

SURVEY NOTES - HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
6-10-86		B. Cotcamp		T. Middleton		6834		TC		7	1				
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER						
MONTANA		LEDGER - 7 1/2'		Mont.	Pondera				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	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
											LAT.	DEP.	Y	X	
TC	U.S.C. + G.S. Bm		Elev. 3355.9		Scale 60' = 1" 483.505	x 1,445.655			3355.0	Bm			483,505	1,445.655	U.S.C. + G.S. Bm 2 3355
	4548		269 54 16	+18.8	9.1	90 24	+31.8	+40.9	3395.7	BS	-1458	+4308			
	4548				+8.8	269 36	+31.8	+40.6		BS	+1	-2			
1	4250		271 04	--	12.0	90 24	-29.7	-41.7	3354.0		+1444	-3997	483,492	1,445,964	
2	3945		272 40	--	7.9	90 30	-34.4	-42.3	3353.4		+1444	-3671	483,492	1,446,290	
3	3633		274 30	--	9.5	90 30	-31.7	-41.2	3354.5		+1437	-3337	483,485	1,446,624	
4	3329		276 32	+18.8	10.1	90 30	-29.1	-39.2	3356.5		+1424	-3009	483,472	1,446,952	
5	3033		279 10	--	10.0	90 30	-26.5	-36.5	3359.2		+1422	-2679	483,470	1,447,282	
6	2744		282 20	--	11.0	90 30	-23.9	-34.9	3360.8		+1419	-2349	483,467	1,447,612	
7	2465		280 30	--	11.5	90 30	-21.5	-33.0	3362.7		+1206	-2150	483,254	1,447,811	
8	2249		274 35	--	8.7	90 40	-26.2	-34.9	3360.8		+893	-2064	482,941	1,447,897	
9	1935		272 10	+18.8	6.9	90 40	-22.5	-29.4	3366.3		+692	-1807	482,740	1,448,154	
10	1612		269 55	--	8.0	90 40	-18.8	-26.8	3368.9		+517	-1527	482,565	1,448,434	
11	1289		266 46	--	8.0	90 40	-15.0	-23.0	3372.7		+346	-1242	482,394	1,448,719	
12	971		262 -	--	7.0	90 30	-8.5	-15.5	3380.2		+182	-954	482,230	1,449,007	
13	659		255 50	--	6.0	90 30	-5.8	-11.8	3383.9		+53	-657	482,101	1,449,344	
14	330		253 40	--	5.2	90 30	-2.9	-8.1	3387.6		+14	-330	482,062	1,449,631	
15	0				5.1	-		-5.1	3390.6	π	0	0	482,048	1,449,961	
16	330		73 -	+18.8	5.0	89 -	+5.8	+0.8	3396.5		-10	+330	482,038	1,450,291	
17	660		- -	--	6.1	89 -	+11.5	+5.4	3401.1		-21	+660	482,027	1,450,621	
18	990		- -	--	4.9	89 -	+17.3	+12.4	3408.1		-31	+989	482,017	1,450,950	

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6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		2			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		LEOGER CONRAD Butte-7 1/2		mont.		PONDERA								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
									3395.7						
19	1320		73 -	+18.8	7.3	89 -	+23.0	+15.7		3411.4		-41	+1319	482,007	1,451,280
20	1650		- -	--	11.4	89 -	+28.8	+17.4		3413.1		-52	+1649	481,996	1,451,610
21	1980		- -	--	9.2	89 -	+34.6	+25.4		3421.1		-62	+1979	481,986	1,451,940
1 1/2	2046		72 52 09	--	9.2	89 -	+35.7	+26.5		3422.2	1 1/2	-60	+2045	481,988	1,452,006
22	2310		73 -	--	12.0	89 -	+40.3	+28.3		3424.0		-73	+2309	481,975	1,452,270
23	2640		- -	+18.8	9.9	89 10	+38.4	+28.5		3424.2		-83	+2639	481,965	1,452,600
24	2970		- -	--	6.2	89 10	+43.2	+37.0		3432.7		-93	+2969	481,955	1,452,930
25	3300		- -	--	9.0	89 -	+57.6	+48.6		3444.3		-104	+3298	481,944	1,453,259
26	3628		73 05 02	-	11.6	88 52	+71.8	+60.2	60.5	3456.2	TP	-119	+3625	481,930	1,453,584
26	3628				10.9	271 08	+71.8	+60.9			TP	+1	-		
	2479		252 45 34	+18.8	9.5	91 10	+50.5	+60.0	59.8	3516.0	BS	-67	+2478		
	2479				9.2	268 50	+50.5	+59.7			BS	+1	-2		
27	2149		252 50	--	8.1	91 20	-50.0	-58.1		3457.9		+61	-2148	481,925	1,453,912
28	1819		- -	--	11.3	91 20	-42.3	-53.6		3462.4		+52	-1818	481,916	1,454,242
29	1489		- -	--	16.2	91 20	-34.6	-50.8		3465.2		+42	-1488	481,906	1,454,572
30	1159		- -	--	5.5	91 20	-27.0	-32.5		3483.5		+33	-1159	481,897	1,454,901
31	829		252 50	+18.8	7.3	91 -	-14.5	-21.8		3494.2		+24	-829	481,888	1,455,231
32	499		- -	--	8.2	91 -	-8.7	-16.9		3499.1		+14	-499	481,878	1,455,561
33	169		- -	--	5.2	-	-	-5.2		3510.8		+5	-169	481,869	1,455,891
K	0				5.1	-	-	-5.1		3510.9	K	0	0	481,864	1,456,060

482,020 x 1152,015
 1 1/2 - Enter EL. 3422.0
 Leoger - 7 1/2 ↑
 Conrad Butte - 7 1/2 ↓

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		3			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CONRAD Butte-74'		MONT.		PONDERA								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
									3516.0						
34	160		72° 50'	+18.8	6.2	89° 30'	+1.4	-4.8		3511.2		-5	+160	481,859	1,456,220
35	490		- -	--	4.8	89° 30'	+4.3	-0.5		3515.5		-14	+490	481,850	1,456,550
36	820		- -	--	4.4	89° 30'	+7.2	+2.8		3518.8		-23	+820	481,841	1,456,880
37	1149		- -	--	6.0	89° 30'	+10.0	+4.0		3520.0		-33	+1149	481,831	1,457,209
IF	1206		72° 19' 32"	--	6.4	89° 30'	+10.5	+4.1		3520.1	IF	-24	+1206	481,840	1,457,260
TP	3122		130° 54' 54"	--	14.8	89° 40'	+18.2	+3.4	+3.6	3519.6	TP	-2696	+1574	479,169	1,457,632
TP	3122				14.3	270° 20'	+18.2	+3.9			TP	+1	-2		
	3123		253° 17' 15"	+18.8	14.2	91° 30'	+81.8	+96.0	+95.7	3615.3	BS	-114	+3120		
	3123				+13.7	268° 30'	+81.8	+95.5			BS	+2	-2		
IF	3581		253° 28' 10"	--	8.3	91° 30'	-93.7	-102.0		3513.3	IF	+142	-3577	479,199	1,457,173
38	3298		253° 20'	--	7.1	91° 36'	-92.1	-99.2		3516.1		+123	-3296	479,180	1,457,454
39	2970		- -	--	10.0	91° 36'	-82.9	-92.9		3522.4		+111	-2968	479,168	1,457,782
40	2640		- -	--	11.8	91° 36'	-73.5	-85.5		3529.8		+98	-2638	479,155	1,458,112
41	2310		- -	--	9.9	91° 40'	-67.2	-77.1		3538.2		+86	-2308	479,143	1,458,442
42	1980		253° 20'	+18.8	8.3	91° 40'	-57.6	-65.9		3549.4		+74	-1979	479,131	1,458,771
43	1650		- -	--	5.0	91° 40'	-48.0	-53.0		3562.3		+61	-1649	479,118	1,459,101
44	1320		- -	--	5.0	91° 40'	-38.4	-43.4		3571.9		+49	-1319	479,106	1,459,431
45	990		- -	--	8.0	91° 40'	-28.8	-36.8		3578.5		+37	-989	479,094	1,459,761
46	660		- -	--	9.8	92° -	-23.0	-32.8		3582.5		+25	-660	479,082	1,460,090
47	330		- -	--	10.7	92° -	-11.5	-22.2		3593.1		+12	-330	479,069	1,460,420

(SCA+EP)
NOTE # 2630 OFFSET
South Between 37-38
IF 481,885 x - 1,457,220
IF 90 corner EL. 3521.0

y-479,210 x-1,457,120
IF T-inter. EL. 3514.0

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6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		4			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CONRAD Butte-7 1/2'		MONT.		PONDERA								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
									3615.3						
48	0				5.1	-		-5.1		3610.2	TP	0	0	479,057	1,460,750
49	330		73° 10'	+18.8	6.5	88° 20'	+9.6	+3.1		3618.4		-11	+330	479,046	1,461,080
50	660		- -	--	8.0	88° 20'	+19.2	+11.2		3626.5		-23	+660	479,034	1,461,410
51	990		- -	--	9.0	88° 20'	+28.8	+19.8		3635.1		-34	+989	479,023	1,461,739
52	1320		- -	--	9.2	88° 30'	+34.6	+25.4		3640.7		-45	+1319	479,012	1,462,069
53	1650		73° 10'	-	7.5	88° 50'	+33.6	+26.1		3641.4		-57	+1649	479,000	1,462,399
TP	1690		72° 57' 35"	--	11.6	88° 42'	+38.3	+26.7		3642.0	TP	-52	+1688	479,005	1,462,438
TP	1820		73° 19' 39"	+18.8	13.7	88° 44'	+40.2	+26.5	+26.6	3641.9	TP	-68	+1818	478,991	1,462,566
TP	1820				13.4	271° 16'	+40.2	+26.8			TP	+2	-2		
	1150		253° 07' 40"	--	7.1	91° -	+20.1	+27.2			BS	-39	+1149		
	1150				6.9	269° -	+20.1	+27.0	+27.1	3669.0	BS	+2	-2		
54	990		253° 16'	--	10.7	91° -	-17.3	-28.0		3641.0		+36	-989	478,990	1,462,724
55	660		- -	--	12.1	91° 22'	-15.7	-27.8		3641.2		+24	-660	478,978	1,463,053
56	330		- -	-	10.2	-		-10.2		3658.8		+12	-330	478,966	1,463,383
57	0				5.1	-		-5.1		3663.9	TP	0	0	478,954	1,463,713
58	330		73° 05'	+18.8	6.1	-		-6.1		3662.9		-11	+330	478,943	1,464,043
59	660		- -	--	7.2	-		-7.2		3661.8		-22	+660	478,932	1,464,373
66	990		73° 15' 09"	--	12.2	BH	-5.0	-17.2		3651.8	TP	-35	+989	478,921	1,464,700
66	990				12.1	BH 270°	-5.0	-17.1			TP	+2	-2		

EL. 479,005 x - 1,462,460
714 WAY S.W. E2.3641.0

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6-10-86		B. Cotcamp		J. Middleton		6834		JC		4		5			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CowRAD Butte-7 1/2'		MONT.		PONDERA								S. Biens	
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
										3651.8					
	3629		253 23 52	+18.8	+9.9	89 -	-63.3	-53.4	536.3 3598.2		BS	-139	+3626		
	3629				+9.4	271 -	-63.3	-53.9			BS	+2	-2		
61	3300		253 24	--	10.8	89 14	+44.2	+33.4		3631.6		+127	-3298	478,911 1,465,026	
62	2970		-	--	10.2	89 22	+32.8	+22.6		3620.8		+114	-2968	478,898 1,465,356	
63	2640		-	--	10.2	89 16	+33.8	+23.6		3621.8		+101	-2638	478,885 1,465,686	
64	2310		-	--	5.2	89 16	+29.6	+24.4		3622.6		+89	-2308	478,873 1,466,016	
65	1980		253 24	+18.8	4.9	89 16	+25.3	+20.4		3618.6		+76	-1979	478,860 1,466,345	
66	1650		-	--	9.0	89 16	+21.1	+12.1		3610.3		+63	-1649	478,847 1,466,675	
67	1320		-	--	8.0	89 30	+11.5	+3.5		3601.7		+51	-1319	478,835 1,467,005	
68	990		-	--	8.6	89 30	+8.6	00		3598.2		+38	-989	478,822 1,467,335	
69	660		-	--	8.8	89 30	+5.8	-3.0		3595.2		+25	-660	478,809 1,467,664	
70	604		254.23 15	--	8.6	89 30	+5.3	-3.3		3594.9		+34	-603	478,818 1,467,721 115-478,815 x-1467,710 7F 4WAY enter, EL.3595.0	
70	330		253 24	--	9.0	89 30	+2.9	-6.1		3592.1		+13	-330	478,797 1,467,994	
71	0				5.1	-		-5.1		3593.1		0	0	478,784 1,468,324	
72	330		73 57	+18.8	10.0	90 50	-4.8	-14.8		3583.4		-16	+330	478,768 1,468,654	
73	660		-	--	8.0	91 50	-21.1	-29.1		3569.1		-32	+659	478,752 1,468,983	
74	990		-	--	11.2	91 10	-20.2	-31.4		3566.8		-47	+989	478,737 1,469,313	
75	1320		-	--	11.0	90 50	-19.2	-30.2		3568.0		-63	+1318	478,721 1,469,642	
76	1650		-	--	10.0	90 28	-13.4	-23.4		3574.8		-79	+1648	478,705 1,469,972	
77	1980		-	--	7.9	90 10	-5.8	-13.7		3584.5		-95	+1978	478,689 1,470,302	

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6-16-86		B. Cotcamp		J. Middleton		6834		TC		4		6			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CONRAD Butte-7 1/2'		MONT.		PONDERA/TOOLE								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
									3598.2						
78	2310		73 57	+18.8	10.8	TH	+11.6	+0.8		3599.0		-111	+2307	478.673	1,470.631
79	2640		- -	--	3.8	TH	+13.2	+9.4		3607.6		-127	+2637	478.657	1,470.961
80	2970		- -	--	10.3	89 30	+25.9	+15.6		3613.8		-142	+2967	478.642	1,471.291
81	3300		- -	--	8.5	89 20	+38.4	+29.9		3628.1		-158	+3296	478.626	1,471.620
TP	3468		73 55 05	+18.5	6.8	89 26	+34.3	+27.5	+27.73	3625.9	TP	-146	+3465	478.640	1,471.787
TP	3468				6.3	270 34	+34.3	+28.0			TP	+2	-2		
	5107		252 48 42	+18.4	7.6	89 34	-38.6	-31.0	+31.73	3594.5	BS	-108	+5106		
	5107				6.9	270 26	-38.6	-31.7			BS	+2	-2		
82	4950		252 50	--	8.1	89 38	+31.7	+23.6		3618.1		+107	-4949	478.641	1,471.942
83	4620		- -	--	3.0	-		-3.0		3591.5		+99	-4619	478.633	1,472.272
84	4296		- -	--	8.8	-		-8.8		3585.7		+92	-4289	478.626	1,472.602
85	3960		- -	--	10.6	-		-10.6		3583.9		+85	-3959	478.619	1,472.932
IF	3881		252 54 24	+18.4	11.0	-		-11.0		3583.5	IF	+89	-3880	478.623	1,473.011
86	3630		252 46	--	6.0	90 08	-8.4	-14.4		3580.1		+74	-3629	478.608	1,473.262
87	3300		- -	--	8.8	90 08	-7.7	-16.5		3578.0		+67	-3299	478.601	1,473.592
88	2970		- -	--	10.5	90 08	-6.9	-17.4		3577.1		+60	-2969	478.594	1,473.922
89	2640		- -	--	8.0	90 08	-6.1	-14.1		3580.4		+54	-2639	478.588	1,474.252
90	2310		- -	--	6.9	90 08	-5.4	-12.3		3582.2		+47	-2310	478.581	1,474.581
91	1980		- -	--	11.6	90 08	-4.6	-16.2		3578.3		+40	-1980	478.574	1,474.911
92	1650		- -	--	5.6	90 30	-14.4	-20.0		3574.5		+34	-1650	478.568	1,475.241

PONDERA County ↑
 JLJ-478,650 x -1,472,985
 TR HWAY Inter. El.
 TOOLE County ↓

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GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		7			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CONRAD Butte 7 1/2'		MONT.		TOOLE								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
									3594.5						
93	1320		252° 46'	+18.4	7.8	90° 30'	-11.5	-19.3		3575.2		+27	-1320	478.561	1,475,571
94	990		- -	--	9.6	90° 30'	-8.6	-18.2		3576.3		+20	-990	478.554	1,475,901
95	660		- -	--	10.3	90° 30'	-5.8	-16.1		3578.4		+13	-660	478,547	1,476,231
96	330		- -	--	8.7	89° 30'	+2.9	-5.8		3588.7		+7	-330	478.541	1,476,561
97	0				5.1	-		-5.1		3589.4	X	0	0	478.534	1,476,891
98	330		73° 12'	+18.4	9.0	91° -	-5.8	-14.8		3579.7		-9	+330	478.525	1,477,221
99	660		- -	--	5.7	92° -	-23.0	-28.7		3565.8		-18	+660	478.516	1,477,551
100	990		- -	--	11.0	91° 20'	-23.0	-34.0		3560.5		-28	+990	478.506	1,477,881
47	1278		72° 36' 57"	+18.4	8.6	91° 10'	-26.0	-34.6		3559.9	47	-23	+1278	478.511	1,478,161
101	1320		73° 12'	--	7.8	91° 10'	-26.9	-34.7		3559.8		-37	+1319	478,497	1,478,210
102	1650		- -	--	9.8	91° -	-28.8	-38.6		3555.9		-46	+1649	478,488	1,478,540
103	1980		- -	--	6.8	91° -	-34.6	-41.4		3553.1		-55	+1979	478,479	1,478,870
104	2310		- -	--	8.0	90° 50'	-33.6	-41.6		3552.9		-64	+2309	478,470	1,479,200
105	2640		73° 12'	+18.4	11.2	90° 40'	-30.7	-41.9		3552.6		-74	+2639	478,460	1,479,530
106	2970		- -	--	4.6	90° 40'	-34.6	-39.2		3555.3		-83	+2969	478,451	1,479,860
107	3300		- -	--	6.8	90° 30'	-28.8	-35.6		3558.9		-92	+3299	478,442	1,480,190
108	3630		- -	--	11.0	90° 14'	-14.8	-25.8		3568.7		-101	+3629	478,433	1,480,520
109	3957		73° 10' 08"	--	10.2	90° 10'	-11.5	-21.7	-21.4	3573.1	TP	-108	+3956	478,428	1,480,845
109	3957				9.5	269° 50'	-11.5	-21.0			TP	+2	-2		

1/4 - 478.510 X - 1,478,175
1/4 way into EL. 3557.6

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		8			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CONRAD Butte - 7 1/2'		MONT.		TOOLE								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
									3573.1						
	2970		253 15 10	+18.4	+14.5	90 24	+20.7	+35.2	3550.3 3608.1	BS	-86	+2969			
	2970				+14.0	269 36	+20.7	+34.7		BS	+2	-2			
110	2640		253 15	--	6.8	90 40	-30.7	-37.5			+76	-2639	478.420 1,481.173		
111	2310		- -	--	11.8	90 40	-26.9	-38.7			+67	-2309	478.411 1,481.503		
112	1980		- -	--	7.8	90 50	-28.8	-36.6			+57	-1979	478.401 1,481.833		
113	1650		253 15	+18.4	7.7	91 -	-28.8	-36.5			+48	-1649	478.392 1,482.163		
114	1320		- -	--	9.8	91 10	-26.9	-36.7			+38	-1319	478.382 1,482.493 CONRAD Butte - 7 1/2'		
115	990		- -	--	11.7	91 28	-25.3	-37.0			+29	-990	478.373 1,482.822 CENTRAL School - 7 1/2'		
116	660		- -	--	11.5	91 28	-16.9	-28.4			+19	-660	478.363 1,483.152		
117	397		254 39 50	--	9.8	90 30	-3.5	-13.3		11	+21	-396	478.365 1,483.416 478.406 x - 1,483.410 T-Inter. EL. 35930		
117	330		253 15	--	7.0	90 30	-2.9	-9.9			+10	-330	478.354 1,483.482		
118	0			--	5.1	-		-5.1		X	0	0	478.344 1,483.812		
119	330		73 20	+18.4	10.0	92 20	-13.4	-23.4			-10	+330	478.334 1,484.142		
120	660		- -	--	11.7	93 30	-40.3	-52.0			-20	+660	478.324 1,484.472		
121	990		- -	--	8.1	93 30	-60.4	-68.5			-30	+990	478.314 1,484.802		
122	1320		- -	--	8.0	92 50	-65.2	-73.2			-40	+1319	478.304 1,485.131		
123	1650		73 20	+18.4	11.6	92 10	-62.4	-74.0			-50	+1649	478.294 1,485.461		
124	1980		- -	--	5.7	92 10	-74.9	-80.6			-60	+1979	478.284 1,485.791		
125	2310		- -	--	8.1	91 50	-73.9	-82.0			-70	+2309	478.274 1,486.121		
126	2640		- -	--	8.4	91 30	-69.1	-77.5			-80	+2639	478.264 1,486.451		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-10-86		B. Cotcamp		J. Middleton		6834		TC		4		9			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		CENTRAL School-74		MONT.		TOOLE								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
									3608.1						
127	2970		73 20	+18.4	9.0	91 10	-60.5	-69.5		3538.6		-90	+2969	478.254	1,486.781
128	3300		-	--	11.0	90 50	-48.0	-59.0		3549.1		-100	+3298	478.244	1,487.110
129	3630		-	--	4.6	90 50	-52.8	-57.4		3550.7		-110	+3628	478.234	1,487.440
130	3960		-	--	5.8	90 50	-57.6	-63.4		3544.7		-120	+3958	478.224	1,487.770
131	4290		73 20	+18.4	9.7	90 44	-54.9	-64.6		3543.5		-130	+4288	478.214	1,488.100
132	4620		-	--	7.6	90 44	-59.1	-66.7		3541.4		-140	+4618	478.204	1,488.430
133	4950		-	--	6.8	90 44	-63.4	-70.2		3537.9		-150	+4948	478.194	1,488.760
134	4971		73 14 28	--	6.7	90 44	-63.6	-70.3		3537.8	TP	-142	+4969	478.202	1,488.781
134	5278		73 22 44	+18.1	13.5	90 41	-62.9	-76.4	-76.13	3532.0	TP	-136	+5276	478.210	1,489.086
	5278				12.8	269 19	-62.9	-75.7			TP	+2	-2		
	3297		254 00 22	--	6.8	74	-16.5	-9.7	-9.9 3522.1		BS	-121	+3295		
	3297				+12.8	270 24	-23.0	-10.2			BS	+2	-2		
135	2970		254	--	12.2	89 44	+13.8	+1.6		3523.7		+109	-2968	478.200	1,489.411
136	2640		-	--	9.0	89 44	+12.3	+3.3		3525.4		+97	-2638	478.188	1,489.741
137	2310		-	--	8.1	89 34	+17.5	+9.4		3531.5		+85	-2308	478.176	1,490.071
138	1980		254	+18.1	9.7	89 34	+15.0	+5.3		3527.4		+73	-1979	478.164	1,490.400
139	1650		-	--	8.8	-		-8.8		3513.3		+60	-1649	478.151	1,490.730
140	1320		-	--	8.3	90 30	-11.5	-19.8		3502.3		+48	-1319	478.139	1,491.060
141	990		-	--	11.8	90 30	-8.6	-20.4		3501.7		+36	-989	478.127	1,491.390
142	660		-	--	11.3	90 40	-7.7	-19.0		3503.1		+24	-660	478.115	1,491.719

15=478,220 X=1,488,740
7F 4way Int. EL. 3538

SURVEY NOTES - HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE	6-10-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	TC	LINE NO.	4	PAGE	10
AREA	MONTANA	TOPO MAP	CENTRAL School-76'	STATE	MONT.	COUNTY	TOOLE	TWP		RANGE	PPM	PARTY MANAGER	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 TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									3522.1					
143	330		254 -	+18.1	6.0	90 40	-3.8	-9.8		3512.3		+12	-330	478,103 1,492,049
144	0				5.1	-		-5.1		3517.0	TP	0	0	478,091 1,492,379
145	330		73 42	--	9.8	-		-9.8		3512.3		-10	+330	478,081 1,492,709
146	660		-	--	11.8	-		-11.8		3510.3		-21	+660	478,070 1,493,039
147	990		-	--	11.8	-		-11.8		3510.3		-31	+990	478,060 1,493,369
148	1320		-	--	10.5	TH	+6.6	-3.9		3518.2		-41	+1319	478,050 1,493,698
149	1650		-	--	5.9	TH	+8.3	+2.4		3524.5		-52	+1649	478,039 1,494,028
149	1656		73 35 16	+18.1	5.8	TH	+8.3	+2.5		3524.6	TP	-49	+1655	478,042 1,494,034 2 1/2" - 4 1/2" x 1.494,010 TP 4 WAY INT. EL 3524.0
150	1980		73 42	--	8.2	TH	+9.9	+1.7		3523.8		-62	+1979	478,029 1,494,358
151	2310		-	--	8.3	89 50	+6.7	-1.6		3520.5		-73	+2309	478,018 1,494,688
152	2640		-	--	9.1	89 50	+7.7	-1.4		3520.7		-83	+2639	478,008 1,495,018
153	2970		-	--	10.3	89 50	+8.6	-1.7		3520.4		-93	+2969	477,998 1,495,348
154	3300		73 42	+18.1	10.1	89 50	+9.6	-0.5		3521.6		-104	+3298	477,987 1,495,677
155	3630		-	--	8.9	89 50	+10.6	+1.7		3523.8		-114	+3628	477,977 1,496,007
156	3960		-	--	4.9	89 50	+11.5	+6.6		3528.7		-124	+3958	477,967 1,496,337
157	4296		-	--	7.5	89 40	+25.0	+17.5		3539.6		-135	+4288	477,956 1,496,667
158	4621		73 43 48		14.2	89 33	+36.3	+22.1	+22.73	3544.5	TP	-148	+4619	477,945 1,496,996
158	4621				13.5	270 27	+36.3	+22.8			TP	+2	-2	
	4617		253 01 17	+18.1	13.7	TH	-23.1	-9.4	+9.73	3534.8	BS	-90	+4616	
	4617				13.0	TH 220	-23.1	-10.1			BS	+2	-2	

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE 6-10-86	INSTRUMENT MAN B. Cotcamp	ROD MAN J. Middleton	PARTY NUMBER 6834	NOTES CHECKED BY RC	LINE NO. 4	PAGE 11
AREA MONTANA	TOPO MAP CENTRAL School-7 1/2'	STATE MONT.	COUNTY TOOLE	TWP	RANGE	PPM
				PARTY MANAGER 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.	
									3534.8					
159	4290		253° 05'	+18.1	6.8	89° 48'	+15.0	+8.2		3543.0		+89	-4289	477,946 1,497,321
160	3960		- -	--	8.1	89° 48'	+13.8	+5.7		3540.5		+82	-3959	477,939 1,497,651
161	3630		- -	--	8.5	89° 50'	+10.6	+2.1		3536.9		+75	-3629	477,932 1,497,981
162	3300		- -	--	3.8	-	-	-3.8		3531.0		+68	-3299	477,925 1,498,311
163	2970		- -	--	10.1	-	-	-10.1		3524.7		+61	-2969	477,918 1,498,641
164	2640		253° 05'	+18.1	12.7	-	-	-12.7		3522.1		+55	-2639	477,912 1,498,971
165	2310		- -	--	9.8	-	-	-9.8		3525.0		+48	-2309	477,905 1,499,301
#	2265		253° 17' 22"	--	9.3	-	-	-9.3		3525.5	#	+55	-2264	477,912 1,499,346 # 477,890 x-1,499,295 FENCELINE ELEV 3525.0
166	1980		253° 05'	-	8.2	-	-	-8.2		3526.6		+41	-1980	477,898 1,499,630
167	1650		- -	--	11.4	-	-	-11.4		3523.4		+34	-1650	477,891 1,499,960
168	1320		- -	--	5.9	BH	-6.6	-12.5		3522.3		+27	-1320	477,884 1,500,290
169	990		- -	--	9.8	-	-	-9.8		3525.0		+20	-990	477,877 1,500,620
170	660		- -	--	7.6	-	-	-7.6		3527.2		+14	-660	477,871 1,500,950
171	330		- -	--	6.2	-	-	-6.2		3528.6		+7	-330	477,864 1,501,280
172	0		- -	--	5.1	-	-	-5.1		3529.7	K	0	0	477,857 1,501,610
173	330		72° 50'	+18.1	6.0	TH	+1.7	-4.3		3530.5		-5	+330	477,852 1,501,940
174	660		- -	--	10.8	-	-	-10.8		3524.0		-11	+660	477,846 1,502,270
175	990		- -	--	12.1	BH	-5.0	-17.1		3517.7		-16	+990	477,841 1,502,600
176	1320		- -	--	11.8	BH	-6.6	-18.4		3516.4		-22	+1320	477,835 1,502,930
177	1650		- -	--	11.6	BH	-8.3	-19.9		3514.9		-27	+1650	477,830 1,503,260

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE	6-10-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	TC	LINE NO.	4	PAGE	12	
AREA	MONTANA	TOPO MAP	CENTRAL School-7 1/2	STATE	MONT.	COUNTY	TOOLE	TWP		RANGE		PPM	PARTY MANAGER	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.	
									3534.8					
178	1980		72 50'	+18.1	9.9	BH	-9.9	-19.8		3515.0		-32	+1980	477.825 1,503,590
179	2310		--	--	8.0	BH	-11.6	-19.6		3515.2		-38	+2310	477.819 1,503,920
180	2640		--	--	9.8	BH	-13.2	-19.0		3515.8		-43	+2640	477.814 1,504,250
181	2970		--	--	2.8	BH	-14.9	-17.7		3517.1		-48	+2970	477.809 1,504,580
#	3042		72 37' 05"	--	1.6	BH	-15.2	-16.8		3518.0	#	-38	+3042	477.819 1,504,652 # Fencing EL 3517.0
182	3300		72 50'	--	10.9	90 04'	-3.8	-14.7		3520.1		-54	+3300	477.803 1,504,910
183	3630		--	--	8.1	90 04'	-4.2	-12.3		3522.5		-59	+3630	477.798 1,505,240
184	3960		72 58' 26"	--	14.8	-	-	-14.8			TP	-74	+3959	477.785 1,505,567
184	3960				14.3	270 -		-14.3	+15.3	3520.3	TP			
	2971		253 08' 42"	+18.1	2.5	-		+2.5	+2.4	3522.7	BS	-65	+2970	
	2971				2.2	270 -		+2.2			BS			
185	2640		253 15'	--	6.0	-		-6.0		3516.7		+62	-2639	477.783 1,505,896
186	2310		--	--	9.2	-		-9.2		3513.5		+54	-2309	477.775 1,506,226
187	1980		--	--	12.3	-		-12.3		3510.4		+47	-1979	477.768 1,506,556
188	1650		--	--	6.5	BH	-8.3	-14.8		3507.9		+39	-1650	477.760 1,506,885
189	1320		253 15'	+18.1	10.1	BH	-6.6	-16.7		3506.0		+31	-1320	477.752 1,507,215
190	990		--	--	12.0	BH	-5.0	-17.0		3505.7		+23	-990	477.744 1,507,545 11.4 84 1150 253 47'
191	660		--	--	10.9	BH	-3.3	-14.2		3508.5		+16	-660	477.737 1,507,875
192	330		--	--	11.3	-		-11.3		3511.4		+8	-330	477.729 1,508,205
193	0				5.1	-		-5.1		3517.6	T	0	0	477.721 1,508,535

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
6-11-86		B. Cotamp		J. Middleton		6834		TC		4		13				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
MONTANA		CENTRAL School-7 1/2		MONT.		Toole								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 TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
									3522.7							
194	330		73 10	+18.1	5.0	TH	+1.7	-3.3		3519.4		-7	+330	477,714	1,508,865	
195	660		-	--	9.4	-		-9.4		3513.3		-15	+660	477,706	1,509,195	
196	990		-	--	9.7	-		-9.7		3513.0		-22	+990	477,699	1,509,525	
197	1320		-	--	9.1	BH	-6.6	-15.7		3507.0		-29	+1320	477,692	1,509,855	
IF	1487		72 56 51	--	15.1	-		-15.1		3507.6	IF	-27	+1487	477,695	1,510,020	
IF	1487			--	7.7	BH	-7.4	-15.1			IF	+	-2			
IFK	T-Intersect Elevation 3526.1 scaled y -472.405 x -1,509,880									3526.1	IFK					
	3777		253 16 04	+18.1	12.0	89 56	-4.4	+7.6			IF	-90	+3776			
	3777				14.0	270 06	-6.6	+7.4	7.53	3533.6	IF	+	-3			
198	3615		253 15	--	13.9	89 56	+10.5	-3.4		3530.2		+85	-3614	472,401	1,510,039	
199	3285		-	--	8.9	89 50	+9.6	+0.7		3534.3		+77	-3284	472,393	1,510,369	
200	2964		251 58	--	11.7	89 50	+8.6	-3.1		3530.5		+3	-2964	472,319	1,510,699	
201	2640		253 10	--	11.1	89 50	+7.7	-3.4		3530.2		+58	-2639	472,324	1,511,014	
202	2310		253 15	+18.1	11.1	89 50	+6.7	-4.4		3529.2		+54	-2309	472,320	1,511,344	
203	1980		-	--	10.8	89 50	+5.8	-5.0		3528.6		+47	-1979	472,363	1,511,674	
204	1650		-	--	9.9	89 50	+4.8	-5.1		3528.5		+39	-1650	472,355	1,512,003	
205	1320		-	--	8.6	89 50	+3.8	-4.8		3528.8		+31	-1320	472,347	1,512,333	
206	990		-	--	7.1	89 50	+2.9	-4.2		3529.4		+23	-990	472,339	1,512,663	
207	660		-	--	5.9	89 50	+1.9	-4.0		3529.6		+16	-660	472,332	1,512,993	
208	330		-	--	4.9	89 50	+1.0	-3.9		3529.7		+8	-330	472,324	1,513,323	

NOTE: #5300 Offset South - 197-198
y - 477,695 x - 1,510,020
90 corner EL 3508.0,
Horiz y - +34
cork x - -40
IF T-Inter EL 3526.1
scaled y - 472,405 x - 1,509,880

#1118 253 53 7.7 89 50
CENTRAL School - 7 1/2
Densow Ranch - 7 1/2

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE		
6-11-86		B. Cotamp		J. Middleton		6834		TC		4	14		
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER		
MONTANA		Denson Ranch-7 1/2		mont.		Toole					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 TP	COORDINATES		REMARKS
											NORTH + SOUTH -	EAST + WEST -	
								3533.6					
209	0				5.1	-	-5.1		3528.5	K	0	6	472,316 1,513,653
210	330		73° 15'	+18.1	5.9	90° 20'	-1.9	-7.8	3525.8		-8	+330	472,308 1,513,983
211	660		-	--	7.9	90° 20'	-3.8	-11.7	3521.9		-16	+660	472,300 1,514,313
212	990		-	--	9.8	90° 20'	-5.8	-15.6	3518.0		-23	+990	472,293 1,514,643
213	1320		-	--	11.7	90° 20'	-7.7	-19.4	3514.2		-31	+1320	472,285 1,514,973
1/4	1501		72° 36' 40"	--	12.1	90° 20'	-8.7	-20.8	3512.8	1/4	-19	+1501	472,297 1,515,154 472,305 x - 1,515,175 T-Inter. EL. 3511.0
214	1650		73° 15'	+18.1	7.8	90° 30'	-14.4	-22.2	3511.4		-39	+1650	472,277 1,515,303
215	1980		-	--	6.4	90° 30'	-17.3	-23.7	3509.9		-47	+1979	472,269 1,515,639
216	2310		-	--	4.8	90° 30'	-20.2	-25.0	3508.6		-54	+2309	472,262 1,515,962
217	2640		-	--	11.0	90° 20'	-15.4	-26.4	3507.2		-62	+2639	472,254 1,516,292
218	2970		73° 15'	--	11.2	90° 20'	-17.3	-28.5	3505.1		-70	+2969	472,246 1,516,622
1/4	3267		72° 57' 27"	+18.1	11.7	90° 20'	-19.0	-30.7	3502.9	1/4	-60	+3266	472,256 1,516,919 472,290 x - 1,516,900 Pipeline EL. 3502.0
219	3300		73° 15'	--	12.0	90° 20'	-19.2	-31.2	3502.4		-78	+3299	472,238 1,516,952
220	3630		-	--	8.9	90° 24'	-25.3	-34.2	3499.4		-86	+3629	472,230 1,517,282
221	3960		-	--	8.6	90° 24'	-27.6	-36.2	3497.4		-93	+3959	472,223 1,517,612
222	4290		-	--	8.2	90° 24'	-29.9	-38.1	3495.5		-101	+4289	472,215 1,517,942
223	4620		-	--	7.9	90° 24'	-32.3	-40.2	3493.4		-109	+4619	472,207 1,518,272
224	4950		-	--	7.0	90° 24'	-34.6	-41.6	3492.0		-117	+4949	472,199 1,518,602
225	5280		-	--	6.6	90° 24'	-36.9	-43.5	3490.1		-124	+5279	472,192 1,518,932
226	5610		-	--	5.9	90° 24'	-39.2	-45.1	3488.5		-132	+5608	472,184 1,519,261

SURVEY NOTES-HIGH RESOLUTION DATA

Geosource Inc.

DATE	6-11-86	INSTRUMENT MAN	B. Potcamp	ROD MAN	J. M. Doleton	PARTY NUMBER	6834	NOTES CHECKED BY	TC	LINE NO.	4	PAGE	15	
AREA	MONTANA	TOPO MAP	Devson Ranch - 7 1/2'	STATE	Mont.	COUNTY	Toole	TWP		RANGE		PPM	PARTY MANAGER	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 TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									3533.6					
227	5938		73° 13' 18"	+18.1	7.6	90° 24'	-41.5	-49.1			TP	-137	+5936	472,180 1,519,586
227	5938			--	6.9	269° 36'	-41.5	-48.4	3484.9		TP	+	-3	
	5934		253° 17' 25"	--	8.0	TH	-29.7	-21.7	3463.0		BS	-144	+5932	
	5934			--	7.5	TH 270	-29.7	-22.2			BS	+	-3	
228	5605		253° 25'	--	11.6	TH	+28.0	+16.4	3459.4			+148	-5603	472,185 1,519,912
229	5275		253° 37'	--	5.7	89° 50'	+15.3	+9.6	3472.6			+158	-5273	472,195 1,520,242
4/4	5004		253° 40' 30"	--	10.3	89° 50'	+14.6	+4.3	3467.3		4/4	+155	-5002	472,192 1,520,513
230	4945		253° 47'	--	11.8	89° 50'	+14.4	+2.6	3465.6			+163	-4942	472,200 1,520,573
231	4616		254° -	--	5.7	-		-5.7	3457.3			+169	-4613	472,206 1,520,902
232	4286		254° 15'	--	6.0	90° 08'	-10.0	-16.0	3447.0			+176	-4282	472,213 1,521,233
233	3956		- - -	+18.1	5.6	90° 20'	-23.0	-28.6	3434.4			+162	-3953	472,199 1,521,562
234	3626		254° 03'	--	7.6	90° 30'	-31.6	-39.2	3423.8			+136	-3623	472,173 1,521,892
235	3297		253° 47'	--	6.7	90° 46'	-44.1	-50.8	3412.2			+108	-3295	472,145 1,522,226
236	2968		253° 36'	--	8.0	91° -	-51.8	-59.8	3403.2			+88	-2967	472,125 1,522,548
237	2640		- - -	--	7.1	91° 18'	-59.9	-67.0	3396.0			+78	-2639	472,115 1,522,876
238	2310		- - -	--	8.0	91° 36'	-64.5	-72.5	3390.5			+69	-2309	472,106 1,523,206
239	1980		253° 36'	--	10.2	91° 50'	-63.3	-73.5	3389.5			+59	-1979	472,096 1,523,536
240	1650		- - -	--	14.9	91° 50'	-52.8	-67.7	3395.3			+49	-1649	472,086 1,523,866
241	1320		- - -	--	13.7	91° 50'	-42.2	-55.9	3407.1			+39	-1319	472,076 1,524,196
242	990		- - -	--	7.7	91° 50'	-31.7	-39.4	3423.6			+29	-990	472,066 1,524,525

472,225 X - 1,520,525
4 way int. EL 3468.0

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE	6-11-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	XL	LINE NO.	4	PAGE	16	
AREA	MONTANA	TOPO MAP	DENSON Ranch - 7 1/2'	STATE	MONT.	COUNTY	Toole	TWP		RANGE		PPM	PARTY MANAGER	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.	
									3463.0					
243	660		253 36	+18.1	9.3	91 10	-13.4	-22.7		3440.3		+20	-660	472,057 1,524.855
244	330		- -	--	10.0	90 10	-1.0	-11.0		3452.0		+10	-330	472,047 1,525.185
245	0				5.1	-		-5.1		3457.9	π	0	0	472,037 1,525.515
IF	333		70 51 27	+18.1	3.7	90 10	-1.0	-4.7		3458.3	IF	+6	+333	472,043 1,525.848
246	330		73 37	--	4.0	90 10	-1.0	-5.0		3458.0		-10	+330	472,027 1,525.845
247	660		- -	--	9.0	-		-9.0		3454.0		-20	+660	472,017 1,526.175
248	990		- -	--	8.8	BH	-5.0	-13.8		3449.2		-30	+990	472,007 1,526.505
249	1320		- -	--	9.7	BH	-6.6	-16.3		3446.7		-40	+1319	471,997 1,526.834
250	1650		73 37	+18.1	8.6	BH	-8.3	-16.9		3446.1		-49	+1649	471,988 1,527.164
251	1980		- -	--	6.8	BH	-9.9	-16.7		3446.3		-59	+1979	471,978 1,527.494
252	2310		- -	--	4.9	BH	-11.6	-16.5		3446.5		-69	+2309	471,968 1,527.824
253	2640		- -	--	2.8	BH	-13.2	-16.0		3447.0		-79	+2639	471,958 1,528.154
254	2970		- -	--	7.0	90 10	-8.6	-15.6		3447.4		-89	+2969	471,948 1,528.484
255	3300		73 37	+18.1	6.0	90 10	-9.6	-15.6		3447.4		-99	+3299	471,938 1,528.814
256	3630		- -	--	4.8	90 10	-10.6	-15.4		3447.6		-109	+3628	471,928 1,529.143
257	3960		- -	--	10.1	90 04	-4.6	-14.7		3448.3		-119	+3958	471,918 1,529.473
258	4290		- -	--	9.3	90 04	-5.0	-14.3		3448.7		-129	+4288	471,908 1,529.803
259	4620		- -	--	9.3	90 04	-5.4	-14.7		3448.3		-138	+4618	471,899 1,530.133
260	4950		73 44	-	10.8	90 04	-5.8	-16.6		3446.4		-148	+4948	471,889 1,530.463

IF - 472,045 x - 1,525,800
IF - Inter E.L. 3459.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE	6-11-86	INSTRUMENT MAN	B. Cotcamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	TC	LINE NO.	4	PAGE	17
AREA	MONTANA	TOPO MAP	Denson Ranch-7 1/2'	STATE	mont.	COUNTY	Toole	TWP		RANGE	PPM	PARTY MANAGER	S. Biass

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.	
									3463.0					
261	5275		73° 50' 12"	+18.0	12.7	90° 04'	-6.1	-18.8	3463.0	3444.4	TP	-169	+5272	471,869 1,530,784
261	5275				12.2	269° 56'	-6.1	-18.3			TP	+	-3	
	4949		254° 02' 40"	--	+12.9	89° 34'	-37.4	-24.5	3420.1		BS	-177	+4946	
	4949				+12.2	270° 26'	-37.4	-25.2			BS	+	-3	
262	4620		254° 09' 18"	--	9.8	89° 36'	+32.3	+22.5		3442.6	TP	+174	-4617	471,867 1,531,110 +17 - Inter. El. 3441.0
263	4290		253° 54'	--	9.6	89° 36'	+29.9	+20.3		3440.4		+142	-4288	471,835 1,531,439
264	3960		--	+18.0	9.0	89° 36'	+27.6	+18.6		3438.7		+131	-3958	471,824 1,531,769
265	3630		--	--	8.2	89° 36'	+25.3	+17.1		3437.2		+120	-3628	471,813 1,532,099
266	3300		--	--	7.1	89° 36'	+23.0	+15.9		3436.0		+109	-3298	471,802 1,532,429
267	2970		253° 49'	+18.0	6.1	89° 36'	+20.7	+14.6		3434.7		+94	-2969	471,787 1,532,758
268	2640		--	--	9.7	89° 30'	+23.0	+13.3		3433.4		+84	-2639	471,777 1,533,088
269	2310		--	--	8.0	89° 30'	+20.2	+12.2		3432.3		+73	-2309	471,766 1,533,418
270	1980		--	--	7.0	89° 30'	+17.3	+10.3		3430.4		+63	-1979	471,756 1,533,748
271	1650		253° 49'	+18.0	6.3	89° 30'	+14.4	+8.1		3428.2		+52	-1649	471,745 1,534,078
272	1320		--	--	5.7	89° 30'	+11.5	+5.8		3425.9		+42	-1319	471,735 1,534,408
273	990		--	--	5.5	89° 30'	+8.6	+3.1		3423.2		+31	-990	471,724 1,534,737
274	660		--	--	5.1	89° 30'	+5.8	+0.7		3420.8		+21	-660	471,714 1,535,067
275	330		--	--	5.0	89° 30'	+2.9	-2.1		3418.0		+10	-330	471,703 1,535,397
276	0		--	--	5.1	--	--	-5.1		3415.0	TP	0	0	471,693 1,535,727
277	330		73° 20'	+18.0	5.1	90° 30'	-2.9	-8.0		3412.1		-8	+330	471,685 1,536,057

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
6-11-86		B. Cotcamp		J. Middleton		6834		TC		4		19					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER			
MONTANA		Densow Ranch - 7 1/2'		mont.		Toole								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	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									3359.0								
#	3395		253 34 46	+18.0	6.1	TH	+17.0	+10.9		3369.9	#	+94	-3394	471,575	1,541,564	115-471,620 x -1541,570 7F 4 WAY INT. EL. 3369.0	
294	3300		253 18	--	7.0	TH	+16.5	+9.5		3368.5		+75	-3299	471,556	1,541,659		
295	2970		- -	--	8.8	TH	+14.9	+6.1		3365.1		+67	-2969	471,548	1,541,989		
296	2640		- -	--	10.2	TH	+13.2	+3.0		3362.0		+60	-2639	471,541	1,542,319		
297	2310		- -	--	10.3	TH	+11.6	+1.3		3360.3		+52	-2309	471,533	1,542,649		
298	1980		253 18	+18.0	10.1	TH	+9.9	-0.2		3358.8		+45	-1979	471,526	1,542,979		
299	1650		- -	--	8.9	TH	+8.3	-0.7		3358.4		+37	-1650	471,518	1,543,308	Densow Ranch - 7 1/2'	
300	1320		- -	--	7.0	TH	+6.6	-0.4		3358.6		+30	-1320	471,511	1,543,638	Pondosa Schol. - 7 1/2'	
301	990		- -	--	5.1	TH	+5.0	-0.1		3358.9		+22	-990	471,503	1,543,968		
302	660		- -	--	11.0	89 -	+11.5	+0.5		3359.5		+15	-660	471,496	1,544,298		
303	330		- -	--	6.9	89 -	+5.8	-1.1		3352.9		+7	-330	471,488	1,544,628		
304	0		- -	--	5.1	-		-5.1		3353.9	X	0	0	471,481	1,544,958		
305	330		73 29	+18.0	6.7	90 40	-3.8	-10.5		3348.5		-9	+330	471,472	1,545,288		
306	660		- -	--	8.2	90 40	-7.7	-15.9		3343.1		-17	+660	471,464	1,545,618		
307	990		- -	--	10.3	90 40	-11.5	-21.8		3337.2		-26	+990	471,455	1,545,948		
308	1320		- -	--	8.6	90 50	-19.2	-27.8		3331.2		-34	+1320	471,447	1,546,278		
309	1650		- -	--	9.1	90 50	-24.0	-33.1		3325.9		-43	+1649	471,438	1,546,607		
#	1896		72 57 45	--	9.5	90 50	-27.6	-37.1		3321.9	#	-32	+1895	471,449	1,546,853	4-471,500 x -1,546,845 Section Line EL. 3322.0	
310	1980		73 29	--	9.8	90 50	-28.8	-38.6		3320.4		-51	+1979	471,430	1,546,937		
311	2310		- -	--	9.4	90 50	-33.6	-43.0		3316.0		-60	+2309	471,421	1,547,267		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. Middleton		6834		JC		4		20			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Pondera School-74		MONT.		TOOLE								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
									3359.0						
312	2640		73 29'	+18.0	8.7	90 50	-38.4	-47.1		3311.9		-68	+2639	471,413	1,547,597
313	2970		- -	--	7.7	90 50	-43.2	-50.9		3308.1		-77	+2969	471,404	1,547,927
314	3300		- -	--	5.9	90 50	-48.0	-53.9		3305.1		-85	+3299	471,396	1,548,257
315	3630		73 29'	--	10.0	90 44	-46.5	-56.5		3302.5		-94	+3629	471,387	1,548,587
316	3960		- -	--	8.7	90 44	-50.7	-59.4		3299.6		-103	+3959	471,378	1,548,917
317	4290		- -	--	8.4	90 44	-54.9	-63.3		3295.7		-111	+4289	471,370	1,549,247
318	4623		73 29 18	+18.0	10.0	90 44	-59.2	-69.2	68.9	3290.1	TP	-120	+4621	471,362	1,549,576
318	4623				9.3	269 16	-59.2	-68.5			TP	+1	-3		
	3960		252 56 48	--	+13.2	TH	-19.8	-6.6	6.9	3283.2	BS	-65	+3959		
	3960				+12.7	TH 220	-19.8	-7.1			BS	+1	-3		
319	3630		253 -	--	8.0	89 52	+8.4	+0.4		3283.6		+63	-3629	471,361	1,549,903
320	3300		- -	--	7.9	-		-7.9		3275.3		+58	-3300	471,356	1,550,232
321	2970		- -	--	6.6	90 08	-6.9	-13.5		3269.7		+52	-2970	471,350	1,550,562
322	2640		- -	--	9.1	90 08	-6.1	-15.2		3268.0		+46	-2640	471,344	1,550,892
323	2310		- -	--	8.8	90 08	-5.4	-14.2		3269.0		+40	-2310	471,338	1,551,222
324	1980		- -	--	10.8	-		-10.8		3272.4		+35	-1980	471,333	1,551,552
325	1650		- -	--	7.8	-		-7.8		3275.4		+29	-1650	471,327	1,551,882
H	1368		252.58 58	+18.0	5.6	-		-5.6		3277.6	H	+23	-1368	471,321	1,552,144 # Section line El. 3277.0
326	1320		253 -	--	5.4	-		-5.4		3277.8		+23	-1320	471,321	1,552,212
327	990		- -	--	8.3	TH	+5.0	-3.3		3279.9		+17	-990	471,315	1,552,542

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
6-11-86		B. Cotcamp		J. Middleton		6834		J.M.		4		21							
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER					
MONTANA		POWDER School-7 1/2		mont.		Toole								S. B. BING					
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				
									3283.2										
328	660		253 -	+18.0	6.3	TH	+3.3	-3.0		3280.2		+12	-660	471,310	1,552,872				
329	330		- -	--	4.7	TH	+1.7	-3.0		3280.2		+6	-330	471,304	1,553,202				
330	0				5.1	-		-5.1		3278.1	X	0	0	471,298	1,553,532				
331	330		73 13'	--	7.7	90 30	-2.9	-10.6		3272.6		-7	+330	471,291	1,553,862				
332	660		- -	--	5.8	90 30	-5.8	-11.6		3271.6		-14	+660	471,284	1,554,192				
333	990		- -	--	6.8	90 30	-8.6	-15.4		3267.8		-21	+990	471,277	1,554,522				
334	1320		- -	--	7.7	90 30	-11.5	-19.2		3264.0		-28	+1320	471,270	1,554,852				
335	1650		73 13'	+18.0	8.3	90 30	-14.4	-22.7		3260.5		-35	+1650	471,263	1,555,182				
336	1980		- -	--	9.5	90 36	-20.7	-30.2		3253.0		-42	+1980	471,256	1,555,512				
337	2310		- -	--	10.8	90 36	-24.2	-35.0		3248.2		-49	+2309	471,249	1,555,841				
338	2640		- -	--	11.3	90 36	-27.6	-38.9		3244.3		-56	+2639	471,242	1,556,171				
339	2970		73 13'	+18.0	10.8	90 36	-31.1	-41.9		3241.3		-63	+2969	471,235	1,556,501				
340	3300		- -	--	9.4	90 36	-34.6	-44.0		3239.2		-70	+3299	471,228	1,556,831				
341	3630		- -	--	8.1	90 40	-42.2	-50.3		3232.9		-77	+3629	471,221	1,557,161				
TP	3854		73 07 28	--	10.7	90 40	-44.8	-55.5		3227.7	TP	-76	+3853	471,222	1,557,385				471,265 X - 1,557,395 4 way EL. 3227.6
342	3959		73 14 05	--	13.8	90 40	-46.1	-59.9			TP	-85	+3958	471,214	1,557,487				
342	3959				13.3	269 20	-46.1	-59.4	-59.6		TP	+1	-3						
	2641		253 10 54	--	+14.5	-		+14.5	+14.4	3238.0	BS	-54	+2640						
	2641				+14.2	270 -		+14.2			BS	+1	-3						

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. M. Adleton		6834		F.M.		4		22			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Pondera School - 7 1/2'		MONT.		Toole								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
									3238.0						
343	2310		253 14	+18.0	10.4	90 24	-16.1	-26.5		3211.5		+50	-2309	471,211	1,552,815
344	1980		- -	--	14.9	90 24	-13.8	-28.7		3209.3		+43	-1980	471,204	1,558,144
345	1650		- -	--	13.3	90 24	-11.5	-24.8		3213.2		+36	-1650	471,197	1,558,474
346	1320		253 14	+18.0	12.1	90 24	-9.2	-21.3		3216.7		+28	-1320	471,189	1,558,804
347	990		- -	--	4.9	90 24	-6.9	-11.8		3226.2		+21	-990	471,182	1,559,134
348	660		- -	--	7.9	89 50	+1.9	-6.0		3232.0		+14	-660	471,175	1,559,464
349	330		- -	--	6.3	89 50	+1.0	-5.3		3232.7		+7	-330	471,168	1,559,794
350	0		- -	--	5.1	-		-5.1		3232.9	X	0	0	471,161	1,560,124
351	330		73 19	+18.0	9.0	91 -	-5.8	-14.8		3223.2		-8	+330	471,153	1,560,454
352	660		- -	--	4.8	91 -	-11.5	-16.3		3221.7		-15	+660	471,146	1,560,784
353	990		- -	--	5.7	90 50	-14.4	-20.1		3217.9		-23	+990	471,138	1,561,114
354	1320		- -	--	10.0	91 -	-23.0	-33.0		3205.0		-30	+1320	471,131	1,561,444
355	1650		73 19	+18.0	15.3	91 06	-31.7	-47.0		3191.0		-38	+1650	471,123	1,561,774
356	1980		- -	--	18.0	91 06	-38.0	-56.0		3182.0		-46	+1979	471,115	1,562,103
357	2310		- -	--	17.1	91 06	-44.3	-61.4		3176.6		-53	+2309	471,108	1,562,433
IF	2580	2579.5	73 11 08	~	13.1	91 06	-49.5	-62.6			IF	-53	+2579	471,110	1,562,700
IF	2580				12.8	268 54	-49.5	-62.3	+2.43	3175.6	IF	+2	-3		
IF					8	SCA 40 9-476.390	X-1,562.825			3205.0					
	1380	1379.8	253 07 26	+18.0	8.5	91 -	+24.1	+32.6	+32.53	3237.5	IF	-27	+1380		
	1380				8.2	269 -	+24.1	+32.3			IF	-2	+1		

NOTE # 5280 OFFSET
NORTH Sta. 357-358
y - 471,110 X - 1,562,700
Horiz. corr. y - +13
x - -36
IF T-Inter E.L. 3176.6

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. Middleton		6834		F.M.		4		23			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		Pondera School-7 1/2'		Mont.		Toole								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
									3237.5						
358	1320		252 45'	+18.0	9.2	91 -	-23.0	-32.2		3205.3		+17	-1320	476,378	1,562,886
359	990		- -	--	5.1	91 -	-17.3	-22.4		3215.1		+13	-990	476,374	1,563,216
360	660		- -	--	9.1	90 20	-3.8	-12.9		3224.6		+9	-660	476,370	1,563,546
361	330		- -	--	5.9	90 20	-1.9	-7.8		3229.7		+4	-330	476,365	1,563,876
362	0				5.1	-		-5.1		3232.4	TP	0	0	476,361	1,564,206
363	330		72 42'	+18.0	5.9	90 20	-1.9	-7.8		3229.7		-4	+330	476,357	1,564,536
364	660		- -	-	12.3	90 20	-3.8	-16.1		3221.4		-8	+660	476,353	1,564,866
365	990		- -	-	7.3	90 20	-5.8	-13.1		3224.4		-12	+990	476,349	1,565,196
366	1320		- -	-	6.8	90 10	-3.8	-10.6		3226.9		-16	+1320	476,345	1,565,526
367	1650	1649.97	72 42 10	-	8.5	90 20	-9.6	-18.1	-18.0 3	3219.5	TP	-20	+1650	476,339	1,565,857
367	1650				8.2	269 40	-9.6	-17.8			TP	-2	+1		
	3960		252 50 52	+18.0	9.1	TH	-19.8	-10.7	-11.0 3	3208.5	BS	-59	+3960		
	3960				8.4	TH 270	-19.8	-11.4			BS	-2	+1		
368	3630		253 02'	--	6.0	89 56	+4.2	-1.8		3206.7		+65	-3629	476,343	1,566,189
369	3300		- -	-	6.3	89 56	+3.8	-2.5		3206.0		+60	-3299	476,338	1,566,519
370	2970		- -	--	3.8	-		-3.8		3204.7		+54	-2970	476,332	1,566,849
371	2640		- -	--	6.1	-		-6.1		3202.4		+48	-2640	476,326	1,567,178
372	2310		- -	-	8.7	-		-8.7		3199.8		+42	-2310	476,320	1,567,508
373	1980		- -	-	4.0	BH	-9.9	-13.9		3194.6		+36	-1980	476,314	1,567,838
1F	1760		253 55 25	-	8.5	BH	-8.8	-17.3		3191.2	1F	+59	-1759	476,335	1,568,059

Toole County T
 1/4-Inter. E. 3191.0
 1/4-476,315 X -1,568,075

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
6-11-86		B. Cotcamp		J. Middleton		6834		F.M.		4		24							
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER					
MONTANA		Pondera School-76'		Mont.		Liberty								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 TP	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS	
												LAT.	DEP.	Y	X				
									32085										
374	1650		253 38'	+18.0	10.2	84	-8.3	-18.5		3190.0		+47	-1649	476,325	1,568,169			Liberty County	
375	1320		- -	--	8.1	90 40	-15.4	-23.5		3185.0		+38	-1319	476,316	1,568,499				
376	990		- -	--	6.7	91 16	-21.9	-28.6		3179.9		+28	-990	476,306	1,568,828				
377	660		- -	--	7.7	91 40	-19.2	-26.9		3181.6		+19	-660	476,297	1,569,158				
378	330		- -	--	7.0	90 40	-3.8	-10.8		3192.7		+9	-330	476,287	1,569,488				
379	0				5.1	-		-5.1		3203.4	TP	0	0	476,278	1,569,818				
380	330		73 35'	+18.0	6.0	90 10	-10	-7.0		3201.5		-9	+330	476,269	1,570,148				
381	660		- -	--	7.3	90 10	-1.9	-9.2		3199.3		-18	+660	476,260	1,570,478				
382	990		- -	--	9.7	90 10	-2.9	-12.6		3195.9		-27	+990	476,251	1,570,808				
383	1320		- -	--	11.1	90 10	-3.8	-14.9		3193.6		-36	+1320	476,242	1,571,138				
384	1650		73 35'	+18.0	8.2	90 20	-9.6	-17.8		3190.7		-46	+1650	476,232	1,571,468				
385	1980		- -	--	12.0	90 20	-11.5	-23.5		3185.0		-55	+1979	476,223	1,571,797				
386	2310		- -	--	10.5	90 24	-16.1	-26.6		3181.9		-64	+2309	476,214	1,522,127				
387	2640		- -	--	11.8	90 24	-18.4	-30.2		3178.3		-73	+2639	476,205	1,572,457				
388	2970		- -	--	9.3	90 24	-20.7	-30.0		3178.5		-82	+2969	476,196	1,572,787				
389	3300		- -	--	9.5	90 16	-15.4	-24.9		3183.6		-91	+3299	476,187	1,573,117				
#	3457	3456.76	73 25 57'	-	8.9	90 16'	-16.1	-25.0		3183.5	#	-86	+3456	476,192	1,573,274	#		476,170 X - 1,573,300 Sec. Line E.C. 384.0	
390	3630	3629.93	73 37 40'	+18.3	8.5	90 20	-21.1	-29.6	-29.3	3179.2	TP	-122	+3628	476,154	1,573,447				
390	3630				8.0	269 40	-21.1	-29.1			TP	-2	+1						

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. Middleton		6834		F.M.		4		25			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		POWDERA School-7k		mont.		Liberty								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
										3179.2					
	3630	3629.6	252 53 24	+18.3	2.9	89 30	-31.7	-28.8	2-29.0 3150.2		BS	-75	+3629		
	3630				+2.4	270 36	-31.7	-29.3			BS	-2	+1		
391	3300		252 57	-	8.7	89 30	+28.8	+20.1		3170.3		+72	-3299	476,149	1,523,778 Powdera School-7k
392	2976		-	-	11.0	89 30	+25.9	+14.9		3165.1		+65	-2969	476,142	1,524,108 LOTHAIR S.W-7k
393	2646		-	-	11.6	89 36	+23.0	+11.4		3161.6		+58	-2639	476,135	1,524,438
394	2310		-	-	9.5	89 30	+20.2	+10.7		3160.9		+50	-2309	476,127	1,524,768
395	1980		252 57	+18.3	7.8	89 30	+17.3	+9.5		3159.7		+43	-1980	476,120	1,525,097
396	1650		-	-	10.6	89 30	+14.4	+3.8		3154.0		+36	-1650	476,113	1,525,427
397	1320		-	-	7.7	89 40	+7.7	0.0		3150.2		+29	-1320	476,106	1,525,757
398	990		-	-	8.2	89 40	+5.8	-2.4		3147.8		+22	-990	476,099	1,526,087
399	660		-	-	9.7	89 40	+3.8	-5.9		3144.3		+14	-660	476,091	1,526,417
400	330		-	-	5.9	89 40	+1.9	-4.0		3146.2		+7	-330	476,084	1,526,747
401	0				5.1	-		-5.1		3145.1	X	0	0	476,077	1,527,077
402	330		72 52	+18.3	11.0	91 40	-9.6	-20.6		3129.6		-7	+330	476,070	1,527,407
403	660		-	-	12.3	91 40	-19.2	-31.5		3118.7		-13	+660	476,064	1,527,737
404	990		-	-	9.9	91 20	-23.0	-32.9		3117.3		-20	+990	476,057	1,528,067
405	1320		-	-	11.1	91 -	-23.0	-34.1		3116.1		-27	+1320	476,050	1,528,397
41	1466	1465.78	72 26 48	-	8.8	91 -	-25.6	-34.4		3115.8	41	-19	+1466	476,058	1,528,543
406	1650		73 -	-	7.3	91 -	-28.8	-36.1		3114.1		-37	+1650	476,040	1,528,727
407	1980		-	-	12.4	91 -	-34.6	-47.0		3103.2		-45	+1979	476,032	1,529,056

476,070 X-1,528,545
T-Inter EL. 3116.0

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. Middleton		6834		F.M.		4		26			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		LOTHAIR S.W. -7 1/2'		MONT.		Liberty								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
									3150.2						
408	2310		73 -	+18.3	9.7	91 06	-44.3	-54.0		3096.2		-52	+2309	476,025	1,579,386
409	2640		- -	-	6.0	91 -	-46.1	-52.1		3098.1		-60	+2639	476,017	1,579,716
410	2970		- -	-	9.0	90 54	-46.7	-55.7		3094.5		-67	+2969	476,010	1,580,046
411	3300		- -	-	8.0	90 54	-51.8	-59.8		3090.4		-75	+3299	476,002	1,580,376
412	3630		73 -	+18.3	6.0	90 54	-57.0	-63.0		3087.2		-82	+3629	475,995	1,580,706
413	3960		- -	-	5.5	90 54	-62.2	-67.7		3082.5		-90	+3959	475,987	1,581,036
414	4290		- -	-	8.1	90 54	-67.4	-75.5		3074.7		-97	+4289	475,980	1,581,366
415	4620		- -	-	8.8	90 54	-72.6	-81.4		3068.8		-105	+4619	475,972	1,581,696
416	4950		- -	-	6.7	90 54	-77.8	-84.5		3065.7		-112	+4949	475,965	1,582,026
417	5280		- -	-	8.9	90 50	-76.8	-85.7		3064.5		-120	+5279	475,957	1,582,356
418	5610		- -	-	5.9	90 50	-81.6	-87.5		3062.7		-127	+5609	475,950	1,582,686
419	5940	5939.37	73 02 12	-	10.6	90 50	-86.4	-97.0	966 3/4	3053.6	TP	-139	+5938	475,936	1,583,016
419	5940				9.9	269 10	-86.4	-96.3			TP	-2			
	5939	5938.99	253 15 03	+18.3	7.2	89 54	-10.4	-3.2			BS	-161	+5937		
	5939				6.4	270 06	-10.4	-4.0	366 3/4 3050.0		BS	-2			
420	5010		253 15	-	6.8	90 02	-3.3	-10.1		3039.9		+152	-5608	475,925	1,583,346
421	5280		- -	-	6.0	90 08	-12.3	-18.3		3031.7		+143	-5278	475,916	1,583,676
1K	5133	5132.98	253 25 24	-	7.2	90 10	-14.9	-22.1		3027.9	1K	+154	-5131	475,927	1,583,823
422	4950		253 15	-	10.8	90 10	-14.4	-25.2		3024.8		+134	-4948	475,907	1,584,006
423	4620		- -	-	8.0	90 14	-18.8	-26.8		3023.2		+125	-4618	475,898	1,584,336

4-475,925 x = 1,583,850
1K T-inter. RL 3028.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
6-11-86		B. Cotcamp		J. Middleton		6834		F.M.		4		27			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
MONTANA		LOTHAIR S.W. - 7 1/2'		Mont.		Liberty								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
									3050.0						
424	4290		253 15'	+18.3	11.0	90 14'	-17.5	-28.5		3021.5		+116	-4288	475,889	1,584,666
425	3960		- -	-	8.1	90 18'	-20.7	-28.8		3021.2		+107	-3959	475,880	1,584,995
426	3630		- -	-	9.0	90 18'	-19.0	-28.0		3022.0		+98	-3629	475,871	1,585,325
427	3300		- -	-	6.3	90 18'	-17.3	-23.6		3026.4		+89	-3299	475,862	1,585,655
428	2970		253 15'	+18.3	8.8	90 12'	-10.4	-19.2		3030.8		+80	-2969	475,853	1,585,985
429	2640		- -	-	8.4	90 12'	-9.2	-17.6		3032.4		+71	-2639	475,844	1,586,315
430	2310		- -	-	9.1	90 12'	-8.1	-17.2		3032.8		+62	-2309	475,835	1,586,645
431	1980		- -	-	6.0	90 30'	-17.3	-23.3		3026.7		+54	-1979	475,827	1,586,975
432	1650		- -	-	11.3	90 30'	-14.4	-25.7		3024.3		+45	-1649	475,818	1,587,305
433	1320		253 15'	+18.3	10.0	90 40'	-15.4	-25.4		3024.6		+36	-1320	475,809	1,587,634
434	990		- -	-	10.7	90 40'	-11.5	-22.2		3027.8		+27	-990	475,800	1,587,964
435	660		- -	-	6.7	90 40'	-7.7	-14.4		3035.6		+18	-660	475,791	1,588,294
436	330		- -	-	8.8	89 40'	+1.9	-6.9		3043.1		+9	-330	475,782	1,588,624
437	0		- -	-	5.1	-	-	-5.1		3044.9	π	0	0	475,773	1,588,954
#	116		70 09 39	+18.3	6.0	-	-	-6.0		3044.0	#	+3	+116	475,776	1,589,070
438	330		73 08	-	5.3	90 40'	-3.8	-9.1		3040.9		-8	+330	475,765	1,589,284
439	660		- -	-	8.8	90 40'	-7.7	-16.5		3033.5		-17	+660	475,756	1,589,614
440	990		- -	-	9.9	90 50'	-14.4	-24.3		3025.7		-25	+990	475,748	1,589,944
441	1320		- -	-	10.2	90 50'	-19.2	-29.4		3020.6		-33	+1320	475,740	1,590,274
442	1650		- -	-	10.2	90 50'	-24.0	-34.2		3015.8		-41	+1649	475,732	1,590,603

475,780 x - 1,589,090
sec. line El. 3044.0

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
6-11-86		B. Cotcamp		J. Middleton		6834		J.M.		4		28							
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER					
MONTANA		LOTHAIR S.W. -74'		Mont.		Liberty								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	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS	
												LAT.	DEP.	Y	X				
									3050.0	-									
443	1980		73 08	+18.3	10.4	90 50	-28.8	-39.2		3010.8		-50	+1979	475,723	1,590,933				
444	2310		- -	-	9.2	90 50	-33.6	-42.8		3007.2		-58	+2309	475,715	1,591,263				
445	2640		- -	-	8.0	90 50	-38.4	-46.4		3003.6		-66	+2639	475,707	1,591,593				
446	2970		- -	-	6.8	90 50	-43.2	-50.0		3000.0		-74	+2969	475,699	1,591,923				
447	3300		73 08	+18.3	4.9	90 50	-48.0	-52.9		2997.1		-83	+3299	475,690	1,592,253				
448	3630		- -	-	9.0	90 44	-46.5	-55.5		2994.5		-91	+3629	475,682	1,592,583				
449	3960		- -	-	7.8	90 44	-50.7	-58.5		2991.5		-99	+3959	475,674	1,592,913				
450	4290		- -	-	9.2	90 40	-49.9	-59.1		2990.9		-107	+4289	475,666	1,593,243				
451	4620		73 08	-	5.9	90 40	-53.8	-59.7		2990.3		-116	+4619	475,657	1,593,573				
452	4950		- -	-	10.0	90 34	-49.0	-59.0		2991.0		-124	+4948	475,649	1,593,902				
453	5280		- -	-	6.7	90 34	-52.2	-58.9		2991.1		-132	+5278	475,641	1,594,232				
454	5610	5609.786	73 11 22	-	9.7	90 30	-49.0	-58.7	58.33	2991.7	TP	-146	+5608	475,625	1,594,563				
454	5610				9.0	269 30	-49.0	-58.0			TP	-2	+1						
	4289		252 46 50	+18.5	10.0	-		+10.0	29.67	3001.3	BS	-96	+4288						
	4289				9.1	270 -		+9.1			BS	-2	+1						
455	3960		252 52	-	9.0	-		-9.0		2992.3		+94	-3959	475,621	1,594,893				
456	3630		- -	-	9.0	-		-9.0		2992.3		+87	-3629	475,614	1,595,223				
457	3300		- -	-	9.0	-		-9.0		2992.3		+79	-3299	475,606	1,595,553				
458	2970		- -	-	9.0	-		-9.0		2992.3		+71	-2969	475,598	1,595,883				
459	2640		- -	-	9.0	-		-9.0		2992.3		+63	-2639	475,590	1,596,213				

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE	6-11-86	INSTRUMENT MAN	B. Cotamp	ROD MAN	J. Middleton	PARTY NUMBER	6834	NOTES CHECKED BY	J.M.	LINE NO.	4	PAGE	29	
AREA	MONTANA	TOPO MAP	LOTHAIR S.W.-7 1/2	STATE	mont.	COUNTY	Liberty	TWP		RANGE		PPM	PARTY MANAGER	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 TP	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS	
												LAT.	DEP.	Y	X				
									3001.3										
460	2310		252° 52'	+18.5	8.9	-		-8.9		2992.4		+55	-2309	475,582	1,596,543				
461	1980		-	--	8.7	-		-8.7		2992.6		+47	-1979	475,574	1,596,873				
IF	1828		253° 07' 31"	--	8.5	-		-8.5		2992.8	IF	+52	-1827	475,579	1,597,025			475,580 x -1,597,020	
462	1650		252° 52'	--	8.6	-		-8.6		2992.7		+39	-1650	475,566	1,597,202			sec. line EL. 2992.0	
463	1320		-	--	8.1	-		-8.1		2993.2		+31	-1320	475,558	1,597,532				
464	990		-	--	8.7	-		-8.7		2992.6		+24	-990	475,551	1,597,862				
465	660		-	--	8.8	-		-8.8		2992.5		+16	-660	475,543	1,598,192				
466	330		-	--	7.2	-		-7.2		2994.1		+8	-330	475,535	1,598,522				
467	0				5.1	-		-5.1		2996.2	TP	0	0	475,527	1,598,852				
468	330		72° 46'	+18.5	5.7	TH	+1.7	-4.0		2997.3		-7	+330	475,520	1,599,182				
469	660		-	--	4.9	-		-4.9		2996.4		-15	+660	475,512	1,599,512				
IF	808		72° 20' 40"	--	5.4	-		-5.4		2995.9	IF	-12	+808	475,515	1,599,660			475,515 x -1,599,660	
470	990		72° 46'	--	5.9	-		-5.9		2995.4		-22	+990	475,505	1,599,842			T-Inter. EL. 2996.0	
471	1320		-	--	5.3	-		-5.3		2996.0		-29	+1320	475,498	1,600,172			Horiz y = -18' CORR. x = +9'	
472	1650		-	--	12.1	TH	+8.3	-3.8		2997.5		-36	+1650	475,491	1,600,502				
473	1980		-	--	3.5	-		-3.5		2997.8		-44	+1980	475,483	1,600,832				
474	2310		-	--	6.2	8954	+4.0	-2.2		2999.1		-51	+2309	475,476	1,601,161				
475	2640		-	--	4.6	-		-4.6		2996.7		-58	+2639	475,469	1,601,491				
476	2970		-	--	5.9	-		-5.9		2995.4		-66	+2969	475,461	1,601,821				
477	3300		72° 16'	--	7.8	-		-7.8		2993.5		-73	+3299	475,454	1,602,151			E.O.L. Line by	