	--	6.6	90 40	-16.7	-23.3		3577.7		-116	+1433	360,064	1,962,633
380	1768		- -	+15.3	7.0	90 40	-20.6	-27.6		3573.4		-143	+1762	360,037	1,962,962
381	2081		81.35	--	4.0	90 40	-24.2	-28.2		3572.8		-249	+2066	359,931	1,963,266
382	2371		85 32	--	6.1	90 30	-20.7	-26.8		3574.2		-446	+2329	359,734	1,963,529
383	2672		88 40	--	6.1	90 30	-23.3	-29.4		3571.6		-645	+2593	359,535	1,963,793
TP	2659		88 20 pb.	--	5.8	90 30	-23.2	-29.0		3572.0		-627	+2584	359,553	1,963,784
TP	2910		90 31 46	+15.6	11.6	90 30	-25.4	-37.0		3564.0	TP	-808	+2795	359,372	1,963,995
TP	2910		.		15.1	269 34	-22.0	-37.1			TP				
	1994	1992.1	291 59 24	--	+7.6	87 30	-87.0	-79.4			BS	-1215	+1579		
	1994				+7.5	272 30	-87.0	-79.5		3484.5	BS				

PL 360,180 x - 1,961,200
TP & HWY Int. Horiz. 4-32
CORR. X +53

359,530 x - 1,963,790
TP - Inter. North 3572.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-16-86		B. G. Camp		J. Middleton		6834		F.M.		6		26			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.W. 7 1/2'		mont.		CHouteau								S. Binns	
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
									3484.5						
384	1920	1918.2	292 10	+156	10.3	87 30	+83.7	+73.4		3557.9		+1175	-1516	359,332	1,964,058
385	1590	1588.5	292 30	--	10.0	87 30	+69.4	+59.4		3543.9		+980	-1250	359,137	1,964,324
386	1261	1259.8	292 10	--	5.0	87 30	+55.0	+50.0		3534.5		+772	-996	358,929	1,964,578
387	942	941.4	287 50	--	9.8	88 -	+32.9	+23.1		3507.6		+519	-786	358,676	1,964,788
388	636		278 30	--	5.8	87 30	+5.6	-0.3		3484.2		+260	-581	358,417	1,964,993
389	366		256 30	--	9.9	91 -	-6.4	-16.3		3468.2		+13	-366	358,170	1,965,208
390	224	220.6	194 10	--	7.2	100 -	-38.9	-46.1		3438.4		-191	-110	357,966	1,965,464
π	0				5.1	-		-5.1		3479.4	π	0	0	358,157	1,965,574
391	357	353.5	128 45	+15.6	8.0	98 -	-49.7	-57.7		3426.8		-287	+206	357,870	1,965,780
392	557	554.9	96 40	--	8.0	95 -	-48.5	-56.5		3428.0		-210	+514	357,947	1,966,088
393	798	796.9	77 10	--	5.6	93 -	-41.8	-47.4		3437.1		-38	+796	358,119	1,966,370
π	846	845.2	75 13 38	--	8.0	92 30	-36.9	-44.9		3439.6	π	-12	+845	358,145	1,966,419
394	1109		70 45	--	11.0	91 10	-22.6	-33.6		3450.9		+71	+1107	358,228	1,966,681
395	1435		69 30	+15.6	7.0	90 40	-16.7	-23.7		3460.8		+123	+1430	358,280	1,967,004
396	1762		70 50	--	7.4	90 30	-15.4	-22.8		3461.7		+110	+1759	358,267	1,967,333
397	2092		71 40	--	11.3	90 10	-6.1	-17.4		3462.1		+100	+2090	358,257	1,967,664
398	2421		72 12	--	10.1	-		-10.1		3474.4		+93	+2419	358,250	1,967,993
399	2751		72 50	--	6.5	-		-6.5		3478.0		+75	+2750	358,232	1,968,324
400	3079		73 -	--	7.8	89 50	+9.0	+1.2		3485.7		+75	+3078	358,232	1,968,652
401	3408		73 25	--	10.0	89 36	+23.8	+13.8		3498.3		+58	+3408	358,215	1,968,982

5-358,135x-1,966,405
T-INTEN. 3440.

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
7-16-86		B. Cotcamp		J. Middleton		6834		J.M.		6		27				
AREA		TOPO. MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
MONTANA		ESKAY N.E.-7 1/2		Mont.		CHOUTEAU								S. Binns		
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	X
402	3739		73 40	+15.6	11.2	89 26	+37.0	+25.8	3484.5	3510.3		+48	+3739	358.205	1,969.313	ESKAY N.W.-7 1/2
403	4016		72 44 33	--	10.7	89 20	+46.7	+36.0		3520.5	TP	+116	+4014	358.273	1,967.588	ESKAY N.W.-7 1/2
403	4051		72 33	--	9.7	89 20	+47.1	+37.4		3521.9		+131	+4049	358.288	1,967.623	ESKAY N.E.-7 1/2
404	4327		70 05	--	9.0	89 16	+55.4	+46.4		3530.9		+326	+4315	358.483	1,969.889	
405	4612		67 56 32	--	14.6	89 12	+64.4	+49.8		3534.3	TP	+519	+4582	358.676	1,970.156	
	3846		247 18 30	+15.6	9.3	89 20	-44.7	-35.4			BS	+475	+3816			
	3846				9.4	270 40	-44.7	-35.3	3499.0		BS					
406	3559		249 50	--	9.2	89 28	+33.1	+23.9		3522.9		-283	-3548	358.868	1,970.424	
407	3278		252 40	--	10.9	89 36	+28.6	+17.7		3516.7		-99	-3277	359.052	1,970.675	
408	2971		254 44	--	11.7	89 30	+25.9	+14.2		3513.2		+17	-2971	359.168	1,971.001	
409	2640		--	--	8.4	89 40	+15.4	+7.0		3506.0		+15	-2646	359.166	1,971.332	
410	2310		--	--	4.2	--	--	-4.2		3494.8		+13	-2310	359.164	1,971.662	
411	1980		--	--	5.9	--	--	-5.9		3493.1		+12	-1980	359.163	1,971.992	
412	1650		254 44	+15.6	10.1	--	--	-10.1		3488.9		+10	-1650	359.161	1,972.322	
413	1320		--	--	12.1	--	--	-12.1		3486.9		+8	-1320	359.159	1,972.652	
414	990		--	--	8.3	BH	-5.0	-13.3		3485.7		+6	-990	359.157	1,972.982	
415	660		--	--	9.3	BH	-3.3	-12.6		3486.4		+4	-660	359.155	1,973.312	
416	330		--	--	5.7	--	--	-5.7		3493.3		+2	-330	359.153	1,973.642	
417	0		--	--	5.1	--	--	-5.1		3493.9	TP	0	0	359.151	1,973.972	

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-16-86		B. Cotcamp		J. M. Adleton		6834		J.M.		6		28			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.E. - 7 1/2'		Mont.		CROWTEAM								S. Binns	
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
									3499.0						
418	330		84 10'	+15.6	5.8	91-	-5.8	-11.6		3482.4		-56	+325	359.075	1974.297
419	660		86 -	--	6.8	91-	-11.5	-18.3		3480.7		-133	+647	359.018	1974.619
420	990		86 25	--	8.0	91-	-17.3	-25.3		3473.7		-206	+968	358.945	1974.940
421	1320		86 40	--	9.7	91-	-23.0	-32.7		3466.3		-280	+1290	358.871	1975.262
422	1650		86 50	--	11.2	91-	-28.8	-40.0		3459.0		-355	+1611	358.796	1975.583
423	1980		- -	--	10.6	91-	-34.6	-45.2		3453.8		-426	+1934	358.725	1975.906
-11	2254		86 44 09	+15.6	10.1	91-	-39.3	-49.4		3449.6	-11	-481	+2202	358.670	1976.174
424	2311		87 -	--	11.0	91-	-40.3	-51.3		3447.7		-504	+2255	358.647	1976.227
425	2640		87 20	--	11.9	91-	-46.1	-58.0		3441.0		-591	+2573	358.560	1976.545
426	2970		88 -	--	10.0	91 04	-55.3	-65.3		3433.7		-698	+2887	358.453	1976.859
427	3300		88 10	--	6.9	91 04	-61.4	-68.3		3430.7		-785	+3205	358.366	1977.177
428	3629		88 40	--	11.3	91 04	-67.6	-78.9		3420.1		-894	+3517	358.257	1977.489
429	3954		89 40	+15.6	8.8	91-	-69.0	-77.8		3421.2		-1041	+3814	358.110	1977.786
430	4278		90 30	--	6.9	91-	-74.7	-81.6		3417.4		-1186	+4110	357.965	1978.082
431	4604		91 15	--	10.1	90 54	-72.3	-82.4		3416.6		-1335	+4406	357.816	1978.378
432	4929		91 50	--	9.7	90 48	-68.8	-78.5		3420.5		-1477	+4703	357.674	1978.675
433	5257		92 05	--	6.2	90 48	-73.4	-79.6		3419.4		-1597	+5009	357.554	1978.981
434	5587		- -	--	9.0	90 48	-78.0	-82.0		3412.0		-1697	+5323	357.454	1979.295
435	5917		92 12	--	12.3	90 48	-82.6	-94.9		3404.1		-1809	+5634	357.345	1979.606
436	6247		- -	--	8.3	90 46	-83.6	-91.9		3407.1		-1910	+5948	357.241	1979.920

358.670 x -1976.185
fence line 3450.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-16-86		B. Cotcamp		J. Middleton		6834		F.M.		6		29			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.E. -7 1/2'		Mont.		Chouteau								S. Binns	
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
									3499.0						
437	6572 10		92 40	+15.6	9.8	90 42'	-80.3	-90.1		3408.9		-2060	+6241	357,091	1,980,213
438	6889 327		93 27	--	10.8	90 36'	-72.1	-82.9		3416.1		-2249	+6512	356,902	1,980,484
439	7210 648		94 04	--	15.7	90 36'	-75.5	-91.2		3407.8		-2427	+6789	356,724	1,980,761
TP	7214 652		94 12 50	--	12.6	90 36'	-75.5	-88.1	-88.2	3410.8	TP	-2445	+6787	356,706	1,980,759
TP	7214				12.9	269 24	-75.5	-88.4			TP				
	3816		268 34 24	+15.6	12.0	-		+12.0	+11.9		BS	-934	+3700		
	3816			+11.7	276 -			+11.7	3422.0		BS				
440	3509		267 05	--	12.2	BH	-17.5	-29.7		3393.0		+770	-3423	356,542	1,981,036
441	3181		267 35	--	14.8	90 32'	-29.6	-44.4		3378.3		+725	-3097	356,497	1,981,362
442	2856		268 44	--	18.6	90 32'	-29.9	-48.5		3374.2		+707	-2767	356,479	1,981,692
443	2532		270 10	+15.6	17.4	90 32'	-26.5	-43.9		3328.8		+688	-2437	356,460	1,982,022
444	2214		271 50	--	14.4	90 34'	-21.9	-36.3		3386.4		+663	-2112	356,435	1,982,347
445	1893		274 15	--	10.3	90 26'	-14.3	-24.6		3398.1		+643	-1781	356,415	1,982,678
446	1580		277 40	--	8.0	90 26'	-9.2	-17.2		3405.5		+624	-1452	356,396	1,983,007
447	1274		282 30	--	6.5	90 20'	-7.4	-13.9		3408.8		+600	-1124	356,372	1,983,335
448	981		290 30	--	10.3	-		-10.3		3412.4		+578	-793	356,350	1,983,666
448	891		294 52 10	--	8.4	-		-8.4		3414.3	X	+578	-678	356,350	1,983,781
449	660		294 20'	--	7.4	-		-7.4		3415.3		+424	-506	356,196	1,983,953
450	330		--	--	6.0	-		-6.0		3416.7		+212	-253	355,984	1,984,206
451	0				5.1	-		-5.1		3417.6	X	0	0	355,772	1,984,459

y-356,320x-1,983,780
Inter. El. 3416.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

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7-16-86		B. Cotamp		J. Middleton		6834		F.M.I.		6		30			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.E. - 7 1/2'		mont.		CHouteau								S. Binns	
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
									3422.7						
452	330		114 -	+15.6	11.4	-	-11.4		3411.3			-210	+254	355.562	1984.713
453	660		- -	--	11.9	-	-11.9		3410.8			-421	+509	355.351	1984.768
454	990		- -	--	8.5	BH	-5.0	-13.5	3409.2			-631	+763	355.141	1985.222
455	1309		110 -	--	11.0	-	-11.0		3411.7			-762	+1064	355.010	1985.523
456	1624		106 -	+15.6	11.9	-	-11.9		3410.8			-851	+1383	354.921	1985.842
457	1932		102 15	--	7.8	90 10	-5.6	-13.4	3409.3			-903	+1708	354.869	1986.167
458	2224		98 -	--	7.7	-	-7.7		3415.0			-890	+2038	354.882	1986.497
459	2521		94 35'	--	9.1	-	-9.1		3413.6			-870	+2366	354.902	1986.825
460	2845		94 08	--	7.8	-	-7.8		3414.9			-961	+2678	354.811	1987.137
461	3161		96 -	--	10.0	89 32	+25.7	+15.7	3438.4			-1164	+2939	354.608	1987.398
462	3433		99 08	--	11.1	89 28	+32.0	+20.9	3443.6			-1436	+3118	354.336	1987.577
TP	3798		102 33 15	--	10.7	89 18	+46.4	+35.7	3458.4		TP	-1792	+3348	353.980	1987.807
TP	3798		- - -	--	15.1	270 46	+50.8	+35.7			TP				
	4259		301 38 41	+15.6	7.1	TM	-21.3	-14.2			BS	-3127	+2891		
	4259		- - -	--	12.9	270 22	-27.3	-14.4	3444.1		BS				
463	4384		300 43	--	10.9	89 50	+12.8	+1.9	3446.0			+3170	-3028	354.023	1987.670
464	4094		298 28	--	9.6	-	-9.6		3434.5			+2847	-2942	353.700	1987.756
465	3781		297 15	--	8.6	90 06	-6.6	-15.2	3428.9			+2571	-2772	353.424	1987.926
466	3456		298 05	--	8.2	90 10	-10.1	-18.3	3425.8			+2387	-2499	353.240	1988.199
467	3136		299 27	--	6.8	90 10	-9.1	-15.9	3428.2			+2219	-2216	353.072	1988.482

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

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7-16-86		B. Cotcamp		J. Middleton		6834		F.M.		6		31			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.E. -7 1/2'		MONT.		CHOUTEAU								S. Binns	
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
									3444.1						
468	2820		301 23'	+15.6	11.1	-	-11.1		3433.0			+2062	-1924	352,915	1,988,774
469	2508		303 40'	~	0.5	BH	-12.5	-13.0	3431.1			+1900	-1637	352,753	1,989,061
470	2180		303 12'	~	7.1	90 36'	-22.8	-29.9	3414.2			+1640	-1436	352,493	1,989,262
471	1856		301 30'	~	7.0	91 10'	-32.8	-44.8	3399.3			+1360	-1263	352,213	1,989,435
472	1534	1533.4	298 56'	~	7.7	91 40'	-44.6	-52.3	3391.8			+1075	-1093	351,928	1,989,605
473	1268	1266.7	291 12'	+15.6	10.1	92 24'	-53.1	-63.2	3380.9			+759	-1014	351,612	1,989,684
474	1035	1033.2	279 32'	--	7.6	93 24'	-61.4	-69.0	3375.1			+439	-935	351,292	1,989,763
475	780	776.4	266 36'	--	7.0	95 40'	-72.0	-84.0	3360.1	#		+164	-759	351,017	1,989,939 crossing inter.
476	522	517.7	248 20'	--	9.1	97 20'	-66.6	-75.7	3368.4			-55	-515	350,798	1,990,183
477	296	293.6	212 50'	~	9.2	97 20'	-32.8	-47.0	3392.1			-195	-220	350,658	1,990,478
κ	0				5.1	-	-5.1		3439.0	κ		0	0	350,853	1,990,698
478	281	280.3	142 40'	+15.6	8.3	94 -	-19.6	-27.9	3416.2			-260	+104	350,593	1,990,802
479	557		116 40'	~	8.7	-	-8.7		3435.4			-375	+412	350,478	1,991,110
480	879		110 45'	--	7.7	TH	+4.4	-3.3	3440.8			-521	+708	350,332	1,991,406
481	1210		109 23'	--	14.0	-	-14.0		3430.1			-694	+991	350,159	1,991,689 CHOUTEAU county ↑
482	1537		108 15'	--	22.7	TH	+7.7	-15.0	3429.1			-856	+1276	349,997	1,991,974 BLAINE County ↓
483	1862		106 49'	--	14.7	TH	+9.3	-5.4	3438.7			-998	+1572	349,855	1,992,270
484	2196		105 27'	--	11.3	TH	+11.0	-0.3	3443.8			-1130	+1876	349,723	1,992,574
485	2512		103 57'	--	9.7	TH	+12.6	+2.9	3442.0			-1239	+2185	349,614	1,992,883
486	2839		102 40'	~	8.1	TH	+14.2	+6.1	3450.2			-1344	+2500	349,509	1,993,198

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-16-86		B. Cotcamp		J. Middleton		6834		J.M.		6		32			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		ESKAY N.E.-7 1/2		mont.		Blaine								S. Binns	
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
									3444.1						
487	3166		102 05	+15.6	5.8	74	+15.8	+10.0		3454.1		-1471	+2804	349.382	1993.502
488	3496		102 10	--	3.0	TH	+17.5	+14.5		3458.6		-1629	+3093	349.224	1993.791
489	3825		102 25	--	2.7	TH	+19.1	+16.4		3460.5		-1797	+3377	349.056	1994.075
490	4155		102 40	--	0.0	TH	+20.8	+20.8		3464.9		-1968	+3660	348.885	1994.358
491	4485		-	+15.6	9.0	89 30	+39.1	+30.1		3474.2		-2124	+3950	348.729	1994.648
492	4814		102 50	--	2.8	89 30	+42.0	+39.2		3483.3		-2292	+4233	348.561	1994.931
493	5144		102 58	--	8.7	89 24	+53.9	+45.2		3489.3		-2460	+4518	348.393	1995.216
494	5474		103 03 46	--	14.0	89 19	+65.3	+51.3	+51.2	3495.3	TP	-2625	+4803	348.228	1995.501
494	5474				9.4	270 38	+60.5	+51.1			TP				
	4414	4412.2	292 38 38	+15.6	11.6	91 38	+125.8	+137.4	+137.3		BS	-2731	+3465		
	4414				+13.9	268 24	+123.2	+137.1	3632.6		BS				
495	4086		293 10	--	9.2	91 50	-130.7	-139.9		3492.7		+2558	-3186	348.055	1995.780
496	3757		293 15	--	7.1	92 04	-135.5	-142.6		3490.0		+2357	-2926	347.854	1996.040
IF	3603		293 15 37	--	11.6	92 04	-129.9	-141.5		3491.1	IF	+2259	-2804	347.756	1996.162
497	3428		292 55	--	9.2	92 10	-129.6	-138.8		3493.8		+2135	-2682	347.632	1996.284
498	3099		292 20	+15.6	7.9	92 18	-124.4	-132.3		3500.3		+1965	-2444	347.402	1996.522
499	2772		291 35	--	8.9	92 18	-111.2	-120.1		3512.5		+1675	-2208	347.172	1996.758
500	2444		290 50	--	11.0	92 18	-98.1	-109.1		3523.5		+1451	-1966	346.948	1997.000
501	2116		289 47	--	6.8	92 30	-92.3	-99.1		3533.5		+1225	-1725	346.722	1997.241
502	1790		288 10	--	8.9	92 38	-82.2	-91.1		3541.5		+995	-1488	346.492	1997.478

347.715 x - 1996.200
IF T - intersect

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
7-16-86		B. Cotcamp		J. Middleton		6834		J.M.		6		33				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
MONTANA		ESKAY N.E. -7 1/2'		mont.		BLAINE								S. Binns		
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	X
503	1465		286° 08'	+15.6	7.9	92° 50'	-72.4	-80.3	3632.6	3552.3		+771	-1246	346,268	1,997,720	
504	1143		283° 10'	--	8.4	92° 50'	-56.5	-64.9		3567.7		+550	-1002	346,047	1,997,764	
505	817		280° 10'	--	8.0	92° 30'	-35.6	-43.6		3589.0		+355	-736	345,852	1,998,230	
506	488		278° 10'	--	5.7	92° 30'	-21.3	-27.0		3605.6		+197	-447	345,694	1,998,519	
507	158		-	--	6.5	91° 30'	-4.1	-10.6		3622.0		+64	-145	345,561	1,998,821	
π	0				5.1	-	-	-5.1		3627.5	π	0	0	345,497	1,998,966	
508	173		96° 55'	+15.6	6.0	-	-	-6.0		3626.6		-66	+160	345,431	1,999,126	
509	503		-	--	8.9	-	-	-8.9		3623.7		-193	+465	345,304	1,999,431	
510	833		-	--	11.0	-	-	-11.0		3621.6		-319	+770	345,178	1,999,736	ESKAY N.E. -7 1/2'
1K	912		95° 55' 15"	--	11.7	-	-	-11.7		3620.9	1K	-335	+848	345,162	1,999,814	345,175x-1,999,855 τ - intersect
511	1161		95° -	+15.6	8.9	90° 36'	-12.2	-21.1		3611.5		-408	+1087	345,089	2,000,053	Saddle Rock - 7 1/2'
512	1490		93° 18'	--	19.4	90° 42'	-18.2	-37.6		3595.0		-483	+1410	345,014	2,000,376	
513	1817		92° 15'	--	18.6	90° 36'	-19.0	-37.6		3595.0		-557	+1730	344,940	2,000,696	
514	2148		91° 33'	--	15.1	90° 36'	-22.5	-37.6		3595.0		-633	+2052	344,864	2,001,018	
515	2476		91° 01' 04"	+15.3	14.4	90° 36'	-25.9	-40.3			TP	-696	+2376	344,801	2,001,342	
515	2426				14.3	269° 24'	-25.9	-40.2		3592.4	TP					
	5444		261° 24' 03"	--	+13.8	89° 30'	-47.5	-33.7			BS	-630	+5407			
	5444				+13.9	270° 30'	-47.5	-33.6		3558.8	BS					
516	5114		261° 05'	--	6.9	89° 40'	+29.8	+22.9		3581.7		+569	-5082	344,740	2,001,667	
517	4788		260° 40'	--	7.9	89° 40'	+27.9	+20.0		3578.8		+498	-4762	344,669	2,001,987	

SURVEY NOTES - HIGH RESOLUTION DATA
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DATE	7-16-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	J.M.	LINE NO.	6	PAGE	34	
AREA	MONTANA	TOPO MAP	Saddle Rock-7 1/2	STATE	MONT.	COUNTY	Blaine	TWP		RANGE		PPM	PARTY MANAGER	S. Binns

STATION NO.	SLOPE DISTANCE	PLOT 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.	
									3558.8					
518	4455		260 12'	+15.3	7.8	89 44'	+20.7	+12.9		35571.7		+427	-4434	344,598 2,002,315
519	4127		259 40'	--	9.8	89 44'	+19.2	+9.4		35568.2		+357	-4112	344,528 2,002,637
520	3800		259 -	--	7.2	89 50'	+11.1	+3.9		35562.7		+285	-3789	344,456 2,002,960
521	3475		258 10'	--	11.2	89 50'	+10.1	-1.1		35557.7		+210	-3469	344,381 2,003,280
522	3148		257 15'	--	6.7	-	-	-6.7		35552.1		+140	-3145	344,311 2,003,604
523	2824		256 10'	--	9.3	-	-	-9.3		35549.5		+72	-2823	344,243 2,003,926
524	2496		255 -	+15.3	12.2	-	-	-12.2		35546.6		+13	-2496	344,184 2,004,253
525	2167		-	--	5.7	BH	-10.8	-16.5		35542.3		+11	-2167	344,182 2,004,582
H	2005		255 15' 08"	--	6.8	BH	-10.0	-16.8		35542.0	#	+19	-2005	344,190 2,004,744 # creek cross 3541.0
526	1837		255 -	--	8.0	BH	-9.2	-17.2		35541.6		+10	-1837	344,181 2,004,912
527	1507		-	--	10.6	-	-	-10.6		35548.2		+8	-1507	344,179 2,005,242
528	1177		-	+15.3	3.5	91 -	-20.5	-24.0		35534.8		+6	-1177	344,177 2,005,572
529	847		-	--	11.2	91 -	-14.8	-26.0		35532.8		+4	-847	344,175 2,005,902
530	517		-	--	5.4	92 -	-18.0	-23.4		35535.4		+3	-517	344,174 2,006,232
531	187		-	--	4.8	91 -	-3.3	-8.1		35550.7		+1	-187	344,172 2,006,562
K	0		-	--	5.1	-	-	-5.1		35553.7	X	0	0	344,171 2,006,749
532	143		74 46'	--	6.4	-	-	-6.4		35552.4		±0	+143	344,171 2,006,892
533	473		-	--	9.0	91 40'	-13.8	-22.8		35536.0		-1	+473	344,170 2,007,222
534	803		-	--	10.7	91 40'	-23.4	-34.1		35524.7		-1	+803	344,170 2,007,552
535	1133		-	--	5.0	91 10'	-23.1	-28.1		35530.7		-1	+1133	344,170 2,007,882

SURVEY NOTES-HIGH RESOLUTION DATA
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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
7-16-86		B. Cotcamp		J. Middleton		6834				6		35			
AREA		TOPGRAPH		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Saddle Rock-7 1/2'		mont.		Blaine								S. Binns	
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
									3558.8						
536	1463		74 46'	+15.3	8.2	91 10'	-29.8	-38.0		3520.8		-2	+1463	344.169	2,008.212
537	1793		-	--	14.8	91 10'	-36.5	-51.3		3507.5		-2	+1793	344.169	2,008.542
538	2123		-	--	13.4	91 10'	-43.2	-56.6		3502.2		-2	+2123	344.169	2,008.872
539	2453		-	--	8.2	91 10'	-49.9	-58.1		3500.7		-3	+2453	344.168	2,009.202
#	2480		74 37 21	--	7.3	91 10'	-50.5	-57.8		3501.0	#	+3	+2479	344.174	2,009.228 #
540	2783		74 46'	+15.3	10.7	91 -	-48.6	-59.3		3499.5		-3	+2783	344.168	2,009.532 #
541	3113		-	--	5.3	91 -	-54.3	-59.6		3499.2		-4	+3113	344.167	2,009.862
542	3443		-	--	7.8	90 50'	-50.1	-57.9		+3500.9		-4	+3443	344.167	2,010.192
543	3773		-	--	10.9	90 40'	-43.9	-54.8		+3504.0		-4	+3773	344.167	2,010.522
544	4103		74 46'	--	4.0	90 40'	-47.7	-51.7		3507.1		-5	+4103	344.166	2,010.852
545	4433		-	--	5.4	90 30'	-38.7	-44.1		3514.7		-5	+4433	344.166	2,011.182
546	4763		-	--	10.2	90 18'	-24.9	-35.1		3523.7		-6	+4763	344.165	2,011.512
547	5093		-	--	8.2	90 06'	-8.9	-17.1		3541.7		-6	+5093	344.165	2,011.842
548	5423		-	--	3.7	90 06'	-9.5	-13.2		3545.6		-6	+5423	344.165	2,012.172
549	5440		74 58'	--	6.4	89 57'	+5.0	-1.4		3557.4	E.O.L.	-25	+5440	344.146	2,012.488 E.O.L. Line #6

344.180 x -2,009.270
creek crossing EL 3501