

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc. Client- COCORP

DATE 2-3-81	INSTRUMENT MAN G. Cotcamp	ROD MAN B. Cotcamp	PARTY NUMBER 6834	NOTES CHECKED BY B.C.	LINE NO. 3	PAGE 1 of 171
AREA ARKANSAS	TOPO MAP Parks 15	STATE Arkansas	COUNTY Scott	TWP	RANGE	PPM
				PARTY MANAGER L. Davis		

STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS A TP	COORDINATES		REMARKS		
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y	X
+										1062.9	R			198,465	1,401,380	Instrument - Wild T/A chaining - 330' steel cable + pins
	660		359°11' -180°	+6.8°	+7.2	91°	+11.5	+18.7	1081.6		BS	-656	-69			Line # 2 page 37
	660				+11.1	96°40'	+7.7	+18.8			BS					4-Way Intersect (Line # 2)
+	0				5.4			-5.4		1076.2	+	0	0	197,809	1,401,311	vertical + horizontal
TP	838		178°04'40"	+6.8°	0.4	TH	+4.2	+3.8			TP	-835	-71	196,974	1,401,240	Traverse from 4-Way
TP	838				3.6	89°30'	+7.3	+3.7		1085.3	TP					(Line # 2) south to sta. 1
	505	509.7	338°27'40" -180°	+6.8°	+10.1	92°	+17.6	+27.7	1113.0		BS	-488	+128			↓
	505				+14.5	91°30'	+13.2	+27.7			BS					
+	0				5.4	-		-5.4		1107.6	+	0	0	196,486	1,401,368	↓
+	410	409.75	127°50'	+6.8°	7.2	92°	-14.3	-21.5			TP	-288	+292	196,198	1,401,660	
TP	410				11.3	91°26'	-10.3	-21.6		1091.4	TP					↓
	373		283°06' -180°	+6.8°	+8.0	-		+8.0	1099.4		BS	-127	+351			
	373				+6.1	0H	+1.9	+8.0			BS					↓
+	0				5.4	-		-5.4		1094.0	+	0	0	196,071	1,402,011	
TP	570	569.7	68°54'40"	+6.8°	10.7	91°50'	-18.2	-28.9			TP	+191	+552	196,212	1,402,563	↓
TP	570				12.4	91°40'	-16.6	-29.0		1070.4	TP					
	272		246°59' -180°	+6.8°	+2.6	-		+2.6	1073.0		BS	+76	+261			↓
	272				+5.3	89°26'	-2.7	+2.6			BS					
+	0				5.4	-		-5.4		1067.6	+	0	0	196,288	1,402,824	↓
TP	774		76°38'	+6.8°	7.5	91°	-13.5	-21.0			TP	+89	+769	196,377	1,403,593	
TP	774				6.2	91°6'	-14.9	-21.1		1051.9	TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 2/3/81	INSTRUMENT MAN G. Cotcamp	ROD MAN B. Cotcamp	PARTY NUMBER 6834	NOTES CHECKED BY B.C.	LINE NO. 3	PAGE 2
AREA Arkansas	TOPO MAP Parks 15'	STATE Arkansas	COUNTY Scott	RANGE	PPM	PARTY MANAGER L. Davis

STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
TP										1051.9				196,377	1,403,593	
	768		248° 17' 45" - 180°	+6.8°	+6.2	88° 48'	-16.1	-9.9	1042.0		BS	+197	+742			vertical + horizontal
	768				+8.0	88° 40'	-17.9	-9.9			BS					traverse from 4-way
TP	0				5.4	-		-5.4		1036.6	TP	0	0	196,574	1,404,335	line # 2 south to sta. 1
TP	1120		78° 10' 35"	+6.8°	7.7	91° -	-19.5	-27.2			TP	+98	+1116	196,672	1,405,451	line 3 ↓
TP	1120				11.0	90° 50'	-16.3	-27.3		1014.7	TP					
	650		246° 54' 20" - 180°	+6.8°	+5.2	89° -	-11.3	-6.1	1008.6		BS	+182	+624			↓
	650				+2.2	89° 16'	-8.3	-6.1			BS					
TP	0				5.4	-		-5.4		1003.2	TP	0	0	196,854	1,406,075	
TP	324		71° 51'	+6.8°	10.9	-		-10.9		997.7	TP	+64	+318	196,918	1,406,393	↓
TP	324				9.2	04	-1.6	-10.8			TP					
	320		281° 36' - 180°	+6.8°	+1.1	89° 40'	-1.9	-0.8	996.9		BS	-101	+304			
	320				+2.1	89° 30'	-2.8	-0.7			BS					↓
TP	0				5.4	-		-5.4		991.5	TP	0	0	196,817	1,406,697	
TP	322		128° 39'	+6.8°	8.4	-		-8.4		988.5	TP	-229	+226	196,588	1,406,923	
TP	322				10.0	74	+1.6	-8.4			TP					
	275		335° 51' - 180°	+6.8°	+3.9	89° -	-4.8	-0.9	987.6		BS	-262	+82			↓
	275				+5.5	88° 40'	-6.4	-0.9			BS					
TP	0				5.4	-		-5.4		982.2	TP	0	0	196,326	1,407,005	
TP	564		172° 53'	+6.8°	13.1	-		-13.1		974.5	TP	-564	+3	195,762	1,407,008	↓
TP	564				10.3	04	-2.8	-13.1			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/3/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	3						
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Arkansas		Parks 15'		Arkansas	Scott				L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS A TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
TP										974.5							
	287		326° 56' -180°	+6.8°	+3.8	TH	-1.4	+2.4	976.9		BS	-257	+127				vertical + horizontal
	287				+4.1	89° 40'	-1.7	+2.4			BS						traverse from 4-way
π	0				5.4	-		-5.4		971.5	π	0	0	195,505	1,407,135		Line # 2 south to
TP	300		117° 52'	+6.8°	11.2	-		-11.2		965.7	TP	-171	+247	195,934	1,407,382		Sta. 1 Line # 3
TP	300				9.7	BH	-1.5	-11.2			TP						↓
	302		267° 03' -180°	+6.8°	+3.0	89° -	-5.3	-2.3	963.4		BS	-20	+301				
	302				+1.3	89° 20'	-3.5	-2.2			BS						
π	0				5.4	-		-5.4		958.0	π	0	0	195,314	1,407,683		↓
TP	992		67° 27'	+6.8°	15.0	BH	-5.0	-20.0		943.4	TP	+269	+955	195,583	1,408,638		
TP	992				14.2	90° 20'	-5.8	-20.0			TP						↓
	355		225° 52' -180°	+6.8°	14.5	89° -	6.2	+1.7			BS	+215	+282				
	355				+1.4	89° 20'	-4.1	-2.7	940.7		BS						
π	0				5.4	-		-5.4		935.3	π	0	0	195,798	1,408,920		↓
TP	576		26° 35'	+6.8°	9.0	91° -	-10.1	-19.1		921.6	TP	+481	+317	196,279	1,409,237		
TP	576				14.0	90° 30'	-5.0	-19.0			TP						↓
	330		233° 10' -180°	+6.8°	+4.1	-		+4.1	925.7		BS	+165	+286				
	330				+5.7	TH	-1.7	+4.1			BS						
π	0				5.4	-		-5.4		920.3	π	0	0	196,444	1,409,523		
1	225		81° 35'	+6.8°	9.2	-		-9.2		916.5	TP	+6	+225	196,450	1,409,748		Sta. 1-Line # 3
1	225				8.1	BH	-1.1	-9.2			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/3/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3		4			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
1										916.5					
	660		270°57' -180°	+6.8°	+4.3	89° -	-11.5	-7.27	909.3		BS	-88	+654		dirt road
	660				+1.2	89°16'	-8.4	-7.25			BS				↓
2	330		270°54'	+6.8°	1.7	-		-1.7		907.6		+44	-327	196,406	1,410,075
3	0				5.4	-		-5.4		903.9	π	0	0	196,362	1,410,402
4	334		107°40'	+6.8°	12.0	-		-12.0		897.3	TP	-138	+304	196,324	1,410,706
4	334				13.7	TH	+1.7	-12.05			TP				
	332		322°22' -180°	+6.8°	+0.7	90°10'	+1.0	+1.7	899.0		BS	-285	+170		
	332				+0.1	90°16'	+1.6	+1.7	898.9		BS				
5	0				5.4	-		-5.4		893.6	π	0	0	195,939	1,410,876
TP	291		173°50'	+6.8°	9.3	-		-9.3			TP	-291	-3	195,645	1,410,873
TP	291				10.2	89°50'	+0.8	-9.4		889.6	TP				
	220		20°31' +180°	+6.8°	+1.2	TH	-1.1	+0.17	889.7		BS	-195	-101		
	220				+1.2	89°44'	-1.0	+0.2			BS				
6	180		21°0'	+6.8°	0.7	-		-0.7		889.0		+159	+84	195,612	1,410,856
π	0				5.4	-		-5.4		884.3	π	0	0	195,453	1,410,772
7	155		214°41'	+6.8°	6.1	-		-6.17		883.6	TP	-116	-103	195,337	1,410,669
7	155				6.9	TH	+0.8	-6.15			TP				
	208		58°40' +180°	+6.8°	+7.0	88°30'	-5.4	+1.6	885.2		BS	-86+2	-189+2		
	208				+6.1	88°46'	-4.5	+1.6			BS				
π	0				5.4	-		-5.4		879.8	π	0	0	195,253	1,410,482

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/3/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	5					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Parks 15'		Arkansas		Scott					L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									885.2							
8	122		253°37'	+6.8°	7.3	-		-7.3		877.9		-20	-120	195,233	1410,362	
9	453		251°11'	+6.8°	12.1	-		-12.1		878.1	TP	-94+2	-443+2	195,161	1,410,041	
9	453				144	TH	+2.3	-12.1			TP					
	327		43°53'+180°	+6.8°	+5.3	89°-	-5.7	-0.4			BS	-207+2	-253+2			
	327				+8.1	88°30'	-8.6	-0.5	872.6		BS					
10	0				5.4	-		-5.4		867.2	T	0	0	194,956	1,409,790	
11	330		192°16'	+6.8°	10.3	-		-10.3			TP	-312+2	-108+2	194,646	1,409,684	
11	330				12.0	TH	+1.7	-10.4		862.2	TP					
	330		4°24'+180°	+6.8°	+7.1	88°-	-11.5	-4.4	857.8		BS	-324+2	-64+2			
	330				+1.4	89°-	-5.8	-4.4			BS					
12	0				5.4	-		-5.4		852.4	T	0	0	194,324	1,409,622	
13	330		211°48'	+6.8°	7.1	-		-7.1		850.7	TP	-258+2	-206+2	194,068	1,409,418	
13	330				8.7	TH	+1.7	-7.1			TP					
	328		38°20'+180°	+6.8°	+0.7	-		+0.7	851.4		BS	-231+2	-232+2			
	328				+2.3	TH	-1.6	+0.7			BS					
14	0				5.4	-		-5.4		846.0	T	0	0	193,839	1,409,188	
15	328		185°13'	+6.8°	10.9	-		-10.9		840.5	TP	-321+2	-68+2	193,520	1,409,122	
15	328				9.3	TH	-1.6	-10.9			TP					
	660		331°48'-180°	+6.8°	+4.1	89°-	-11.5	-7.4	833.1		BS	-614+2	+241+2			
	660				+2.2	89°10'	-9.6	-7.4			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/3/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		6			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									833.1						
16	330		330°06'	+6.8°	3.9	87°-	+5.8	+1.9		835.0		+304	-129	193,212	1409,236
17	0				5.4	-		-5.4		827.7	π	0	0	192,908	1409,365
18	329		153°06'	+6.8°	8.9	90°44'	-4.2	-13.1			TP	-309+2	+113+2	192,601	1,409,480
18	329				5.5	91°20'	-7.7	-13.2		819.9	TP				
	327	326	8°08'+180°	+6.8°	+9.7	85°50'	-23.7	-14.0	805.9		BS	-315+2	-84+2		
	327				+10.7	85°40'	-24.6	-13.9			BS				
19	0				5.4	-		-5.4		800.5	π	0	0	192,288	1,409,398
20	330		158°0'	+6.8°	10.3	92°-	-11.5	-21.8		784.1		-318	+87	191,970	1,409,485
21	654	653	156°22'	+6.8°	11.1	93°-	-34.2	-45.3			TP	-625+1	+189+1	191,664	1,409,589
21	654				14.2	92°44'	-31.2	-45.4		760.5	TP				
	330	329.6	329°43'-180°	+6.8°	+1.4	87°-	-17.2	-15.8			BS	-302	+131+2		
	330				+0.4	87°10'	-16.3	-15.9	744.6		BS				
22	0				5.4	-		-5.4		739.2	π	0	0	191,362	1,409,722
23	330		173°0'	+6.8°	8.5	-		-8.5		736.1		-330	+1	191,032	1,409,723
24	660		176°38'38"	+6.8°	6.6	-		-6.6		738.0	TP	-659	-40+2	190,703	1,409,684
24	660				9.9	TH	+3.3	-6.6			TP				
	329		27°01'+180°	+6.8°	+6.9	89°-	-5.7	+1.2			BS	-273	-183		
	329				+8.8	88°40'	-7.7	+1.1	739.1		BS				
25	0				5.4	-		-5.4		733.7	π	0	0	190,430	1,409,501

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/3/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		7				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Parks 15'		Arkansas		Scott								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH-	EAST+ WEST-	COORDINATES		REMARKS
														Y	X	
									739.1							
26	330		195° 05'	+6.8°	12.0	-		-12.0			TP	-306	-123	190,124	1,409,378	
26	330				13.7	TH	+1.7	-12.1		727.0	TP					
	325		16° 38' +180°	+6.8°	+6.2	89° 16'	-4.2	+2.0	729.0		BS	-298	-129			
	325				+7.7	89° -	-5.7	+2.0			BS					
27	0				5.4	-		-5.4		723.6	π	0	0	189,826	1,409,249	
28	312	310.8	158° 58'	+6.8°	14.9	85° 2'	+26.9	+12.0			TP	-301	+76	189,525	1,409,325	
28	312				14.8	85° 4'	+26.7	+11.9		740.9	TP					
	330		345° 44' -180°	+6.8°	+5.8	-		+5.8	746.7		BS	-327	+93			
	330				+7.5	TH	-1.7	+5.9			BS					horiz. correct. y = +23'
29	0				5.4	-		-5.4		741.3	π	0	0	189,198	1,409,368	x = +28'
1F	102		157° 51'	+6.8°	5.2	-		-5.2		741.5		-98	+27	189,100	1,409,395	189,100, +1,409,395 T-rd (east)
30	330		160° 25'	+6.4°	9.4	91° -	-5.8	-15.2		731.5		-321	+75	188,877	1,409,443	
31	660		160° 25'	+6.4°	13.8	91° 20'	-15.4	-29.2		717.5	TP	-642 +3	+150	188,559	1,409,518	
31	660				13.0	91° 24'	-16.1	-29.1			TP					
	328		327° 25' -180°	+6.4°	+5.9	-		+5.9	723.4		BS	-294 +3	+145			
	328				+7.6	TH	-1.6	+6.0			BS					
32	0				5.4	-		-5.4		718.0	π	0	0	188,268	1,409,663	
33	330		140° 18'	+6.4°	8.9	-		-8.9		714.5		-276	+181	187,992	1,409,844	
34	660		140° 18'	+6.4°	4.2	90° 40'	-7.7	-11.9		711.5	TP	-552 +3	+362	187,719	1,410,025	
34	660				3.1	90° 46'	-8.8	-11.9			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/3/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	8			
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Parks 15'		Arkansas	Scott				L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
34										711.5				
	330	329.6	317°07'-180°	+6.4°	+7.7	87°20'	-15.3	-7.6			BS	-265.2	+196	
	330				+8.6	87°10'	-16.3	-7.7	703.8		BS			
35	0				5.4	-		-5.4		698.4	X	0	0	187,457 1,410,221
TP	238		156°21'	+6.4°	10.0	-		-10.0		693.8	TP	-227.3	+71	187,233 1,410,292 curve
TP	238				8.8	BH	-1.2	-10.0			TP			
	422		305°54'-180°	+6.4°	+1.1	TH	-2.1	-1.0	692.8		BS	-284.3	+312	
	422				+1.5	89°46'	-2.5	-1.0			BS			
36	330		304°50'	+6.4°	0.4	-		-0.4		692.4		+218	-248	187,170 1,410,356
37	0				5.4	-		-5.4		687.4	X	0	0	186,952 1,410,604
38	330		120°21'	+6.4°	8.6	-		-8.6		684.2	TP	-197.3	+264	186,758 1,410,868
38	330				6.9	BH	-1.7	-8.6			TP			
	658		296°36'-180°	+6.4°	+3.8	-		+3.8	688.0		BS	-358.3	+552	
	658				+7.1	TH	-3.3	+3.8			BS			
39	330		296°36'	+6.4°	3.3	-		-3.3		684.7		+180	-277	186,583 1,411,143
40	0				5.4	-		-5.4		682.6	X	0	0	186,403 1,411,420
41	330		107°12'	+6.4°	7.5	88°-	+11.5	+4.0		692.0	TP	-132.3	+302	186,274 1,411,722
41	330				8.4	87°50'	+12.5	+4.1			TP			
	193		265°45'-180°	+6.4°	+12.4	-		+12.4	704.4		BS	-7.3	+193	
	193				+13.4	TH	-1.0	+12.4			BS			
X	0				5.4	-		-5.4		699.0	X	0	0	186,270 1,411,915 curve

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/4/81		G. Cotcamp		B. Cotcamp		6834		slw B.C.		3		9			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									704.4						
42	128 458		69°43'	+6.4°	3.1	87°-	+6.7	+3.6		708.0		+31	+124	186,301	1412039
43	458	457	69°43'	+6.4°	5.4	86°-	+31.9	+26.5			TP	+110	+444	186,383	1412,359
43	458				4.1	86°10'	+30.5	+26.4		730.8	TP				
	330		256°02' -180°	+6.4°	8.0	97°-	+5.8	+13.8			BS	+43	+327		
	330				+13.7	-		+13.7	744.5		BS				
44	0				5.4	-		-5.4		739.1	TP	0	0	186,409	1412,686
45	326		88°58'	+6.4°	13.5	87°	+6	+15.1			TP	-30	+325	186,402	1413,011
45	326				13.2	90°30'	-2.8	-16.0		728.5	TP				
	935		7°31'40" -180°	+6.4°	+0.8	89°-	-16.3	-15.5	713.0		BS	-907	-225		
	935				+2.4	88°59'	-17.9	-15.5			BS				90° bend
46	660		11°07'	+6.4°	0.9	TH	+3.3	+2.4		715.4		+629	+199	186,127	1412,985
47	460		11°50'	+6.4°	0.8	-		-0.8		712.2		+437	+144	185,935	1412,930
47	330		11°07'	+6.4°	3.1	-		-3.1		709.9		+315	+99	185,813	1412,885
48	0				5.4	-		-5.4		707.6	TP	0	0	185,498	1412,786
49	330		188°0'	+6.4°	11.0	-		-11.0		702.0		-320	-82	185,178	1412,704
50	657		180°18'	+6.4°	7.8	90°30'	-5.7	-13.5		699.5		-653	-77	184,845	1412,709
51	981		178°24'38"	+6.4°	13.1	PH	-4.9	-18.0		695.0	TP	-978	-82	184,523	1412,707
51	981				14.6	90°12'	-3.4	-18.0			TP				
	660		21°0' -180°	+6.8°	+7.7	89°-	-11.5	-3.8			BS	-589	+3	-308	+3
	660				+1.9	89°35'	-5.8	-3.9	691.1		BS				

185,970 + 1,912,980
trail route

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

155100
95

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/4/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		10			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									691.1						
52	330		21° 0'	+6.8°	1.2	-	-1.2			689.9		+292	+154	184,234	1412,556
53	0				5.4	-	-5.4			685.7	T	0	0	183,942	1412,402
54	330		207° 25'	+6.8°	10.6	91° -	-5.8	-16.47		674.7	T	-273.3	-186.3	183,672	1412,219
54	330				9.6	91° 15'	-6.7	-16.35			T				
	650		37° 52' 30" +180°	+6.8°	+1.8	89° 30'	-5.7	-3.97	670.8		BS	-462.3	-457.3		Curve
	650				+0.7	89° 26'	-4.5	-3.85			BS				
55	330		30° 0'	+6.8°	3.5	-	-3.5			667.3		+264	+198	183,477	1411,963
56	0				5.4	-	-5.4			665.4	T	0	0	183,213	1411,765
57	330		193° 54'	+6.8°	9.7	-	-9.7			661.1		-309	-117	182,909	1411,648
58	660		193° 54'	+6.8°	14.6	90° 20'	-3.8	-18.47			T	-617	-233.3	182,596	1411,535
58	660				10.8	90° 40'	-7.7	-18.55		652.3	T				
	660		358° 42' 25" +180°	+6.8°	+8.0	91° -	+11.5	+19.57	671.8		BS	-657	-63.3		
	660				+11.1	90° 44'	+8.4	+19.55			BS				
59	330		256° 48'	+6.8°	12.7	91° -	-5.8	-18.55		653.3		+329	+2.1	182,268	1411,496
60	0				5.4	-	-5.4			666.4	T	0	0	181,939	1411,475
61	330		199° 37'	+6.8°	5.0	-	-5.0			666.8		-296	-147	181,643	1411,328
62	660		" "	"	10.8	-	-10.8			661.0		-591	-293	181,348	1411,182
63	990		198° 51' 28"	+6.8°	11.8	-	-11.8				T	-892	-429.3	181,097	1411,099
63	990				6.9	64	-5.0	-11.95		659.9	T				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/4/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3		12			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									657.8						
73	330		173°06'	+6.9°	5.5	-		-5.5		652.3		-330	+3	177,798	1411,148
74	660		173°06'	+6.9°	61	-		-6.1		651.7	TP	-660	+6+3	177,468	1411,154
74	660				9.4	TH	+3.3	-6.1			TP				
	322		374°56'-180°	+6.9°	+9.0	-		+9.0	660.7		BS	-318	+49+3		
	322				+10.6	TH	-1.6	+9.0			BS				
75	0				5.4	-		-5.4		655.3	T	0	0	177,150	1411,206
76	330		144°57'	+6.9°	5.4	-		-5.4		655.3	TP	-290	+158+1	176,860	1411,365
76	330				3.7	BN	-1.7	-5.4			TP				
	872		307°28'20"-180°	+6.9°	+5.6	89°30'	-7.6	-2.0	653.3		BS	-604	+629		90° bend
	872				+6.6	89°26'	-8.6	-2.0			BS				
77	640		290°57'	+6.9°	0.2	-		-0.2		653.1		+294	-568	176,550	1411,426
±	630		289°17'	+6.9°	0.6	-		-0.6		652.7		+273	-568	176,529	1411,426
78	330		288°14'	+6.9°	2.9	-		-2.9		650.4		+138	-300	176,394	1411,694
79	0				5.4	-		-5.4		647.9	T	0	0	176,256	1411,994
80	330		128°13'30"	+6.9°	5.9	-		-5.9		647.4		-138	+300	176,118	1412,294
81	660		128°12'30"	+6.9°	71	-		-7.1		646.2	TP	-275	+600	175,981	1412,594
81	660				10.4	TH	+3.3	-7.1			TP				
	302		305°35'-180°	+6.9°	+7.6	-		+7.6	653.8		BS	-202	+224		horiz. correct, y=+54, x=+43
	302				+9.1	TH	-1.5	+7.6			BS				
±	100		9°31'	+6.9°	1.8	-		-1.8		652.0		+96	+27	175,875	1412,845

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/4/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		13			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS A TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									653.8						
82	0				5.4	-		-5.4		648.4	π	0	0	175,779	1,412,818
83	330		187°03'	+6.1°	10.8	91°20'	-7.7	-18.5		635.3		-321	-75	175,458	1,412,743
84	655		180°56'	+6.1°	10.5	91°-	-11.4	-21.9			TP	-650+2	-80-2	175,131	1,412,736
84	655				14.7	90°40'	-7.6	-22.0		631.8	TP				
	658	657.5	338°34'-180°	+6.1°	+5.4	87°50'	-24.9	-19.5	612.3		BS	-634+2	+174-2		
	658				+7.3	87°40'	-26.8	-19.5			BS				
85	330		338°34'	+6.1°	0.8	88°-	+11.5	+10.7		623.0		+318	-87	174,817	1,412,821
86	0				5.4	-		-5.4		606.9	π	0	0	174,499	1,412,908
87	330		184°20'30"	+6.1°	12.5	BH	-1.7	-14.2		598.1		-325	-60	174,174	1,412,848
88	660		"	"	10.3	BH	-3.3	-13.6		598.7		-649	-120	173,850	1,412,788 bridge
89	990		"	"	11.5	BH	-5.0	-16.5		595.8		-974	-179	173,525	1,412,729
90	320		184°20'30"	+6.1°	11.9	90°30'	-11.5	-23.4		588.9	TP	-1298+2	-239-2	173,203	1,412,667
90	1320				14.1	90°34'	-9.2	-23.3			TP				
	1320		356°23'-180°	+6.1°	+6.5	-		+6.5	595.4		BS	-1319+2	-57-2		
	1320				+13.1	TH	-6.6	+6.5			BS				
91	990		355°26'	+6.1°	6.8	-		-6.8		588.6		+990	+26	172,876	1,412,634
92	660		"	"	6.7	-		-6.7		588.7		+660	+18	172,546	1,412,626
93	330		"	"	6.5	-		-6.5		588.9		+330	+9	172,216	1,412,617
94	0				5.4	-		-5.4		590.0	π	0	0	171,886	1,412,608
95	330		175°43'20"	+6.1°	5.6	-		-5.6		589.8		-330	-10	171,556	1,412,598

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/6/81		G. Cotcamp		B. Cotcamp		6837		D.L. adw		3	14			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Parker 15		Arkansas		Scott					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									595.4					
96	660		175°43'20"	+6.1°	4.1	-		-4.1		591.3		-660	-21	171,226 1412,587
97	990		"	"	5.1	-		-5.1		590.3		-989	-31	170,897 1412,577
98	1320		175°43'20"	+6.1°	2.2	TH	+6.6	+4.4?			TP	-1319.2	-42.2	170,569 1412,564
98	1320				5.7	89°34'	+10.0	+4.35		599.7	TP			
	660		355°27'-180°	+6.1°	+13.0	BH	+3.3	+16.3	616.0		BS	-660.2	-18.2	
	660				+12.5	90°20'	+3.8	+16.3			BS			
99	330		355°27'	+6.1°	9.9	-		-9.9		606.1		+330	+9	170,241 1412,553
100	0				5.4	-		-5.4		610.6	π	0	0	169,911 1412,544
100	162		170°57'	+6.1°	0.2	TH	+0.8	+0.6		616.6		-162	+8	169,749 1412,552 4-way Intersect
101	254		139°56'	+6.1°	3.9	-		-3.9		612.1	TP	-211	+142.2	169,700 1412,684 90° bend
101	254				5.2	TH	+1.3	-3.9			TP			
	330		279°50'-180°	+6.1°	+12.1	91°-	+5.8	+17.9			BS	-91	+317.2	
	330				+13.6	90°44'	+4.2	+17.8	629.9		BS			
102	0				5.4	-		-5.4		624.5	π	0	0	169,609 1412,999
103	330		105°56'	+6.1°	3.8	88°-	+11.5	+7.7		637.6	TP	-124	+306.2	169,485 1413,303
103	330				1.5	88°24'	+9.2	+7.7			TP			
	330		295°32'-180°	+6.1°	+5.6	89°-	-5.8	-0.2	637.4		BS	-173	+281.2	
	330				+3.6	89°20'	-3.8	-0.2			BS			
104	0				5.4	-		-5.4		632.0	π	0	0	169,312 1413,582
105	330		106°15'	+6.1°	9.5	92°-	-11.5	-21.6		616.4		-125	+305	169,187 1413,887

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/6/81		G. Cotcamp		B. Cotcamp		6834		DL <i>u</i>		3	15				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Parks 15		Arkansas		Scott					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH-	EAST+ WEST-		Y
									637.4						
106	660	659.6	103° 06'	+6.1°	1.7	92° -	-23.0	-24.7			TP	-217	+623.2	169,095	1414,203
106	660				5.6	91° 40'	-19.2	-24.8		612.6	TP				
	330		278° 22' -180°	+6.1°	+14.1	-		+14.1	626.7		BS	-82	+320.2		
	330				+12.4	BH	+1.7	+14.1			BS				
107	0				5.4	-		-5.4		621.3	π	0	0	169,013	1,414,521
108	330		90° 46'	+6.1°	4.9	-		-4.9		621.8		-39	+328	168,974	1,414,849
109	660		90° 46'	+6.1°	4.1	88° 50'	+13.4	+9.3		636.0	TP	-79	+655.1	168,934	1,415,174
109	660				6.0	88° 40'	+15.4	+9.4			TP				
	660		269° 38' -180°	+6.1°	+2.4	TH	-3.3	-0.9	635.1		BS	-66	+657.1		
	660				+2.2	89° 44'	-3.1	-0.9			BS				
110	330		269° 38'	+6.1°	10.2	-		-10.2		624.9		+33	-328	168,901	1,415,500
111	0				5.4	-		-5.4		629.7	π	0	0	168,868	1,415,830
112	330		82° 29' 40"	+6.1°	10.0	-		-10.0		625.1		+8	+330	168,876	1,416,160
113	660		82° 29' 40"	+6.1°	9.8	-		-9.8		625.3	TP	+16	+660	168,884	1,416,490
113	660				6.5	BH	-3.3	-9.8			TP				
	1320		263° 0' -180°	+6.1°	+3.5	TH	-6.6	-3.1	622.2		BS	+21	+1320		
	1320				+0.7	89° 50'	-3.8	-3.1			BS				
114	990		263° 0'	+6.1°	3.7	-		-3.7		618.5		-16	-990	168,889	1,416,820
115	660		" "	"	10.7	-		-10.7		611.5		-10	-660	168,895	1,417,150
116	330		" "	"	7.6	-		-7.6		614.6		-5	-330	168,900	1,417,480

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/6/81		G. Cotcamp		B. Cotcamp		6834		DL elw		3	16			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Parks 15'		Arkansas		Scott					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									622.2					
117	0				5.4	-		-5.4		616.8	π	0	0	168,905 1,417,810
118	327		193° 0'	+6.1°	2.2	-		-2.2		620.0		-107	+309	168,798 1,418,119 curve
119	650		116° 39'	+6.1°	2.2	TH	+3.3	+5.5		627.7		-352	+547	168,553 1,418,357 "
120	962	961.6	121° 21'	+6.1°	9.8	88° 20'	+28.0	+18.2			TP	-585	+763	168,320 1,418,573 "
120	962				5.4	88° 36'	+23.5	+18.1		640.3	TP			
	656		328° 45' -180°	+6.1°	+9.9	-		+9.9	650.2		BS	-594	+279	
	656				+13.2	TH	-3.3	+9.9			BS			
121	330		333° 28'	+6.1°	7.3	-		-7.3		642.9		+309	-115	168,035 1,418,737
122	0				5.4	-		-5.4		644.8	π	0	0	167,726 1,418,852
123	330		137° 27'	+6.1°	1.5	TH	+1.7	+0.2		650.4		-265	+196	167,461 1,419,048
124	649		142° 47'	+6.1°	5.5	89° 14'	+8.7	+3.2		653.4	TP	-556	+335	167,170 1,419,187 curve
124	649				4.3	89° 20'	+7.5	+3.2			TP			
	330		356° 40' -180°	+6.1°	+5.8	-		+5.8	659.2		BS	-330	-16	
	330				+7.4	TH	-1.7	+5.8			BS			
1E	252		358° 33'	+6.1°	4.7	-		-4.7		654.5		+251	+20	167,091 1,419,191 T-rd (end)
125	0				5.4	-		-5.4		653.8	π	0	0	166,840 1,419,171
126	330		117° 51'	+6.1°	3.8	89° -	+5.8	+2.0		661.2		-328	+35	166,512 1,419,206
127	660	658	"	"	4.7	86° -	+45.9	+41.2		700.4		-654	+69	166,186 1,419,240
128	990	985.8	166° 31' 38"	+6.1°	2.1	84° 44'	+90.5	+88.4		747.6	TP	-978	+127	165,862 1,419,298
128	990				0.3	84° 56'	+88.8	+88.5			TP			

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/6/81		G. Cotcamp		B. Cotcamp		6834		DL <i>dlw</i>		3	17			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Parks 15'		Arkansas		Scott					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
128										747.6				
	248	247	346°43'-180°	+6.1°	+13.1	95°16'	+22.7	+35.87	783.4		BS	-245	+31	
	248				+12.1	95°30'	+23.7	+35.85			BS			
π	0				5.4	-		-5.4		778.0	π	0	0	165,617 1,419,329
129	84		179°14'	+6.1°	1.7	87°-	+4.4	+2.7		786.1		-80	-25	165,537 1,419,304
TP	110		179°54'	+6.1°	2.5	87°-	+5.7	+3.27		786.6	TP	-110	-2	165,507 1,419,327
TP	110				0.6	88°-	+3.8	+3.25			TP			
	288		287°52'-180°	+6.1°	+2.4	87°40'	-11.7	-9.37			BS	-117	+263	
	288				+1.5	87°50'	-10.9	-9.45	777.2		BS			
130	0				5.4	-		-5.4		771.8	π	0	0	165,390 1,419,590
IF	335		147°22'	+6.1°	4.6	88°-	+11.7	+7.1		784.3		-300	+150	165,090 1,419,740 T-rod (east)
131	334		147°55'	+6.1°	4.7	88°-	+11.6	+6.97		784.4	TP	-300+2	+146	165,092 1,419,736 horiz. correct. y = +12' x = -27'
131	334				5.7	87°50'	+12.6	+6.95			TP			
	660	659.4	335°55'-180°	+6.1°	+5.5	87°30'	-28.8	-23.37	760.8		BS	-627+2	+204	
	660				+3.3	87°42'	-26.4	-23.15			BS			
132	330		335°55'	+6.1°	3.7	-		-3.7		757.1		+314	-102	164,781 1,419,838
133	0				5.4	-		-5.4		755.4	π	0	0	164,467 1,419,940
134	330	329.6	150°17'	+6.1°	4.7	87°-	+17.2	+12.57		773.3	TP	-302+2	+132	164,167 1,420,072
134	330				1.9	87°30'	+14.4	+12.65			TP			
	330		344°27'-180°	+6.1°	+12.0	95°-	+11.5	+24.57	797.8		BS	-326+2	+54	
	330				+14.5	97°44'	+10.0	+24.55			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/6/81		G. Cotcamp		B. Cotcamp		6834		DL		3	18						
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Parks 15'		Arkansas		Scott					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									797.8								
135	0				5.4	-		-5.4		792.4	X	0	0	163,843	1,420,126		
136	330		169°02'	+6.1°	12.4	92°-	-11.5	-23.9		773.9		-329	+28	163,519	1,420,157		
137	660	659.5	167°57'30"	+6.1°	14.1	92°20'	-26.8	-40.9			TP	-656+2	+68	163,189	1,420,194		
137	660				12.2	92°30'	-28.8	-41.0		756.8	TP						
	328		339°15'-180°	+6.1°	+11.6	92°-	+11.4	+23.0	779.8		BS	-317+2	+83				
	328				+12.6	91°50'	+10.5	+23.1			BS						
138	0				5.9	-		-5.4		774.4	X	0	0	162,874	1,420,277		
TP	250		185°0'	+6.1°	5.9	90°52'	-3.8	-9.7		770.1	TP	-245+2	-48	162,631	1,420,229		
TP	250				6.5	90°44'	-3.2	-9.7			TP						
	211	210	38°58'+180°	+6.1°	10.7	96°-	+21.9	+32.6	802.7		BS	-148+2	-149				
	211				+11.5	95°46'	+21.1	+32.6			BS						cut-across corner
139	155		51°53'	+6.1°	13.3	93°-	-8.1	-21.4		781.3		+82	+131	162,567	1,420,211		in woods
X	0				5.4	-		-5.4		797.3	X	0	0	162,485	1,420,080		
X	80		225°21'	+6.1°	5.0	-		-5.0		797.7		-50	-63	162,435	1,420,017		u.e. spike 797.0 elev
140	174		206°49'	+6.1°	2.1	-		-2.1		800.6	TP	-146+2	-95	162,341	1,419,985		dirt road
140	174				3.0	TH	+0.9	-2.1			TP						↓
	328		352°21'-180°	+6.1°	+6.2	91°30'	+9.5	+15.7	816.3		BS	-328+2	+9				
	328				+7.1	91°30'	+8.6	+15.7			BS						
141	0				5.4	-		-5.4		810.9	X	0	0	162,015	1,419,999		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/6/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	19					
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Parks 15'		Arkansas	Scott				L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									816.3							
142	328		147° 44'	+6.1°	14.7	89° 24'	+3.4	-11.32		805.0	TP	-294+2	+145-2	161,723	1,420,137	
142	328				13.8	89° 34'	+2.5	-11.35			TP					
	330		9° 18' +180°	+6.1°	+1.1	88° 40'	-7.7	-6.62	798.4		BS	-320+2	-82-2			
	330				+2.1	88° 30'	-8.6	-6.55			BS					
143	0				5.4	-		-5.4		793.0	T	0	0	161,405	1,420,053	T opposite sta.
144	330		199° 17'	+6.1°	2.4	-		-2.42		796.0	TP	-298+2	-141-2	161,109	1,419,910	
144	330				4.0	TH	+1.7	-2.45			TP					
	660		358° 55' -180°	+6.1°	+13.3	0H	+3.3	+16.62	812.6		BS	-657+2	-58-2			
	660				+14.3	90° 12'	+2.3	+16.65			BS					
145	330		358° 55'	+6.1°	12.5	0H	-1.7	-14.2		798.4		+329	+29	160,783	1,419,879	
146	0				5.4	-		-5.4		807.2	T	0	0	160,954	1,419,850	
147	330		174° 0'	+6.1°	2.8	89° -	+5.8	+3.02			TP	-330+1	-1-2	160,125	1,419,847	
147	330				0.9	89° 20'	+3.8	+2.95		815.5	TP					
	330		329° 20' -180°	+6.1°	+12.6	91° -	+5.8	+18.42	833.9		BS	-300	+137-2			
	330				+14.9	90° 36'	+3.5	+18.45			BS					
148	0				5.4	-		-5.4		828.5	T	0	0	159,825	1,419,982	
149	330	329	155° 36'	+6.1°	4.1	85° -	+28.7	+24.62			TP	-312	+103-2	159,513	1,420,083	
149	330				3.2	85° 10'	+27.7	+24.55		858.4	TP					
	660		352° 02' -180°	+6.1°	+10.2	-		+10.22	868.6		BS	-660	+22-2			
	660				+13.5	TH	-3.3	+10.25			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/9/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	20						
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Parks 15'		Arkansas		Scott					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									868.6								
150	330		352°02'	+6.1°	12.8	-		-12.8		855.8		+330	-11	159,183	1,420,092		
151	0				5.4	-		-5.4		863.2	X	0	0	158,863	1,420,163		
152	330		177°35'	+6.1°	0.6	74	+1.7	+1.1		869.7	TP	-329	-21	158,524	1,420,080		
152	330				0.8	89°40'	+1.9	+1.1			TP						
	330		358°45'-180°	+6.1°	+14.2	91°-	+5.8	+20.0	889.7		BS	-329	-28				
	330				+12.3	91°20'	+7.7	+20.0			BS						
153	0				5.4	-		-5.4		884.3	X	0	0	158,195	1,420,050		
154	313	310	151°25'	+6.1°	4.9	82°46'	+39.6	+34.7		924.4	TP	-287	+118	157,908	1,420,166	curve	
154	313				3.1	83°-	+37.9	+34.8			TP						
	330	329	299°32'-180°	+6.1°	+13.1	95°-	+28.7	+41.8	966.2		BS	-192	+267				
	330				+12.7	99°44'	+27.1	+41.8			BS						
155	0				5.4	-		-5.4		960.8	X	0	0	157,716	1,420,431		
156	318	317.6	88°29'	+6.1°	0.4	87°-	+16.6	+16.2		982.4	TP	-25	+317	157,691	1,420,746		
156	318				2.3	86°40'	+18.5	+16.2			TP						
	275		280°32'-180°	+6.1°	+12.0	93°46'	+18.0	+30.0	1012.4		BS	-79	+263				
	275				+13.3	93°30'	+16.8	+30.1			BS						
X	0				5.4	-		-5.4		1007.0	X	0	0	157,612	1,421,007		
157	55		137°26'	+6.1°	2.5	87°-	+2.9	+0.4		1002.8		-44	+33	157,568	1,421,040		
TP	339	337	129°39'	+6.1°	5.3	84°30'	+33.3	+28.0		1040.4	TP	-241	+235	157,371	1,421,242		
TP	339				4.3	84°30'	+32.3	+28.0			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/9/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3	21			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15		Arkansas	Scott					L. Paris				
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.	
157 1/2										1040.4				
	408	407	83°15' +180°	+6.1°	+9.9	93°54'	+27.7	+37.6	1078.0		BS	-5	-407	
	408				+9.2	99°-	+28.4	+37.6			BS			
158	330		90°14'	+6.1°	12.7	93°-	-17.3	-30.0		1048.0		-36	+328	157,330 1,421,163
159	0				5.4	-	-	-5.4		1072.6	X	0	0	157,366 1,420,835
160	330		256°59'	+6.1°	12.3	92°-	-11.5	-23.8		1054.2	TP	-40	-327	157,326 1,420,508
160	330				14.2	91°40'	-9.6	-23.8			TP			
	449	448	353°36' -180°	+6.1°	+1.4	85°50'	-32.5	-31.1	1023.1		BS	-448	+2	
	449				+2.7	85°40'	-33.8	-31.1			BS			
161	119		351°48'	+6.1°	1.8	89°-	+2.1	+0.3		1023.4		+119	-4	156,997 1,420,506
X	0				5.4	-	-	-5.4		1017.7	X	0	0	156,878 1,420,510
X	80		154°48'	+6.1°	2.5	-	-	-2.5		1020.6		-76	+26	156,802 1,420,536 U.E. spike el. 1020.0
162	210		167°0'	+6.1°	4.0	88°-	+7.3	+3.3		1026.4		-208	+25	156,670 1,420,535
TP	485	483	162°45'	+6.1°	4.4	84°20'	+47.7	+43.3		1066.4	TP	-474	+93	156,404 1,420,603
TP	485				3.3	84°20'	+46.6	+43.3			TP			
	390	389.5	48°35' +180°	+6.1°	+13.7	93°-	+20.4	+34.1	1100.5		BS	-225	-318	
	390				+14.9	92°50'	+19.3	+34.2			BS			
163	330		47°45'	+6.1°	10.5	93°-	-17.3	-27.8		1072.7		+195	+266	156,374 1,420,551
164	0				5.4	-	-	-5.4		1095.1	X	0	0	156,179 1,420,285
165	330	329.6	216°30'	+6.1°	2.0	87°-	+17.3	+15.3		1115.8	TP	-243	-223	155,936 1,420,062
165	330				0.6	87°14'	+15.9	+15.3			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/9/81		G. Cotcamp		G. Cotcamp		6837		BC		3		22			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
165										1115.8					
	330		31° 02' +180°	+6.1°	+15.0	91° -	+5.8	+20.8			BS	-26.3	-199		
	330				+12.1	91° 30'	+8.6	+20.7	1136.5		BS				
166	0				5.7	-		-5.4		1131.1	T	0	0	155,677 1,419,863	
167	330	329	202° 58'	+6.1°	3.4	86° -	+23.0	+19.6		1156.1	TP	-288	-160	155,385 1,419,703	
	330				1.5	86° 22'	+21.1	+19.6			TP				
	330		15° 51' +180°	+6.1°	+3.4	-		+3.4	1159.5		BS	-306	-123		
	330				+5.1	TH	-1.7	+3.5			BS				
168	0				5.9	-		-5.4		1154.1	T	0	0	155,079 1,419,580	
169	328		145° 23'	+6.1°	8.9	79° -	+5.7	-3.2		1156.3	TP	-288	+157	154,791 1,419,737	
169	328				9.9	88° 50'	+6.7	-3.2			TP				
	330		327° 38' -180°	+6.1°	+5.0	91° 10'	+6.7	+11.7	1168.0		BS	-288	+161	horiz. correct. y = +29' x = -28'	
	330				+1.0	91° 30'	+4.8	+11.7			BS				
BM	143		348° 34'	+6.1°	11.1	-		-11.1		1156.9		+142	-13	154,645 1,419,885 U.S.G.S. 22 FS 1956 el. 1156.2	
170	0				5.4	-		-5.4		1162.6	T	0	0	154,503 1,419,898	
TP	281	279.5	160° 17'	+6.5°	8.2	84° -	+29.2	+21.0		1189.0	TP	-272.2	+64.2	154,233 1,419,960	
TP	281				5.0	84° 40'	+26.0	+21.0			TP				
	385	384	23° 42' +180°	+6.5°	+14.8	94° 10'	+27.9	+42.7			BS	-332.2	-193.2		
	385				+13.4	94° 22'	+29.2	+42.6	1231.6		BS				
171	330		23° 42'	+6.5°	10.8	94° 30'	-25.8	-36.6		1195.0		+285	+166	154,188 1,419,931	
172	0				5.4	-		-5.4		1226.2	T	0	0	153,903 1,419,765 X opposite sta.	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/9/81		G. Cotcamp		B. Cotcamp		6834		J. Davis B.C.		3	23						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Oden 15'		Arkansas	Scott					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS	
												SOUTH -	WEST -	Y	X		
									1231.6								
173	330		211° 38'	+6.5°	1.1	86° -	+23.0	+21.9		1253.5		-260	-204	153,643	1419,561		
174	660	657.5	211° 38'	+6.5°	4.0	85° -	+57.3	+53.3		1284.9	TP	-517 ₊₂	-406 ₋₂	153,388	1419,357		
174	660				0.5	85° 18'	+53.9	+53.4			TP						
	235		15° 26' +180°	+6.5°	+14.0	93° -	+12.3	+26.3	1311.2		BS	-218 ₊₂	-88 ₋₂				
	235				+12.7	93° 26'	+13.6	+26.3			BS						
175	0				5.1	-		-5.4		1305.8	π	0	0	153,172	1419,267		
175	90		154° 44'	+6.5°	3.5	-		-3.5		1307.7		-85	+29	153,087	1419,296		
176	420		147° 19'	+6.5°	11.3	-		-11.3		1299.9	TP	-377 ₊₂	+185 ₋₂	152,797	1419,450		
176	420				13.4	TH	+2.1	-11.3			TP						
	330		317° 43' -180°	+6.5°	+2.7	88° 20'	-9.6	-6.9	1293.0		BS	-268 ₊₂	+193 ₋₂				
	330				+0.8	88° 40'	-7.7	-6.9			BS						
177	0				5.4	-		-5.4		1287.6	π	0	0	152,531	1419,641		
178	330	329	156° 12'	+6.5°	0.7	85° 50'	+23.9	+23.2		1316.2	TP	-314 ₊₂	+98 ₋₂	152,219	1419,737		
178	330				2.6	85° 30'	+25.8	+23.2			TP						
	330	329.6	333° 01' -180°	+6.5°	+15.0	93° -	+17.3	+32.3	1348.5		BS	-309	+115 ₋₂				
	330				+12.1	93° 20'	+19.2	+32.3			BS						
179	0				5.4	-		-5.4		1343.1	π	0	0	151,910	1419,850		
180	330		157° 01'	+6.5°	2.8	87° -	+17.3	+14.5		1363.0		-316	+94	151,594	1419,944		
181	660	659	157° 01'	+6.5°	4.2	87° -	+34.5	+30.3		1378.8	TP	-632	+187 ₋₂	151,278	1420,035		
181	660				1.5	87° 14'	+31.8	+30.3			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/9/81		G. Cotcamp		J. Liberson		6837		B.C.		3		27			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15		Arkansas		Scott								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH-	EAST+ WEST-		Y
181										1378.8					
	330		335° 57' - 180°	+6.5°	+3.9	-		+3.9	1382.7		BS	-315	+99-2		
	330				+2.2	84	+1.7	+3.9			BS				
182	0				5.4	-		-5.4		1377.3	X	0	0	150,963 1,420,132	
183	328		138° 51'	+6.5°	1.1	-		-1.1			TP	-270	+186-2	150,693 1,420,316	
183	328				28	TH	+1.6	-1.2		1381.5	TP				
	660	659	307° 26' - 180°	+6.5°	+10.5	93° -	+34.5	+45.0	1426.5		BS	-457	+475-2		
	660				+19.3	92° 40'	+30.7	+45.0			BS				
189	330		307° 26'	+6.5°	11.4	94° -	-23.0	-34.4		1392.1		+229	-238	150,465 1,420,551	
185	0				5.4	-		-5.4		1421.1	X	0	0	150,236 1,420,789	
186	331	329.7	119° 30'	+6.5°	1.5	85° -	+28.7	+24.2		1450.7	TP	-194	+266-2	150,042 1,421,053	
186	331				1.6	85° 30'	+25.9	+24.3			TP				
	223		323° 47' - 180°	+6.5°	+14.3	90° 30'	+2.0	+16.3			BS	-194	+111-2		
	223				+13.0	90° 50'	+3.2	+16.2	1466.9		BS				
X	0				5.4	-		-5.4		1461.5	X	0	0	149,848 1,421,162	
187	107		165° 23'	+6.5°	4.9	-		-4.9		1462.0		-106	+15	149,742 1,421,177	
185	444		163° 39'	+6.5°	11.9	91° -	-7.8	-19.7		1447.2	TP	-437	+76-2	149,411 1,421,236 T.P. connect to	
188	444				14.0	90° 44'	-5.7	-19.7			TP				
	662		26° 12' - 180°	+6.5°	+2.8	TH	-3.3	-0.5			BS	-557	-358-2		
	662				+3.3	89° 40'	-3.9	-0.6	1446.6		BS				
189	330		26° 12'	+6.5°	3.2	-		-3.2		1443.4		+278	+178	149,132 1,421,054	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/9/01		G. Cotcamp		D. Liberson		6837		Sider B.C.		3		25				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Odens'		Arkansas		Scott								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
									1446.6							
190	0				5.7	-		-5.4		1441.2	X	0	0	148,854	1,420,876	
191	305		163° 0'	+6.5°	9.8	93° -	-15.9	-25.7		1420.9		-300	+56	148,554	1,420,932	curve
192	632	630.5	152° 59'	+6.5°	9.2	94° -	-44.0	-53.2		1393.4	TP	-590	+221.2	148,264	1,421,095	" "
192	632				14.0	93° 34'	-39.2	-53.2			TP					
	558	556	349° 16' 48"	+6.5°	+4.1	85° 20'	-45.2	-41.2	1352.2		BS	-599	+89.2			
	558				+1.2	85° 38'	-42.4	-41.2			BS					
193	272		347° 16'	+6.5°	3.6	87° -	+11.9	+8.3		1360.5		+225	-37	147,946	1,421,145	
X	0				5.4	-		-5.4		1346.8	X	0	0	147,715	1,421,182	
194	110		201° 0'	+6.5°	10.2	93° -	-5.8	-16.0		1336.2		-98	-51	147,617	1,421,131	
195	440	439.4	197° 30'	+6.5°	12.8	93° -	-23.0	-35.8		1316.4	TP	-401	-179.2	147,314	1,421,001	
195	440				14.6	92° 46'	-21.2	-35.8			TP					
	272	271.6	26° 32' +180°	+6.7°	+4.0	87° -	-14.2	-10.2			BS	-227	-149.2			
	272				+1.6	87° 30'	-11.9	-10.3	1306.1		BS					
X	0				5.4	-		-5.4		1300.7	X	0	0	147,087	1,420,850	
196	61		256° 53'	+6.7°	5.8	-		-5.8		1300.3		-7	-61	147,080	1,420,789	
TP	338		256° 53'	+6.7°	8.7	-		-8.7		1297.4	TP	-38	-336.2	147,049	1,420,512	
TP	338				10.4	TH	+1.7	-8.7			TP					
	301	300	73° 08' +180°	+6.7°	+3.1	85° -	-26.1	-23.0			BS	-53	-295.2			
	301				+1.3	85° 20'	-24.4	-23.1	12743		BS					
197	252	251	65° 52'	+6.7°	3.2	84° -	+26.2	+23.0		1297.3		+75	+239	147,071	1,420,454	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE					
2/12/81		G. Cotcamp		B. Cotcamp		6834		New			3	26					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE	PPM	PARTY MANAGER					
Arkansas		Oden's		Arkansas		Scott						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									1274.3								
X	150	149	52° 37'	+6.7°	0.5	82° 40'	+19.0	+18.5		1292.8		+76	+128	147,072	1,420,343	chiseled square	1.1292
198	0				5.4	-		-5.4		1268.9	T	0	0	146,996	1,420,215		
199	330	329	136° 32'	+6.7°	10.8	94° -	-23.0	-33.8		1240.5		-267	+197	146,732	1,420,412		
200	660	658	136° 32'	+6.7°	14.4	97° 26'	-50.9	-65.3		1209.0	TP	-527	+397-2	146,469	1,420,607		
200	660				12.9	77° 34'	-52.4	-65.3			TP						
	258	254	31° 02' +180°	+6.7°	+7.1	80° -	-44.1	-37.0	1172.0		BS	-201	-155-2				sharp curve
	258				+6.8	90° 4'	-43.8	-37.0			BS						
201	0				5.4	-		-5.4		1166.6	T	0	0	146,268	1,420,450		
202	330	329	254° 18'	+6.7°	9.8	94° -	-23.0	-32.8		1139.2		-51	-325	146,217	1,420,125		
203	660		254° 18'	+6.7°	12.1	-		-12.1		1159.9	TP	-103	-652-2	146,165	1,419,796		
203	660				8.8	84°	-3.3	-12.1			TP						
	238		62° 07' +180°	+6.7°	+4.9	87° -	-12.4	-7.5			BS	-86	-222-2				
	238				+3.9	87° 14'	-11.5	-7.6	1152.3		BS						
T	0				5.4	-		-5.4		1146.9	T	0	0	146,079	1,419,572		
204	92		209° 0'	+6.7°	5.9	-		-5.9		1146.4		-75	-57	146,004	1,419,518		
205	415		196° 10'	+6.7°	7.1	88° -	+14.5	+7.4		1159.7	TP	-382	-161-2	145,697	1,419,409		
205	415				5.4	88° 14'	+12.8	+7.4			TP						
	990	986	20° 12' 40" +180°	+6.7°	+1.3	85° -	-86.0	-84.7	1075.0		BS	-879	-446				
	990				+4.3	84° 50'	-88.8	-84.5			BS						
206	660	657	20° 12' 40"	+6.7°	2.0	85° -	+57.3	+55.3		1130.3		+586	+297	145,404	1,419,260		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/12/81		G. Cotcamp		B. Cotcamp		6834		shw		3	27						
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER									
Arkansas		Oden 15'	Arkansas	Scott				L. Davis									
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS	
												SOUTH -	WEST -	Y	X		
									1075.0								
207	330	329	20° 15' 40"	+6.7°	6.8	86° -	+23.0	+16.2		1091.2		+293	+149	145,111	1,419,112		
208	0				5.4	-		-5.4		1069.6	π	0	0	144,818	1,418,963	π opposite sta.	
209	330		215° 56'	+6.7°	9.8	91° -	-5.8	-15.6		1059.4		-243	-224	144,575	1,418,739		
210	662		215° 56'	+6.7°	10.0	91° -	-11.6	-21.6		1053.4	π	-487	-498	144,331	1,418,515		
210	662				14.6	90° 36'	-6.9	-21.5			π						
	331		53° 51' +180°	+6.7°	+3.0	89° -	-5.8	-2.8	1050.6		BS	-163	-288				
	331				1.6	89° 14'	-4.4	-2.8			BS						
211	0				5.4	-		-5.4		1045.2	π	0	0	144,168	1,418,227		
212	330		243° 30' 180	+6.7°	12.9	-		-12.9			π	-112	-310	144,056	1,417,917		
212	330				14.6	TH	+1.7	+13.0		1037.6	π						
	301	299	47° 07' +180°	+6.7°	710.6	83° -	-36.4	-25.8	1011.8		BS	-176	-241				
	301				+10.1	83° 6'	-35.9	-25.8			BS						
213	0				5.4	-		-5.4		1006.4	π	0	0	143,880	1,417,676		
214	330		195° 20'	+6.7°	10.7	-		-10.7		1001.1		-306	-124	143,574	1,417,552	horiz. connect. y = +14'	
215	660		" "	"	12.3	-		-12.3		999.5		-612	-248	143,268	1,417,428	x = -54'	
<u>IL</u>	960		195° 23'	+6.7°	1.4	89° 30'	+8.4	+7.0		1018.8	π	-890	-361	142,990	1,417,315	142,990 + 1417,315 T-intersect.	
<u>IL</u>	960				4.2	89° 20'	+11.2	+7.0			π						
	541				+8.7	-		+8.7	1027.5		BS						
	541				11.4	TH	-2.7	+8.7			BS						
BM	320				5.1	-		-5.1		1022.4							L-24 1968 reset U.S.C+G.S. el. 1020.5

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/13/81		G. Cotcamp		B. Cotcamp		6837		DL <i>dlw</i>		3	28					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas	Scott					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
Δ										2289.0				135,821	1,416,020	→ control data.
	111	109	229° 26' - 180°	+6.8°	+3.0	79° 46'	-19.4	-16.4	2267.6		BS	+61 +2	+91			Buck Knob Tri-station
	111				+2.6	80° -	-19.0	-16.4			BS					
π	0				5.4	-		-5.4		2262.2	π	0	0	135,884	1,416,111	narrow steep trail
238	198	197.3	309° 16'	+6.8°	13.8	95° -	-17.2	-31.0		2236.6	TP	+142 +2	-137	136,028	1,415,974	↓
238	198				14.6	94° 46'	-16.4	-31.0			TP					
	217	216	95° 38' + 180°	+6.8°	+1.7	85° -	-18.8	-17.1	2219.5		BS	+47 +2	-211			Note - 7,390' (scaled)
	217				+2.3	84° 30'	-19.5	-17.2			BS					gap between 215
π	0				5.4	-		-5.4		2214.1	π	0	0	136,077	1,415,763	and 238.
239	116		229° 22'	+6.8°	11.9	91° -	-2.0	-13.9		2205.6		-65	-96	136,012	1,415,667	
* 240	449	448	220° 27'	+6.8°	17.6	94° -	-31.2	-45.8			TP	-304 +2	-329	135,775	1,415,434	
240	449				13.3	94° 16'	-32.5	-45.8		2173.7	TP					
	330	327.5	44° 40' + 180°	+6.8°	+11.5	83° -	-39.9	-28.4			BS	-204 +2	-256			
	330				+13.5	82° 40'	-41.8	-28.3	2145.4		BS					
241	0				5.4	-		-5.4		2140.0	π	0	0	135,573	1,415,178	
242	320	319.5	212° 30'	+6.8°	14.1	93° 16'	-18.2	-32.3		2113.1	TP	-247 +2	-202	135,328	1,414,976	
242	320				10.9	93° 50'	-21.3	-32.2			TP					
	150	149.5	350° 36' - 180°	+6.8°	+2.0	85° 20'	-12.2	-10.2	2102.9		BS	-149 +2	+7			
	150				+0.9	85° 40'	-11.3	-10.4			BS					
π	0				5.4	-		-5.4		2097.5	π	0	0	135,181	1,414,983	

URVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/13/81		G Cotcamp		O. Libenson		6834		DL <i>slw</i>		3	29					
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER				
Arkansas		Oden 15'		Arkansas		Scott						L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									2102.9							
243	165		159° 20'	+6.8°	4.7	92° -	-5.8	-20.5		2082.4	TP	-160 ±2	+90	135,023	1,415,023	
243	165				13.3	92° 30'	-7.2	-20.5			TP					
	330	329	318° 30' -180°	+6.8°	+1.2	85° 26'	-26.2	-25.0	2057.4		BS	-270 ±2	+187			
	330				+3.6	85° -	-28.7	-25.1			BS					
244	0				5.4	-		-5.4		2052.0	X	0	0	134,755	1,415,210	
245	332	330.7	154° 17'	+6.8°	15.0	95° 10'	-29.8	-44.8			TP	-313 ±2	+107	134,444	1,415,317	
245	332				11.1	75° 50'	-33.6	-44.7		2012.7	TP					
	320	318	337° 12' -180°	+6.8°	+5.0	83° 40'	-35.1	-30.1	1982.6		BS	-306 ±2	+88			
	320				+5.9	83° 30'	-36.0	-30.1			BS					
246	0				5.4	-		-5.4		1977.2	X	0	0	134,140	1,415,405	
247	330	328.7	145° 12'	+6.8°	9.5	95° -	-28.7	-38.2		1944.4	TP	-290 ±2	+154	133,852	1,415,559	
247	330				12.4	94° 30'	-25.8	-38.2			TP					
	330	329	315° 26' -180°	+6.8°	+1.4	86° 40'	-19.2	-17.8			BS	-260 ±2	+202			
	330				+0.5	86° 50'	-18.2	-17.7	1926.7		BS					
248	0				5.4	-		-5.4		1921.3	X	0	0	133,594	1,415,761	
249	330	329.6	142° 32'	+6.8°	2.6	87° -	+17.2	+14.6		1941.3	TP	-283 ±2	+168	133,313	1,415,929	
249	330				0.7	87° 20'	+15.3	+14.6			TP					
	325	324	298° 52' -180°	+6.8°	+14.0	94° -	+22.6	+36.6			BS	-189 ±2	+263			
	325				+12.2	94° 20'	+24.5	+36.7	1978.0		BS					
250	0				5.4	-		-5.4		1972.6	X	0	0	133,126	1,416,192	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/13/81		G. Cotcamp		D. Libenson		6834		DL		3		30			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas										L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1978.0						
251	331	330.6	120° 01'	+6.8°	7.8	87° -	+17.3	+9.5		1987.5	TP	-198 +2	+265	132,930	1,416,457
251	331				4.5	87° 34'	+14.0	+9.5			TP				
	330		310° 31' -180°	+6.8°	+12.9	92° -	+11.5	+24.3	2011.8		BS	-242 +2	+224 +2		
	330				+14.7	91° 40'	+9.6	+24.3			BS				
252	0				5.4	-		-5.4		2006.4	TP	0	0	132,690	1,416,683
TP	290		143° 06'	+6.8°	6.4	89° -	+5.1	-1.3		2010.5	TP	-251 +2	+145 +2	132,441	1,416,830
TP	290				5.4	89° 12'	+4.0	-1.4			TP				curve
	369		281° 47' -180°	+6.8°	+2.8	89° -	-6.4	-3.6	2006.9		BS	-118 +2	+350		
	369				+1.1	89° 16'	-4.7	-3.6			BS				
253	330		280° 18'	+6.8°	4.5	89° -	+5.8	+1.3		2008.2		+97	-315	132,422	1,416,865
254	0				5.4	-		-5.4		2001.5	TP	0	0	132,325	1,417,180
255	330	329	104° 09'	+6.8°	11.0	99° -	-23.0	-34.0		1972.9	TP	-118 +2	+307	132,209	1,417,487
255	330				13.9	93° 30'	-20.1	-34.0			TP				
	320		330° 43' -180°	+6.8°	+9.9	88° 34'	-8.0	+1.9	1974.8		BS	-296 +2	+122		
	320				+11.0	88° 22'	-9.1	+1.9			BS				
256	0				5.4	-		-5.4		1969.4	TP	0	0	131,915	1,417,609
257	330		172° 29'	+6.8°	4.1	-		-4.1		1970.7	TP	-330 +2	+4	131,587	1,417,613
257	330				2.4	84	-1.7	-4.1			TP				
	330		341° 35' -180°	+6.8°	+14.1	91° 30'	+8.6	+22.7	1993.4		BS	-323 +2	+66		
	330				+13.1	91° 40'	+9.6	+22.7			BS				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/13/81		G. Catcamp		D. Liberson		6834		DL <i>dlw</i>		3	31				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas							L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1993.4						
258	0				5.4	-		-5.4		1988.0	T	0	0	131,266	1,417,679
259	330		164°48'	+6.8°	2.4	89°-	+5.8	+3.4		1996.8		-326	+48	130,940	1,417,727
260	660		"	"	6.9	89°-	+11.5	+4.6		1998.0		-653	+96	130,613	1,417,775
261	990		164°48'	+6.8°	2.1	89°-	+17.3	+15.2		2008.6	TP	-979.2	+145	130,289	1,417,824
261	990				10.8	88°30'	+25.9	+15.1			TP				
	330	329	2°58'+180°	+6.8°	+10.6	99°-	+23.0	+33.6			BS	-324.2	-56		
	330				+14.5	93°20'	+19.2	+33.7	2042.3		BS				
262	0				5.4	-		-5.4		2036.9	T	0	0	129,967	1,417,768
263	330		188°53'	+6.8°	3.5	-		-3.5		2038.8	TP	-318.2	-89	129,651	1,417,679
263	330				5.2	TH	+1.7	-3.6			TP				
	330		16°16'+180°	+6.8°	+5.0	-		+5.0			BS	-304.2	-129		
	330				+6.7	TH	-1.7	+5.1	2043.9		BS				
264	0				5.4	-		-5.4		2038.5	T	0	0	129,349	1,417,550
265	330		199°06'	+6.8°	10.3	-		-10.3		2033.6		-297	-144	129,052	1,417,406
266	660		199°06'30"	+6.8°	8.2	-		-8.2		2035.7	TP	-594.2	-288	128,757	1,417,262
266	660				11.5	TH	+3.3	-8.2			TP				
	233	232.4	10°18'+180°	+6.8°	+11.3	86°-	-16.2	-4.9	2030.8		BS	-222.2	-68		
	233				+9.5	86°26'	-14.5	-5.0			BS				
T	0				5.4	-		-5.4		2025.4	T	0	0	128,537	1,417,194
267	89		157°0'	+6.8°	9.3	-		-9.3		2021.5		-85	+25	128,452	1,417,219

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445





Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/13/81		G. Cotcamp		D. Libenson		6834		DL <i>rdw</i>		3		32			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									2030.8						
TP	296		151°06'	+6.8°	14.2	91°-	-5.2	-19.4			TP	-274.2	+111	128,265	1,417,305
TP	296				13.3	91°10'	-6.0	-19.3		2011.5	TP				
	128	127.5	1°17'+180°	+6.8°	+1.5	85°-	-11.1	-9.6	2001.9		BS	-126	-18+1		
	128				+0.4	85°30'	-10.0	-9.6			BS				
268	0				5.4	-		-5.4		1996.5	TP	0	0	128,139	1,417,288
TP	259		198°46'	+6.8°	13.0	92°-	-9.0	-22.0		1979.9	TP	-234	-112+2	127,905	1,417,178 <i>curve</i>
TP	259				14.9	91°34'	-7.1	-22.0			TP				
	58		302°29'-180°	+6.8°	+0.3	89°-	-1.0	-0.7	1979.2		BS	-37	+45+2		
	58				+1.3	88°-	-2.0	-0.7			BS				
269	0				5.4	-		-5.4		1973.8	TP	0	0	127,868	1,417,225
270	328	327.2	86°55'	+6.8°	7.0	94°-	-22.8	-29.8		1949.4	TP	-21	+327+2	127,847	1,417,554
270	328				12.7	93°-	-17.1	-29.8			TP				
	331		284°42'-180°	+6.8°	+0.5	87°44'	-13.1	-12.6			BS	-121	+308+2		
	331				+1.9	87°30'	-14.4	-12.5	1936.9		BS				
271	0				5.4	-		-5.4		1931.5	TP	0	0	127,726	1,417,864
272	298	297.5	154°48'	+6.8°	4.2	93°20'	-17.3	-21.5		1915.4	TP	-282	+94+2	127,444	1,417,960 <i>curve</i>
272	298				3.4	93°30'	-18.2	-21.6			TP				
	328	327.4	295°21'-180°	+6.8°	+0.5	86°24'	-20.6	-20.1			BS	-174	+277+2		
	328				+1.5	86°14'	-21.5	-20.0	1895.4		BS				
273	0				5.4	-		-5.4		1890.0	TP	0	0	127,270	1,418,239

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/14/81		G. Cotcamp		B. Cotcamp		6834		GWC <i>dlw</i>		3	33					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas	Polk					L. Davis						
STATION NO.	 SLOPE DISTANCE	 PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	 VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES Y X		REMARKS
									1895.4							
274	325		140° 01'	+6.8°	7.0	-		-7.0			TP	-272	+178 +2	126,998	1418,419	
274	325				5.3	84'	-1.6	-6.9		1888.5	TP					
	330		306° 15' -180°	+6.8°	+12.1	91° 20'	+7.7	+19.8			BS	-225	+241 +2			
	330				+13.1	91° 10'	+6.7	+19.8	1908.3		BS					
275	0				5.4	-		-5.4		1902.9	TP	0	0	126,773	1418,662	
276	330		129° 58'	+6.8°	0.3	88° -	+11.5	+11.2		1919.5	TP	-240	+226 +2	126,533	1418,890	
276	330				2.2	87° 40'	+13.4	+11.2			TP					
	428		292° 43' -180°	+6.8°	+14.2	91° 10'	+8.7	+22.9	1942.4		BS	-211	+372 +2			
	428				+13.0	91° 20'	+10.0	+23.0			BS					
277	92		292° 43'	+6.8°	6.0	-		-6.0		1936.4		+45	-80	126,367	1419,189	
	0				5.4	-		-5.4		1937.0	TP	0	0	126,322	1419,264	
278	232		144° 16'	+6.8°	2.2	-		-2.2		1940.2	TP	-203	+112 +2	126,119	1419,328	
278	232				3.3	74'	+1.2	-2.1			TP					
	149		85° 40' +180°	+6.8°	+8.0	92° 8'	+5.5	+13.5	1953.7		BS	+6	-149 +2			
	149				+6.5	92° 44'	+7.1	+13.6			BS					
	206		112° 12'	+6.8°	11.6	93° -	-10.8	-22.4		1931.3		-100	+180	126,025	1419,411	126,010 1419,400 Y-intersect.
	0				5.4	-		-5.4		1948.3	TP	0	0	126,125	1419,231	
279	110		281° 11'	+6.9°	0.6	88° 40'	+2.6	+2.0		1955.7	TP	+33	-105 +3	126,158	1419,129	
279	110				0.9	88° 30'	+2.9	+2.0			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/14/81		G. Cotcamp		B. Cotcamp		6834		G.W.C. J.W.		3	37			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Oden 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
279										1955.7				
	329		79° 57' +180°	+6.9°	+12.3	91° -	+5.7	+18.0	1973.7		BS	-21	-328.13	
	329				+14.2	90° 40'	+3.8	+18.0			BS			
280	0				5.4	-		-5.4		1968.3	TP	0	0	126,137 1418,804
281	330		242° 12'	+6.4°	5.1	88° -	+11.5	+6.4		1980.1	TP	-120	-307.13	126,077 1418,500
281	330				1.3	88° 40'	+7.7	+6.4			TP			
	667	666	59° 50' 20" +180°	+6.4°	+9.5	87° -	-34.9	-25.4	1954.7		BS	-268	-610.13	
	667				+5.6	87° 20'	-31.0	-25.4			BS			
282	330		59° 50' 20"	+6.4°	3.9	87° -	+17.2	+13.3		1968.0		+133	+302	125,882 1418,195
283	0				5.4	-		-5.4		1949.3	TP	0	0	125,749 1417,893 TP opposite sta.
284	330		261° 56' 40"	+6.4°	13.0	-		-13.0		1941.7		-10	-330	125,739 1417,563
285	661		261° 56' 40"	+6.4°	9.7	04	-3.3	-13.0		1941.7	TP	-19	-661.13	125,730 1417,235
285	661				8.0	90° 26'	-5.0	-13.0			TP			
	660	659	78° 13' +180°	+6.4°	+0.8	86° 30'	-40.2	-39.4	1902.3		BS	-62	-656.13	
	660				+2.8	86° 20'	-42.1	-39.3			BS			
286	330		78° 13'	+6.4°	0.5	88° -	+11.5	+11.0		1913.3		+31	+329	125,699 1416,911
287	0				5.4	-		-5.4		1896.9	TP	0	0	125,668 1416,582
288	330		264° 16'	+6.4°	5.9	88° -	+11.5	+5.6		1907.9		+4	-330	125,672 1416,252
289	660	659.5	264° 15' 38"	+6.4°	1.6	87° 50'	+24.9	+23.3		1925.6	TP	+8	-659.13	125,676 1415,926
289	660				3.5	87° 40'	+26.8	+23.3			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/14/81		G. Cotcamp		B. Cotcamp		6834		G.C. <i>ulu</i>		3	35					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Oden 15		Arkansas		Polk					L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
289										1925.6						
	330	329.6	89°13'+180°	+6.9°	+5.8	87°-	-17.2	-11.4	1914.2		BS	+32	-328.3			
	330				+3.9	87°20'	-15.3	-11.4			BS					
290	0				5.9	-		-5.4		1908.8	T	0	0	125,708	1415,601	
291	327	326	255°29'	+6.9°	3.3	86°-	+22.8	+19.5		1933.7	TP	-46	-323.3	125,662	1415,281	
291	327				0.9	86°30'	+19.9	+19.5			TP					
	330		63°55'+180°	+6.9°	+14.2	92°-	+11.5	+25.7	1959.4		BS	-111	-311.3			
	330				+13.2	92°10'	+12.5	+25.7			BS					
292	0				5.9	-		-5.4		1954.0	T	0	0	125,559	1414,973	
293	330		238°40'	+6.9°	14.6	92°10'	-12.5	-27.1		1932.3	TP	-139	-299.3	125,412	1414,677	
293	330				12.6	92°30'	-14.4	-27.0			TP					
	660	659.5	69°21'+180°	+6.9°	+9.8	87°40'	-26.8	-17.0			BS	-162	-639.3			
	660				+11.3	87°32'	-28.4	-17.1	1915.2		BS					
294	330		69°21'	+6.9°	4.6	87°30'	+14.4	+9.8		1925.0		+81	+320	125,331	1414,361	
295	0				5.9	-		-5.4		1909.8	T	0	0	125,250	1414,041	
296	330	329.6	249°0'	+6.9°	10.5	93°-	-17.2	-27.7			TP	-83	-319.3	125,167	1413,725	
296	330				14.4	92°20'	-13.4	-27.8		1887.4	TP					
	327	326	56°06'+180°	+6.9°	+2.1	85°32'	-23.5	-21.4			BS	-151	-289.3			
	327				+0.9	86°1'	-22.4	-21.5	1865.9		BS					
297	0				5.9	-		-5.4		1860.5	T	0	0	125,016	1413439	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/14/81		G. Cotcamp		D. Libenson		6837		B.C.		3	36				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas		Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1865.9						
298	333		205°42'	+6.4°	4.9	91°26'	-8.3	-13.2		1852.7	TP	-282	-177 ₊₂	124,734	1,413,265
298	333				6.5	91°10'	-6.8	-13.3			TP				
	330		57°12'+180°	+6.9°	+14.6	OH	+1.7	+16.3	1869.0		BS	-147	-296 ₊₂		
	330				+14.3	90°20'	+1.9	+16.2			BS				horiz. correct. y = +61'
299	0				5.9	-		-5.4		1863.6	X	0	0	124,587	1,412,972
	220		234°30'	+6.9°	2.0	-		-2.0		1867.0		-107	-192	124,480	1,412,780
300	175		207°27'	+6.9°	3.7	87°-	+9.2	+5.5		1874.5	TP	-145 ₊₂	-97 ₊₂	124,444	1,412,877
300	175				2.9	87°14'	+8.4	+5.5			TP				
	328	327	306°46'-180°	+6.4°	+5.2	95°-	+28.5	+33.7	1908.2		BS	-224 ₊₂	+238 ₊₂		
	328				+4.3	95°10'	+29.4	+33.7			BS				
301	0				5.9	-		-5.4		1902.8	X	0	0	124,222	1,413,117
302	330	329.6	131°23'	+6.4°	2.3	87°-	+17.2	+14.9		1923.1	TP	-244 ₊₂	+221 ₊₂	123,980	1,413,340
302	330				0.4	87°20'	+15.3	+14.9			TP				
	321	320.6	321°10'-180°	+6.9°	+14.4	93°-	+16.8	+21.2	1954.3		BS	-271 ₊₂	+172 ₊₂		
	321				+12.9	93°16'	+18.3	+31.2			BS				
303	0				5.9	-		-5.4		1948.9	X	0	0	123,711	1,413,514
304	329		126°20'	+6.4°	8.1	88°14'	+10.1	+2.0		1956.3	TP	-223 ₊₂	+242 ₊₂	123,490	1,413,758
304	329				9.5	88°-	+11.5	+2.0			TP				
	328		297°08'-180°	+6.9°	+9.6	87°-	-17.1	-7.5	1948.8		BS	-181 ₊₂	+273 ₊₂		
	328				+9.0	87°6'	-16.6	-7.6			BS				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/14/81		G. Cotcamp		D. Libenson		6834		B.C.		3	37					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas		Polk						L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+	EAST+	COORDINATES		REMARKS
												SOUTH-	WEST-	Y	X	
									1948.8							
305	0				5.4	-		-5.4		1943.4	TP	0	0	123,311	1,414,033	
306	315	314	89°57'	+6.9°	6.2	93°42'	-20.3	-26.5			TP	-35 ⁺²	+312 ⁺²	123,278	1,414,347	
306	315				8.1	93°20'	-18.3	-26.4		1922.4	TP					
	170		273°46' -180°	+6.9°	+11.4	86°50'	-9.4	+2.0	1924.4		BS	-30 ⁺²	+167 ⁺²			
	170				+11.9	86°40'	-9.9	+2.0			BS					
TP	0				5.4	-		-5.4		1919.0	TP	0	0	123,250	1,414,516	
307	160		110°0'	+6.9°	5.7	-		-5.7		1918.7		-71	+143	123,179	1,414,659	
308	490		110°0'	+6.9°	14.8	-		-14.8		1909.6	TP	-218 ⁺²	+439 ⁺²	123,034	1,414,957	
308	490				12.3	0H	-2.5	-14.8			TP					
	220		314°01' -180°	+6.9°	+10.9	-		+10.9	1920.5		BS	-170 ⁺²	+140 ⁺²			
	220				+12.0	TH	-1.1	+10.9			BS					
TP	0				5.4	-		-5.4		1915.1	TP	0	0	122,866	1,415,099	
309	110		185°26'	+6.9°	5.0	-		-5.0		1915.5		-108	-23	122,758	1,415,076	
310	437		169°04'	+6.9°	5.9	91°24'	-10.7	-16.6		1903.9	TP	-436 ⁺²	+35 ⁺²	122,432	1,415,136	
310	437				4.4	91°36'	-12.2	-16.6			TP					
	236		14°06' +180°	+6.9°	+8.9	87°-	-12.3	-3.9	1900.0		BS	-221 ⁺²	-83 ⁺²			
	236				+7.4	87°14'	-11.4	-4.0			BS					
TP	0				5.4	-		-5.4		1894.6	TP	0	0	122,213	1,415,055	
311	99		228°46'	+6.9°	11.0	-		-11.0		1889.0		-57	-81	122,156	1,414,974	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/19/81		G. Cotcamp		D. Libenson		6834		B.C.		3	38				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas		Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									1900.0						
TP	207		233° 14'	+6.9°	14.0	91° -	-3.6	-17.6		1882.4	TP	-105.2	-179	122,110	1,414,876
TP	207				13.4	91° 10'	-4.2	-17.6			TP				
	230		91° 50' +180°	+6.9°	+3.3	88° -	-8.0	-4.7	1877.7		BS	+33.2	-227		
	230				+1.3	88° 30'	-6.0	-4.7			BS				
312	0				5.4	-		-5.4		1872.3	X	0	0	122,145	1,414,649
313	290		238° 07'	+6.9°	11.6	91° -	-5.1	-16.7		1861.0	TP	-125.2	-262	122,022	1,414,387
313	290				14.1	90° 30'	-2.5	-16.6			TP				curve
	280	279.5	347° 29' -180°	+6.9°	+2.0	86° 26'	-17.4	-15.4	1845.6		BS	-278.2	+30		
	280				+1.4	86° 34'	-16.7	-15.3			BS				
314	120		315° 0'	+6.9°	0.4	85° -	+10.4	+10.0		1855.6		+9.4	-75	121,840	1,414,342
X	0				5.4	-		-5.4		1840.2	X	0	0	121,746	1,414,417
315	215		191° 48'	+6.9°	10.8	92° 30'	-9.4	-20.2		1825.4	TP	-204.2	-67	121,544	1,414,350
315	215				11.4	92° 20'	-8.8	-20.2			TP				
	308		356° 04' -180°	+6.9°	+2.1	85° 40'	-23.2	-21.1	1804.3		BS	-307.2	-13		
	308				+1.2	85° 50'	-22.3	-21.1			BS				
X	0				5.4	-		-5.4		1798.9	X	0	0	121,239	1,414,337
316	32		229° 28'	+6.9°	7.0	-		-7.0		1797.3		-1.8	-26	121,221	1,414,311
TP	152		230° 41'	+6.9°	7.2	-		-7.2		1797.1	TP	-83.2	-128	121,158	1,414,209
TP	152				6.9	BH	-0.8	-7.2			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/14/81		G. Cotcamp		O. Libenson		6834		B.C.		3	39			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas	Palk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH+ SOUTH-	EAST+ WEST-	
316 1/2										1797.1				
	217	216	101° 07' +180°	+6.9°	+1.9	89° 40'	-20.1	-18.2	1778.9		BS	+65 +2	-206	
	217				+3.2	89° 20'	-21.3	-18.1			BS			
317	0				5.4	-		-5.4	1773.5		X	0	0	121,225 1,414,003
318	330	329	252° 02'	+6.9°	12.2	94° -	-23.0	-35.2	1743.7		TP	-66 +2	-323	121,161 1,413,680
318	330				13.6	93° 44'	-21.4	-35.0			TP			
	328	325.6	54° 22' +180°	+6.7°	+9.3	83° -	-39.7	-30.4	1713.3		BS	-158 +2	-285	
	328				+8.0	83° 14'	-38.4	-30.4			BS			
319	0				5.4	-		-5.4	1707.9		X	0	0	121,005 1,413,395
320	330		223° 42'	+6.7°	12.1	92° -	-11.5	-23.6	1689.7		TP	-210 +2	-254	120,797 1,413,141
320	330				14.0	91° 40'	-9.6	-23.6			TP			
	325	323.4	12° 0' +180°	+6.7°	+7.1	89° 20'	-31.9	-24.8	1664.9		BS	-306 +2	-104	
	325				+8.0	89° 10'	-32.9	-24.9			BS			
321	0				5.4	-		-5.4	1659.5		X	0	0	120,493 1,413,037
TP	258		213° 21'	+6.7°	9.0	92° 30'	-11.2	-20.2	1644.7		TP	-197 +2	-166	120,298 1,412,871
TP	258				10.1	92° 16'	-10.2	-20.3			TP			
	411	409.4	97° 32' +180°	+6.7°	+6.7	85° -	-35.7	-29.0	1615.7		BS	+101 +2	-397	
	411				+5.2	85° 12'	-34.3	-29.1			BS			
322	330		98° 0'	+6.7°	5.5	85° -	+28.7	+23.2	1638.9			-82	+320	120,319 1,412,794
323	0				5.4	-		-5.4	1610.3		X	0	0	120,401 1,412,474

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/15/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3		40				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Oden 15'		Arkansas		Polk								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									1615.7							
324	291	290.3	224° 46'	+6.7°	9.9	94°	-20.3	-30.2		1585.5	TP	-181 +2	-227	120,222	1,412,247	
324	291				12.4	93° 30'	-17.7	-30.1			TP					
	330	328.2	24° 27' +180°	+6.7°	+1.7	89°	-34.3	-32.6	1552.9		BS	-281	-170			
	330				+0.3	89° 14'	-33.0	-32.7			BS					
325	0				5.4	-		-5.4		1547.5	TP	0	0	119,941	1,412,077	
326	328	327	185° 51'	+6.7°	14.6	94° 30'	-25.7	-40.3		1512.6	TP	-319	-71	119,622	1,412,006	
326	328				12.7	94° 50'	-27.5	-40.2			TP					
	326	324.4	314° 10' -180°	+6.7°	+6.7	84° 16'	-32.4	-26.0	1486.6		BS	-252	+205			
	326				+7.3	89° 6'	-33.3	-26.0			BS					
327	0				5.4	-		-5.4		1481.2	TP	0	0	119,370	1,412,211	
TP	141		127° 37'	+6.7°	12.8	-		-12.8		1473.8	TP	-99	+101	119,271	1,412,312	
TP	141				13.5	TH	+0.7	-12.8			TP					
	181		347° 44' -180°	+6.7°	+3.4	88°	-6.3	-2.9	1470.9		BS	-180	+18			
	181				+0.2	89°	-3.2	-3.0			BS					
328	0				5.4	-		-5.4		1465.5	TP	0	0	119,091	1,412,330	
329	333		147° 55'	+6.7°	15.0	92° 20'	-13.6	-28.6		1442.3	TP	-301	+143	118,790	1,412,473	
329	333				14.1	92° 30'	-14.5	-28.6			TP					
	316	315.6	0° 30' +180°	+6.7°	+2.9	87°	-16.5	-13.6	1428.7		BS	-313	-40			
	316				+0.1	87° 30'	-13.8	-13.7			BS					
330	0				5.4	-					TP	0	0	118,477	1,412,433	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE		
2/15/81		G. Cotcamp		B. Cotcamp		6837		B.C.			3		71		
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1428.7						
TP	230	229.4	171°48'	+6.7°	10.0	99°-	-16.0	-26.0		1462.7	TP	-229	+6	118,248	1,412,439
TP	230				12.0	93°30'	-14.0	-26.0			TP				
	224		10°41' +180°	+6.7°	+1.0	-	-	+1.0	1403.7		BS	-214	-67		
	224				+2.2	TH	-1.1	+1.1			BS				
331	121		3°46'	+6.7°	1.1	-	-	-1.1		1402.6		+119	+21	118,153	1,412,393
X	0				5.4	-	-	-5.4		1398.3	X	0	0	118,034	1,412,372
332	209		193°24'	+6.7°	13.9	91°36'	-5.8	-19.7		1384.0	TP	-196	-72	117,838	1,412,300
332	209				14.5	91°26'	-5.2	-19.7			TP				
	334	332.7	30°47' +180°	+6.7°	+1.6	85°-	-29.0	-27.4	1356.6		BS	-264	-202		
	334				+0.5	85°12'	-27.9	-27.4			BS				
333	0				5.4	-	-	-5.4		1351.2	X	0	0	117,574	1,412,098
TP	310	309.6	249°47'	+6.7°	6.6	93°-	-16.2	-22.8		1333.8	TP	-72	-301	117,502	1,411,797
TP	310				9.0	92°34'	-13.9	-22.9			TP				
	240	239	103°36' +180°	+6.7°	+4.8	84°40'	-22.1	-17.3	1316.5		BS	+83	-224		
	240				+5.5	84°30'	-22.9	-17.4			BS				
334	208		99°38'	+6.7°	5.0	84°20'	+20.4	+15.4		1331.9		-57	+200	117,528	1,411,778
X	0				5.4	-	-	-5.4		1311.1	X	0	0	117,585	1,411,573
335	78		226°13'	+6.7°	9.1	-	-	-9.1		1307.4	TP	-47	-62	117,538	1,411,511
335	78				9.5	TH	+0.4	-9.1			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/15/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	72			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Oden 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
335										1307.4				
	260	258.1	71°49'+180°	+6.9°	+7.3	83°-	-31.5	-24.2	1283.2		BS	-51	-253	
	260				+6.5	83°0'	-30.7	-24.2			BS			
	0				5.4	-		-5.4	1277.8		X	0	0	117,487 1,411,258
336	38		232°14'	+6.9°	11.1	-		-11.1	1272.1			-35	-58	117,452 1,411,200
337	398	396.5	232°28'	+6.9°	12.1	95°-	-34.6	-46.7	1236.5		TP	-203	-340	117,284 1,410,918
337	398				11.4	95°6'	-35.2	-46.6			TP			
	330	328.2	63°53'+180°	+6.9°	+2.7	84°-	-34.3	-31.6	1204.9		BS	-109	-310	
	330				+0.8	84°20'	-32.4	-31.6			BS			
338	0				5.4	-		-5.4	1199.5		X	0	0	117,175 1,410,608
339	323	321.4	208°03'	+6.9°	5.6	95°40'	-31.7	-37.3	1167.6		TP	-264	-183	116,911 1,410,425
339	323				6.5	95°30'	-30.8	-37.3			TP			
	629		10°26'+180°	+6.9°	+6.5	88°-	-21.9	-15.4	1152.2		BS	-601	-185	
	629				+1.1	88°30'	-16.5	-15.4			BS			
340	299		8°18'	+6.9°	1.5	89°-	+5.2	+3.7	1155.9			+289	+76	116,599 1,410,316
	0				5.4	-		-5.4	1146.8		X	0	0	116,310 1,410,240
341	30		168°24'	+6.9°	6.4	-		-6.4	1145.8			-30	+3	116,280 1,410,243
342	358		155°15'	+6.9°	13.8	84°	-1.8	-15.6	1136.6		TP	-340	+111	115,970 1,410,351
342	358				15.0	90°6'	-0.6	-15.6			TP			
	331		330°01'-180°	+6.9°	+1.4	89°-	-5.8	-4.4	1132.2		BS	-304	+131	
	331				+0.5	89°10'	-4.8	-4.3			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 2/15/81	INSTRUMENT MAN G. Cotcamp	ROD MAN O. Libenson	PARTY NUMBER 6834	NOTES CHECKED BY B.C.	LINE NO. 3	PAGE 73
AREA Arkansas	TOPO MAP Oden 15'	STATE Arkansas	COUNTY Polk	TWP	RANGE	PPM
				PARTY MANAGER L. Davis		

STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	
									1132.2					
343	0				5.4	-		-5.4		1126.8	T	0	0	115,666 1,410,482
344	318		195° 49'	+6.9°	14.9	90° 54'	-5.0	-19.9		1112.3	TP	-294	-121	115,372 1,410,361 bridge
344	318				14.3	91° -	-5.6	-19.9			TP			
	323		43° 05' +180°	+6.9°	112.8	88° 40'	-7.5	+5.3	1117.6		BS	-209	-247	
	323				14.3	88° 24'	-9.0	+5.3			BS			
345	0				5.9	-		-5.4		1112.2	T	0	0	115,163 1,410,114
346	330		210° 40'	+6.9°	11.3	91° 20'	-7.7	-19.0		1098.6		-263	-199	114,900 1,409,915 ✓
347	660		210° 40'	+6.9°	2.4	91° 16'	-14.6	-17.0		1100.6	TP	-524	-400	114,639 1,409,714
347	660				6.3	90° 56'	-10.8	-17.1			TP			
	330		35° 28' +180°	+6.9°	4.1	88° -	-11.5	-7.4	1093.2		BS	-244+2	-221	
	330				1.3	88° 30'	-7.7	-6.4			BS			
348	0				5.4	-		-5.4		1087.8	T	0	0	114,397 1,409,493
	172		206° 20'	+6.9°	4.5	-		-4.5		1088.7		-144	-99	114,253 1,409,399 7-rd
349	320		195° +1'	+6.4°	5.0	89° 52'	+0.8	-4.3		1088.9	TP	-296+2	-122	114,103 1,409,371
349	320				6.3	89° 30'	+2.2	-4.1			TP			
	660		1° 48' +180°	+6.9°	+0.8	89° -	-11.5	-10.7	1078.2		BS	-653+2	-98	
	660				4.7	88° 40'	-15.4	-10.7			BS			
350	330		0° 38'	+6.9°	2.9	89° -	+5.8	+2.9		1081.1		+328	+40	113,780 1,409,313
351	0				5.4	-		-5.4		1072.8	T	0	0	113,452 1,409,273

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/15/81		G. Cotcamp		D. Libenson		6837		slw B.C.		3	44						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Den 15'		Arkansas	Polk					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									1078.2								
352	330		175° 47'	+6.9°	11.6	-		-11.6		1066.6	TP	-330 _{±2}	-14	113,124	1,409,259		
352	330				9.9	BH	-1.7	-11.6			TP						
	285		10° 20' +180°	+6.9°	+6.8	87° 30'	-12.4	-5.6	1064.0		BS	-272 _{±2}	-83				
	285				+9.2	87° -	-14.9	-5.7			BS						
BM	130		34° 38'	+6.9°	1.5	88° -	+4.5	+3.0		1064.0		+98	+85	112,952	1,409,261	el. 1064.0	
BM	120		65° 47'	+6.9°	0.8	-		-0.8		1060.2		+36	+114	112,890	1,409,290	U.S.G.S. P135 1335 Y-intersect	
353	0				5.4	-		-5.4		1055.6	X	0	0	112,854	1,409,176	horiz. correct y = +67'	
354	330		254° 40'	+6.9°	9.0	-		-9.0		1052.0	TP	-51	-326	112,803	1,408,850	x = +24'	
354	330				7.3	BH	-1.7	-9.0			TP						
	331		68° 39' +180°	+6.9°	+5.6	89° -	-5.8	-0.2	1051.8		BS	-85	-320				
	331				+4.2	89° 14'	-4.4	-0.2			BS						
355	0				5.4	-		-5.4		1046.4	X	0	0	112,718	1,408,530		
356	320		221° 02'	+6.8°	6.0	BH	-1.6	-7.6		1044.2	TP	-215	-237	112,503	1,408,293		
356	320				6.1	90° 16'	-1.5	-7.6			TP						
	330		73° 33' +180°	+6.8°	+14.5	91° 30'	+8.6	+23.1	1067.3		BS	-55	-325				
	330				+13.5	91° 40'	+9.6	+23.1			BS						
357	0				5.4	-		-5.4		1061.9	X	0	0	112,448	1,407,968		
BM	251		228° 55'	+6.8°	9.5	89° -	+4.4	-5.1		1062.2		-141	-207	112,307	1,407,761	trail	
358	269		226° 36'	+6.8°	14.8	88° 10'	+8.6	-6.2		1061.1	TP	-160	-216	112,288	1,407,752		
358	269				14.4	88° 14'	+8.3	-6.1			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/15/81		G. Coicamp		D. Libenson		6837		B.C.		3	45					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Polk		Arkansas		Polk					L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
358										1061.1						
	660		352° 0' -180°	+6.8°	+3.4	-		+3.4	1064.5		BS	-660	+14			
	660				+6.7	TH	-3.3	+3.4			BS					
359	330		352° 0'	+6.8°	12.8	-		-12.8		1051.7		+330	-7	111,958	1,407,759	
360	0				5.4	-		-5.4		1059.1	X	0	0	111,628	1,407,766	
361	330		193° 06'	+6.8°	9.1	85° -	+28.7	+19.6		1089.1	TP	-310	-112	111,318	1,407,654	
361	330				10.1	84° 50'	+29.6	+19.5			TP					
	960	959	3° 40' +180°	+6.8°	+7.0	87° 40'	-39.1	-32.1			BS	-943	-174			curve
	960				+9.8	87° 30'	-41.8	-32.0	1052.1		BS					
362	650		355° 46'	+6.8°	5.0	88° -	+22.7	+17.7		1069.8		+649	+29	111,024	1,407,509	
363	330		349° 20'	+6.8°	7.2	88° -	+11.5	+4.3		1056.4		+329	-22	110,704	1,407,458	
364	0				5.4	-		-5.4		1046.7	X	0	0	110,375	1,407,480	
365	330		191° 52'	+6.8°	11.1	-		-11.1		1041.0	TP	-313	-106	110,062	1,407,374	
365	330				9.4	87°	-1.7	-11.1			TP					
	990	989	33° 53' +180°	+6.8°	+10.1	87° 46'	-38.6	-28.5			BS	-750	-645			
	990				+14.7	87° 30'	-43.1	-28.4	1012.6		BS					
366	660		33° 53'	+6.8°	3.5	89° -	+11.5	+8.0		1020.6		+500	+430	109,812	1,407,159	
367	330		" "	"	4.0	89° -	+5.8	+1.8		1014.4		+250	+215	109,562	1,406,944	
368	0				5.4	-		-5.4		1007.2	X	0	0	109,312	1,406,729	
369	330		217° 40'	+6.8°	12.9	91° -	-5.8	-18.7		993.9		-236	-231	109,076	1,406,458	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE		
2/16/81		G. Cotcamp		B. Cotcamp		6837		B.C.			3		46		
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1012.6						
370	660		215° 42'	+6.8°	14.4	91° 30'	-17.3	-31.7		980.9	TP	-487	-446	108,825	1,406,283
370	660				12.6	91° 40'	-19.2	-31.8			TP				
	662		29° 35' +180°	+6.8°	+5.3	89° -	-11.6	-6.3	974.6		BS	-533	-393		
	662				+1.4	89° 20'	-7.7	-6.3			BS				
371	331		29° 35'	+6.8°	2.5	89° -	+5.8	+3.3		977.9		+266	+196	108,558	1,406,086
372	0				5.4	-		-5.4		969.2	TP	0	0	108,292	1,405,890
373	330		200° 0'	+6.8°	12.2	91° -	-5.8	-18.0		956.6		-295	-149	107,997	1,405,741
TP	580		198° 06' 30"	+6.8°	12.5	91° -	-10.1	-22.6		952.0	TP	-526	-241	107,766	1,405,646
TP	580				14.6	90° 48'	-8.1	-22.7			TP				curve
	403		346° 09' -180°	+6.8°	+7.0	TH	-2.0	+5.0	957.0		BS	-400	+49		
	403				+6.9	89° 44'	-1.9	+5.0			BS				
374	328		346° 09'	+6.8°	8.1	TH	+1.6	-6.5		950.5		+326	-40	107,692	1,405,655
375	0				5.4	-		-5.4		951.6	TP	0	0	107,366	1,405,695
TP	171		208° 49'	+6.8°	4.5	-		-4.5		952.5	TP	-139	-100	107,227	1,405,595
TP	171				3.6	GH	-0.9	-4.5			TP				
	502		71° 04' +180°	+6.8°	+12.4	90° 40'	+5.8	+18.2			BS	-106	-491		
	502				+11.6	90° 46'	+6.7	+18.3	970.8		BS				
376	330		71° 04'	+6.8°	10.2	91° -	-5.8	-16.0		954.8		+69	+323	107,190	1,405,427
377	0				5.4	-		-5.4		965.4	TP	0	0	107,121	1,405,104

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/16/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		47				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Open 15'		Arkansas		Polk								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									970.8							
TP	198		231° 41'	+6.8°	1.0	89° 20'	+2.3	+1.3		972.1	TP	-104	-169	107,017	1,404,935	
TP	198				2.2	89°	+3.5	+1.3			TP					
	337		23° 36' +180°	+6.8°	+10.1	92° 44'	+16.1	+26.2	998.3		BS	-291	-170			
	337				+8.5	93° -	+17.6	+26.1			BS					
378	218		25° 20'	+6.8°	14.1	93° -	-11.4	-25.5		972.8		+185	+116	106,911	1,404,881	
π	0				5.4	-		-5.4		992.9	π	0	0	106,726	1,404,765	
379	112		180° 0'	+6.8°	10.0	-		-10.0		988.3		-111	-13	106,615	1,404,752	
TP	341		180° 52'	+6.5°	14.3	91° -	-6.0	-20.3			TP	-338	-45	106,338	1,404,720	
TP	341				11.3	91° 30'	-8.9	-20.2		978.1	TP					
	429	428.3	29° 31' +180°	+6.8°	+13.9	93° 10'	+23.7	+37.6	1015.7		BS	-366	-222			
	429				+12.7	93° 20'	+24.9	+37.6			BS					
380	330		24° 31'	+6.8°	12.0	93° 30'	-20.1	-32.1		983.6		+282	+172	106,304	1,404,669	
IF	56		42° 40'	+6.8°	4.0	-		-4.0		1011.7		+36	+43	106,058	1,404,548	106,025 + 1,404,545 T-rd (east)
381	0				5.4	-		-5.4		1010.3	π	0	0	106,022	1,404,497	
382	330		221° 37'	+6.8°	1.0	TH	+1.7	+0.7		1016.4	TP	-221.2	-245	105,803	1,404,252	
382	330				2.2	89° 30'	+2.9	+0.7			TP					
	331		33° 42' +180°	+6.8°	+6.8	88° 20'	-9.6	-2.8	1013.6		BS	-253.2	-213			
	331				+5.9	88° 30'	-8.7	-2.8			BS					
383	0				5.4	-		-5.4		1008.2	π	0	0	105,552	1,404,039	
384	330		221° 0'	+6.8°	3.4	89°	+5.8	+2.4		1016.0		-222	-244	105,336	1,403,795	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE			
2/16/81		G. Cotcamp		B. Cotcamp		6837		B.C.			3		48			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Odensis'		Arkansas		Polk								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH-	EAST+ WEST-	COORDINATES		REMARKS
														Y	X	
									1013.6							
385	660		221° 0' 20"	+6.8	12.2	89° 30'	+9.8	-6.4		1007.2		-443	-447	105,109	1,403,550	
386	990		221° 0' 20"	+6.8°	7.0	88° 30'	+25.9	+18.9		1032.5	TP	-670+2	-729	104,884	1,403,310	
386	910				1.2	88° 50'	+20.2	+19.0			TP					
	330		49° 48' +180°	+6.8°	+14.4	91° 16'	+7.3	+21.7	1054.2		BS	+184+2	-274			
	330				+13.1	91° 30'	+8.6	+21.7			BS					
387	0				5.4	-		-5.4		1048.8	π	0	0	104,702	1,403,036	
BM	77		261° 22'	+6.8°	4.2	-		-4.2		1050.0		-2	-77	104,700	1,402,959	el 1050.0 U.S.C.G.S. N135 1735
388	330		233° 06'	+6.8°	11.6	92° -	-11.5	-23.1		1031.1		-165	-286	104,537	1,402,750	
389	660	659.1	230° 57'	+6.8°	8.4	93° -	-34.5	-42.9		1011.3	TP	-356+2	-555	104,348	1,402,481	
389	660				14.1	92° 30'	-28.8	-42.9			TP					
	330	329.5	47° 37' +180°	+6.8°	+2.3	87° -	-17.3	-15.0	996.3		BS	-197+2	-267			
	330				+0.3	87° 20'	-15.3	-15.0			BS					
390	0				5.4	-		-5.4		990.9	π	0	0	104,153	1,402,214	
391	330		219° 29'	+6.8°	10.2	-		-10.2		986.1		-228	-239	103,925	1,401,975	
392	662		219° 28' 30"	+6.8°	1.7	TH	+3.3	+1.6		997.9	TP	-461+2	-475	103,694	1,401,739	T.P. opposite sta.
392	662				2.2	89° 40'	+3.9	+1.7			TP					
	639		69° 37' +180°	+6.8°	+13.8	91° -	+11.2	+25.0	1022.9		BS	-154+2	-620			
	639				+11.9	91° 10'	+13.0	+24.9			BS					
393	320		77° 0'	+6.8°	12.4	91° -	-5.6	-18.0		1004.9		+35	+318	103,577	1,401,437	
394	0				5.4	-		-5.4		1017.5	π	0	0	103,542	1,401,119	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
2/16/81		G. Cotcamp		B. Cotcamp		6839		B.C.		3		49					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER			
Arkansas		Oden 15'		Arkansas		Polk								L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									1022.9								
395	108		241°19'	+6.8°	12.4	-	-12.4		1010.5		-40	-100	103,502	1,401,019		103,490 + 1,401,000 T-rd (north)	
396	323		232°25'	+6.8°	14.0	95°-	-28.0	-42.0	980.9		-165	-277	103,377	1,400,842			
396	640	638.4	243°19'	+6.8°	14.2	94°-	-44.5	-58.7	964.2	TP	-217 +2	-600	103,328	1,400,519		curve	
396	640				11.6	94°4'	-47.1	-58.7		TP							
	330		77°26'+180°	+6.8°	+2.2	TH	-1.7	+0.6	969.8	BS	-33 +2	-328					
	330				+6.3	89°-	-5.8	+0.5		BS							
397	0				5.4	-	-5.4		959.4	π	0	0	103,298	1,400,191			
398	325		215°21'	+6.8°	7.6	-	-7.6		957.2	TP	-241 +2	-218	103,059	1,399,973		paved road	
398	325				9.2	TH	+1.6	-7.6		TP						↓	
	658		23°11'38"+180°	+6.8°	+6.3	TH	-3.3	+3.0	960.2	BS	-570 +2	-329					
	658				+5.7	89°46'	-2.7	+3.0		BS							
399	330		20°21'	+6.8°	0.3	-	-0.3		959.9		+294	+151	102,785	1,399,795			
400	0				5.4	-	-5.4		954.8	π	0	0	102,491	1,399,644			
401	330		190°09'	+6.8°	8.9	-	-8.9		951.3	TP	-316 +2	-96	102,177	1,399,548			
401	330				7.2	BH	-1.7	-8.9		TP							
	660		358°22'40"-180°	+6.8°	+6.4	89°-	-11.5	-5.1	946.2	BS	-657 +2	-60					
	660				+2.5	89°20'	-7.7	-5.2		BS							
402	330		355°52'	+6.8°	0.3	-	-0.3		945.9		+330	+15	101,852	1,399,503			
403	0				5.4	-	-5.4		940.8	π	0	0	101,522	1,399,488		π opposite sta.	
404	330		177°24'	+6.8°	9.4	-	-9.4		936.8		-329	-24	101,193	1,399,464			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/16/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		50				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Oden 15'		Arkansas		Folk								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									946.2							
405	660		177° 58'	+6.8°	10.5	BH	-3.3	-13.8		932.4		-658	-55	100,864	1,399,433	
406	990		177° 58'	+6.8°	14.1	BH	-5.0	-19.1		927.1	TP	-987 +2	-82	100,537	1,399,406	
406	990				14.1	90° 16'	-4.6	-19.0			TP					
	310		72° 42' +160°	+6.8°	+4.4	-		+4.4			BS	-56 +2	-305 +1			
	310				+6.0	TH	-1.6	+4.5	931.6		BS					
407	0				5.4	-		-5.4		926.2	TP	0	0	100,483	1,399,102	
408	330		268° 44'	+6.8°	1.5	TH	+1.7	+0.2		931.8		+32	-328	100,515	1,398,774	
409	533		247° 39'	+6.8°	8.5	89° 20'	+6.2	-2.3		929.3	TP	-143 +2	-513 +1	100,342	1,398,590	90° bend (south)
409	533				10.1	89° 10'	+7.8	-2.4			TP					
	1320		355° 11' -120°	+6.8°	+4.3	89° -	-23.0	-18.7	910.6		BS	-1319 +2	-46 +1			
	1320				+1.9	89° 6'	-20.7	-28.8			BS					
410	990		355° 11'	+6.8°	4.1	89° -	+17.3	+13.2		923.8		+989	+34	100,014	1,398,579	
411	660		" "	"	6.7	89° -	+11.5	+4.8		915.4		+660	+23	99,685	1,398,568	
412	330		" "	"	1.5	-		-1.5		909.1		+330	+11	99,355	1,398,556	
413	0				5.4	-		-5.4		905.2	TP	0	0	99,025	1,398,545	monic to locate B.M.
414	330		175° 52'	+6.8°	9.5	-		-9.5		901.1		-330	-15	98,695	1,398,530	
415	660		" "	"	11.5	BH	-3.3	-14.8		895.8		-659	-31	98,366	1,398,514	horiz. coord. y = +90' x = +3'
416	990		175° 52'	+6.8°	12.2	90° 30'	-8.6	-20.8		889.8		-989	-46	98,036	1,398,499	
<u>TL</u>	1148		175° 26'	+6.8°	11.4	90° 30'	-10.0	-21.4		889.2	TP	-1147 +2	-45	97,880	1,398,500	97880 + 1,398,500 T-intersect. (Rt#28)
<u>TL</u>	1148				4.8	90° 50'	-16.7	-21.5			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/17/81		G. Cotcamp		B. Cotcamp		6834		slw		3	51					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15		Arkansas	Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
<u>IL</u>										889.2						
	533		301°59'±180°	+6.8°	+1.6	TH	-2.7	-1.1	888.1		BS	-334	+415			
	533				+3.6	89°30'	-4.7	-1.1			BS					
417	420		312°30'	+6.8°	10.8	89°-	+7.3	-3.5		884.6		+318	-274	97,864	1,398,641	
418	280		350°0'		3.8	-		-3.8		884.3		+280	-16	97,826	1,398,899	
<u>TF</u>	320		25°0'	+6.8°	2.0	-		-2.0		886.1		+272	+169	97,818	1,399,084	Intersect
419	0				5.4	-		-5.4		882.7	TP	0	0	97,546	1,398,915	dirt road
TP	261	260	196°29'	+6.8°	6.6	85°-	+22.7	+16.1		904.2	TP	-299	-103	97,307	1,398,812	
TP	261				5.0	85°20'	+21.2	+16.2			TP					
	393		352°52'±180°	+6.8°	+9.7	88°-	-13.7	-4.0	900.2		BS	-273	+2			
	393				+6.3	88°30'	-10.3	-4.0			BS					
420	330		352°52'	+6.8°	5.6	88°-	+11.5	+5.9		906.1		+330	-2	97,244	1,398,812	
421	0				5.4	-		-5.4		894.8	TP	0	0	96,914	1,398,814	
422	329		195°16'	+6.8°	9.1	-		-9.1			TF	-305	-24	96,609	1,398,696	
422	329				10.8	TH	+1.7	-9.2		891.0	TF					
	323		3°56'±180°	+6.8°	+1.3	BH	+1.6	+2.9			BS	-317	-60			
	323				+1.9	90°10'	+0.9	+2.8	893.8		BS					
423	0				5.4	-		-5.4		888.4	TP	0	0	96,292	1,398,630	
424	312		156°31'	+6.8°	5.1	-		-5.1		888.7	TP	-299	+90	95,993	1,398,720	
424	312				6.7	TH	+1.6	-5.1			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/17/81		G. Cotcamp		E. Cotcamp		6837		rlw		3	52					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas	Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
424										888.7						
	212		336°27'48"	+6.8°	+5.5	89°	-3.7	+0.8	889.5		PS	-203	+61			
	212				+5.7	88°40'	-4.9	+0.8			PS					
	0				5.4			-5.4		884.1	T	0	0	95,790	1,398,781	
425	118		178°0'	+6.8°	10.6			-10.6		878.9		-118	-10	95,672	1,398,771	
426	445		171°11'	+6.8°	1.8	92°	-15.5	-17.3			TP	-445	+16	95,345	1,398,797	
426	445				3.9	91°44'	-13.5	-17.4		872.1	TP					
	640		4°21'+180°	+6.8°	+1.9	89°	-11.2	-9.3	862.8		PS	-628	-127			
	640				+3.8	88°30'	-13.0	-9.2			PS					
427	330		12°0'	+6.8°	1.4			-1.4		861.4		+312	+106	95,029	1,398,779	
428	0				5.4			-5.4		857.4		0	0	94,717	1,398,673	
429	330		198°15'	+6.8°	13.0			-13.0				-294	-140	94,418	1,398,533	
429	330				14.7	TH	+1.7	-13.1		849.7						
	389		32°16'+180°	+6.8°	+4.3	88°	-13.6	-9.3	840.4			-302	-215			
	389				+1.0	88°30'	-10.2	-9.2								
430	124		35°33'	+6.8°	6.2			-6.2		834.2		+92	+87	94,208	1,398,372	
430	57		38°23'	+6.8°	6.1			-6.1		834.1		+40	+40	94,156	1,398,328	bridge
	0				5.4			-5.4		835.0	T	0	0	94,116	1,398,288	
431	276		279°15'	+6.8°	3.9			-3.9		836.5	TP	+76	-205	94,192	1,398,023	
431	276				5.3	TH	+1.4	-3.9			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/17/81		G. Cotcamp		B. Cotcamp		6834		slw		3	53						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Oden 15'		Arkansas	Polk					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
431										836.5							
	270		90°48'+180°	-6.8°	+5.7	-		+5.7	842.2		BS	+36	-260				
	270				+7.0	TH	-1.4	-5.7			BS						
	0				5.4	-		-5.4		836.8	X	0	0	94,228	1,397,755		
432	60		245° 0'	+6.8°	5.2	-		-5.2		837.0		-19	-57	94,209	1,397,698		
433	390		730° 23'	+6.8°	0.9	-		-0.9		841.3		-211	-328	94,017	1,397,427		
434	718		230° 23'	+6.8°	2.4	TH	+3.6	+1.2			TP	-389	-603	93,839	1,397,152		
434	718				3.1	89°40'	+4.2	+1.1		843.3	TP						
	314		10° 23'+180°	+6.8°	+4.0	-		+4.0	847.3		BS	-300	-93				
	314				+2.4	BH	+1.6	+4.0			BS						
435	0				5.4	-		-5.4		841.9	X	0	0	93,539	1,397,059		
436	330		178° 28'	+6.8°	5.1	-		-5.1		842.2		-329	-30	93,210	1,397,029		
437	659		174° 34'	+6.8°	3.7	-		-3.7		843.6	TP	-659	-16	92,880	1,397,043		
437	659				7.0	TH	+3.3	-3.7			TP						
	660		359° 43'-180°	+6.8°	+8.9	-		+8.9	852.5		BS	-660	-17				
	660				+5.6	BH	+3.3	+8.9			BS						
438	330		359° 43'	+6.8°	7.6	-		-7.6		844.9		+330	+9	92,550	1,397,035		
439	0				5.4	-		-5.4		847.1	X	0	0	92,220	1,397,026		
440	330		176° 03'	+6.8°	1.8	-		-1.8		850.7		-330	-16	91,890	1,397,010		
441	660		176° 03'	+6.8°	4.6	89°-	+11.5	+6.9		859.4	TP	-659-1	-33+1	91,560	1,396,994		
441	660				0.4	89° 22'	+7.3	+6.9			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE					
2/17/81		G. Cotcamp		B. Cotcamp		6839		JLW			3	54					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas		Polk					L. Davis						
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	NORTH +	EAST +	COORDINATES		REMARKS	
												SOUTH -	WEST -	Y	X		
												LAT.	DEP.				
441										859.4							
	642		332°04'-180°	+6.8°	+9.3	90°44'	+8.2	+17.5			BS	-5°29'-2	+22.12				
	642				+11.1	90°34'	+6.3	+17.4	876.8		BS						
442	330		321°45'	+6.8°	11.2	-		-11.2		865.6		+282	-172	91,241	1,397,055		
443	0				5.4	-		-5.4		871.4	TP	0	0	90,959	1,397,227		
444	334		149°24'	+6.8°	3.7	88°-	+11.7	+8.0		884.8	TP	-306-2	+125-2	90,651	1,397,364	T.P. opposite Sta	
444	334				0.7	88°30'	+8.7	+8.0			TP						
	660		353°24'-180°	+6.8°	+7.8	89°-	-11.5	-3.7	881.1		BS	-660-2	-2-2				
	660				+3.2	89°24'	-6.9	-3.7			BS						
445	330		353°24'	+6.8°	6.2	-		-6.2		874.9		+330	+1	90,319	1,397,365		
446	0				5.4	-		-5.4		875.7	TP	0	0	89,989	1,397,364		
446	35		144°06'	+6.8°	6.3	-		-6.3		874.8		-31	+17	89,958	1,397,381	Intersect	
447	296		91°09'	+6.8°	13.4	-		-13.4		867.7		-41	+293	89,948	1,397,657		
448	624		93°55'	+6.8°	9.3	91°16'	-13.8	-23.1		858.0	TP	-116-2	+613-2	89,871	1,397,979		
448	624				6.7	91°30'	-16.3	-23.0			TP						
	327		272°57'-180°	+6.8°	+2.3	81°-	-5.7	-3.4	854.6		BS	-55-2	+322-2				
	327				+1.0	81°14'	-4.4	-3.4			BS						
448	202		273°04'	+6.8°	1.6	-		-1.6		853.0		+3.5	-199	89,849	1,398,104	bridge	
449	0				5.4	-		-5.4		849.2	TP	0	0	89,814	1,398,303		
450	330		83°08'	+6.8°	3.3	-		-3.3			TP	0-2	+330-2	89,812	1,398,635		
450	330				5.0	TH	+1.7	-3.4		851.2	TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/17/81		G. Cotcamp		D. Libenson		6834		Gnc J.S.W.		3	55					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Oden 15'		Arkansas		Polk					L. Davis					
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	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
450										857.2						
	660		268°06'-180°	+6.8°	+13.1	91°-	+11.5	+24.6	875.8		BS	-56.2	+658.2			
	660				+15.0	90°50'	+9.6	+24.6		BS						
451	330		268°06'	+6.8°	13.4	91°-	-5.8	-19.2		856.6		+28	-329	89,782	1,398,966	
452	0				5.7	-		-5.4		870.4	X	0	0	89,754	1,399,295	
453	330		83°03'	+6.8°	4.8	88°-	+11.5	+6.7		882.6	TP	+1.2	-330.2	89,753	1,399,627	
453	330				5.8	87°50'	+12.5	+6.7			TP					
	660		266°14'-180°	+6.8°	+7.7	90°30'	+5.8	+10.5	893.0		BS	-35.2	+659.2			
	660				+2.8	90°40'	+7.7	+10.5		BS						
454	330		266°14'	+6.8°	9.3	91°-	-5.8	-15.1		877.9		+17	-330	89,733	1,399,958	
455	0				5.4	-		-5.4		887.6	X	0	0	89,716	1,400,288	
456	330		85°18'	+6.8°	3.3	-		-3.3		889.7		-12	+330	89,704	1,400,618	back-sight. ya -19'
457					7.8											x = +15'
TP	612		82°52'	+6.8°	7.8	-		-7.8		885.2	TP	+9	-612	89,720	1,400,900	89,720 + 610,900 T-intersect. 885.0 + 2
TP	612				10.9	TH	+3.1	-7.8			TP					
	1099	1098.3	355°21'-180°	+6.5°	+7.8	92°-	+38.3	+46.1			BS	-1098	-35			
	1099				+14.1	91°40'	+31.9	+46.0	931.2		BS					
457	990		355°0'	+6.5°	12.4	92°10'	-37.4	-49.8		881.4		+990	+26	89,612	1,400,991	
458	660		"	+6.5°	10.5	92°30'	-28.8	-39.3		891.9		+660	+17	89,282	1,400,882	
459	330		"	+6.5°	10.2	93°30'	-20.1	-30.3		900.9		+330	+9	88,952	1,400,877	
460	0				5.4	-		-5.4		925.8	X	0	0	88,622	1,400,865	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE					
2/17/81		G. Cotcamp		D. Libenson		6834		DL			3	56					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas		Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									931.2								
461	330		174° 58'	+6.5°	11.0	93° -	-17.2	-28.2		903.0		-330	-8	88,292	1,400,857		
462	660		" "	"	10.1	92° -	-23.0	-33.1		898.1		-660	-17	87,962	1,400,898		
463	990		" "	"	3.3	91° -	-17.3	-20.6		910.6		-990	-25	87,632	1,400,890		
464	1320		174° 58'	+6.5°	0.1	91° -	-23.0	-23.1		908.1	TP	-1319	-34	87,303	1,400,831		
464	1320				14.7	90° 22'	-8.4	-23.1			TP						
	981	980.4	357° 02' 40" - 180°	+6.5°	+9.4	92° -	+34.2	+43.6	951.7		BS	-979	-61				
	981				+14.6	91° 42'	+29.1	+43.7			BS						
465	656		2° 41'	+6.5°	5.2	93° 10'	-36.2	-41.4		910.3		+698	+105	86,972	1,400,875		
466	330		2° 41'	+6.5°	13.2	93° -	-17.2	-30.4		921.3		+326	+53	86,650	1,400,828		
467	0				5A	-		-5.4		946.3	TP	0	0	86,329	1,400,770		
468	330		184° 12'	+6.5°	9.5	92° -	-11.5	-21.0		936.7		-324	-61	86,000	1,400,709		
469	661	660.6	182° 24'	+6.5°	12.9	92° -	-23.1	-36.0		915.7	TP	-653	-102	85,671	1,400,658		
469	661				11.0	92° 10'	-25.0	-36.0			TP						
	238		31° 59' + 180°	+6.5°	+13.8	88° 48'	-5.0	+8.8	924.5		BS	-186	-148				
	238				+14.8	88° 34'	-6.0	+8.8			BS						
X	0				5.4	-		-5.4		919.1	TP	0	0	85,485	1,400,520		
470	92		242° 34'	+6.5°	5.2	-		-5.2		919.3		-33	-86	85,152	1,400,937		
471	425		242° 34'	+6.5°	12.6	-		-12.6		911.9	TP	-152	-397	85,333	1,400,123		
471	425				14.7	TH	+21	-12.6			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/18/81		G. Cotcamp		B. Cotcamp		6834		wlv B.C.		3	57			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Oden 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
471										911.9				
	329		52°31' +180°	+6.5°	+5.7	-		+5.7	917.6		BS	-169	-282	
	329				+7.4	74	-1.7	+5.7		BS				
472	0				5.4	-		-5.4	912.2	π	0	0	85,164	1,399,841
473	327		189°12'	+6.5°	0.2	88°20'	+9.5	+9.3	926.9	TP	-315	-88	84,849	1,399,753
473	327				4.0	87°40'	+13.3	+9.3		TP				
	330	328.7	350°46' +180°	+6.5°	+10.7	85°-	-28.7	-18.0	908.9	BS	-328	+16		
	330				+8.8	85°20'	-26.8	-18.0		BS				
474	0				5.4	-		-5.4	903.5	π	0	0	84,521	1,399,709 π opposite sta
475	330		182°18'	+6.5°	5.1	-		-5.1	903.8		-326	-50	84,195	1,399,719
476	659		180°58'	+6.5°	9.2	88°30'	+17.3	+8.1	916.9	TP	-653	-86	83,868	1,399,683
476	659				7.3	88°40'	+15.3	+8.0		TP				
	660	659.6	347°41' +180°	+6.5°	+2.4	92°4'	+23.8	+26.2	943.1	BS	-656	+6.7		
	660				+1.3	92°10'	+24.9	+26.2		BS				
477	330		347°41'	+6.5°	10.6	93°-	-17.3	-27.9	915.2		+328	-33	83,540	1,399,717
478	0				5.4	-		-5.4	937.7	π	0	0	83,212	1,399,750
TP	220		147°52'	+6.5°	11.3	-		-11.3	931.8	TP	-198	+0.5	82,014	1,399,845
TP	220				10.2	84	-1.1	-11.3		TP				
	265		312°0' +180°	+6.5°	+11.4	-		+11.4	943.2	BS	-198	+176		
	265				+12.7	74	-1.3	+11.4		BS				
479	161		310°04'	+6.5°	9.4	-		-9.4	933.8		+117	-111	82,933	1,399,910

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE					
2/19/81		G. Cotcamp		G. Cotcamp		6834		JLW			3	58					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Oden 15'		Arkansas		Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS	
												SOUTH -	WEST -	Y	X		
									943.2								
	0				5.4	-		-5.4		937.8	X	0	0	82816	1,400,021		
480	162		105° 07'	+6.5°	12.9	-		-12.9		930.3	TP	-60	+151	82,756	1,400,172		
480	162				12.1	BH	-0.8	-12.9			TP						
	313		303° 52' -180°	+6.5°	+8.1	89° -	-5.5	+2.6	932.9		BS	-203	+238				
	313				+9.2	88° 48'	-6.6	+2.6			BS						
481	0				5.4	-		-5.4		927.5	X	0	0	82,553	1,400,410		
482	330		140° 21'	+6.5°	7.4	89° -	+5.8	-1.6		931.3	TP	-276	+180	82,277	1,400,590		
482	330				6.9	89° 10'	+4.8	-1.6			TP						
	330	329.4	335° 12' -180°	+6.5°	+9.6	86° 40'	-19.2	-14.6	916.7		BS	-313	+103				
	330				+5.6	86° 30'	-20.1	-14.5			BS						
483	0				5.4	-		-5.4		911.3	X	0	0	81,964	1,400,693		
484	330		176° 48'	+6.5°	12.7	92° -	-11.5	-24.2		892.5		-329	-19	81,635	1,400,674		
484	375	374.8	176° 47'	+6.5°	12.6	92° -	-13.1	-25.7		891.0		-374	-21	81,590	1,400,672	81,605 + 1,400,695 T-id(east)	
485	660	659.6	176° 48'	+6.5°	3.3	92° -	-23.0	-26.3			TP	-659	-38	81,305	1,400,655		
485	660				6.9	91° 44'	-20.0	-26.4		890.3	TP						
	263		345° 53' -180°	+6.5°	+8.9	-		+8.9	899.2		BS	-261	+35				
	263				+7.6	BH	+1.3	+8.9			BS						
486	96		295° 47'	+6.5°	5.2	-		-5.2		894.0		+51	-81	81,095	1,400,609		
486	0				5.4	-		-5.4		893.8	X	0	0	81,044	1,400,690	Opal unable to locate B.M.	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/19/61		G. Cotcamp		B. Cotcamp		6837				3	59				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Oden 15'		Arkansas		Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									899.2						
487	330		166° 20'	+6.5°	2.8	-		-2.8		896.4		-327	+91	80,717	1,400,731
488	658		163° 21'	+6.5°	5.3	89° -	+11.5	+6.2			TP	-698	+116	80,396	1,400,806
488	658				23	89° 16'	+8.4	+6.1		905.3	TP				
	330		318° 47' -180°	+6.5°	+14.0	-		+14.0	919.3		BS	-271	+188		
	330				+12.2	BS	+1.7	+14.0			BS				
489	0				54	-		-5.4		913.9	X	0	0	80,125	1,400,979
490	330		129° 0'	+6.5°	0.3	-		-0.3		919.0	TP	-214	+251	79,911	1,401,245
490	330				1.9	TH	+1.7	-0.3			TP				
	330		295° 12' -180°	+6.5°	+2.6	-		+2.6	921.6		BS	-173	+281		
	330				+4.3	TH	-1.7	+2.7			BS				
491	0				54	-		-5.4		916.2	X	0	0	79,738	1,401,526
492	330		99° 28'	+6.5°	2.2	-		-2.2			TP	-91	+317	79,647	1,401,893
492	330				3.9	TH	+1.7	-2.3		919.3	TP				
	331		275° 55' -180°	+6.5°	+0.7	TH	-1.7	-1.0	918.3		BS	-71	+323.2		
	331				+1.0	89° 40'	-1.9	-0.9			BS				
493	0				54	-		-5.4		912.9	X	0	0	79,576	1,402,167
494	330		119° 14'	+6.5°	6.2	-		-6.2		912.1	TP	-193	+268.2	79,383	1,402,430
494	330				4.5	BS	-1.7	-6.2			TP				
	990		321° 57' -180°	+6.5°	+14.6	90° 26'	+7.5	+22.1	934.2		BS	-844	+518.2		
	990				+13.5	90° 30'	+8.6	+22.1			BS				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/19/81		G. Cotcamp		D. Libenson		6834		B.C.		3		60			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									934.2						
495	660		321°57'	+6.5°	8.3	-	-8.3		925.9			+562	-345	79,101	1,402,601
496	330		" "	"	3.5	-	-3.5		930.7			+281	-173	78,820	1,402,773
497	0				5.4	-	-5.4		928.8	TP	0	0	0	78,539	1,402,946
498	330		151°40'	+6.5°	10.5	-	-10.5		923.7	TP	-306	+123-2		78,233	1,403,067
498	330				8.8	84	-1.7	-10.5			TP				
	990		333°39'-180°	+6.5°	+14.4	84	+5.0	+19.4			BS	-931	+336-2		
	990				+14.7	90°16'	+4.6	+19.3	943.0		BS				
499	660		333°39'	+6.5°	10.8	91°30'	-17.3	-28.1	914.9			+621	-224	77,923	1,403,177
500	330		" "	"	10.1	91°-	-5.8	-15.9	927.1			+310	-112	77,612	1,403,229
501	0				5.4	-	-5.4		937.6	TP	0	0	0	77,302	1,403,401
502	330		177°15'	+6.5°	7.6	-	-7.6		935.4			-329	-22	76,973	1,403,379
503	660		" "	"	6.3	89°-	+11.5	+5.2	948.2			-659	-43	76,643	1,403,358
504	990		177°15'30"	+6.5°	6.2	89°-	+17.3	+11.1	954.1	TP	-988-1	-65-2		76,313	1,403,334
504	990				3.3	89°10'	+14.4	+11.1			TP				
	330		1°53'+180°	+6.5°	+9.8	-	+9.8	963.9			BS	-326-1	-48-2		
	330				+11.5	TH	-1.7	+9.9			BS				
BM	540		7°34'	+6.5°	8.8	-	-8.8		955.1			+524	+131	76,510 682,700	1,403,415 1,403,600
505	0				5.4	-	-5.4		958.5	TP	0	0	0	682,176	1,403,469
506	330		170°25'	+6.5°	7.1	89°-	+5.8	-1.3			TP	-329+2	+18-2	681,849	1,403,485
506	330				5.2	89°20'	+3.8	-1.4	962.5	TP					

horiz. curved. X = -2
 X = 14'
 76,510 + 1,403,415
 U.S. G.S. K133 61.955
 682,690 + 1,403,600 (south zone)

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/19/81		G. Cotcamp		D. Libenson		6837		edw B.L.		3	61			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Oden 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
506										962.5				
	330		357°18' -180°	+6.5°	+3.8	-		+3.8	966.3		BS	-330+2	-5-2	
	330				+5.4	TH	-1.7	+3.8			BS			
507	0				5.4	-		-5.4		960.9	X	0	0	681,521 1,403,478
508	330		183°46'	+6.5°	9.1	-		-9.1		957.2		-325	-59	681,196 1,403,419
509	660		183°46'	+6.5°	9.9	-		-9.9		956.4	TP	-679+2	-118-2	680,874 1,403,358
509	660				13.2	TH	+3.3	-9.9			TP			
	330		8°05' +180°	+6.5°	+14.5	88°30'	-8.6	+5.9	962.3		BS	-319+2	-83-2	
	330				+13.6	88°40'	-7.7	+5.9			BS			
510	0				5.4	-		-5.4		956.9	X	0	0	680,557 1,403,273
511	330		189°08'42"	+6.5°	11.6	91°-	-5.8	-17.4		944.9		-318	-89	680,239 1,403,184
512	660		"	"	11.2	BH	-3.3	-14.5		947.8		-636	-178	679,921 1,403,095
513	990		"	"	8.1	-		-8.1		954.2		-953	-267	679,604 1,403,006
514	1320		189°08'42"	+6.5°	9.3	-		-9.3		953.0	TP	-1271+2	-356-2	679,288 1,402,915
514	1320				2.7	BH	-6.6	-9.3			TP			
	660		8°16' +180°	+6.5°	+12.6	-		+12.6	965.6		BS	-638+2	-168-2	
	660				+9.4	BH	+3.3	+12.7			BS			
515	330		8°31'30"	+6.5°	7.8	TH	+1.7	-6.1		959.5		+319	+86	678,971 1,402,831
516	0				.5.4	-		-5.4		960.2	X	0	0	678,652 1,402,745
517	330		187°16'	+6.5°	5.6	89°30'	+2.9	-2.7		962.9		-321	-79	678,331 1,402,666

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/19/81		D Liberson		B. Cotcamp		6834		B.C.		3		62				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Oden 15		Arkansas		Polk								LO Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
									965.6							
518	660		187°16'	+6.5°	10.3	89°30'	+5.8	-4.5	-9.6	961.0	TP	-641+2	-157-2	678,013	1,402,586	
518	660				8.5	88°40'	+3.8	-4.7		TP						
	989		7°55' + 180°	+6.5°	12.5	—		+12.5	973.5		BS	-958+2	-246-2			
	989				7.6	BH	+4.9	+12.5		BS						
519	708		8°24'	+6.5°	14.3	90°50'	-10.3	-24.6		948.9		+684	+182	677,741	1,402,520	bridge
519	660		8°23'	+6.5°	15.0	90°50'	-9.6	-24.6		948.9		+638	+170	677,695	1,402,508	
520	330		8°15'	+6.5°	11.8	91°14'	-7.1	-18.9		954.6		+319	+84	677,376	1,402,422	
521	0				5.4	—		-5.4		968.1	X	0	0	677,057	1,402,338	
522	330		189°22'	+6.5°	5.8	91°10'	-6.7	-12.6	960.8		TP	-317+2	-90-2	676,742	1,402,246	
522	380				7.9	90°50'	-4.8	-12.7		TP						
	328		358°10' - 180°	+6.5°	8.9	—		+8.9	969.7		BS	-327+2	-27-2			
	328				7.3	BH	+1.6	+8.9		BS						
523	0				5.4	—		-5.4		964.3	X	0	0	676,417	1,402,217	
524	330		164°25'	+6.5°	1.8	88°00'	+11.5	+9.7	979.4		TP	-326+2	+52-2	676,093	1,402,267	
524	330				2.8	87°50'	+12.5	+9.7		TP						
	329		317°28' - 180°	+6.5°	14.5	BH	+1.6	+16.1	995.6		BS	-266+2	+194-2			
	329				13.4	90°30'	+2.9	+16.3		BS						
BM	270		304°40'	+6.5°	8.3	—		-8.3		987.3		+178	-203	676,007	1,402,256	Bm USGS TT 22 el 987.0
25	0				5.4	—		-5.4		990.2	X	0	0	675,829	1,402,459	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/19/01		D. Libenson		B. Cotcamp		6834		adw DL		3		63			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Oden 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									995.6						
526	330		129° 08'	+6.5°	6.5	87° 40'	+13.4	+6.9		1002.5		-236	+231	675,593	1,402,690
527	658	652.7	130° 21'	+6.5°	4.6	88° 10'	+21.0	+16.9		1012.0	TP	-480+2	+450-2	675,351	1,402,907
527	658				6.5	88° 00'	+23.0	+16.5			TP				
	296		296° 47' - 180°	+6.5°	+11.5	88° 40'	-6.9	+4.6			BS	-162+2	+247-2		
	296				+9.7	89° 00'	-5.2	+4.5	1016.5		BS				
π	0				5.4	—		-5.4		1011.1	π	0	0	675,191	1,403,152
528	31		104° 56'	+6.5°	6.0	91° 10'	-0.6	-6.6		1009.9		-11	+29	675,180	1,403,181
529	361		104° 56'	+6.5°	7.8 ^{PL 8.3}	91° 20'	-8.4	-16.7			TP	-132+2	+336-2	675,061	1,403,486
529	361				11.6	90° 50'	-5.2	-16.8		999.7	TP				
	331		296° 50' - 180°	+6.5°	+0.4	87° 50'	-12.5	-12.1	987.6		BS	-152+2	+294-2		
	331				+2.3	87° 30'	-14.4	-12.1			BS				
530	0				5.4	—		-5.4		982.2	π	0	0	674,911	1,403,778
531	332		124° 43'	+6.5°	3.6	—		-3.6		984.0	TP	-219+2	+250-2	674,694	1,404,026
531	332				5.2	TH	+1.7	-3.5			TP				
	658		312° 42' - 180°	+6.5°	+2.1	—		+2.1	986.1		BS	-498+2	+430-2		
	658				+5.4	TH	-3.3	+2.1			BS				
532	329		311° 36' 30"	+6.5°	6.6	TH	+1.6	-5.0		981.1		+245	-220	674,413	1,404,234
533	0				5.4	—		-5.4		980.7	π	0	0	674,198	1,404,454
534	330		137° 49'	+6.5°	3.1	—		-3.1		983.0	TP	-268+2	+192-2	673,932	1,404,644
534	330				4.7	TH	+1.7	-3.0			TP				

split sta - curve

set up off sta

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/19/21		Dennis Liberson		B Cotcamp		6834		revis B.C.		3		64			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Gden/Athens 15'		Arkansas		Pike								L Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
										983.0					
	577		328°13' - 180°	+6.5°	6.1	—		+6.1	989.1		BS	-522+2	+246-2		
	577				3.3	BH	+2.9	+6.2			BS				
535	23 ^{DL} 247		327°26'	+6.5°	7.0	—		-7.0		982.1		+222	-109	673,634	1,404,779
537	0				5.4	—		-5.4		983.7	X	0	0	673,412	1,404,888
536	84		168°15'	+6.5°	6.8	—		-6.8		982.3		-84	+8	673,328	1,404,896
537	414		168°15'	+6.5°	6.7	—		-6.7		982.4		-412	+38	673,000	1,404,926
538	744		167°51'	+6.5°	0.9	TH	+3.7	+2.8		992.0	TP	-740+2	+73-2	672,674	1,404,959
538	744				3.5	89°30'	+6.5	+3.0	+2.9		TP				
	329		329°54' - 180°	+6.5°	11.2	88°00'	-11.5	-0.3	991.7		BS	-301+2	+132-2		
	329				12.2	87°50'	-12.4	-0.2			BS				
539	0				5.4	—		-5.4		986.3	X	0	0	672,375	1,405,089
540	230 ^{DL} 325		118°02' ^{DL} 118°46'	+6.5°	6.2 ^{DL} 6.6	—		-6.6		985.1	TP	-188+2	+265-2	672,189	1,405,352
540	325				5.0	BH	-1.6	-6.6			TP				
	768		292°42' - 180°	+6.5°	10.0	BH	+3.8	+13.8	998.9		BS	-375+2	+670-1		
	768				9.4	90°20'	+4.5	+13.9			BS				
541	438		293°37'	+6.5°	6.8	90°30'	-3.8	-10.6		988.3		+220	-379	672,036	1,405,642
542	108		293°42'	+6.5°	11.8	90°30'	-0.9	-12.7		986.2		+54	-93	671,870	1,405,928
X	0				5.4	—		-5.4		992.5	X	0	0	671,816	1,406,021
543	247		170°19'	+6.5°	4.5	—		-4.5		994.4		-247	+14	671,569	1,406,035

split station - 90° bend

split station - curve

↑

Oden Road

Athens Road

↓

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/16/81		D Liberson		B Cotcamp		6834		B.C.		3	65					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Athens 15'		Arkansas	Polk					L Davis						
STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
									998.9							
544	578		170° 19'	+6.5°	1.5	-		-1.5		997.4	TP	-577.2	+32	671,241	1,406,053	TP opposite station
544	578				4.4	TH	+2.9	-1.5			TP					
	202		2° 06' + 180°	+6.5°	+1.0	TH	-1.0	± 0.0	997.4		BS	-200.1	-30			
	202				+1.2	89° 40'	-1.2	± 0.0			BS					
π	0				5.4	-		-5.4		992.0	π	0	0	671,042	1,406,023	
545	123		195° 58'	+6.5°	9.5	89° -	+2.1	-7.4		990.0		-114	-47	670,928	1,405,976	
(173		199° 41'	+6.5°	7.0	89° 38'	+1.1	-5.9		991.5		-155	-76	670,887	1,405,947	bridge
546	453		195° 58'	+6.5°	10.2	89° 30'	+11.9	+1.7		999.1	TP	-418	-173	670,624	1,405,850	
546	453				11.5	88° 20'	+13.2	+1.7			TP					
	330		4° 45' + 180°	+6.5°	+13.8	-		+13.8	1012.9		BS	-324	-64			
	330				+12.2	BH	+1.7	+13.9			BS					
547	0				5.4	-		-5.4		1007.5	π	0	0	670,300	1,405,786	
<u>JL</u>	330		193° 09'	+6.5°	5.2	88° -	+11.5	+6.3		1019.2		-311	-111	669,989	1,405,675	intersect. (RT # 8) ^{EL. 101}
548	330		198° 26'	+6.9°	5.3	88° -	+11.5	+6.2		1019.1	TP	-298	-141	670,002	1,405,645	
548	330				3.4	88° 20'	+9.6	+6.2			TP					sta. 548-553 are
	656		325° 23' + 180°	+6.9°	+12.9	89° -	-11.4	+1.5			BS	-581	+305			along state rt. # 8
	656				+10.9	89° 10'	-9.5	+1.4	1020.5		BS					
549	330		331° 32'	+6.9°	8.2	-		-8.2		1012.3		+307	-121	669,728	1,405,829	
550	0				5.4	-		-5.4		1015.1	π	0	0	669,421	1,405,950	
551	330		149° 36'	+6.9°	5.2	-		-5.2		1015.3		-303	+132	669,118	1,406,082	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE		
2/20/81		G. Cotcamp		B. Cotcamp		6834		DL			3		66		
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Athens 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1020.5						
552	660		146° 14'	+6.9°	2.7	TH	+3.3	+0.6		1021.1		-589	+298	668,832	1,406,248
553	985		149° 0'	+6.9°	1.4	TH	+4.9	+3.5		1024.0	TP	-861	+479	668,560	1,406,429
553	985				5.0	89° 30'	+8.6	+3.6			TP				
	327	326.8	345° 53' +180°	+6.9°	+9.8	87° 50'	-12.4	-2.6	1021.4		BS	-324	+41		
	327				+10.7	87° 40'	-13.3	-2.6			BS				
TP	260		355° 33'	+6.9°	2.6	89° -	+4.5	+1.9		1023.3		+260	+11	668,496	1,406,481
554	0				5.4	-		-5.4		1016.0	TP	0	0	668,236	1,406,470
555	328		188° 18'	+6.9°	9.2	89° -	+5.7	-3.5		1017.9	TP	-316	-86	667,920	1,406,384
555	328				6.9	89° 24'	+3.4	-3.5			TP				
	660		31° 09' +180°	+6.9°	+12.6	-		+12.6	1030.5		BS	-520	-407		
	660				+9.3	BH	+3.3	+12.6			BS				
556	330		31° 09'	+6.9°	8.5	-		-8.5		1022.0		+260	+203	667,660	1,406,180
557	0				5.4	-		-5.4		1025.1	TP	0	0	667,400	1,405,977
558	330		209° 14'	+6.9°	0.3	-		-0.3		1030.2	TP	-267	-195	667,133	1,405,782
558	330				1.9	TH	+1.7	-0.2			TP				
	330		13° 49' +180°	+6.9°	+8.8	-		+8.8	1039.0		BS	-309	-117		
	330				+7.1	TH	+1.7	+8.8			BS				
559	0				5.4	-		-5.4		1033.6	TP	0	0	666,824	1,405,665
560	328		229° 37'	+6.9°	7.5	89° -	+5.7	-1.8		1637.2	TP	-181	-274	666,643	1,405,391
560	328				8.1	88° 54'	+6.3	-1.8			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/20/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	67			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE	PPM	PARTY MANAGER		
Arkansas		Athens 15'		Arkansas		Polk						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
560										1037.2				
	328		40°29'+180°	+6.9°	+9.0	-		+9.0	1046.2		BS	-222	-241	
	328				+7.4	84	+1.6	+9.0			BS			
561	0				5.4	-		-5.4		1040.8	π	0	0	666,421 1,405,150
TP	271		214°08'	+6.9°	1.9	-		-1.9		1044.3	TP	-204	-178	666,217 1,404,972
TP	271				3.3	TH	+1.4	-1.9			TP			
	392		67°45'+180°	+6.9°	+11.6	-		+11.6			BS	-104	-378	
	392				+10.5	90°8'	+0.9	+11.4	1055.7		BS			
562	330		68°52'	+6.9°	9.9	-		-9.9		1045.8		+81	+320	666,194 1,404,914
563	0				5.4	-		-5.4		1050.3	π	0	0	666,113 1,404,594
TP	215		244°02'	+6.9°	4.4	89°26'	+2.1	-2.3		1053.4	TP	-70	-203	666,043 1,404,391
TP	215				6.1	89°-	+3.8	-2.3			TP			
	162		37°42'+180°	+6.9°	+9.2	-		+9.2	1062.6		BS	-115	-114	
	162				+10.0	TH	-0.8	+9.2			BS			
564	54		43°0'	+6.9°	6.9	-		-6.9		1055.7		+35	+41	665,963 1,404,318
π	0				5.4	-		-5.4		1057.2	π	0	0	665,928 1,404,277
565	273		258°14'	+6.9°	0.1	TH	+1.4	+1.3		1063.9		-23	-272	665,905 1,404,005
566	609		257°36'	+6.9°	9.7	89°-	+10.6	+0.9		1063.5	TP	-58	-606	665,870 1,403,671
566	609				4.4	89°30'	+5.3	+0.9			TP			
	330		57°51'+180°	+6.9°	+12.1	91°-	+5.8	+17.9	1081.4		BS	-141	-298	
	330				+14.6	90°34'	+3.3	+17.9			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
2/20/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3	68				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Athens 15'		Arkansas	Polk					L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1081.4						
567	0				5.4	-		-5.4		1076.0	TP	0	0	665,729	1,403,373
568	330		241° 38'	+6.9°	1.5	88° 50'	+6.7	+5.2		1086.6	TP	-121	-307	665,608	1,403,066
568	330				3.4	88° 30'	+8.6	+5.2			TP				
	333		93° 49' +180°	+6.9°	+5.3	-		+5.3	1091.9		BS	+6.2	-327		
	333				+7.0	TH	-1.7	+5.3			BS				
569	0				5.4	-		-5.4		1086.5	TP	0	0	665,670	1,402,739
570	330		280° 07'	+6.9°	5.7	-		-5.7		1086.2	TP	+9.7	-316	665,767	1,402,423
570	330				7.3	TH	+1.7	-5.6			TP				
	660		82° 45' 30" +180°	+6.9°	+13.1	BH	+3.3	+16.4			BS	-4	-660		
	660				+14.4	90° 10'	+1.9	+16.3	1102.5		BS				
571	330		82° 46'	+6.9°	7.7	-		-7.7		1094.8		+2	+330	665,765	1,402,093
572	0				5.4	-		-5.4		1097.1	TP	0	0	665,763	1,401,763
573	330		265° 54'	+6.9°	2.2	89° -	+5.8	+3.6		1106.1		+16	-330	665,779	1,401,433
574	660	659.7	265° 54'	+6.9°	5.1	88° 20'	+19.2	+14.1			TP	+32	-659	665,795	1,401,104
574	660				2.1	88° 36'	+16.1	+14.0		1116.5	TP				
	330		109° 44' +180°	+6.9°	+0.5	TH	-1.7	-1.2	1115.3		BS	+148	-295		
	330				+1.7	89° 30'	-2.9	-1.2			BS				
575	0				5.4	-		-5.4		1109.9	TP	0	0	665,943	1,400,809
576	328		265° 05'	+6.9°	0.2	TH	+1.6	+1.4		1116.7	TP	+11	-328	665,954	1,400,481
576	328				4.3	89° -	+5.7	+1.4			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE				
2/20/81		G. Cotcamp		D. Libenson		6837		DL			3	69				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Athens		Arkansas	Folk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
576	330		94°24'+180°	+6.9°	+9.3	-		+9.3	1126.0	1116.7	BS	+65	-324			
	330				+11.0	TH	-1.7	+9.3			BS					
577	0				54	-		-5.4		1120.6	π	0	0	666,019	1,400,157	
578	330		290°40'	+6.9°	1.6	89°-	+5.8	+4.2			TP	+153	-292	666,172	1,399,865	
578	330				0.5	89°12'	+4.6	+4.1		1130.1	TP					
	324		88°46'+180°	+6.9°	+111	-		+11.1	1141.2		BS	+32	-322			
	324				+12.7	TH	-1.6	+11.1			BS					
579	0				54	-		-5.4		1135.8	π	0	0	666,204	1,399,543	
580	330		244°12'	+6.9°	1.1	-		-1.1		1140.1		-107	-312	666,097	1,399,231	
581	660		241°48'	+6.9°	6.2	89°-	+11.5	+5.3		1146.5	TP	-240	-615	665,964	1,398,928	
581	660				2.3	89°20'	+7.7	+5.4			TP					
	330		63°49'+180°	+6.9°	+10.7	-		+10.7	1157.2		BS	-109	-311			
	330				+9.1	TH	+1.7	+10.8			BS					
582	0				54	-		-5.4		1151.8	π	0	0	665,855	1,398,617	
583	330		258°13'	+6.9°	4.0	89°-	+5.8	+1.8		1159.0		-28	-329	665,827	1,398,288	
584	660		256°10'	+6.9°	2.1	89°-	+11.5	+9.4		1166.6	TP	-80	-655	665,775	1,397,962	
584	660				0.2	89°10'	+9.6	+9.4			TP					
	229		76°52'+180°	+6.9°	+8.3	-		+8.3	1174.9		BS	-25	-228			
	229				+9.4	TH	-1.1	+8.3			BS					
π	0				54	-		-5.4		1169.5	π	0	0	665,750	1,397,734	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/20/81		G. Cotcamp		O. Libenson		6837		DL		3	70						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Athens/Umpire 15'		Arkansas	Folk					L. Davis							
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	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									1174.9								
585	109		273°10'	+6.9°	3.8	-		-3.8		1171.1		+19	-107	665,769	1,397,627		
586	439		" "	"	7.0	87°-	+22.9	+15.9		1190.8		+77	-432	665,827	1,397,302		Athens
587	769	768.3	273°09'30"	+6.9°	5.3	87°30'	+33.5	+28.2		1203.1	TP	+134	-756	665,884	1,396,978		Umpire Quad
587	769				1.3	87°48'	+29.5	+28.2			TP						
	280		53°38'+180°	+6.9°	+10.0	88°-	-9.8	+0.2	1203.3		BS	-138	-244				horiz. correct, y = +51'
	280				+8.0	88°24'	-7.8	+0.2			BS						x = -97'
TF	160		337°15'	+6.9°	0.1	88°-	+5.6	+5.5		1208.8		+154	-44	665,900	1,396,690		665,900 + 1,396,690 T-intersect.
BM	201		341°36'	+6.9°	1.3	86°-	+14.0	+12.7		1216.0		+197	-40	665,943	1,396,694		el. 1216. U.S.G.S 31 ESTT 1986
588	0				5.4	-		-5.4		1197.9	TP	0	0	665,746	1,396,734		
589	330		155°40'	+6.9°	9.8	91°-	-5.8	-15.6		1187.7		-315	+99	665,431	1,396,833		
590	660		154°36'	+6.9°	8.7	-		-8.7		1194.6	TP	-626	+209+1	665,120	1,396,944		
590	660				5.4	84	-3.3	-8.7			TP						
	330		353°39'+180°	+6.9°	+13.7	91°-	+5.8	+19.5	1214.1		BS	-330	-3+1				
	330				+12.8	91°10'	+6.7	+19.5			BS						
591	0				5.4	-		-5.4		1208.7	TP	0	0	664,790	1,396,942		
592	332	331	181°28'	+6.9°	5.1	85°50'	+24.1	+19.0		1233.1	TP	-328	-48+1	664,462	1,396,895		
592	332				2.2	86°20'	+21.2	+19.0			TP						
	311	310.6	17°38'+180°	+6.9°	+6.3	93°-	+16.3	+22.6	1255.7		BS	-283	-129+1				
	311				+5.0	93°14'	+17.5	+22.5			BS						
593	0				5.4	-		-5.4		1250.3	TP	0	0	664,179	1,396,767		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
2/20/81		G. Cotcamp		D. Libenson		6834		JLW BL		3		71				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas				Arkansas		Polk								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									1255.7							
TP	250	299.5	159°24'	+6.9°	3.3	86°30'	+15.2	+11.9		1267.6	TP	-242	+59+1	663,937	1,396,827	
TP	250				4.7	86°10'	+16.7	+12.0			TP					
	79		312°58'-180°	+6.9°	+2.0	-		+2.0	1269.6		BS	-60	+51+1			
	79				+2.4	TH	-0.4	+2.0			BS					
594	0				5.4	-		-5.4		1264.2	π	0	0	663,877	1,396,879	
595	329	328.2	108°55'	+6.9°	12.6	99°-	-22.9	-35.5		1234.1	TP	-143	+295+1	663,734	1,397,175	
595	329				14.5	93°40'	-21.0	-35.5			TP					
	312	311	316°36'-180°	+6.9°	+5.9	85°30'	-24.4	-18.5	1215.6		BS	-250	+185+1			
	312				+7.0	85°18'	-25.5	-18.5			BS					
π	101		355°20'	+6.9°	0.7	89°-	+1.8	+1.1		1216.7		+101	+4	663,585	1,397,365	K. intersect.
596	0				5.4	-		-5.4		1210.2	π	0	0	663,484	1,397,361	
597	331		207°46'	+6.9°	7.2	88°24'	+9.2	+2.0		1217.6	TP	-272	-188+1	663,212	1,397,174	
597	331				10.1	87°54'	+12.1	+2.0			TP					
	440		49°03'+180°	+6.9°	+6.6	-		+6.6	1224.2		BS	-246	-365+1			
	440				+8.8	TH	-2.2	+6.6			BS					
598	110		49°03'	+6.9°	7.4	-		-7.4		1216.8		+62	+91	663,028	1,396,901	
π	0				5.4	-		-5.4		1218.8	π	0	0	662,966	1,396,810	
599	222		245°31'	+6.9°	13.7	91°-	-3.9	-17.6		1206.6	TP	-67	-212+1	662,899	1,396,599	
599	222				13.1	91°10'	-4.5	-17.6			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/21/81		G. Cotcamp		B. Cotcamp		6834		DL		3	72			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Umpire 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
599										1206.6				
	510		82° 24' +180°	+6.9°	+9.7	-		+9.7	1216.3		BS	-6	-510+1	
	510				+12.2	TH	-26	+9.6			BS			
600	180		78° 18'	+6.9°	10.6	-		-10.6		1205.7		+15	+179	662,908 1,395,269
X	0				5.4	-		-5.4		1210.9	X	0	0	662,893 1,396,090
601	150		239° 43'	+6.9°	7.7	-		-7.7		1208.6		-60	-138	662,833 1,395,952
602	480		233° 48'	+6.9°	1.8	-		-1.8		1214.5		-235	-419	662,658 1,395,671
603	810		231° 47'	+6.9°	6.7	89° -	+14.1	+7.4		1223.7	TP	-421	-692+2	662,472 1,395,400
603	810				2.0	89° 20'	+9.4	+7.4			TP			
	430		30° 25' +180°	+6.9°	+13.3	91° -	+7.5	+20.8	1244.5		BS	-342	-261+2	
	430				+12.1	91° 10'	+8.8	+20.9			BS			
604	115		25° 0'	+6.9°	10.4	-		-10.4		1239.1		+98	+61	662,228 1,395,222
X	0				5.4	-		-5.4		1239.1	X	0	0	662,130 1,395,141
605	228		239° 40'	+6.9°	3.2	89° -	+4.0	+0.8		1245.3	TP	-91	-209+2	662,039 1,394,934
605	228				4.5	88° 40'	+5.3	+0.8			TP			
	330		82° 18' +180°	+6.9°	+10.7	-		+10.7	1256.0		BS	-5	-330+2	
	330				+12.4	TH	-1.7	+10.7			BS			
606	0				5.4	-		-5.4		1250.6	X	0	0	662,034 1,394,606
607	329		252° 01'	+6.9°	0.1	88° -	+11.5	+11.4		1267.4	TP	-63	-323+2	661,971 1,394,235
607	329				2.0	87° 40'	+13.4	+11.4			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/21/81		G. Cotcamp		B. Cotcamp		6834		DL		3	73			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Vampire		Arkansas		Folk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
607										1267.4				
	330		55°33'+180°	+6.9°	+10.4	-		+10.4	1277.8		BS	-153	-293+2	
	330				+12.1	74	-1.7	+10.4			BS			
608	0				5.4	-		-5.4		1272.4	T	0	0	661,818 1,393,994
609	321		264°48'	+6.9°	6.2	88°34'	+8.0	+1.8		1279.6	TP	+10	-321+2	661,828 1,393,675
609	321				5.8	88°35'	+7.7	+1.9			TP			
	330		102°13'+180°	+6.9°	+13.5	91°-	+5.8	+19.3			BS	+108	-312+2	
	330				+10.6	91°30'	+8.6	+19.2	1298.8		BS			
610	0				5.4	-		-5.4		1293.4	T	0	0	661,836 1,393,365
611	322		276°15'	+6.9°	4.4	88°-	+11.2	+6.8		1305.6	TP	+73	-313+2	662,009 1,393,054
611	322				0.6	88°40'	+7.5	+6.9			TP			
	330		101°41'+180°	+6.9°	+13.4	91°20'	+7.7	+21.1	1326.7		BS	+105	-313+2	
	330				+14.4	91°10'	+6.7	+21.1			BS			
612	0				5.4	-		-5.4		1321.3	T	0	0	662,114 1,392,743
613	329		277°33'	+6.9°	7.2	88°-	+11.5	+4.3			TP	+82	-318+2	662,196 1,392,427
613	329				4.0	88°34'	+8.2	+4.2		1330.9	TP			
	330		90°09'+180°	+6.9°	+14.1	90°28'	+2.7	+16.8	1347.7		BS	+41	-328+2	
	330				+13.5	90°34'	+3.3	+16.8			BS			
614	0				5.4	-		-5.4		1342.3	T	0	0	662,237 1,392,101
615	330	329.6	283°41'	+6.9°	4.5	87°-	+17.2	+12.7		1360.4	TP	+116	-309+2	662,353 1,391,794
615	330				2.2	87°24'	+15.0	+12.8			TP			

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		DL	LINE NO.	PAGE					
2/21/81		G. Cotcamp		B. Cotcamp		6837		W. B.			3	179					
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM	PARTY MANAGER						
Arkansas		Vampire 15		Arkansas		Folk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
615										1360.4							
	533	532.7	95°14'+180°	+6.9°	+13.6	92°-	+18.6	+32.2	1392.6		BS	+112	-521.2				
	533				+14.9	91°52'	+17.4	+32.3			BS						
616	203		95°14'	+6.9°	11.5	92°-	-7.1	-18.6		1374.0		-43	+198	662,422	1,391,473		
X	0				5.4	-		-5.4		1387.0	X	0	0	662,465	1,391,275		
617	457 127		276°0'	+6.9°	10.8	-		-10.8		1381.8		+28	-124	662,493	1,391,151		
618	457		276°0'	+6.9°	1.8	89°30'	+4.0	+2.2			TP	+102-1	-495.2	662,566	1,390,832		
618	457				4.5	89°16'	+6.6	+2.1		1394.7	TP						
	330	329.7	81°20'+180°	+6.9°	+14.1	92°35'	+14.4	+28.5			BS	-10.1	-330.2				
	320				+13.1	92°40'	+15.3	+28.4	1423.1		BS						
619	0				5.4	-		-5.4		1417.7	X	0	0	662,555	1,390,504		
620	330	329.7	276°32'	+6.9°	3.9	87°35'	+14.4	+10.5		1433.6	TP	+77-1	-321.2	662,631	1,390,185		
620	330				1.0	82°-	+11.5	+10.5			TP						
	173	172.4	65°18'+180°	+6.9°	+14.3	94°40'	+14.0	+28.3	1461.9		BS	-53-1	-164.2				
	173				+13.3	95°-	+15.0	+28.3			BS						
#1	88		49°49'	+6.9°	14.0	92°-	-3.1	-17.1		1444.8		+48	+74	662,625	1,390,097	662,600+1,390,085 + rail (west)	
X	0				5.4	-		-5.4		1456.5	X	0	0	662,577	1,390,023		
621	138		195°0'	+6.5°	2.4	-		-2.4		1459.5		-128	-51	662,449	1,389,972		
622	413	411.7	234°48'	+6.5°	6.2	85°30'	+32.3	+26.1		1488.0	TP	-198	-361.2	662,379	1,389,664		
622	413				3.8	85°50'	+29.9	+26.1			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/21/81		G. Cotcamp		B. Cotcamp		6834		dlw DL		3		175			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Umpire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH-	EAST+ WEST-		Y
												LAT.	DEP.		
622										1488.0					
	270	269.3	60°22'+180°	+6.5°	+5.1	94°-	+18.8	+23.9	1511.9		BS	-106	-248.1		
	270				+7.0	93°36'	+16.9	+23.9			BS				
623	0				5.4			-5.4		1506.5	X	0	0	662,273	1,389,417
TP	280	278.9	250°50'	+6.5°	10.6	85°-	+24.3	+13.7		1525.6	TP	-61	-272.1	662,212	1,389,446
TP	280				5.7	86°-	+19.5	+13.8			TP				
	390	389.5	90°53'+180°	+6.5°	+6.8	93°-	+20.4	+27.2	1552.8		BS	+50	-386.1		
	390				+5.0	93°16'	+22.2	+27.2			BS				
624	358		95°35'	+6.5°	10.6	93°-	-18.7	-29.3		1523.5		-75	+350	662,187	1,389,111
625	33		65°10'	+6.5°	7.7	-		-7.7		1545.1		+10	+31	662,272	1,388,792
X	0				5.4	-		-5.4		1547.4	X	0	0	662,262	1,388,761
626	280		219°38'	+6.5°	5.8	89°-	+4.9	-0.9		1551.9	TP	-194	-202.1	662,068	1,388,560
626	280				0.9	-		-0.9			TP				
	314		60°43'+180°	+6.5°	+12.3	-		+12.3	1564.2		BS	-122	-290.1		
	314				+10.8	BH	+1.6	+12.4			BS				
627	0				5.4	-		-5.4		1558.8	X	0	0	661,946	1,388,271
TP	160	159.6	215°10'	+6.5°	8.4	86°-	+11.1	+2.7		1566.9	TP	-119	-106.1	661,827	1,388,166
TP	160				5.6	87°-	+8.4	+2.8			TP				
	309		339°16'+180°	+6.5°	+14.7	91°30'	+8.1	+22.8			BS	-299	+76.1		
	309				+12.9	91°50'	+9.9	+22.8	1589.7		BS				
628	149		335°40'	+6.5°	12.1	92°-	-5.2	-17.3		1572.4		+142	-46	661,670	1,388,197

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
2/21/81		G. Costcamp		D. Liberson		6839		see B.C.		3		76		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Empire 15'		Arkansas		Polk						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									1589.7					
π	0				5.4	-		- 5.4		1584.3	π	0	0	661,528 1388,243
629	170		102° 27'	+6.5°	1.4	-		- 1.4		1588.3		-55	+161	661,473 1388,104
630	472		106° 10'	+6.5°	5.1	90° 34'	- 4.7	- 9.8		15799.9	TP	-182	+436.1	661,346 1388,640
630	472				3.7	90° 44'	- 6.0	- 9.7			TP			
	660	659.1	284° 03' +180°	+6.5°	+6.0	87° 4'	- 33.7	- 27.7	1558.2		BS	-231	+617.1	
	660				+9.5	86° 46'	- 37.2	- 27.7			BS			
631	330		287° 35'	+6.5°	10.5	87° -	+17.2	+ 6.7		1558.9		+135	-301	661,250 1388,297
632	0				5.4	-		- 5.4		1546.8	π	0	0	661,115 1389,299
633	324	323.5	119° 59'	+6.5°	12.0	93° 16'	- 18.4	- 30.4		1521.8	TP	-169	+276.1	660,946 1389,515
633	324				13.1	93° 4'	- 17.3	- 30.4			TP			
	330	328.3	315° 16' +180°	+6.5°	+1.1	84° 10'	- 33.2	- 32.1	1489.7		BS	-258	+203.1	
	330				+3.2	83° 50'	- 35.2	- 32.0			BS			
634	0				5.4	-		- 5.4		1484.3	π	0	0	660,688 1389,779
635	324		195° 37'	+6.5°	2.8	84° -	+11.2	+ 8.4			TP	-297	-121.1	660,391 1389,659
635	321				5.1	87° 36'	+13.4	+ 8.3		1498.0	TP			
	330		36° 06' +180°	+6.5°	+1.1	88° -	- 11.5	- 10.4	1487.6		BS	-243	-223.2	
	330				+4.0	87° 30'	- 14.4	- 10.4			BS			
636	0				5.4	-		- 5.4		1482.0	π	0	0	660,148 1389,438
637	330		216° 03'	+6.5°	10.1	93° -	- 17.2	- 27.3		1460.3	TP	-243	-223	659,905 1389,215
637											TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/21/81		G. Co'camp		D. Liberson		6834		DL		3		77			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Impire		Arkansas		Folk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1487.6						
638	660	658.3	216°02'40"	+6.5°	5.0	97°4'	-47.1	-52.1		1435.5	TP	-485	-445.2	659,663	1,388,995
638	660				5.8	99°2'	-46.3	-52.1			TP				
	289	288.7	17°52'+180°	+6.5°	+5.0	92°36'	+13.1	+18.1	1453.6		BS	-263	-119.2		
	289				+1.5	92°15'	+11.6	+18.1			BS				
71	145		352°08'	+6.5°	14.8	92°0'	-5.1	-19.9		1433.7		+145	-3	659,545	1,388,875
															659,545 + 1,388,875 701 (cont)
639	0				5.9	-		-5.4		1448.2	TP	0	0	659,400	1,388,878
640	287	286.3	117°35'	+6.1°	3.2	86°-	+20.0	+16.8			TP	-159.4	+238	659,242	1,389,116
640	287				4.9	85°40'	+21.6	+16.7		1470.3	TP				
	327	326.4	285°07'-180°	+6.1°	+13.6	93°30'	+19.9	+33.5	1503.8		BS	-118.4	+30.4		
	327				+14.5	93°20'	+19.0	+33.5			BS				
641	0				5.9	-		-5.4		1495.4	TP	0	0	659,125	1,389,420
642	330	328.7	95°25'	+6.1°	4.7	85°-	+28.7	+24.0		1527.8	TP	-66.4	+32.2	659,060	1,389,742
642	330				1.8	85°30'	+25.8	+24.0			TP				
	200	199.5	292°18'-180°	+6.1°	+11.6	94°-	+13.9	+25.5	1553.3		BS	-95.4	+17.6		
	200				+14.0	93°20'	+11.6	+25.6			BS				
TP	0				5.4	-		-5.4		1547.9	TP	0	0	658,966	1,389,918
643	141		170°02'	+6.1°	0.7	89°-	+2.5	+1.8		1555.1		-141	+10	658,825	1,389,928
644	381	380.1	139°11'	+6.1°	5.9	86°2'	+26.3	+20.4			TP	-312.4	+21.6	658,655	1,390,134
644	381				5.1	86°10'	+25.4	+20.3		1573.6	TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/22/81		B. Cotcamp		D. Libenson		6834		rdw JBC		3	78					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Unapire		Arkansas	Polk					L. Davis						
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	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
LAT.	DEP.															
644										1578.6						
	236		258° 18' - 180°	+6.1°	+12.5	93° -	+12.3	+24.8	1598.4		BS	+23+1	+235			
	236				+13.0	92° 54'	+11.9	+24.9			BS					
X	0				5.4	-		-5.4		1593.0	X	0	0	658,679	1,390,369	
645	104		129° 14'	+6.1°	4.0	85° -	+9.0	+5.0		1553.4		-74	+73	658,605	1,390,442	
646	435	433.3	127° 43' 30"	+6.1°	5.5	85° -	+37.8	+32.3		1630.7	TP	-300+1	+313	658,380	1,390,682	
646	435				6.0	84° 56'	+38.3	+32.3			TP					
	186		324° 11' - 180°	+6.1°	+14.4	89° -	-3.2	+11.0			BS	-162+1	+92			
	186				+4.0	90° -	-2.9	+11.1	1641.8		BS					
X	0				5.4	-		-5.4		1636.4	X	0	0	658,219	1,390,774	
647	151		179° 24'	+6.1°	13.0	-		-13.0		1628.8		-150	-14	658,069	1,390,760	
TP	220		174° 40'	+6.1°	12.3	-		-12.3		1629.5	TP	-220+1	-3	658,000	1,390,771	
TP	220				13.4	TH	+1.1	-12.3			TP					
	268		19° 57' - 180°	+6.1°	+2.3	89° -	-4.7	-2.4	1627.1		BS	-241+1	-118			
	268				+3.1	88° 50'	-5.5	-2.4			BS					
648	0				5.4	-		-5.4		1601.7	X	0	0	657,760	1,390,653	
649	323	322.6	217° 41'	+6.1°	7.9	93° -	-16.9	-24.8		1600.3	TP	-233+1	-222	657,528	1,390,430	
649	323				8.9	92° 50'	-15.9	-24.8			TP					
	326	325.4	357° 54' - 180°	+6.1°	+8.8	86° 30'	-19.9	-11.1	1591.2		BS	-326+1	-23			
	326				+9.9	86° 20'	-20.8	-11.0			BS					
650	0				5.4	-		-5.4		1585.8	X	0	0	657,204	1,390,407	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/22/81		B. Cotcamp		D. Libenson		6834		J.W. B.C.		3	79					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Umpire 15'		Arkansas	Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC.	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									1591.2							
651	338	337.7	231° 01'	+6.1°	13.7	92° 30'	-14.7	-28.4		1562.8	TP	-183.1	-28.4	657,022	1,390,123	
651	338				14.7	92° 20'	-13.7	-28.4			TP					
	320		52° 46' +180°	+6.1°	+9.6	-		+9.6	1572.4		BS	-165.1	-27.4			
	320				+8.0	84	+1.6	+9.6			BS					
652	0				5.9	-		-5.1		1567.0	TP	0	0	656,858	1,389,849	
653	326	325.6	225° 46'	+6.1°	14.5	93° -	-17.0	-31.5		1540.9	TP	-201.1	-25.6	656,658	1,389,593	
653	326				13.5	93° 10'	-18.0	-31.5			TP					
	660	658.5	25° 32' 20" +180°	+6.1°	+8.9	86° 0'	-44.0	-35.1	1505.8		BS	-561.1	-39.5			
	660				+9.3	86° 8'	-44.4	-35.1			BS					
654	330		25° 32'	+6.1°	4.1	88° -	+11.5	+7.4		1513.2		+28.1	+17.3	656,379	1,389,421	
655	0				5.4	-		-5.1		1500.4	TP	0	0	656,098	1,389,248	
BM	215		171° 0'	+6.1°	5.0	87° -	+11.2	+6.2		1512.0		-21.5	+1.1	655,883	1,389,259	e1.1512.0
	190		188° 20' 40"	+6.1°	2.9	88° -	+6.6	+3.7		1509.5	TP	-184.1	-4.7	655,915	1,389,201	U.S.C.G.S. M35 1934 655,940 + 1,389,200 intersect
	480		37° 32' +180°	+6.1°	+11.7	91° -	+8.4	+20.1	1529.6		BS	-347.1	-33.1			
	480				+14.5	90° 40'	+5.6	+20.1			BS					
656	330		34° 52'	+6.1°	10.9	91° -	-5.8	-16.2		1513.4		+24.9	+21.6	655,818	1,389,086	
657	0				5.4	-		-5.4		1524.2	TP	0	0	655,569	1,388,870	
658	330		258° 18'	+6.1°	5.1	88° -	+11.5	+6.4		1536.0	TP	-32.1	-32.8	655,538	1,388,542	
658	330				1.3	88° 40'	+7.7	+6.4			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		DL	LINE NO.	PAGE		
2/23/81		G. Cotcamp		B. Cotcamp		6837		JLW			3	80		
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Umpire 15'		Arkansas	Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
658										1536.0				
	321		34°21'+180°	+6.1°	+13.4	92°-	+11.2	+24.6	1560.6		BS	-279.41	-208	
	321				+14.7	91°46'	+9.9	+24.6			BS			
659	0				5.4	-		-5.4		1555.2	TP	0	0	655,295 1,388,334
660	313	312.6	250°49'	+6.1°	5.2	87°-	+16.4	+11.2		1571.8	TP	-71	-304	655,224 1,388,030
660	313				0.6	87°50'	+11.8	+11.2			TP			
	470	468.7	31°42'+180°	+6.1°	+13.9	94°14'	+34.6	+48.5	1620.3		BS	-370	-287	
	470				+11.8	94°30'	+36.8	+48.6			BS			
661	145		34°20'	+6.1°	11.1	95°-	-12.6	-23.7		1596.6		+110	+94	657,961 1,387,837
TP	0				5.4	-		-5.4		1614.9	TP	0	0	659,854 1,387,743
662	170		149°06'	+6.1°	3.2	88°-	+5.9	+2.7		1623.0		-159	+71	659,700 1,387,814
663	451	450.3	171°23'	+6.1°	8.3	86°46'	+25.4	+17.1		1637.4	TP	-450	+20	659,104 1,387,763
663	451				5.3	87°8'	+22.5	+17.2			TP			
	385	384	357°02'+180°	+6.1°	+10.7	94°-	+26.8	+37.5	1674.9		BS	-383	-21	
	385				+8.5	94°20'	+29.0	+37.5			BS			
664	60		354°37'	+6.1°	6.0	-		-6.0		1668.9		+60	+1	654,381 1,387,743
TP	0				5.4	-		-5.4		1669.5	TP	0	0	654,321 1,387,742
665	281	280.3	241°32'	+6.1°	8.8	94°-	-19.6	-28.4		1646.5	TP	-107	-259	653,914 1,387,483
665	281				11.3	93°30'	-17.1	-28.4			TP			
	202		57°45'+180°	+6.1°	+2.7	87°20'	-9.4	-6.7	1639.8		BS	-89	-181	
	202				+3.9	87°-	-10.6	-6.7			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/23/81		G. Cotcamp		B. Cotcamp		6834		wduw BC.		3	81					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Vampire 15'		Arkansas	Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									1639.8							
π	0				5.4	-		-5.4		1634.4	π	0	0	653,825	1,387,302	
666	128		265°25'	+6.1°	14.2	-		-14.2		1625.8	TP	+3	-128	653,828	1,387,174	
666	128				18.6	04	-0.6	-14.2			TP					
	280	279.6	47°22'+180°	+6.1°	+6.1	87°-	-14.6	-8.5			BS	-166	-225			
	280				+4.9	87°14'	-13.5	-8.6	1617.0		BS					
667	0				5.4	-		-5.4		1611.6	π	0	0	653,662	1,386,949	
668	335	334.5	136°55'	+6.1°	11.2	93°-	-17.5	-28.7		1588.3	TP	-267	+201	653,395	1,387,150	
668	335				14.1	92°30'	-14.6	-28.7			TP					
	119		20°42'+180°	+6.1°	+5.6	85°45'	-9.0	-3.4	1584.9		BS	-106	-54			
	119				+5.0	85°56'	-8.4	-3.4			BS					
π	0				5.4	-		-5.4		1579.5	π	0	0	653,284	1,387,096	
669	220		248°0'	+6.1°	10.4	90°92°-	-7.7	-18.1		1566.8		-60	-212	653,229	1,386,884	
670	325		223°17'	+6.1°	12.7	94°-	-22.6	-35.3		1549.6		-212	-247	653,077	1,386,849	switch back
671	301	297.7	159°01'	+6.1°	10.9	98°30'	-44.0	-54.9			TP	-288	+76	653,001	1,387,172	
671	301				12.0	98°18'	-43.0	-55.0		1529.9	TP					
	152	151.4	314°47'-180°	+6.1°	+9.1	85°-	-13.2	-4.1			BS	-117	+96			
	152				+8.1	85°20'	-12.3	-4.2	1525.7		BS					
π	0				5.4	-		-5.4		1520.3	π	0	0	652,887	1,387,268	
672	191		194°47'	+6.1°	12.4	93°-	-10.0	-22.4		1503.3	TP	-178	-68	652,726	1,387,200	
672	191				14.1	92°30'	-8.3	-22.4			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/23/81		G. Cotcamp		B. Cotcamp		6834		rdw		3	82			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Umpire 15'		Arkansas	Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
672										1503.3				
	382	381.7	37°48'+180°	+6.1'	+1.8	87°40'	-15.5	-13.77			BS	-275	-265	
	382				+4.0	87°20'	-17.8	-13.8	1489.5		BS			
673	65		8°0'	+6.1°	2.3	-		-2.3		1487.2		+63	+16	652,447 1,386,951
π	0				5.4	-		-5.4		1484.1	π	0	0	652,431 1,386,935
674	259	258.4	219°04'	+6.1°	13.2	94°-	-18.0	-31.27		1458.3	TP	-182	-183	652,299 1,386,752
674	259				14.7	93°40'	-16.5	-31.27			TP			
675	259										BS			
	220	219.2	62°45'+180°	+6.1°	+8.6	85°-	-19.1	-10.57			BS	-79	-204	
	220				+6.0	85°40'	-16.6	-10.6	1447.7		BS			
π	0				5.4	-		-5.4		1442.3	π	0	0	652,170 1,386,548
675	110		266°04'	+6.1°	11.6	92°-	-3.8	-15.4		1432.3		+9	-110	652,179 1,386,438
676	90 401		230°11'	+6.1°	14.4	92°26'	-17.0	-31.47			TP	-222	-3334	651,998 1,386,214
676	40 401				11.7	92°50'	-19.8	-31.55		1416.2	TP			
	192		51°47'+180°	+6.1°	+4.0	87°42'	-9.4	-5.47	1410.8		BS	-102	-162.1	
	192				+5.6	86°44'	-10.9	-5.3			BS			
≡	73		81°55'	+6.1°	2.4	-		-2.4		1408.4		+3	+73	651,819 1,386,124 651,855 + 1,386,130 T-intersect.
π	0				5.4	-		-5.4		1405.4	π	0	0	651,876 1,386,051
677	142		262°03'	+6.1°	11.7	92°-	-5.0	-16.7		1394.1		-5	-142	651,841 1,385,909
678	472		262°03'	+6.1°	7.5	92°-	-16.5	-24.07		1386.8	TP	-15	-471.1	651,831 1,385,579
678	472				14.4	91°10'	-9.6	-24.05			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/23/81		G. Cotcamp		B. Cotcamp		6834		rdw		3	83			
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Umpire		Arkansas		Polk						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
678										1386.8				
	659	658.6	86°20'+180°	+6.1°	+7.8	88°-	-23.0	-15.2	1371.6		BS	+28	-658.1	
	659				+4.0	88°20'	-19.2	-15.2			BS			
679	330		83°26'	+6.1°	5.3	88°-	+11.5	+6.2		1377.8		+3	+330	651,862 1,385,250
680	0				5.4	-		-5.4		1366.2	X	0	0	651,859 1,384,920
681	320		243°12'	+6.1°	6.3	88°-	+11.2	+4.9			TP	-113	-299.1	651,746 1,384,620
681	320				2.6	88°40'	+7.4	+4.8		1376.4	TP			
	331	330.6	49°09'+180°	+6.1°	+7.2	87°-	-17.3	-10.1	1366.3		BS	-188	-272.1	
	331				+5.3	87°20'	-15.4	-10.1			BS			
682	0				5.4	-		-5.4		1360.9	X	0	0	651,558 1,384,347
683	331		251°46'	+6.1°	12.6	91°10'	-6.7	-19.3			TP	-70	-324.1	651,488 1,384,022
683	331				10.2	91°36'	-9.2	-19.4		1346.9	TP			
	660		89°20'+180°	+6.1°	+0.9	89°-	-11.5	-10.6	1336.3		BS	+62	-657.1	
	660				+4.8	88°40'	-15.4	-10.6			BS			
684	330		89°20'	+6.1°	3.2	89°-	+5.8	+2.6		1338.9		-31	+329	651,519 1,383,693
685	0				5.4	-		-5.4		1330.9	X	0	0	651,550 1,383,364
686	329		288°56'	+6.1°	9.1	-		-9.1		1327.2	TP	+139	-298.1	651,687 1,383,065
686	329				7.5 8.8	04	-1.6	-9.1			TP			
	189		78°07'+180°	+6.1°	+6.1	-		+6.1	1333.3		BS	-19	-188.1	horiz. correct.
	189				+7.0	TH	-0.9	+6.1			BS			
TP	95		353°29'	+6.1°	6.5	-		-6.5		1326.8		+95	-1	651,765 1,382,875 T-intersect.

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/23/81		G. Cotcamp		B. Cotcamp		6837		see B.P.		3		84			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Vampire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1333.3						
687	0				5.4	-		-5.4		1327.9	X	0	0	651,670	1,382,876
688	330		167°07'	+6.4°	0.4	89°-	+5.8	+5.4		1338.7		-328	+36	651,342	1,382,912
689	655		162°48'	+6.4°	4.0	88°30'	+17.1	+13.1		1346.4	TP	-643+2	+123-2	651,029	1,383,997
689	655				2.1	88°40'	+15.2	+13.1			TP				
	652		322°56'-180°	+6.4°	+11.0	91°-	+11.4	+22.4			BS	-561+2	+333-2		
	652				+13.6	90°46'	+8.7	+22.3	1368.7		BS				
690	330		321°40'	+6.4°	13.1	-		-13.1		1355.6		+280	-175	650,750	1,383,153
691	0				5.4	-		-5.4		1363.3	X	0	0	650,470	1,383,328
TP	299		145°13'	+6.4°	7.8	87°20'	+13.8	+6.0		1374.7	TP	-262+2	+142-2	650,210	1,383,968
TP	299				6.5	87°36'	+12.5	+6.0			TP				
	760	759	52°57'+180°	+6.4°	+9.6	93°-	+39.7	+49.3	1424.0		BS	-387+2	-653-2		
	760				+7.4	93°10'	+41.9	+49.3			BS				
692	660		52°57'	+6.4°	7.6	93°-	-34.5	-42.1		1381.9		+336	+568	650,161	1,383,381
693	330		" "	"	12.8	92°-	-11.5	-24.3		1399.7		+168	+284	649,993	1,383,097
694	0				5.4	-		-5.4		1418.6	X	0	0	649,825	1,382,813
695	299	298	197°59'	+6.4°	6.0	85°36'	+22.9	+16.9			TP	-272+2	-123-2	649,555	1,382,688
695	299				5.0	85°48'	+21.8	+16.8		1440.8	TP				
	330	329.3	332°36'-180°	+6.4°	+13.2	93°50'	+22.0	+35.2	1476.0		BS	-307+2	+118-2		
	330				+14.2	93°40'	+21.1	+35.3			BS				
696	0				5.4	-		-5.4		1470.6	X	0	0	649,250	1,382,804

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
7/23/81		G. Catcamp		D. Libenson		6834		B.C.		3	85					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE	PPM	PARTY MANAGER				
Arkansas		Umpire 15		Arkansas		Polk						L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
									1476.0							
697	326		173° 43'	+6.9°	6.1	87° 30'	+14.2	+8.1		1476.0	TP	-326+2	-1-2	648,926	1,382,801	
697	326				4.3	87° 50'	+12.3	+8.0		1484.0	TP					
	410	+09.4	41° 44' +180°	+6.9°	+9.4	93° -	+21.4	+30.8	1514.8		BS	-273+2	-305-2			
	410				+14.2	92° 20'	+16.7	+30.9	1511.2		BS					
698	110		70° 0'	+6.9°	11.3	-		-11.3		1503.5		+26	+107	648,681	1,382,601	
π	0				5.4	-		-5.4		1509.4	π	0	0	648,655	1,382,994	
699	212		225° 49'	+6.9°	8.2	87° -	+11.1	+8.9		1523.7		-130	-168	648,525	1,382,326	
700	538	537	229° 41'	+6.9°	7.1	86° 32'	+32.5	+25.4	1553	1540.1	TP	-300+2	-446-2	648,357	1,382,046	
700	538				14.7	85° 44'	+39.9	+25.2			TP					
	298		88° 02' +180°	+6.9°	+14.2	92° 30'	+13.0	+27.2			BS	+23+2	-297-2			
	298				+13.3	92° 40'	+13.8	+27.1	1567.2		BS					
π	0				5.4	-		-5.4		1561.8	π	0	0	648,382	1,381,747	
701	28		232° 48'	+6.9°	4.1	-		-4.1		1563.1		-14	-24	648,368	1,381,723	
702	348		202° 28'	+6.9°	3.2	88° -	+12.1	+8.9		1576.1	TP	-305+2	-168-2	648,079	1,381,577	
702	348				9.2	87° -	+18.2	+9.0		1572.0	TP					
	409	408.4	96° 29' +180°	+6.9°	+8.5	93° -	+21.4	+29.9	1606.0		BS	+91+2	-398-2			
	409				+10.4	92° 44'	+19.5	+29.9			BS					
703	88		88° 26'	+6.9°	8.5	-		-8.5		1597.5		-7	+88	648,165	1,381,265	
π	0				5.4	-		-5.4		1600.6	π	0	0	648,172	1,381,177	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/23/81		G. Cotcamp		D. Libenson		6834		JLW DL		3	86					
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Umpire 15'		Arkansas		Polk					L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									1606.0							
704	234	233.4	238°03'	+5.9°	9.7	85°50'	+17.0	+7.3		1611.0	TP	-101+2	-211-2	648,073	1,380,969	
704	234				10.4	85°40'	+17.6	+7.2		1613.2	TP					
	330		10°10'+180°	+6.9°	+0.9	87°30'	-14.4	-13.5	1599.7		BS	-316+2	-94-2			
	330				+1.8	87°20'	-15.3	-13.5			BS					
705	0				5.4	-		-5.4		1594.3	TP	0	0	647,759	1,380,868	
706	321		197°52'	+6.9°	8.1	91°10'	-6.5	-14.6		1591.0	TP	-293+2	-132-2	647,468	1,380,739	
706	321				6.3	91°30'	-8.4	-14.7		1585.0	TP					
	440	439.5	40°04'+180°	+6.9°	+2.9	87°10'	-21.7	-18.8	1566.2		BS	-303+2	-319-2			
	440				+1.7	87°20'	-20.4	-18.7	1560.0		BS					
707	110		40°04'	+6.9°	3.9	87°-	+5.7	+1.8		1568.0		+76	+80	647,243	1,380,493	
TP	0				5.4	-		-5.4		1560.8	TP	0	0	647,167	1,380,413	
708	207		178°26'	+6.9°	12.3	91°-	-3.6	-15.9		1550.3	TP	-206+2	-17	646,963	1,380,396	
708	207				10.5	91°30'	-5.4	-15.9			TP					
	330		45°53'+180°	+6.9°	+12.7	91°-	+5.8	+18.5	1568.8		BS	-202	-261			
	330				+14.7	90°40'	+3.8	+18.5			BS					
709	0				5.4	-		-5.4		1563.4	TP	0	0	646,761	1,380,135	
TP	182		169°0'	+6.9°	11.1	91°-	-3.2	-14.3		1554.5	TP	-181	+15	646,580	1,380,150	
TP	182				10.0	91°20'	-4.2	-14.2		1551.6	TP					
	396	395.3	314°52'-180°	+6.9°	+1.7	86°40'	-23.0	-21.3	1553.2		BS	-308	+247			
	396				+0.8	86°48'	-22.1	-21.3			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE		
2/23/81		G. Cotcamp		D. Libenson		6834		dlw			3	87		
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE	PPM	PARTY MANAGER		
Arkansas		Umpire		Arkansas		Polk						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									1533.2					
710	254	2534	310° 47'	+6.9°	7.0	86° -	+17.7	+10.7		1543.9		+186	-172	646,158 1,380,225
710	0				5.9	-		-5.9		1527.8	π	0	0	646,272 1,380,397
711	76		109° 0'	+6.9°	7.7	-		-7.7		1525.5		-33	+69	646,239 1,380,466
712	405		103° 45'	+6.9°	13.1	91° 30'	-10.6	-23.7		1509.5	TP	-139	+380	646,133 1,380,777
712	405				14.3	91° 20'	-9.4	-23.7			TP			
	330		266° 46' - 180°	+6.9°	+4.9	89° -	-5.8	-0.9	1508.6		BS	-18	+329	
	330				+0.8	TH	-1.7	-0.9			BS			
713	0				5.4	-		-5.4		1503.2	π	0	0	646,115 1,381,106
714	330		94° 51'	+6.9°	5.7	-		-5.7		1502.9	TP	-64	+324	646,051 1,381,430
714	330				4.0	0H	-1.7	-5.7			TP			
	328		280° 43' - 180°	+6.9°	+5.8	-		+5.8	1508.7		BS	-97	+313	
	328				+7.5	TH	-1.6	+5.9			BS			
715	0				5.4	-		-5.4		1503.3	π	0	0	645,954 1,381,743
TP	260		107° 0'	+6.9°	6.5	-		-6.5		1502.2	TP	-103	+239	645,851 1,381,982
TP	260				7.8	TH	+1.3	-6.5			TP			
	380		267° 34' - 180°	+6.9°	+1.7	87° 40'	-15.5	-13.8	1488.3		BS	-26	+379	
	380				+2.7	87° 30'	-16.6	-13.9	1488.3		BS			
716	330		267° 34'	+6.9°	11.7	86° 20'	+21.1	+9.4		1497.7		+23	-329	645,898 1,382,032
717	0				5.4	-		-5.4		1482.9	π	0	0	645,825 1,382,361

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/24/81		G. Cotcamp		O. Libenson		6837		sw		3		88			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Vampire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1488.3						
718	328		81°50'	+69°	13.6	-		-13.6		1474.7	TP	+10	+328	645,835	1,382,689
718	328				12.0	BH	-1.6	-13.6			TP				
	193		282°14' -180°	+69°	+7.5	88°-	-6.7	+0.8	1475.5		BS	-62	+183		
	193				+9.2	87°30'	-8.4	+0.8			BS				
π	0				5.9	-		-5.4		1470.1	π	0	0	645,773	1,382,872
719	121		70°42'	+69°	14.2	-		-14.2		1461.3		+27	+118	645,800	1,382,990
720	12441		89°02'	+69°	14.1	92°-	-15.4	-29.5		1446.0	TP	-42	+939	645,731	1,383,311
720	441				12.8	92°10'	-16.7	-29.5			TP				
	332	331.4	278°15' -180°	+69°	+0.9	86°30'	-20.2	-19.3	14126.7		BS	-84	+321		
	332				+1.9	86°20'	-21.2	-19.3			BS				
721	0				5.9	-		-5.4		1421.3	π	0	0	645,697	1,383,632
722	328		141°12'	+69°	12.1	93°-	-17.1	-29.2		1397.5		-277	+176	645,370	1,383,808
723	651	649.9	135°30'	+69°	13.8	93°20'	-37.8	-51.6		1375.1	TP	-511	+401	645,136	1,384,033
723	651				11.2	93°34'	-40.4	-51.6			TP				
	653	651.4	303°03' -180°	+69°	+9.9	86°-	-45.4	-35.5	1339.6		BS	-414	+503		
	653				+11.8	85°50'	-47.3	-35.5			BS				
724	328	327	302°45'	+69°	2.1	86°-	+22.8	+20.7		1360.3		+206	-254	644,928	1,384,282
725	0				5.4	-		-5.4		1334.2	π	0	0	644,722	1,384,536
726	327		129°52'	+69°	12.5	92°-	-11.4	-23.9		1315.7	TP	-236	+226	644,486	1,384,762
726	327				14.5	91°38'	-9.3	-23.8			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/24/81		G. Cotcamp		D. Liberson		6837		rlw		3	89			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Umpire 15'		Arkansas	Polk					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
726										1315.7				
	232		327°29'-180°	+6.9°	+6.7	-		+6.7	1322.9		BS	-208	+102	
	232				+5.5	OH	-1.2	+6.7			BS			
X	0				5.4	-		-5.4		1317.0	X	0	0	649,278 1,384,864
727	98		114°10'	+6.4°	4.5	-		-4.5		1317.9		-50	+84	649,228 1,384,748
BM	350		109°08'	+6.4°	14.4	-		-14.4		1308.0		-151	+316	649,127 1,385,180 el. 1308.0 U.S.C. & G.S. 8137 1936
728	421		107°12'	+6.4°	6.4	-		-6.4		1316.0	TP	-169	+386	644,109 1,385,250
728	421				4.3	OH	-2.1	-6.4			TP			
	325		308°20'-180°	+6.9°	+14.1	92°16'	+12.8	+26.9	1342.9		BS	-229	+231	
	325				+12.8	92°30'	+14.2	+27.0			BS			
729	0				5.4	-		-5.4		1337.5	X	0	0	643,880 1,385,481
FF	0				5.4	-		-5.4		1337.5		0	0	643,880 1,385,481 4-way Intersect.
730	330	329.6	176°32'	+6.7°	2.1	87°-	+17.2	+15.1		1358.0		-329	-19	643,551 1,385,462
731	660	659	" "	"	2.1	87°-	+34.5	+32.4		1375.3		-658	-37	643,222 1,385,444
732	990	988.6	176°32'	+6.7°	7.5	87°-	+51.7	+44.2		1387.1	TP	-98.7+2	-56-2	642,895 1,385,423
732	990				6.3	87°4'	+50.6	+44.3			TP			
	330		352°03'-180°	+6.7°	+14.4	92°30'	+14.4	+28.8	1415.9		BS	-330+2	+7-2	
	330				+13.5	92°40'	+15.3	+28.8			BS			
733	0				5.4	-		-5.4		1410.5	X	0	0	642,567 1,385,428
734	312		144°10'	+6.7°	0.9	88°-	+10.9	+10.0		1425.9	TP	-272	+15.2-2	642,295 1,385,578
734	312				2.7	87°40'	+12.7	+10.0			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.	PAGE				
2/24/81		G. Cotcamp		D. Libenson		6834		slw			3	90				
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Umpire		Arkansas	Polk					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
734										1425.9						
	667	664.9	348°45'180°	+6.7°	+13.7	94°36'	+53.3	+67.0	1492.9		BS	-663.	+53-2			
	667				+11.8	94°46'	+55.2	+67.0			BS					
735	330	329	348°45'	+6.7°	9.3	95°-	-28.7	-37.0		1455.9		+328	-26	641,960	1,385,603	
736	0				5.4	-		-5.4		1487.5	π	0	0	641,632	1,385,629	
737	280	279.3	160°22'	+6.7°	1.4	86°-	+19.5	+18.1		1541.0	TP	-272.	+63-2	641,360	1,385,690	
737	280				0.3	86°14'	+18.4	+18.1			TP					
	483	481.7	239°34'180°	+6.7°	+9.7	99°10'	+35.0	+44.7	1555.7		BS	+194+1	+441-2			
	483				+14.0	93°40'	+30.8	+44.8			BS					
738	295		200°18'	+6.7°	8.4	92°30'	-12.9	-21.3		1534.4		-263	-134	641,292	1,385,995	
739	0				5.4	-		-5.4		1550.3	π	0	0	641,555	1,386,129	
TP	179	178	65°17'	+6.7°	9.0	84°-	+18.6	+9.6		1565.3	TP	+55+2	+169-2	641,612	1,386,296	
TP	179				7.9	84°20'	+17.6	+9.7			TP					
	359	357.1	271°48'180°	+6.7°	+5.0	95°30'	+36.3	+41.3	1606.6		BS	-53+2	+353-2			
	359				+13.3	94°30'	+28.1	+41.4			BS					
740	254	253	247°18'	+6.7°	10.9	94°-	-17.7	-28.6		1578.0		-70	-243	641,491	1,386,909	
741	0				5.4	-		-5.4		1601.2	π	0	0	641,561	1,386,647	π opposite sta.
742	315	314	69°53'	+6.7°	3.5	86°-	+21.9	+18.4		1625.0		+73	+305	641,634	1,386,952	
TP	430	428.8	67°29'	+6.7°	2.4	85°40'	+32.4	+30.0		1636.6	TP	+117+2	+413-2	641,680	1,387,058	
TP	430				1.1	85°50'	+31.2	+30.1			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE		
2/24/81		G. Cotcamp		O. Libenson		6834		GWC. <i>John</i>			3		91		
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Vampire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
742 1/2										1636.6					
	522	521.1	286°28' -180°	+6.7°	+9.8	93°20'	+30.3	+40.1	1676.7		BS	-205+2	+479-2		
	522				+8.3	93°30'	+31.8	+40.1			BS				
743	315		276°05'	+6.7°	9.2	93°	-16.5	-25.7		1651.0		+70	-307	641,597	1,387,228
744	0				5.4	-		-5.4		1671.3		0	0	641,477	1,387,535
745	330		137°19'	+6.7°	4.1	86°	+23.0	+18.9		1695.6		-267	+199	641,210	1,387,729
746	656	654	128°21'	+6.7°	5.7	85°30'	+51.3	+45.6		1722.3		-463	+462	641,019	1,387,997
746	656				3.1	85°44'	+48.7	+45.6							
	331	330.6	304°15' -180°	+6.7°	+12.6	93°	+17.3	+29.9	1752.2		BS	-217	+250		
	331				+14.5	92°40'	+15.4	+29.9			BS				
747	0				5.4	-		-5.4		1746.8		0	0	640,797	1,388,297
748	332	331.2	140°43'	+6.7°	5.0	86°	+23.1	+18.1		1770.3		-279	+178	640,518	1,388,925
748	332				4.0	86°10'	+22.1	+18.1							
	250		345°04' -180°	+6.7°	+14.6	92°	+8.7	+23.3	1793.6		BS	-247	+36		
	250				+13.1	92°20'	+10.2	+23.3			BS				
π	0				5.4	-		-5.4		1788.2		0	0	640,271	1,388,961
749	80		185°0'	+6.7°	3.1	88°	+2.8	-0.3		1793.3		-78	-16	640,193	1,388,995
GM	295		189°27'	+6.7°	3.4	84°30'	+28.1	+24.7		1818.3		-283	-82	639,988	1,388,379
	315	314.1	181°42'	+6.7°	1.2	85°40'	+23.7	+22.5		1816.1		-311	-46	639,960	1,388,915
TP	344	342.8	180°33'	+6.7°	6.6	85°10'	+28.9	+22.3		1815.9		-340	-43	639,931	1,388,418
TP	344				7.6	85°	+29.9	+22.3							

at 1818.0
U.S.C. & G.S. A 134 1936
639,960 + 1,388,915
Trail (west)

horiz. corr. Δ = +47
-52

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
2/24/91		G. Cotcamp		B. Cotcamp		6837		Gvl. J.W.		3	92					
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Vampire 15'	Arkansas	Polk					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
749 1/2										1815.9						
	384	381.0	284°50' -180°	+6.7°	+13.2	82°50'	-47.5	-34.3	1781.6		BS	-140	+354			
	384				+12.1	83°-	-46.4	-34.3			BS					
750	330		281°0'	+6.7°	3.8	84°-	+34.3	+30.5		1812.1		+100	-314	639,891	1,388,458	
751	0				54	-		-5.4		1776.2	X	0	0	639,791	1,388,772	
752	330	328.7	91°22'	+6.7°	13.3	95°-	-28.7	-42.0		1739.6	TP	-46	+325	639,795	1,389,097	
752	330				11.4	95°20'	-30.5	-41.9			TP					
	327	324.9	289°55' -180°	+6.7°	+5.1	83°26'	-37.2	-32.1	1707.5		BS	-146	+290			
	327				+4.0	83°38'	-36.0	-32.0			BS					
753	0				5.4	-		-5.4		1702.1	X	0	0	639,599	1,389,387	
754	330		124°28'	+6.7°	12.5	94°-	-23.0	-35.5		1672.0		-217	+248	639,382	1,389,635	
755	650	646.9	132°22'	+6.7°	5.3	95°36'	-63.1	-68.4			TP	-489	+424	639,110	1,389,811	
755	650				6.5	95°30'	-62.0	-68.5		1639.0	TP					
	325	323.7	305°01' -180°	+6.7°	+9.8	84°50'	-29.1	-19.3	1619.7		BS	-215	+242			
	325				+10.8	84°40'	-30.1	-19.3			BS					
756	0				54	-		-5.4		1614.3	X	0	0	638,895	1,390,053	
757	238		135°07'	+6.7°	6.6	95°-	-20.7	-27.3		1592.4		-187	+147	638,708	1,390,200	
758	501	498.2	157°33'	+6.7°	9.0	96°6'	-52.9	-61.9		1557.8	TP	-479	+135	638,416	1,390,188	
758	501				7.5	96°16'	-54.4	-61.9			TP					
	248	247.4	357°51' -180°	+6.7°	+2.8	86°-	-17.3	-14.5	1543.3		BS	-247	-20			
	248				+1.4	86°20'	-15.8	-14.4			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/24/81		G. Cotcamp		B. Cotcamp		6837		Guc. rlu		3		93			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Umpire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1543.3						
π	0				5.4	-		-5.4		1537.9	π	0	0	638,169	1,390,168
759	65		163° 0'	+6.7°	9.9	-		-9.9		1533.4		-64	+12	638,105	1,390,180
760	380	378.7	177° 32'	+6.7°	7.2	94° 42'	-31.0	-38.2		1505.1	TP	-378	-28	637,791	1,390,140
760	380				6.1	94° 52'	-32.1	-38.2			TP				
	250	249.1	33° 13' +180°	+6.7°	+2.2	85° -	-21.7	-19.5			BS	-191	-160		
	250				+1.4	85° 10'	-21.0	-19.6	1485.5		BS				
π	0				5.4	-		-5.4		1480.1	π	0	0	637,600	1,389,980
761	80		176° 0'	+6.7°	10.2	-		-10.2		1475.3		-80	-4	637,520	1,389,976
762	403	402.0	164° 16'	+6.7°	10.6	94° -	-28.0	-38.6			TP	-397	+63	637,203	1,390,043
762	403				14.1	93° 30'	-24.6	-38.7		1446.8	TP				
	329	328.2	336° 12' -180°	+6.7°	+0.1	86° -	-22.9	-22.8	1424.0		BS	-314	+97		
	329				+2.0	85° 40'	-24.8	-22.8			BS				
763	0				5.4	-		-5.4		1418.6	π	0	0	636,889	1,390,140
764	324	324.0	188° 12'	+6.7°	11.7	91° -	-5.7	-17.4		1406.6	TP	-313	-83	636,576	1,390,057
764	324				13.6	90° 40'	-3.8	-17.4			TP				
	656	655.6	4° 48' +180°	+6.7°	+2.7	88° -	-22.9	-20.2	1386.4		BS	-642	-131		
	656				+6.5	87° 40'	-26.7	-20.2			BS				
765	330		4° 48'	+6.7°	5.9	88° -	+11.5	+5.6		1392.0		+323	+66	636,257	1,389,992
766	0				5.4	-		-5.4		1381.0	π	0	0	635,934	1,389,926

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE 2/25/81		INSTRUMENT MAN G. Cotcamp		ROD MAN B. Cotcamp		PARTY NUMBER 6839		NOTES CHECKED BY G.W.C. <i>rlw</i>			LINE NO. 3		PAGE 97		
AREA Arkansas		TOPO MAP Umpire 15'		STATE Arkansas		COUNTY Polk		TWP		RANGE		PPM		PARTY MANAGER L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1386.4						
767	330	329.8	165°50'	+6.7°	13.8	92°-	-11.5	-25.3		1361.1	TP	-327	+43	635,607	1,389,969
767	330										TP				
	323	323.0	311°58'-180°	+6.7°	+4.7	-		+4.7	1365.8		BS	-243 ₊₁	+213		
	323					BH	+1.6	+4.7			BS				
768	0				5.4	-		-5.4		1360.4	π	0	0	635,365	1,390,182
769	330		112°06'	+6.7°	10.3	91°-	-5.8	-16.1		1349.7		-159	+289	635,206	1,390,471
770	660	660.0	114°14'	+6.7°	7.3	90°36'	-6.9	-14.2		1351.6	TP	-339 ₊₂	+566	635,028	1,390,748
770	660										TP				
	330	329.6	326°04'-180°	+6.7°	+6.7	87°-	-17.2	-10.5	1341.1		BS	-293 ₊₂	+151		
	330										BS				
771	0				5.4	-		-5.4		1335.7	π	0	0	634,737	1,390,899
BM	155		91°0'	+6.7°	12.5	92°-	-5.4	-17.9		1323.2		-21	+154	634,716	1,391,053
772	324	324.0	102°37'	+6.7°	4.6	91°-	-5.7	-10.3		1330.8	TP	-107 ₊₂	+306	634,632	1,391,205
772	324										TP				
	331	330.9	312°54'-180°	+6.7°	+14.4	91°20'	+7.7	+22.1	1352.9		BS	-252 ₊₂	+214		
	331										BS				
773	0				5.4	-		-5.4		1347.5	π	0	0	634,382	1,391,419
1E	313		312°41'	+6.7°	12.4	91°40'	-9.1	-21.5		1331.4		+238	-204	634,620	1,391,215
774	338		150°46'	+6.7°	12.0	84°16'	+33.6	+21.6		1374.5		-312	+130	634,070	1,391,549

el. 1323.0
U.S.C.G.S. 2133 1935

634,610 + 1,391,230
-intersect.

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/25/81		G. Cotcamp		B. Cotcamp		6834		J.S.W. B.C.		3	95						
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Arkansas		Umpire 15'		Arkansas	Polk				L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1352.9								
775	490		147°34'	+6.7°	4.1	85°-	+42.5	+38.4		1391.3		-441	+213	633,941	1,391,632	S-curve	
TP	593	590.7	141°14'	+6.7°	2.3	85°-	+51.5	+45.2		1402.1	TP	-501.2	+314	633,883	1,391,133	"	
TP	593				0.9	85°3'	+50.1	+49.2			TP						
	312	311.6	16°50'+180°	+6.7°	+15.0	93°-	+16.3	+31.3	1433.4		BS	-286.2	-124				
	312				+13.2	93°20'	+18.1	+31.3			BS						
776	80		16°50'	+6.7°	11.1	-		-11.1		1422.3		+73	+32	633,672	1,391,641		
π	0				5.4	-		-5.4		1428.0	π	0	0	633,599	1,391,609		
777	258	257.3	225°10'	+6.7°	1.7	85°40'	+19.4	+17.7		1451.1	TP	-159.2	-202	633,442	1,391,407		
777	258				0.2	86°-	+18.0	+17.8			TP						
	642	641.0	47°31'+180°	+6.7°	+14.4	93°10'	+35.4	+49.8	1500.9		BS	-375.2	-520				
	642				+12.6	93°10' / 92°20'	+37.3	+49.9			BS						
778	327		39°12'	+6.7°	10.8	93°-	-17.1	-27.9		1473.0		+228	+235	633,217	1,391,122		
779	0				5.4	-		-5.4		1495.5	π	0	0	633,069	1,390,887		
780	304	303.9	95°23'	+6.7°	1.8	88°40'	+7.1	+5.3		1506.2	TP	-64.2	+297	633,007	1,391,184		
780	304				4.4	88°10'	+9.7	+5.3			TP						
	660	658.4	280°59'-180°	+6.7°	+9.6	94°-	+45.9	+55.5	1561.9		BS	-200.2	+627				
	660				+6.9	94°16'	+49.0	+55.9	+55.7		BS						
781	330		277°38'	+6.7°	12.9	94°-	-23.0	-35.9		1526.0		+82	-320	632,891	1,391,491		
782	0				5.4	-		-5.4		1556.5	π	0	0	632,809	1,391,811		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/25/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		96			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Vmpire 15'		Arkansas		Polk								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1561.9						
783	316	315.0	95°09'	+6.7°	1.5	86°-	+22.0	+20.5			TP	-65 ₊₂	+309	632,746	1,392,120
783	316				3.0	85°44'	+23.4	+20.4		1582.3	TP				
	330	329.9	283°48'+180°	+6.7°	+14.3	91°36'	+9.2	+23.5	1605.8		BS	-116 ₊₂	+309		
	330				+13.0	91°50'	+10.6	+23.6			BS				
784	0				5.4	-		-5.4		1600.4	TP	0	0	632,632	1,392,429
BM	319	318.2	116°44'	+6.7°	1.9	86°-	+22.2	+20.3			TP	-175 ₊₂	+266	632,459	1,392,695
BM	319				0.3	86°18'	+20.5	+20.2		1626.0	TP				el. 1626.0 U.S.C. & G.S. 1/33 1935
	85	84.8	45°13'+180°	+6.7°	+3.1	86°-	-5.9	-2.8	1623.2		BS	-52 ₊₂	-67		
	85				+1.6	87°-	-4.4	-2.8			BS				
⇒	58		24°24'	+6.7°	2.5	-		-2.5		1620.7		+50	+30	632,459	1,392,658
785	0				5.4	-		-5.4		1617.8	TP	0	0	632,409	1,392,628
786	330	329.2	248°51'	+6.7°	8.0	94°-	-23.0	-31.0		1592.2	TP	-82	-319	632,327	1,392,309
786	330				14.7	92°50'	-16.3	-31.0			TP				
	330	329.0	69°58'+180°	+6.7°	+2.3	85°36'	-25.2	-22.9	1569.3		BS	-76	-320		
	330				+3.8	85°20'	-26.8	-23.0			BS				
787	0				5.4	-		-5.4		1563.9	TP	0	0	632,251	1,391,989
788	330		259°37'	+6.7°	7.1	95°-	-28.7	-35.8		1533.5		-21	-329	632,230	1,391,660
789	660		"		13.0	95°-	-57.3	-70.3		1499.0		-42	-659	632,209	1,391,330
790	990	986.2	259°37'	+6.7°	10.8	95°-	-86.0	-96.8		1472.5	TP	-63	-984	632,188	1,391,065
790	990				12.6	94°54'	-84.3	-96.9			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/25/81		G. Cotcamp		D. Libenson		6837		B.C.		3	97			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Umpire 15'		Arkansas		Polk					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
790										1472.5				
	329	328.6	90°37'+180°	+6.7°	+2.5	87°-	-17.2	-14.7	1457.8		BS	+42	-326	
	329				+0.6	87°20'	-15.3	-14.7		BS				
791	0				54	-		-5.4		1452.4	X	0	0	632,230 1,390,679
792	831.6		233°32'	+6.7°	10.7	93°-	-16.5	-27.2		1430.6		-157	-274	632,073 1,390,405
793	646	644.9	232°54'	+6.7°	14.9	93°20'	-37.5	-52.4		1405.4	TP	-326	-556	631,909 1,390,123
793	646				12.3	93°34'	-40.1	-52.4			TP			
	228	227.4	88°23'+180°	+6.7°	+2.3	86°-	-15.9	-13.6	1391.8		BS	+20	-227	
	228				+0.9	86°20'	-14.6	-13.7		BS				
X	0				54	-		-5.4		1386.4	X	0	0	631,924 1,389,896
794	110		324°32'	+6.7°	11.5	93°-	-5.7	-17.2		1374.6		+96	-53	632,020 1,389,843
795	275		299°27'	+6.7°	12.3	94°30'	-21.5	-33.8		1358.0		+142	-235	632,066 1,389,661
796	340	336.5	229°45'	+6.7°	9.4	98°16'	-48.4	-57.8		1334.0	TP	-186	-280	631,738 1,389,616 } S-curve
796	340				12.9	97°40'	-45.0	-57.9			TP			
	153	152.9	25°10'+180°	+6.7°	+3.5	88°-	-5.3	-1.8	1332.2		BS	-130	-81	
	153				+0.8	89°-	-2.7	-1.9		BS				
X	0				54	-		-5.4		1326.8	X	0	0	631,608 1,389,535
797	180		248°28'	+6.7°	11.3	93°-	-9.4	-20.7		1311.5		-46	-174	631,562 1,389,361
798	510	509.3	248°28'	+6.7°	12.5	93°-	-26.7	-39.2		1293.0	TP	-130	-492	631,478 1,389,043
798	510				14.3	92°48'	-24.9	-39.2			TP			

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
2/25/81		G. Cot camp		D. Libenson		6834		B.C.		3		99		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Umpire 15'		Arkansas		Polk						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
806										1221.8				
	332	331.8	359°46' -180°	+6.7°	+1.0	88° -	-11.6	-10.6	1211.2		BS	-332	-8.1	
	332				+2.0	87°50'	-12.5	-10.5			BS			
807	0				5.4	-		-5.4	1205.8		X	0	0	628,831 1,388,192 horiz. correct. y = +29' x = +2'
808	330		220°38'	+6.7°	13.0	-		-13.6	1198.2			-224	-243	628,607 1,387,949
BM	540	539.9	220°56'	+6.7°	10.8	91° -	-9.4	-20.2	1191.0			-366	-397	628,465 1,387,795 USC+GS 628,465-19,10 X-133 1935, 387,795
809	660		220°38'	+6.7°	13.8	-		-13.8	1197.4		TP	-447	-485	628,384 1,387,707
809	660				10.5	BH	-3.3	-12.8			TP			
	328	327.6	22°44' +180°	+6.7°	+133	93° -	+17.1	+30.4	1227.8		BS	-285	-161	
	328				+14.3	92°50'	+16.2	+30.5			BS			
810	0				5.4	-		-5.4	1222.4		X	0	0	628,099 1,387,546
811	330	329.8	181°02'	+6.7°	14.9	92° -	-11.5	-26.4			TP	-327	-44	627,772 1,387,502
811	330				14.0	92°10'	-12.5	-26.5	1201.3		TP			
	330	329.8	2°57' +180°	+6.7°	+4.0	88°20'	-9.6	-5.6	1195.7		BS	-325	-55	
	330				+4.9	88°10'	-10.6	-5.7			BS			
812	0				5.4	-		-5.4	1190.3		X	0	0	627,447 1,387,447
813	330	329.8	189°31'	+6.7°	11.8	92° -	-11.5	-23.3	1172.4		TP	-317	-92	627,136 1,387,355
813	330				13.7	91°40'	-9.6	-23.3			TP			
	659		345°55' -180°	+6.7°	+12.2	BH	+3.3	+15.5	1187.9		BS	-654	+85	
	659				+13.6	90°10'	+1.9	+15.5			BS			
814	330		343°48'	+6.7°	12.1	BH	-1.7	-13.8	1174.1			+325	-55	626,801 1,387,385

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/26/81		G. Cotcamp		B. Cotcamp		6834		DL		3	100						
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER					
Arkansas		Vampire 15'		Arkansas		Polk						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									1187.9								
815	0				5.4	-		-5.4		1182.5	X	0	0	626,476	1,387,440		
816	325	324.6	140°18'	+6.7°	3.8	87°-	+17.0	+13.2		1201.1	TP	-272	+177	626,204	1,387,617		
816	325				1.0	87°30'	+14.2	+13.2			TP						
	660		311°05'-180°	+6.7°	+12.9	BH	+3.3	+16.2	1217.3		BS	-489	+443				
	660				+14.6	90°8'	+1.5	+16.1			BS						
817	330		311°05'	+6.7°	5.6	-		-5.6		1211.7		+244	-222	625,959	1,387,838		
818	0				5.4	-		-5.4		1211.9	X	0	0	625,715	1,388,060		
819	328		139°34'	+6.7°	13.4	-		-13.4		1203.9	TP	-256	+205	625,459	1,388,265		
819	328				11.7	BH	-1.6	-13.3			TP						
	509	507.8	268°04'-180°	+6.7°	+1.6	86°-	-35.4	-33.8	1170.1		BS	-42	+506				
	509				+3.1	85°50'	-36.9	-33.8			BS						
820	179		268°04'	+6.7°	4.5	86°-	+12.5	+8.0		1178.1		+15	-178	625,432	1,388,593		
X	0				5.4	-		-5.4		1164.7	X	0	0	625,417	1,388,771		
821	155		111°09'	+6.7°	14.6	-		-14.6		1155.5	TP	-72	+137	625,345	1,388,908		
821	155				13.8	BH	-0.8	-14.6			TP						
	328	327.6	350°03'-180°	+6.7°	+12.0	87°14'	-15.8	-3.8	1151.7		BS	-327	+19				
	328				+14.9	86°44'	-18.7	-3.8			BS						
822	0				5.4	-		-5.4		1146.3	X	0	0	625,018	1,388,927		
823	323	321.9	231°54'	+6.7°	9.3	85°20'	+26.2	+16.9		1168.6	TP	-168	-275	624,850	1,388,652		
823	323				11.2	85°-	+28.0	+16.8			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/26/81		G. Cotcamp		D. Libenson		6839		DL		3	101						
AREA		TOPO MAP		STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Arkansas		Umpire 15'		Arkansas	Polk				L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
823										1168.6							
	250		35°20' +180°	+6.7°	+12.6	91°-	+4.4	+17.0	1185.6		BS	-186	-167				
	250				+14.8	90°30'	+2.2	+17.0			BS						
π	0				5.4	-		-5.4		1180.2	π	0	0	624,664	1,388,485		
824	80		194°0'	+6.7°	3.3	-		-3.3		1182.3		-75	-28	624,589	1,388,457		
TP	338		186°56'	+6.7°	3.2	89°-	+5.9	+2.7			TP	-328	-80	624,336	1,388,405		
TP	338				1.6	89°16'	+4.3	+2.7		1188.3	TP						
	367		313°44' -180°	+6.7°	+7.9	90°30'	+3.2	+11.1	1199.4		BS	-283	+234				
	367				+6.3	90°46'	+4.9	+11.2			BS						
825	316		312°32'	+6.7°	4.6	91°-	+5.5	+10.1		1189.3		+239	-206	624,292	1,388,433		
826	0				5.4	-		-5.4		1194.0	π	0	0	624,053	1,388,639		
827	330	339.8	172°49'	+6.7°	10.8	92°-	-11.5	-22.3		1177.1	TP	-330	+3	623,723	1,388,642		
827	330				12.7	91°40'	-9.6	-22.3			TP						
	301	302.9	307°38' -180°	+6.7°	+8.9	88°30'	-7.9	+1.0	1178.1		BS	-210	+215				
	301				+8.1	88°40'	-7.0	+1.1			BS						
π	185		277°29'	+6.7°	10.3	-		-10.3		1167.8		+45	-179	623,558	1,388,678	Shady Lake entrance	
828	0				5.4	-		-5.4		1172.7	π	0	0	623,513	1,388,857		
829	329		85°21'	+6.7°	3.9	89°-	+5.7	+1.8		1179.9	TP	-12	+329	623,501	1,389,186		
829	329				2.0	89°20'	+3.8	+1.8			TP						
	203		266°04' -180°	+6.7°	+12.6	-		+12.6	1192.5		BS	-10	+203				
	203				+13.6	TH	-1.0	+12.6			BS						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/26/81		G. Cotcamp		B. Cotcamp		6834		DL		3	102						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Vampire 15'		Arkansas	Polk					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1192.5								
π	0				5.4	-		-5.4		1187.1	π	0	0	623,491	1,389,389		
830	135		127°30'	+6.7°	2.8	-		-2.8		1189.7		-94	+97	623,397	1,389,486		
TP	280		128°08'	+6.7°	2.9	TH	+1.4	-1.5		1191.0	TP	-197	+199	623,294	1,389,588		
TP	280				6.4	89°-	+4.9	-1.5			TP						
	202		343°31'+180°	+6.7°	+0.6	88°40'	-4.7	-4.1	1186.9		BS	-199	+34				
	202				+1.8	88°20'	-5.9	-4.1			BS						
831	0				5.4	-		-5.4		1181.5	π	0	0	623,095	1,389,622	π opposite sta.	
832	340	338.9	199°20'	+6.7°	14.7	94°36'	-27.2	-41.9		1145.0	TP	-305	-149	622,790	1,389,473		
832	340				13.3	94°50'	-28.5	-41.8			TP						
	570	569.4	29°34'+180°	+6.7°	+7.1	87°20'	-26.5	-19.4	1125.6		BS	-459	-337				
	570				+3.8	87°40'	-23.2	-19.4			BS						
IF	345		36°48'	+6.7°	5.8	-		-5.8		1119.8		+250	+237	622,581	1,389,373	trail	
833	290		47°30'	+6.7°	11.7	-		-11.7		1113.9		+170	+235	622,501	1,389,371		
834	0				5.4	-		-5.4		1120.2	π	0	0	622,331	1,389,136		
835	330		250°53'	+6.7°	3.7	88°-	+11.5	+7.8		1133.4		-71	-322	622,260	1,388,814		
836	657	656.7	256°20'	+6.7°	9.2	88°18'	+19.5	+10.3		1135.9	TP	-80	-652	622,251	1,388,484		
836	657				10.3	88°12'	+20.6	+10.3			TP						
	262		89°36'+180°	+6.7°	+0.5	TH	-1.3	-0.8	1135.1		BS	+29	-260				
	262				+1.5	89°30'	-2.3	-0.8			BS						
π	0				5.4	-		-5.4		1129.7	π	0	0	622,280	1,388,224		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/26/81		G. Cotcamp		D. Libenson		6834		DL		3	103						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Umpire 15'		Arkansas	Polk					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1135.1								
837	65		220° 0'	+6.7°	6.9	-		-6.9		1128.2		-45	-47	622,235	1,388,177		
TP	260		204° 29'	+6.7°	10.9	-		-10.9		1124.2	TP	-222	-135	622,058	1,388,089		
TP	260				12.2	TH	+1.3	-10.9			TP						
	360	358.0	357° 28' -180°	+6.7°	+8.7	87° 20'	-35.4	-26.7	1097.5		BS	-357	-26				
	360				+8.1	89° 26'	-34.8	-26.7			BS						
838	230		356° 10'	+6.7°	1.9	84° -	+23.9	+22.0		1119.5		+230	+12	621,931	1,388,075		
π	0				5.4	-		-5.4		1092.1	π	0	0	621,701	1,388,063		
839	100		158° 23'	+6.7°	11.4	93° -	-5.2	-16.6		1080.9		-97	+26	621,604	1,388,089		
840	430	429.9	158° 23'	+6.7°	13.9	91° 16'	-9.5	-23.4		1074.1	TP	-415	+111	621,286	1,388,174		
840	430				12.2	91° 30'	-11.3	-23.5			TP						
	319	318.6	305° 22' -180°	+6.7°	+10.9	93° -	+16.7	+27.6	1101.7		BS	-213	+236				
	319				+13.7	92° 30'	+13.9	+27.6			BS						
841	0				5.4	-		-5.4		1096.3	π	0	0	621,073	1,388,410		
842	330		113° 04'	+6.7°	2.0	86° -	+23.0	+21.0		1122.7		-164	+286	620,909	1,388,656		
TP	503	501.1	112° 03'	+6.7°	4.6	85° -	+43.7	+39.1		1140.8	TP	-241-	+439	620,831	1,388,849		
TP	503				1.9	85° 18'	+41.1	+39.2			TP						
	484	483.5	334° 05' -180°	+6.7°	+10.9	92° 38'	+22.2	+33.1	1173.9		BS	-457-2	+159				
	484				+12.0	92° 30'	+21.1	+33.1			BS						
843	326		337° 0'	+6.7°	11.0	92° -	-11.4	-22.4		1151.5		+313	-92	620,685	1,388,916		
844	0				5.4	-		-5.4		1168.5	π	0	0	620,372	1,389,008		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/26/81		D Liberson		G Cotcamp		6834		DL		3		109			
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER			
Arkansas		Vampire 15'		Arkansas		Polk/Howard						L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									1173.9						
845	330		132°38'	+6.7°	4.9	89°0'	+5.8	+0.9	1174.8	TP	-250.2	+215.2	620,120	1,389,221	
845	330				3.9	89°10'	+4.8	+0.9							
	330		303°22' - 180°	+6.7°	+3.7	—		+3.7	1178.5	BS	-212.2	+253.1			
	330				+2.0	BH	+1.7	+3.7							
846	0				5.4				1173.9	TP					
846	112		301°32'	+6.7°	6.2	—		-6.2	1172.3		+69	-88	619,975	1,389,385	Trail Trail (South) 619,975, 1,389,385
846	0				5.4	—		-5.4	1173.1	TP	0	0	619,906	1,389,473	Horiz. Correc. y = -7'
847	329		139°54'	+6.4°	9.3	—		-9.3	1169.2	TP	-274.2	+183.1	619,634	1,389,655	x = -3'
847	329				11.0	TH	+1.6	-9.4							
	660		325°31' - 180	+6.4°	+3.4	89°30'	-5.8	-2.4	1166.7	BS	-582.2	+311.1			
	660				+5.1	89°20'	-7.7	-2.6							
848	330		327°29'	+6.4°	8.0	88°30'	+8.6	+0.6	1167.3		+296	-145	619,350	1,389,820	Polk Co.
849	0				5.4	—		-5.4	1161.3	TP	0	0	619,057	1,389,965	Howard Co.
850	330		139°36'	+6.4°	5.0	92°30'	-14.4	-19.4	1147.3		-274	+185	618,780	1,390,150	↓
851	656	655.6	135°54'	+6.4°	5.2	92°—	-22.9	-28.1	1138.5	TP	-519.2	+401.1	618,537	1,390,365	
851	656				7.3	91°50'	-21.0	-28.3							
	660	659.4	301°53' - 180°	+6.4°	+2.3	87°30'	-28.8	-26.5	1112.0	BS	-409.2	+518.1			
	660				+8.1	87°—	-34.5	-26.4							
852	330		303°21'	+6.4°	7.1	86°54'	+17.8	+10.7	1122.7		+211	-254	618,391	1,390,628	
853	0				5.4	—		-5.4	1106.6	TP	0	0	618,130	1,390,882	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/26/81		D Liberson		G Cotcamp		6834		DL		3		105			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Vampire 15'		Arkansas		Pottt Howard								L Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1112.0						
854	329	328.8	124°46'	+6.4°	14.5	92°10'	-12.4	-26.9		1085.1	TP	-216 ₊₂	+247 ₋₁	617,916	1,391,128
854	329				13.5	92°20'	-13.4	-26.9			TP				
	328	327.6	281°29' - 180°	+6.4°	+0.5	87°10'	-16.2	-15.7	1069.4		BS	-101 ₊₂	+312 ₋₁		
	328				+1.5	87°-	-17.1	-15.6			BS				
855	0				5.4	—		-5.4		1064.0	π	0	0	617,817	1,391,439
856	328	327.2	73°20'30"	+6.4°	2.7	86°-	+22.8	+20.1		1089.5	TP	+58 ₊₂	+322 ₋₁	617,877	1,391,760
856	328				3.9	85°48'	+24.0	+20.1			TP				
	659	658.6	255°57' - 180°	+6.4°	+14.2	92°-	+23.0	+37.2	1126.6		BS	+88 ₊₂	+653 ₋₁		
	659				+2.6	93°-	+34.4	+37.0	+37.1		BS				
857	330		254°56'	+6.4°	9.8	92°-	-11.5	-21.3		1105.3		-50	-326	617,917	1,392,086
858	0				5.4	—		-5.4		1121.2	π	0	0	617,967	1,392,412
859	330	329.6	87°42'	+6.4°	4.2	87°-	+17.2	+13.0		1139.6	TP	-24 ₊₂	+329 ₋₁	617,995	1,392,740
859	330				6.2	86°40'	+19.2	+13.0			TP				
	333		290°33' - 180°	+6.4°	+3.9	87°-	-5.8	-1.9	1137.7		BS	-15 ₊₂	+297 ₋₁		
	333				+6.8	88°30'	-8.7	-1.9			BS				
860	0				5.4	—		-5.4		1132.3	π	0	0	617,796	1,393,036
861	329	328.6	148°09'	+6.4°	14.6	92°40'	-15.3	-29.9		1107.8	TP	-297 ₊₂	+141 ₋₁	617,501	1,393,176
861	329				12.7	93°-	-17.2	-29.9			TP				
	650	649.7	314°32' - 180°	+6.4°	+6.1	88°12'	-20.4	-14.3	1093.5		BS	-504 ₊₂	+409 ₋₁		
	650				+4.6	88°20'	-18.9	-14.3			BS				

set up opp station

set up opposite station

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
2/27/81		G. Cotcamp		B. Cotcamp		6834		DL		3		106			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Umpire 15'		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									1093.5						
862	325		311°32'	+6.4°	13.8	89°30'	+2.8'	-11.0		1082.5		+241	-218	617,290	1,393,366
863	0				5.4	-		-5.4		1088.1	X	0	0	616,999	1,393,584
864	326		94°01'	+6.4°	9.2	89° -	+5.7	-3.5		1090.0	TP	-59+2	+321-1	616,942	1,393,904
864	326				8.3	89°10'	+4.7	-3.6			TP				
	330		288°10' -180°	+6.4°	+0.2	89°20'	-3.8	-3.6	1086.4		BS	-137+2	+300-1		
	330				+2.1	89° -	-5.8	-3.7			BS				
865	0				5.4	-		-5.4		1081.0	X	0	0	616,807	1,394,203
866	331		115°26'	+6.4°	13.4	91° -	-5.8	-19.2		1067.2	TP	-175+2	+281	616,639	1,394,484
866	331				14.8	90°46'	-4.4	-19.2			TP				
	655	654.9	328°02' -180°	+6.4°	+1.9	89° -	-11.4	-9.5	1057.7		BS	-591+2	+283		
	655				+3.8	88°50'	-13.3	-9.5			BS				
IF	440		334°04'	+6.4°	2.7	-		-2.7		1055.0		+415	-147	616,460	1,394,620
867	330		334°04'	+6.4°	6.2	-		-6.2		1051.5		+311	-110	616,356	1,394,657
868	0				5.4	-		-5.4		1052.3	X	0	0	616,095	1,394,767
869	328	327.9	165°51'	+6.4°	11.3	88°50'	+6.7	-4.6		1053.1	TP	-325+2	+44	615,722	1,394,811
869	328				12.3	88°40'	+7.6	-4.7			TP				
	331		314°25' -180°	+6.4°	+13.8	89° -	-5.8	+8.0	1061.1		BS	-257+1	+209		
	331				+12.8	89°10'	-4.8	+8.0			BS				
870	0				5.4	-		-5.4		1055.7	X	0	0	615,466	1,395,020
871	330		178°0'	+6.4°	11.3	-		-11.3		1049.8		-329	-25	615,137	1,394,995

616,465+1,394,615
T-rd (east)

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/27/81		G. Cotcamp		B. Cotcamp		6834		DL		3	107						
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER					
Arkansas		Umpire 15		Arkansas		Howard						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+	EAST+	COORDINATES		REMARKS	
												SOUTH-	WEST-	Y	X		
									1061.1								
872	660	659.9	177°59'	+6.4°	14.5	91°	-11.5	-26.0		1035.1	TP	-658	-50	614,808	1,394,970		
872	660				12.6	91°10'	-13.4	-26.0			TP						
	330		357°42'±180°	+6.4°	+6.6	-		+6.6	1041.7		BS	-329	-24				
	330				+4.9	BH	+1.7	+6.6			BS						
873	0				5.4	-		-5.4		1036.3	π	0	0	614,479	1,394,946		
874	330		170°0'	+6.4°	12.5	89°-	+5.8	-6.7		1035.0		-329	+21	614,150	1,394,967		
875	660		167°33'	+6.4°	20.8	89°-	+11.5	-9.3		1032.4		-656	+70	613,823	1,395,016		
876	989	988.4	165°59'40"	+6.4°	5.9	88°44'	+21.9	+16.0		1057.7	TP	-980	+131	613,499	1,395,077		
876	989				8.2	88°36'	+24.2	+16.0			TP						
	333	332.1	4°31'±180°	+6.4°	+12.1	85°42'	-24.9	-12.8	1044.9		BS	-326	-63				
	333				+13.6	85°26'	-26.4	-12.8			BS						
877	0				5.4	-		-5.4		1039.5	π	0	0	613,172	1,395,014		
878	336		193°17'	+6.4°	11.3	91°-	-5.9	-17.2		1027.7	TP	-316	-113	612,857	1,394,901		
878	336				13.3	90°40'	-3.9	-17.2			TP						
	219		49°44'±180°	+6.4°	+14.2	-		+14.2	1041.9		BS	-122	-182				
	219				+13.1	BH	+1.1	+14.2			BS						
π	0				5.4	-		-5.4		1036.5	π	0	0	612,735	1,394,719		
879	119		242°59'	+6.4°	7.3	-		-7.3		1034.6		-42	-111	612,693	1,394,608		
880	449	448.7	242°59'	+6.4°	13.0	92°-	-15.7	-28.7		1013.2	TP	-158	-420	612,577	1,394,299		
880	449				14.3	91°50'	-14.4	-28.7			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/27/81		G. Cotcamp		B. Cotcamp		6834		DL		3	108			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Umpire 15'		Arkansas	Howard					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
880										1013.2				
	330	329.8	34°05'+180°	+6.4°	+3.9	88°-	-11.5	-7.6	1005.6		BS	-251	-214	
	330				+1.0	88°30'	-8.6	-7.6		BS				
881	0				5.4	-		-5.4		1000.2	X	0	0	612,326 1,394,085
882	326		194°35'	+6.4°	14.2	BH	-1.6	-15.8		989.8	TP	-304	-117	612,022 1,393,968
882	326				13.9	90°20'	-1.9	-15.8			TP			
	640	639.8	0°24'+180°	+6.4°	+2.4	88°30'	-16.7	-14.3	975.4		BS	-635	-76	
	640				+0.5	88°40'	-14.9	-14.4		BS				
883	310		0°24'	+6.4°	2.2	89°-	+5.4	+3.2		978.6		+308	+37	611,695 1,393,929
<u>JL</u>	13		8°14'	+6.4°	5.0	-		-5.0		970.4		+13	+3	611,900 1,393,895 T-intersect. (St. Rt 296)
884	0				5.4	-		-5.4		970.0	X	0	0	611,387 1,393,892 State Route #296
885	330		104°31'	+6.1°	4.5	-		-4.5		970.9	TP	-116-2	+309-2	611,273 1,394,199 ↓
885	330				2.8	BH	-1.7	-4.5			TP			
	330	329.8	292°08'-180°	+6.1°	+2.2	88°-	-11.5	-9.3	961.6		BS	-156+2	+291-2	
	330				+1.2	88°10'	-10.6	-9.4		BS				
886	0				5.4	-		-5.4		956.2	X	0	0	611,119 1,394,488
887	330		142°36'	+6.1°	12.6	92°-	-11.5	-24.1		937.5		-282	+171	610,837 1,394,659
888	658	657.6	146°57'	+6.1°	11.0	92°-	-23.0	-34.0		927.6	TP	-586+2	+298-2	610,535 1,394,784
888	658				14.1	91°44'	-19.9	-34.0			TP			
	638	637.0	295°44'-180°	+6.1°	+11.8	91°-	+11.1	+22.9	950.5		BS	-336+2	+542-2	
	638				+14.0	90°48'	+8.9	+22.9		BS				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
2/27/81		G. Cotcamp		D. Libenson		6837		DL DL		3	109						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Umpire/Athens 15'		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									950.5								
889	330		283°0'	+6.1°	8.7	89°	-17.2	-25.9		924.6		+108	-312	610,309	1,395,012		
890	0				5.4	-		-5.4		945.1	X	0	0	610,201	1,395,324		
891	327		90°26'	+6.1°	3.9	85°-	+28.4	+24.5		975.0		-37	+324	610,164	1,395,648	↑	
892	652	650.3	83°58'	+6.1°	4.9	85°48'	+47.6	+42.7			TP	-1 +2	+650-2	610,202	1,395,972	Umpire Quad.	
892	652				6.5	85°40'	+49.1	+42.6		993.1	TP						
	660		258°18'-180°	+6.1°	+12.5	BH	+3.3	+15.8	1008.9		BS	+64+2	+657-2				
	660				+13.9	90°10'	+1.9	+15.8			BS						
893	330		258°18'	+6.1°	8.3	-		-8.3		1000.6		-32	-328	610,236	1,396,299	Athens Quad.	
894	0				5.4	-		-5.4		1003.5	X	0	0	610,268	1,396,627	↓	
895	330		79°0'	+6.1°	12.4	BH	-1.7	-14.1		994.8		+28	+329	610,296	1,396,956		
896	650		88°06'	+6.1°	11.9	BH	-3.3	-15.2		993.7	TP	-48 +2	+648-2	610,222	1,397,273		
896	650				14.0	90°6'	-1.1	-15.1			TP						
	1645		283°52'40"-180°	+6.1°	+2.1	TH	-8.2	-6.1	987.6		BS	-562+2	+1546-2				
	1646				+5.4	89°36'	-11.5	-6.1			BS						
897	1318		283°0'	+6.1°	5.5	TH	+6.6	+1.1		988.7		+431	-1245	610,093	1,397,572		
898	990		281°33'	+6.1°	9.1	BH	-5.0	-14.1		973.5		+300	-993	609,962	1,397,874		
899	660		279°25'	+6.1°	8.0	91°-	-11.5	-19.5		968.1		+177	-636	609,839	1,398,181		
900	330		"	"	13.1	BH	-1.7	-14.8		972.8		+88	-318	609,750	1,398,499		
901	0				5.4	-		-5.4		982.2	X	0	0	609,662	1,398,817		
902	330		126°44'	+6.1°	12.3	BH	-1.7	-14.0		973.6		-224	+242	609,438	1,399,059		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
2/27/81		G. Cotcamp		O. Libenson		6834		DL		3	116			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Athens 15'		Arkansas		Howard					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									987.6					
903	660		129°08'	+6.1°	7.2	92°	-23.6	-30.2		957.4		-469	+465	609,193 1,399,282
904	990		" "	"	3.7	92°	-34.5	-38.2		949.4		-703	+697	608,959 1,399,514
905	1320		" "	"	7.0	91°20'	-30.7	-37.7		949.9		-937	+930	608,725 1,399,747
906	1650	1649.8	127°55'20"	+6.1°	6.9	91°	-28.8	-35.7			TP	-1146+2	+1186-2	608,518 1,400,001
906	1650				11.8	90°50'	-24.0	-35.8		951.8	TP			
	660		282°45'-180°	+6.1°	+1.3	-		+1.3	953.1		BS	-213+2	+625-2	
	660				+4.6	TH	-2.3	+1.3			BS			
907	330		282°45'	+6.1°	5.8	-		-5.8		947.3		+107	-312	608,414 1,400,312
908	0				5.4	-		-5.4		947.7	X	0	0	608,307 1,400,524
909	330		108°38'30"	+6.1°	4.7	-		-4.7		948.4		-138	+300	608,169 1,400,924
910	660		108°38'30"	+6.1°	2.9	TH	+3.3	+0.4		953.5	TP	-276+2	+599-2	608,033 1,401,221
910	660				1.5	89°50'	+1.9	+0.4			TP			
	1320	1319.8	289°04'16"-180°	+6.1°	+13.9	91°4'	+24.6	+38.5	992.0		BS	-561+2	+1194-2	
	1320				+11.6	91°10'	+26.9	+38.5			BS			
911	990		289°04'	+6.1°	11.8	91°10'	-20.2	-32.0		960.0		+421	-896	607,895 1,401,517
912	660		" "	"	10.3	91°30'	-17.3	-27.6		964.4		+281	-597	607,755 1,401,816
913	330		" "	"	12.7	91°30'	-8.6	-21.3		970.7		+190	-299	607,614 1,402,114
914	0				5.4	-		-5.4		986.6	X	0	0	607,474 1,402,413
915	329	328.8	126°18'	+6.1°	3.9	88°	+11.5	+7.6		999.6	TP	-222+2	+243-2	607,254 1,402,654
915	329				2.0	88°20'	+9.6	+7.6			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/3/81		G. Cotcamp		B. Cotcamp		6834		rdw DL		3	111						
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER					
Arkansas		Athens 15'		Arkansas		Howard						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
915										999.6							
	332	331.9	308° 33' 180°	+6.1°	+1.7	88° 20'	-9.7	-8.0	991.6		BS	-233+2	+236-1				
	332				+3.7	88° -	-11.6	-7.9			BS						
916	0				54	-		-5.4		986.2	X	0	0	607,023	1402,889	X opposite sta.	
917	332		156° 30'	+6.1°	8.5	92° -	-11.6	-20.1		971.5		-317	+99	606,706	1402,988		
918	662	661.9	158° 34'	+6.1°	12.6	91° -	-11.6	-24.2		967.4	TP	-638+1	+175	606,386	1403,064	Town of Athens.	
918	662				14.6	90° 50'	-9.6	-24.2			TP						
	650		355° 10' 180°	+6.1°	+5.0	-		+5.0	972.4		BS	-650	-14				
	650				+1.8	BH	+3.3	+5.1			BS						
919	320		355° 10'	+6.1°	6.1	-		-6.1		966.3		+320	+7	606,056	1403,057		
IF	18		9° 19'	+6.1°	4.2	-		-4.2		968.2		+17	+5	605,753	1403,055	4-way Intersect. (Qt 296+84)	
920	0				54	-		-5.4		967.0	X	0	0	605,736	1403,050	Qt #84	
921	330		109° 24'	+6.1°	3.8	-		-3.8		968.6		-142	+298	605,594	1403,398	↓	
922	659		106° 46'	+6.1°	2.2	-		-2.2		970.2	TP	-256	+607	605,480	1403,657		
922	659				5.5 3.5' ga.	TH	+3.3	-2.2			TP						
	660		270° 12' 180°	+6.1°	+8.5	-		+8.5	978.7		BS	-72	+656				
	660				+11.8	TH	-3.3	+8.5			BS						
923	330		270° 12'	+6.1°	8.1	-		-8.1		970.6		+36	-328	605,444	1403,985		
924	0				54	-		-5.4		973.3	X	0	0	605,408	1404,313		
IF	320		107° 46'	+6.1°	6.8	-		-6.8		971.9		-129	+293	605,279	1404,606	T-rd (south)	

SURVEY NOTES - HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/3/81		G. Cotcamp		B. Cotcamp		6834		rew B.C.		3	112						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Athens 15'		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									978.7								
925	325		119°38'	+6.1°	8.9	-		-8.9		969.8	TP	-166	+279	605,242	1,404,592	dirt road	
925	325				7.2	BH	-1.6	-8.8			TP					↓	
	660	659.9	355°15'480°	+6.1°	+5.9	91°-	+11.5	+17.4	987.2		BS	-660	-16				
	660				+14.1	BH	+3.3	+17.4			BS					horiz. corre. y = +29'	
926	330		355°15'	+6.1°	12.2	BH	-1.7	-13.9		973.3		+330	+8	607,912	1,404,584	x = -27'	
1/2	109		1°04'	+6.1°	8.4	-		-8.4		978.8		+108	+14	609,690	1,404,590	607,690 + 1,404,590 4-Way Intersect.	
927	0				5.4	-		-5.4		981.8	TP	0	0	604,582	1,404,576		
928	330		179°50'	+6.1°	12.9	91°-	-5.8	-18.7		968.5		-328	-37	604,254	1,404,542		
929	660		" "	"	12.7	91°-	-11.5	-24.2		963.0		-656	-68	603,926	1,404,508		
930	990	989.7	179°15'	+6.1°	7.2	91°30'	-25.9	-33.1			TP	-985+5	-92+2	603,602	1,404,486		
930	990				13.0	91°10'	-20.2	-33.2		954.0	TP						
	1650	1640.0	355°19'38"-180°	+6.1°	+4.0	88°-	-57.6	-43.5	910.5		BS	-1648.5	-41+0				
	1650				+5.4	88°18'	-48.9	-43.5			BS						
931	1320		355°20'	+6.1°	3.5	88°30'	+34.5	+31.0		941.5		+1319	+33	603,278	1,404,480		
932	990		" "		5.7	89°-	+17.3	+11.6		922.1		+990	+25	602,944	1,404,472		
933	660		357°17'	+6.1°	6.3	-		-6.3		904.2		+659	+39	602,615	1,404,486		
934	330		" "		9.9	-		-9.9		900.6		+329	+19	602,288	1,404,476		
935	0				5.4	-		-5.4		905.1	TP	0	0	601,959	1,404,449		
936	330		200°0'	+6.1°	8.5	92°-	-11.5	-20.0		890.5		-296	-145	601,667	1,404,392		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/3/81		G. Cotcamp		B. Cotcamp		6834		DL		3	113						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Athens 15'		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									910.5								
TP	471	470.7	195°52'	+6.1°	9.3	92°-	-16.4	-25.7		884.8	TP	-437 ⁺⁵	-176 ⁺²	601.527	1,404.273		
TP	471				13.4	91°30'	-12.3	-25.7			TP						
	491	490.3	330°13'-180°	+6.1°	+2.4	87°-	-25.7	-23.3	861.5		BS	-449 ⁺⁵	+197 ⁺²				
	491				+0.9	87°10'	-24.2	-23.3			BS						
937	330		328°0'	+6.1°	9.5	87°-	+17.2	+7.7		869.2		+297	-144	601.380	1,404.328		
938	0				5.4	-		-5.4		856.1	X	0	0	591.033	1,404.472		
939	330		179°56'	+6.1°	4.2	-		-4.2		857.3		-330	-6	600.573	1,404.436		
940	660		173°49'	+6.1°	22.8	BH	-3.3	-26.1		835.4		-660	+1	599.423	1,404.475		
941	990		174°56'	+6.1°	21.3	90°30'	-8.6	-29.9		831.6		-990	-18	599.073	1,404.454		
942	1320	1319.9	175°52'	+6.1°	10.5	90°40'	-15.4	-25.9		835.6	TP	-1319 ⁺⁵	-45 ⁺²	599.769	1,404.400		
942	1320				12.0	90°36'	-13.8	-25.8			TP						
	910	907.8	353°39'-180°	+6.1°	+14.9	94°-	+63.3	+78.2			BS	-908 ⁺⁵	+4 ⁺²				
	910				+12.2	94°10'	+65.9	+78.1	913.7		BS						
943	580		353°39'	+6.1°	11.2	94°30'	-45.4	-56.6		857.1		+580	-3	599.416	1,404.432		
944	250		" "	" "	10.7	94°-	-17.4	-28.1		885.6		+250	-1	599.116	1,404.434		
X	0				5.4	-		-5.4		908.3	X	0	0	598.866	1,404.435		
945	80		179°26'	+6.1°	7.8	-		-7.8		905.9		-80	-8	598.766	1,404.408		
1F	12		164°43'	+6.1°	5.3	-		-5.3		908.4		-12	+2	598.854	1,404.457	T-rd (east)	
946	410		179°26'	+6.1°	9.6	92°-	-14.3	-23.9		889.8		-408	-40	598.453	1,404.305		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/3/81		G. Cotcamp		B. Cotcamp		6834		J.W. B.C.		3		117			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Athens 15'		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									913.7						
947	740	739.3	78°40'	+6.1°	13.7	92°30'	-32.2	-45.9			TP	-737+5	-61+2	598,139	1,409,376
947	740				11.6	92°40'	-34.4	-46.0		867.7	TP				
	307	306.8	326°30'+180°	+6.1°	+10.5	92°-	+10.7	+21.2	888.9		BS	-272+6	+141+2		
	307				+14.9	91°16'	+6.8	+21.2			BS				
948	0				5.4	-		-5.4		883.5	X	0	0	597,867	1,409,519
TP	219	217.4	139°10'	+6.1°	7.5	83°-	+26.5	+19.0	+19.1	908.0	TP	-179+4	+129+2	597,692	1,409,645
TP	219				3.6	89°-	+22.8	+19.2			TP				
	1112		8°56'20"+180°	+6.1°	+0.3	BH	+5.6	+5.9	913.9		BS	-1074+4	-289+2		
	1112				+11.5	TH	-5.6	+5.9			BS				
949	990		8°0'	+6.1°	3.6	BH	-5.0	-8.6		905.3		+960	+241	597,582	1,409,599
950	660		9°10'	+6.1°	5.8	-		-5.8		908.1		+637	+174	597,259	1,409,532
951	330		" "	"	7.6	-		-7.6		906.3		+318	+87	596,940	1,409,445
952	0				5.4	-		-5.4		908.5	X	0	0	596,622	1,409,358
953	330		193°35'	+6.1°	1.9	87°-	+17.2	+15.3		929.2		-311	-111	596,311	1,409,247
954	660		193°35'	+6.1°	14.9	87°8'	+33.0	+18.1		932.0	TP	-621+4	-222+2	596,005	1,409,138
954	660				14.5	87°0'	+32.6	+18.1			TP				
	660		2°12'+180°	+6.1°	+2.8	TH	-3.3	-0.5	931.5		BS	-653+4	-95+2		
	660				+3.3	89°40'	-3.8	-0.5			BS				
955	330		2°12'	+6.1°	6.4	-		-6.4		925.1		+327	+48	595,683	1,409,093
956	0				5.4	-		-5.4		926.1	X	0	0	595,356	1,409,095

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN			ROD MAN			PARTY NUMBER		NOTES CHECKED BY		DL	LINE NO.	PAGE		
3/3/81		G. Cotcamp			D. Libenson			6834		JLW			3	115		
AREA		TOPO MAP		STATE	COUNTY			TWP	RANGE	PPM	PARTY MANAGER					
Arkansas		Athens 15'		Arkansas	Howard						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									931.5							
957	330		181° 31'	+6.1°	8.7	92° -	-11.5	-20.2		911.3		-327	-44	595,029	1,404,001	
958	660	659.1	181° 31'	+6.1°	11.9	93° -	-34.5	-46.4		885.1	TP	-653.7	-87.2	594,710	1,403,960	
958	660				14.2	92° 48'	-32.2	-46.4			TP					
	990	989.5	0° 29' +180°	+6.1°	+14.0	88° 6'	-32.8	-18.8			BS	-983.7	-113.2			
	990				+9.9	88° 20'	-28.8	-18.9	866.2		BS					
71	880	879.7	1° 37'	+6.1°	11.2	98° 30'	+23.0	+11.8		878.0		+872	+118	594,506	1,403,967	Trd (west) el. 878.0
959	660		0° 29'	+6.1°	5.0	-		-5.0		861.2		+656	+76	594,390	1,403,925	
960	330		" "		12.8	BH	-1.7	-14.5		851.7		+328	+38	594,062	1,403,887	
961	0				5.4	-		-5.4		860.8	π	0	0	593,734	1,403,842	
962	330		189° 08'	+6.1°	12.5	91° -	-5.8	-18.3		847.9		-318	-87	593,416	1,403,762	
963	660		" "	+6.1°	11.2	-		-11.2		855.0		-637	-173	593,097	1,403,696	
964	989		189° 08'	+6.3°	24	-		-2.4		863.8	TP	-953.7	-263.2	592,788	1,403,588	
964	989				7.3	TH	+4.9	-2.4			TP					
	660		8° 51' +180°	+6.3°	+5.2	89° 16'	-8.4	-3.2	860.6		BS	-637.7	-172.2			
	660				+6.3	89° 10'	-9.6	-3.3			BS					
965	330		8° 51'	+6.3°	4.2	89° -	+5.8	+1.6		862.2		+319	+86	592,477	1,403,504	
966	0				5.4	-		-5.4		855.2	π	0	0	592,158	1,403,418	
967	330		198° 29'	+6.3°	12.5	-		-12.5		848.1		-299	-139	591,857	1,403,279	
968	660		" "	+6.3°	11.9	92° 14'	-25.7	-37.6		823.0		-598	-278	591,560	1,403,150	
969	132.990		" "		6.8	92° -	-34.5	-41.3		819.3		-898	-418	591,260	1,403,000	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/5/81		G. Cotcamp		D. Liberman		6837		B.C.		3		116		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Athens 15		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									860.6					
970	1320		198°39'	+6.3°	11.6	-		-11.6		849.0	TP	-1197+7	-557	590,968 1,402,861
970	1320				5.0	BH	-6.6	-11.6			TP			
	330		3°19'+180°	+6.3°	+13.0	-		+13.0	862.0		BS	-325+7	-55	
	330				+14.6	TH	-1.7	+12.9			BS			
971	0				54	-		-5.4		856.6	TP	0	0	590,650 1,402,806
972	330		174°53'	+6.3°	84	-		-8.4		853.6		-330	-7	590,320 1,402,799
973	660		" "		19.6	91°-	-11.5	-31.1		830.9		-660	-14	589,990 1,402,792
974	990		" "	+6.3°	5.1	91°-	-17.3	-22.4		839.6		-990	-20	589,660 1,402,786
975	1318		175°36'20"	+6.3°	7.4	BH	-6.6	-14.0			TP	-1317+5	-44	589,338 1,402,762
975	1318				10.1	90°10'	-3.8	-13.9		848.1	TP			
	660	659.9	3°45'+180°	+6.3°	+13.2	91°-	+11.5	+24.7	872.8		BS	-650+4	-115	
	660				+11.3	91°10'	+13.4	+24.7			BS			
976	330		3°45'	+6.3°	8.8	93°-	-17.2	-26.0		846.8		+325	+58	589,017 1,402,705
977	0				5.4	-		-5.4		867.4	TP	0	0	588,692 1,402,647
977	202	201.7	191°28'	+6.3°	3.2	87°-	+10.6	+7.4		880.2		-192	-62	588,500 1,402,585
978	330	329.8	195°04'	+6.8°	9.3	87°50'	+12.5	+3.2		876.0	TP	-306-6	-123-2	588,380 1,402,522
978	330				10.3	87°40'	+13.4	+3.1			TP			
	990	989.8	14°41'+180°	+6.8°	+8.5	88°46'	-21.3	-12.8	863.2		BS	-921-6	-362-2	
	990				+11.4	88°36'	-24.2	-12.8			BS			
979	660		14°41'	+6.8°	3.8	88°-	+23.0	+19.2		882.4		+614	+242	588,067 1,402,400

horiz. coord. Y = +107,
X = +32,
588,500 + 1,402,585
4-Way Intersect.

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/5/81		G. Cotcamp		D. Liberson		6834		B.C.		3		117		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Athens 15		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									863.2					
980	330		14° 41'	+6.8°	2.3	89° -	+5.8	+3.5		866.7		+307	+121	587,760 1,402,279
981	0				5.4	-		-5.4		857.8	X	0	0	587,453 1,402,158
982	330		193° 36'	+6.8°	3.9	89° -	+5.8	+1.9		865.1		-309	-115	587,144 1,402,043
983	660		" "	"	4.9	88° 30'	+17.3	+12.4		875.6		-619	-230	586,834 1,401,908
984	990	989.7	193° 35' 40"	+6.8°	14.3	88° 40'	+23.0	+8.7		871.9	TP	-928.6	-345.2	586,519 1,401,811
984	990				13.2	88° 44'	+21.9	+8.7			TP			
	660	659.1	20° 43' +180°	+6.8°	+11.8	87° -	-34.5	-22.7	849.2		BS	-585.6	-305.2	
	660				+9.0	87° 20'	-30.7	-22.7			BS			
985	330		20° 43'	+6.8°	8.3	87° -	+17.2	+8.9		858.1		+293	+152	586,221 1,401,656
986	0				5.4	-		-5.4		843.8	X	0	0	585,928 1,401,504
987	330		196° 41'	+6.8°	9.7	93° -	-17.2	-26.9		822.3		-303	-132	585,625 1,401,372
988	655	654.4	190° 02'	+6.8°	6.3	92° 30'	-28.5	-34.8		814.4	TP	-626.6	-190.2	585,296 1,401,312
988	655				13.9	91° 50'	-20.9	-34.8			TP			
	330	329.6	355° 40' -180°	+6.8°	+1.9	87° -	-17.2	-15.8	798.6		BS	-329.6	-14.2	
	330				+0.9	87° 10'	-16.3	-15.9			BS			
989	0				5.4	-		-5.4		793.2	X	0	0	584,961 1,401,296
990	330		189° 20'	+6.8°	11.9	84	-1.7	-13.6		785.0		-317	-92	584,644 1,401,204
991	660		186° 48'	+6.8°	13.4	-		-13.4		785.2		-691	-155	584,320 1,401,141
992	990		184° 35' 40"	+6.8°	12.9	90° 30'	-8.6	-21.0		777.6	TP	-970.6	-196.2	583,985 1,401,098
992	990				9.5	90° 40'	-11.5	-21.0			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
3/5/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3	118			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Athens 15/Newhope		Arkansas	Howard					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
992										777.6				
	652		9°06' +180°	+6.8°	+0.1	-		+0.1	777.7		BS	-627.6	-179.2	
	652				+3.4	TH	-3.3	+0.1			BS			
993	330		19°36'	+6.8°	13.0	-		-13.0		764.7		+307	+120	583,659 1,401,037
994	0				5.4	-		-5.4		772.3	X	0	0	583,352 1,400,917
995	222	221.7	209°27'	+6.8°	3.1	87°-	+11.6	+8.5		786.2		-179	-131	583,173 1,400,786
995	334	333.5	212°08'	+6.8°	5.0	87°-	+17.5	+12.5		790.2	TP	-259.6	-210.2	583,087 1,400,705
995	334				1.2	87°40'	+13.6	+12.4			TP			
	317	315.8	340°16' -180°	+6.8°	+13.1	85°-	-27.5	-14.4	775.8		BS	-308.4	+71.2	
	317				+12.2	85°10'	-26.6	-14.4			BS			
996	0				5.4	-		-5.4		770.4	X	0	0	582,773 1,400,774
997	330	329.2	126°30'	+6.8°	9.5	94°-	-23.0	-32.5		743.3	TP	-226.6	+240.2	582,541 1,401,012
997	330				14.3	93°10'	-18.2	-32.5			TP			
	652		319°32' -180°	+6.8°	+2.7	TH	-3.3	-0.6	742.7		BS	-543.6	+361.2	
	652				+2.1	89°46'	-2.7	-0.6			BS			
998	330		312°0'	+6.8°	8.8	-		-8.8		733.9		+248	-217	582,240 1,401,154
999	0				5.4	-		-5.4		737.3	X	0	0	581,992 1,401,371
1000	330	329.6	126°27'	+6.8°	2.0	87°-	+17.2	+15.2		757.9	TP	-226.6	+240.2	581,760 1,401,609
1000	330				0.5	87°16'	+15.7	+15.2			TP			
	329	328.9	299°22' -180°		+9.3	88°30'	-8.6	+0.7	758.6		BS	-194.6	+266.2	
	329				+11.2	88°10'	-10.5	+0.7			BS			

Frd(west)

Athens Quad.

Newhope Quad.

↑

↓

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
3/13/81		G. Cotcamp		B. Cotcamp		6834		DL		3		119					
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER					
Arkansas		Newhope 7 1/2		Arkansas		Howard						L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									758.6								
1001	0				5.4	-		-5.4		753.2	π	0	0	581,560	1,401,873		
1002	330		132°38'	+6.8°	7.2	92°-	-11.5	-18.7		737.9		-251	+215	581,309	1,402,088		
TP	509	508.9	128°17'	+6.8°	7.4	91°-	-8.9	-16.3		742.3	TP	-360-6	+359-2	581,194	1,402,230		
TP	509				5.3	91°14'	-11.0	-16.3			TP						
	1122	1121.7	257°36'30"-180°	+6.8°	+14.5	91°26'	+28.1	+42.6	784.9		BS	+109-6	+1116-2				
	1122				+11.2	91°36'	+31.3	+42.5			BS						
1003	980		257°06'	+6.8°	12.1	91°30'	-25.6	-37.7		747.2		-104	-974	581,193	1,402,370		
1004	660		263°0'	+6.8°	12.3	91°-	-11.5	-23.8		761.1		-2	-660	581,295	1,402,684		
1005	330		265°30'	+6.8°	8.5	91°-	-5.8	-14.3		770.6		+13	-330	581,310	1,403,014		
1006	0				5.4	-		-5.4		779.5	π	0	0	581,297	1,403,344		
1007	330		92°19'	+6.8°	5.2	-		-5.2		779.7		-52	+326	581,245	1,403,670		
1008	660		" "	"	2.8	TH	+3.3	+0.5		785.4		-105	+652	581,192	1,403,996		
TP	841		92°47'	+6.8°	5.4	TH	+4.2	-1.2		783.7	TP	-140-6	+829-2	581,151	1,404,171		
TP	841				8.6	89°30'	+7.3	-1.3			TP						
	971	970.9	337°12'38"-180°	+6.8°	+14.4	91°-	+16.9	+31.3	815.0		BS	-933-5	+267-2				
	971				+11.5	91°10'	+19.8	+31.3			BS						
TP	957	956.8	338°33'	+6.8°	10.5	91°16'	-21.1	-31.6		783.4		+926	-242	581,139	1,404,194	T-intersect.	el. 784.6
1009	808		336°14'	+6.8°	12.8	92°10'	-30.5	-43.3		771.7		+773	-236	580,986	1,404,200		
1010	478		" "	"	11.3	93°20'	-27.7	-39.0		776.0		+457	-139	580,670	1,404,297		
1011	148		" "	"	11.5	91°-	-2.6	-14.1		800.9		+142	-43	580,355	1,404,393		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/13/81		G. Cotcamp		D. Libenson		6837		B.C.		3	120					
AREA		TOPO MAP	STATE	COUNTY	TWP	RANGE	PPM	PARTY MANAGER								
Arkansas		Newhope 7 1/2'	Arkansas	Howard				L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									815.0							
π	0				5.4	-		-5.4		809.6	π	0	0	580,213	1,404,436	
1012	182		143°44'	+7.1°	11.2	-		-11.2		803.8		-159	+89	580,054	1,404,525	
1013	512		" "	"	7.0	92°-	-17.9	-24.9		790.1		-447	+250	579,766	1,404,636	
1014	840		146°43'	+7.1°	5.0	90°50'	-12.2	-17.2		797.8		-754	+371	579,459	1,404,807	
1015	1165		149°21'	+7.1°	7.2	89°40'	+6.8	-0.4		814.6	TP	-1068.5	+465.2	579,140	1,404,899	
1016	1165				0.4	-		-0.4			TP					
	990	985.7	349°26'30"-180°	+7.1°	+6.1	84°40'	-91.6	-85.5	729.1		BS	-984.5	+59			
	990				+8.9	84°30'	-94.4	-85.5			BS					
≡	950	945.6	350°09'	+7.1°	6.6	84°30'	+90.6	+84.0		813.1		+945	-45	578,096	1,404,913	T-rod (west) el. 816.0
1016	660		350°09'	+7.1°	7.6	85°-	+57.3	+49.7		778.8		+659	-32	578,810	1,404,926	
1017	330		" "	"	0.8	85°-	+28.7	+27.9		757.0		+330	-16	578,481	1,404,942	
1018	0				5.4	-		-5.4		723.7	π	0	0	578,151	1,404,958	
1019	330		173°24'	+7.1°	7.9	-		-7.9		721.2		-330	-3	577,821	1,404,955	
1020	668		172°32'	+7.1°	2.3	89°-	+11.7	+9.4		738.5	TP	-668.5	+4	577,478	1,404,962	T.P. opposite sta.
1020	668				0.4	89°10'	+9.7	+9.3			TP					
	660		32°19'+180°	+7.1°	+14.0	93°-	+34.5	+48.5	787.0		BS	-509.5	-419			
	660				+12.1	93°10'	+36.4	+48.5			BS					
1021	330		34°16'	+7.1°	12.0	92°-	-11.5	-23.5		763.5		+248	+218	577,212	1,404,761	
1022	0				5.4	-		-5.4		781.6	π	0	0	576,964	1,404,543	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/13/81		G. Cotcamp		D. Libenson		6839		DLW DL		3	121					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Arkansas Newhope		Arkansas	Howard					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									787.0							
1023	330	329.2	193°54'	+7.1°	1.1	86°-	+23.0	+21.9		808.9	TP	-307.5	-118	576,652	1,404,425	
1023	330				3.0	85°40'	+24.9	+21.9			TP					
	660	659	348°48' 180°	+7.1°	+6.8	86°50'	-36.4	-29.6	779.3		BS	-657.5	+97			
	660				+8.7	86°40'	-38.3	-29.6			BS					
71	588		348°18'	+7.1°	0.6	86°50'	+32.4	+31.8		811.1		+585	-47	576,575	1,404,425	576,575 + 1,404,425 T-rd (west) el. 811.0
1024	330		345°35'	+7.1°	3.7	88°-	+11.5	+7.8		787.1		+327	-42	576,317	1,404,430	
1025	0				5.4	-		-5.4		773.9	X	0	0	575,990	1,404,472	
1026	330		168°42'	+6.8°	11.8	91°-	-5.8	-17.6		761.7		-329	+26	575,661	1,404,498	
1027	660		171°35'	+6.8°	7.4	-		-7.4		771.9	TP	-660	+19 +2	575,330	1,404,493	
1027	660				10.7	TH	+3.3	-7.4			TP					
	175		351°24' 180°	+6.8°	+11.4	-		+11.4	783.3		BS	-175	+6 +2			
	175				+12.3	TH	-0.9	+11.4			BS					
X	0				5.4	-		-5.4		777.9	X	0	0	575,155	1,404,501	
1028	155		167°32'	+6.8°	12.3	92°-	-5.4	-17.7		765.6		-154	+15	575,001	1,404,516	
1029	485		" "	"	11.7	93°-	-25.3	-37.0		746.3		-483	+48	574,672	1,404,549	
1030	810	809.7	164°23'	+6.8°	12.8	91°30'	-21.2	-34.0		749.3	TP	-800	+124 +2	574,355	1,404,627	
1030	810				10.5	91°40'	-23.5	-34.0			TP					
	329		339°05' 180°	+6.8°	+10.0	89°-	-5.7	+4.3	753.6		BS	-319	+80 +2			
	329				+9.0	89°10'	-4.8	+4.2			BS					
1031	0				5.4	-		-5.4		748.2	X	0	0	574,036	1,404,709	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/13/81		G. Cotcamp		D. Libenson		6834		DL		3		122			
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER			
Arkansas		Newhope 7 1/2		Arkansas		Howard						L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									753.6						
1032	330		173° 0'	+68°	0.1	TH	+1.7	+1.6		755.2		-330	+1	573,706 1,404,710	
1033	652	651.1	164° 26'	+68°	11.8	87° -	+34.1	+22.3	}	775.9	TP	-644	+99+2	573,392 1,404,810	
1033	652				8.0	87° 20'	+30.3	+22.3		TP					
	330	328.2	330° 56' -180°	+68°	+8.4	96° -	+34.3	+42.7		BS			-304	+124+2	
	330				+10.4	95° 40'	+32.4	+42.8	}	818.7	BS				
1034	0				5.4	-		-5.4		TP	813.3		0	0	573,088 1,404,936
TP	89		133° 3'	+68°	3.3	88° -	+3.1	-0.2		818.5		-68	+57	573,020 1,404,993	
1035	330		130° 10'	+68°	11.0	89° -	+5.8	-5.2		813.5		-241	+225	572,847 1,405,161	
TP 1036	580		132° 23'	+68°	6.6	-		-6.6	}	812.1	TP	-439	+379+2	572,649 1,405,317	
TP 1036	580				9.5	TH	+2.9	-6.6		TP					
	730	729.0	343° 15' -180°	+68°	+13.6	87° -	-38.1	-24.5		BS	787.6		-718	+126+2	
	730				+9.3	87° 20'	-33.9	-24.6	}		BS				
1036	660		341° 33'	+68°	7.5	88°	+23.0	+15.5			803.1		+646	-133	572,577 1,405,312
1037	330		342° 32'	+68°	8.7	91° -	-5.8	-14.5		773.1		+324	-61	572,255 1,405,384	
1038	0				5.4	-		-5.4		782.2	TP	0	0	571,931 1,405,445	
1039	330	329.6	144° 15'	+68°	3.6	87° -	+17.2	+13.6	}		TP	-288	+160+2	571,643 1,405,607	
1039	330				5.5	86° 40'	+19.2	+13.7		TP	801.3				
	656	655.9	327° 04' -180°	+68°	+12.2	91° -	+11.4	+23.6		}	824.9	BS	-589	+289+2	
	656				+8.3	91° 20'	+15.3	+23.6	BS						

573,010 = 1,405,000
TRD el. 819.0

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
3/14/81		B. Lotcamp		D. LIBENSON		6834		DL		3		123					
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER			
Arkansas		Newhope 7 1/2		Arkansas		Howard								L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									824.9								
1040	330		326° 41'	+6.8°	8.5	91°	-5.8	-14.3		810.6		+295	-197	571,399	1,405,751		
1041	0				5.4	-		-5.4		819.5	X	0	0	571,099	1,405,898		
TP	19		325° 10'	+6.8°	5.9	-		-5.9		819.0		+17	-9	571,071	1,405,889		571,085 + 1,405,910 TRD. el 819.0
1042	331	330.8	120° 51'	+6.9°	11.6	88°	+11.5	-0.1		824.8	TP	-200+2	+263+2	570,856	1,406,163		
1042	331				9.7	88° 20'	+9.6	-0.1			TP						
	330	329.8	325° 23' -180°	+6.9°	11.7	92° -	+11.5	+23.2	848.0		BS	-291+2	+156+2				
	330				+9.7	92° 20'	+13.4	+23.1			BS						
1043	0				5.4	-		-5.4		842.6	X	0	0	570,567	1,406,321		
1044	330		134° 21'	+6.9°	12.0	-		-12.0		836.0		-312	+109	570,255	1,406,430		
1045	660		155° 03'	+6.9°	7.9	-		-7.9		840.1		-626	+210	569,991	1,406,531		
1046	990		155° 23' 40"	+6.9°	3.7	-		-3.7			TP	-940+2	+309+2	569,629	1,406,632		
1046	990				8.6	TH	+5.0	-3.6		844.4	TP						
	660	659.6	336° 32' -180°	+6.9°	+12.2	92°	+23.0	+35.2	879.6		BS	-631+2	+194+2				
	660				+8.4	92° 20'	+26.8	+35.2			BS						
1047	330		338° 22'	+6.9°	9.0	93° -	-17.2	-26.2		853.4		+318	-87	569,318	1,406,741		
1048	0				5.4	-		-5.4		874.2	X	0	0	569,000	1,406,828		
TP	42		148° 39'	+6.9°	4.0	-		-4.0		875.6		-38	+18	568,962	1,406,846		568,990 + 1,406,875 TRD. el 875.0
1049	330		159° 21'	+6.9°	11.9	92°	-11.5	-23.4		856.2		-320	+81	568,680	1,406,909		
1050	660		" "	"	6.8	93°	-34.5	-41.3		838.3		-690	+162	568,360	1,406,950		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/4/81		B. Cotcamp		G. Cotcamp		6834		B.C.		3		125		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Newhope 7 1/2		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
TP										838.9				
	810	809.5	336° 2' 30" - 180°	+6.0	+8.9	88°	-28.3	-19.4			BS	-770 ₊₂	+250 ₊₁	
	810				+11.3	87° 50'	-30.6	-19.3	819.6		BS			
1060	660		334° 0'	+6.0	9.0	88° 30'	+17.3	+8.3		827.9		+620	-226	565,192 1,407,665
1061	330		334° 45'	+6.0	6.3	-		-6.3		813.3		+312	-109	564,889 1,407,782
1062	0				5.4	-		-5.4		814.0	TP	0	0	564,572 1,407,891
1061	311		160° 16'	+6.0	4.7	89° -	+5.4	+0.7		820.3		-302	+74	564,270 1,407,965
1063	331		160° 55'	+6.9	5.7	89° -	+5.8	+0.1		819.7	TP	-323 ₊₁	+73 ₋₁	564,250 1,407,963
1063	331				8.6	88° 30'	+8.7	+0.1			TP			
	329	328.6	346° 16' - 180°	+6.9	+12.0	87° -	-17.2	-5.2	814.5		BS	-326 ₊₁	+42 ₋₁	
	329				+9.2	87° 30'	-14.3	-5.1			BS			
1064	0				5.4	-		-5.4		809.1	TP	0	0	563,925 1,408,004
1065	330		166° 7'	+6.9	7.4	94° -	-23.0	-30.4		784.1		-327	+93	563,598 1,408,047
1066	660		166° 6'	+6.9	8.5	93° 30'	-40.2	-48.7		765.8		-657	+86	563,271 1,408,090
1067	990	988.6	164° 45' 40"	+6.9	2.8	93° -	-51.7	-54.5		760.0	TP	-977 ₊₁	+152 ₋₁	562,949 1,408,155
1067	990				5.7	92° 30'	-48.9	-54.6			TP			
	650	649.9	315° 03' - 180°	+6.9	+10.6	91° -	+11.3	+21.9	781.9		BS	-508 ₊₁	+405 ₋₁	
	650				+8.7	91° 10'	+13.2	+21.9			BS			
1067	370	369.9	311° 22'	+6.9	9.0	91° -	-6.5	-15.5		766.4		+274	-299	562,716 1,408,310
1068	330		311° 32'	+6.9	9.4	91°	-5.8	-15.2		766.7		+245	-221	562,687 1,408,338

horizontal y = +20'
x = +39'
564,270 + 1,407,965
4 way

st. rt. 70[#]

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/14/81		B. Cotcamp		G. Cotcamp		6837		W.D. B.C.		3		126			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Newhope 7 1/2'		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									781.9						
1069	0				5.4	-		-5.4		776.5	X	0	0	562,442	1,409,559 SET UP ACROSS STATION
1070	330	329.8	134° 26'	+6.9°	5.7	88° -	+11.5	+5.8		787.7	TP	-256+1	+208+1	562,187	1,409,766
1070	330				7.7	87° 40'	+13.4	+5.7			TP				
	330		385° 10' - 180°	+6.9°	+12.6	-		+12.6	800.3		BS	-290+1	+157+1		
	330				+11.0	BH	+1.7	+12.7			BS				
1071	0				5.4	-		-5.4		794.9	X	0	0	561,898	1,409,922 SET UP X STAT.
1072	330		167° 18'	+6.9°	2.3	-		-2.3		798.0		-328	+36	561,570	1,409,958
1073	660		166° 04'	+6.9°	6.54	89°	+11.5	+5.1		805.4	TP	-657+1	+87-1	561,245	1,409,008
1073	660				10.4	88° 30'	+17.3	+5.2			TP				
	330		341° 43' - 180°	+6.9°	+8.0	-		+8.0	813.4		BS	-323+1	+68-1		
	330				+9.7	TH	-1.7	+8.0			BS				
1074	0				5.4	-		-5.4		808.0	X	0	0	560,923	1,409,075
1075	330		159° 14'	+6.9°	7.8	93°	-17.2	-25.0		788.4		-320	+82	560,603	1,409,157
1076	660		159° 21'	+6.9°	12.6	92°	-23.0	-35.6		777.8		-690	+162	560,283	1,409,237
1077	990	989.7	160° 09' 10"	+6.9°	8.8	91° 30'	-25.9	-34.7		778.8	TP	-963+1	+230-1	559,961	1,409,304
1077	990				11.5	91° 20'	-23.0	-34.5	495 - 34.6		TP				
	660		342° 42' - 180°	+6.9°	+9.2	89°	-11.5	-2.3	776.5		BS	-698+1	+125-1		
	660				+7.2	89° 10'	-9.6	-2.4			BS				
1078	330		341° 27'	+6.9°	5.4	91°	-5.8	-11.2		765.3		+323	-69	559,637	1,409,359

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/14/81		B. Cotcamp		G. Cotcamp		6834		plus B.L.		3	127					
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Newhope 7 1/2'	Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									776.5							
1079	0				5.4	-		-5.4		771.1	X	0	0	559,314	1,409,428	
1080	330		146° 0"	+6.4°	11.2	91°	-5.8	-17.0		759.5		-292	+153	559,022	1,409,581	
1081	659		144° 19'	+6.9°	13.2	-		-13.2		763.3	TP	-575	+322	558,739	1,409,750	
1081	659				10.0	BH	-3.3	-13.3			TP					
	329		317° 18' -180°	+6.9°	+10.8	-		+10.8	774.1		BS	-265	+195			
	329				+12.5	TH	-1.6	+10.9			BS					
1082	0				54	-		-5.4		768.7	X	0	0	558,474	1,409,945	
IF	339		127° 40'	+6.9°	12.1	-		-12.1		762.0		-236	+244	558,238	1,410,189	558,280 + 1,410,200 T-rd (east) EL. 762
1083	330		128° 47'	+6.9°	12.6	-		-12.6		761.5	TP	-234	+233	558,241	1,410,177	
1083	330				10.9	BH	-1.7	-12.6			TP					
	655	654.0	322° 23' -180°	+6.9°	+6.3	86° 50'	-36.1	-29.8	731.7		BS	-559	+339			
	655				+8.3	86° 40'	-38.0	-29.7			BS					
1084	330		327° 30'	+6.9°	2.9	87° -	+17.2	+14.3		746.0		+296	-145	557,979	1,410,370	
1085	0				54	-		-5.4		726.3	X	0	0	557,683	1,410,515	
1086	330		156° 53'	+6.9°	12.4	-		-12.4		719.3		-316	+95	557,367	1,410,610	
1087	660		" "	"	1.7	TH	+33	+1.6		733.3		-632	+190	557,051	1,410,705	
1088	983		155° 08' 30"	+6.9°	2.6	89° -	+17.2	+14.6		746.3	TP	-932	+311	556,752	1,410,825	
1088	983				5.5	88° 50'	+20.0	+14.5			TP					
	197	196.3	344° 14' -180°	+6.9°	+8.2	85° -	-17.1	-8.9	737.4		BS	-194	+32			
	197				+11.5	84° -	-20.5	-9.0			BS					

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/16/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		128			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Newhope		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									737.4						
π	0				5.9	-		-5.4		732.0	π	0	0	556,559	1,410,856
1088	140		209°18'	+6.9°	11.2	-		-11.2		726.2		-120	-71	556,439	1,410,785
TP	252		209°16'	+6.9°	13.2	-		-13.2		724.8	TP	-217+1	-129-1	556,343	1,410,726
TP	252				12.0	84	-1.3	-13.3			TP				
	535		36°26' +180°	+6.9°	+5.5	90°30'	+4.7	+10.2	734.4		BS	-392+1	-364-1		
	535				+6.2	90°26'	+4.0	+10.2			BS				
1090	330		34°55'	+6.9°	14.6	90°30'	-2.9	-17.5		716.9		+298	+218	556,800	1,410,579
1091	0				5.9	-		-5.4		729.0	π	0	0	555,952	1,410,361
1092	309	308.8	226°49'	+6.9°	6.8	88°-	+10.8	+4.0		738.4	TP	-185+1	-247-1	555,768	1,410,113
1092	309				5.9	88°10'	+9.9	+4.0			TP				
	651		332°16' +180°	+6.9°	+11.8	90°36'	+6.8	+18.6	757.0		BS	-606+1	+237-1		
	651				+13.0	90°30'	+5.7	+18.7			BS				
1093	330		329°10'	+6.9°	5.0	-		-5.0		752.0		+300	-137	555,463	1,410,212
1094	0				5.4	-		-5.4		751.6	π	0	0	555,163	1,410,349
1095	330		132°51'	+6.9°	14.6	-		-14.6		742.4		-250	+215	554,913	1,410,567
TP	558		132°54'	+6.9°	14.8	91°-	-9.7	-24.5		732.5	TP	-423+1	+367-1	554,741	1,410,712
TP	558				13.2	91°10'	-11.4	-24.6			TP				
	450	448.7	0°48' +180°	+6.9°	+2.3	85°36'	-34.4	-32.1	700.4		BS	-445+1	-56-1		
	450				+5.6	85°10'	-37.8	-32.2			BS				
1096	330		0°48'	+6.9°	7.2	85°-	+28.7	+21.5		721.9		+327	+41	554,624	1,410,696

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/16/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	129						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Newhope		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									700.4								
1097	0				5.4	-		-5.4		695.0	π	0	0	554,297	1,410,655		
1098	330		210°0'	+6.9°	7.9	-		-7.9		692.5		-266	-196	554,031	1,410,459		
1099	660		206°50'	+6.9°	4.2	-		-4.2		696.2		-552	-362	553,745	1,410,293		
1100	978		201°34'	+6.9°	4.7	89°20'	+11.4	+6.7		707.1	TP	-864	-459	553,433	1,410,195		
1100	978				3.6	89°24'	+10.2	+6.6			TP						
	329	328	353°56' -180°	+6.9°	+14.6	99°20'	+24.8	+39.4	746.5		BS	-328	-2				
	329				+13.7	99°30'	+25.7	+39.4			BS						
1101	0				5.4	-		-5.4		741.1	π	0	0	553,105	1,410,192		
H0211	283		162°13'	+6.9°	2.5	88°-	+10.0	+7.5		754.0		-282	+57	552,823	1,410,249	Trail (east)	
H02	330				0.5	88°24'	+11.5										
1102	330		163°29'	+6.9°	4.6	88°-	+11.5	+6.9		753.4	TP	-325	+58	552,780	1,410,299		
1102	330				2.7	88°20'	+9.6	+6.9			TP						
	330	329.7	344°37' -180°	+6.9°	+1.2	87°30'	-14.4	-13.2	740.2		BS	-326	+51				
	330				+3.1	87°10'	-16.3	-13.2			BS						
1103	0				5.4	-		-5.4		734.8	π	0	0	552,454	1,410,299		
H1	145		128°51'	+6.9°	14.2	91°10'	-3.0	-17.2		703.0		-103	+102	552,351	1,410,401	End (west) E.L. 723	
1104	330		127°0'	+6.6°	11.0	93°-	-17.2	-28.2		712.0		-228	+239	552,226	1,410,538		
H05TP	641	640.5	120°58'	+6.6°	6.1	92°12'	-24.6	-30.7		709.5	TP	-391	+508	552,063	1,410,806		
H05TP	641				7.2	92°6'	-23.5	-30.7			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/16/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		130		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Newhope		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH+ SOUTH-	EAST+ WEST-	
1105	169		339°19'180°	+6.6°	+6.1	89°-	-2.9	+3.2	712.7	709.5	BS	-160	+55-	
	169				+7.1	88°40'	-3.9	+3.2			BS			
1105	150		327°13'	+6.6°	2.7	-		-2.7		710.0		+135	-66	552,038 1,410,794
π	0				5.4	-		-5.4		707.3	π	0	0	551,903 1,410,860
1106	177		140°23'	+6.6°	9.4	93°-	-9.3	-18.7		694.0		-148	+96	551,755 1,410,956
TP	420	419.4	140°41'	+6.6°	10.6	93°-	-21.9	-32.5			TP	-353	+227.1	551,550 1,411,086
TP	420				14.3	92°30'	-18.3	-32.6		685.1	TP			
	420	419.7	341°10'180°	+6.6°	+4.0	88°-	-14.7	-10.7	669.4		BS	-410	+89-	
	420				+1.6	88°20'	-12.2	-10.6			BS			
1107	330		340°07'	+6.6°	4.4	88°-	+11.5	+7.1		676.5		+321	-76	551,461 1,411,098
1108	0				5.4	-		-5.4		664.0	π	0	0	551,140 1,411,174
1109	325		141°39'	+6.6°	2.0	88°-	+11.3	+9.3		678.7		-276	+171	550,864 1,411,345
TP	518	517	138°51'	+6.6°	5.1	86°26'	+32.2	+27.1		696.5	TP	-426	+293.1	550,714 1,411,466
TP	518				4.2	86°32'	+31.3	+27.1			TP			
	330		5°56'180°	+6.6°	+13.4	91°30'	+8.6	+22.0	718.5		BS	-322	-72.1	
	330				+12.1	91°44'	+10.0	+22.1			BS			
1110	185		1°0'	+6.6°	10.8	-		-10.8		767.7		+183	+24	550,575 1,411,417
π	0				5.4	-		-5.4		713.1	π	0	0	550,392 1,411,393
1111	145		146°0'		2.2	88°-	+5.1	+2.9		721.4	TP	-127	+69.1	550,265 1,411,461
1111	145		144°50'	+6.6°	0.6	88°40'	+3.4	+2.8			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
3/16/81		G. Cotcamp		D. Libenson		6834		B.C.		3		131				
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER				
Arkansas		Newhope		Arkansas		Howard						L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
1111										721.4						
	407	406.7	310° 22' 180°	+6.6°	+13.2	92° 20'	+16.6	+29.8	751.2		BS	-297	+278			
	407				+10.9	92° 40'	+18.9	+29.8			BS					
1112	77		310° 22'	+6.6°	10.3	-		-10.3		740.9		+56	-53	550,024	1,411,685	
X	0				5.4	-		-5.4		745.8	X	0	0	549,968	1,411,738	
1113	280		218° 12'	+6.6°	4.3	88° -	+9.8	+5.5		756.7		-199	-197	549,769	1,411,541	
TP	383	382.8	216° 0'	+6.6°	1.0	88° -	+13.4	+12.4		763.6	TP	-282	-259	549,686	1,411,479	
TP	383				3.2	87° 40'	+15.6	+12.4			TP					
	227		337° 21' 180°	+6.6°	+8.3	-		+8.3	771.9		BS	-218	+63			
	227				+7.2	BH	+1.1	+8.3			BS					
1114	0				5.4	-		-5.4		766.5	X	0	0	549,469	1,411,542	
1115	330		156° 45'	+6.6°	9.5	92° -	-11.5	-21.0		750.9		-316	+95	549,153	1,411,637	
1116	654	653.4	154° 20'	+6.6°	12.1	92° 30'	-28.5	-40.6		731.3	TP	-618	+213	548,852	1,411,755	
1116	654				14.0	92° 20'	-26.6	-40.6			TP					
	330		323° 23' 180°	+6.6°	+1.0	88° 50'	-6.7	-5.7	705.6		BS	-286	+165			
	330				+2.9	88° 30'	-8.6	-5.7			BS					
1117	0				5.4	-		-5.4		720.2	X	0	0	548,567	1,411,920	
1118	330		158° 25'	+6.6°	10.3	91° -	-5.8	-16.1		709.5		-319	+85	548,248	1,412,005	
1119	660		" "	"	12.5	BH	-3.3	-15.8		709.8		-638	+171	547,929	1,412,091	
1120	991		158° 24' 32"	+6.6°	1.3	-		-1.3		724.3	TP	-957	+256	547,611	1,412,176	
1120	991				6.3	BH	+5.0	-1.3			TP					

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/16/81		G. Cotcamp		D. Libenson		6834		www B.C.		3	132					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Newhope		Arkansas	Howard					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
1120										724.3						
	330		347°57'180°	+6.6°	+14.7	90°30'	+2.9	+17.6	741.9		BS	-329+	+31			
	330				+12.8	90°50'	+4.8	+17.6			BS					
1121	0				5.4	-		-5.4	736.5		X	0	0	547,283	1,412,207	
#	25		162°35'	+6.6°	4.4	-		-4.4	737.5			-25	+5	547,258	1,412,212	547,260+1,412,220 4-Way Intersect.
1122	330		171°0'	+6.6°	12.3	-		-12.3	729.6			-330	+14	546,953	1,412,221	
1123	650		179°09'	+6.6°	8.3	91°-	-11.3	-19.6	722.3		TP	-647+	-65	546,637	1,412,142	
1123	650				14.0	90°30'	-5.7	-19.7			TP					
	329		5°55'+180°	+6.6°	+0.8	89°30'	-2.9	-2.1	720.2		BS	-321+	-71			
	329				+2.7	89°0'	-4.8	-2.1			BS					
1124	0				5.4	-		-5.4	714.8		X	0	0	546,317	1,412,071	
1125	330		164°44'	+6.6°	12.0	8H	-1.7	-13.7	706.5			-326	+50	545,991	1,412,121	
#	635		161°37'	+6.6°	13.9	8H	-3.2	-17.1	703.1			-622	+130	545,695	1,412,201	545,690+1,412,205 Trail (west)
1126	660		161°08'	+6.6°	14.9	8H	-3.3	-18.2	702.0		TP	-645+	+140	545,673	1,412,211	
1126	660				14.3	90°20'	-3.8	-18.1			TP					
	332		345°06'-180°	+6.6°	+1.2	TH	-1.7	-0.5	701.5		BS	-329+	+48			
	332				+2.5	89°30'	-2.9	-0.4			BS					
1127	0				5.4	-		-5.4	696.1		X	0	0	545,345	1,412,259	
1128	330		180°01'	+6.6°	12.4	-		-12.4	689.1		TP	-328+	-38	545,018	1,412,221	
1128	330				10.7	8H	-1.7	-12.4			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/16/81		G. Cotcamp		O. Libenson		6839		B.C.		3	133						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Newhope		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
1128										689.1							
	330	329.7	6°45'+180°	+6.6°	+0.8	87°30'	-14.4	-13.6	675.5		BS	-321 ₊₁	-76				
	330				+2.7	87°10'	-16.3	-13.6		BS							
1129	0				54	-		-5.4	670.1		π	0	0	544,698	1,412,145	horiz. correct, y = +31'	
1130	330		164°27'	+6.6°	12.3	-		-12.3	663.2			-326	+51	544,372	1,412,196	x = -32	
1130	354		162°50'	+6.6°	10.7	-		-10.7	664.8			-348	+65	544,350	1,412,210	544,350+1,912,210 Trail (east)	
1131	660	659.9	163°37'	+6.6°	9.0	91°-	-11.5	-20.5	655.0		TP	-651 ₊₃	+112 ₋₁	544,050	1,412,256		
1131	660				13.9	90°34'	-6.5	-20.4		TP							
	660		343°34'-180°	+6.6°	+2.1	TH	-3.3	-1.1	653.9		BS	-651 ₊₃	+113 ₋₁				
	660				+4.6	89°30'	-5.8	-1.2		BS							
1132	330		343°34'	+6.6°	5.7	-		-5.7	648.2			+325	-57	543,727	1,412,311		
1133	0				54	-		-5.4	648.5		π	0	0	543,402	1,412,368		
1134	330		178°06'	+6.6°	7.8	-		-7.8	646.1			-329	-27	543,073	1,412,341		
1135	660			+6.6°	13.6	-		-13.6	640.3			-658	-54	542,744	1,412,314		
1136	990		178°06'30"	+6.6°	13.5	90°30'	-8.6	-22.1	631.8		TP	-987 ₊₃	-81 ₋₁	542,418	1,412,286		
1136	990				10.7	90°40'	-11.5	-22.2		TP							
	660	659.6	1°12'+180°	+6.6°	+6.7	88°-	-23.0	-16.3	615.5		BS	-654 ₊₃	-90 ₋₁				
	660				+2.1	88°24'	-18.4	-16.3		BS							
1137	330		0°03'	+6.6°	3.2	89°-	+5.8	+2.6	618.1			+328	+38	542,095	1,412,233		
1138	0				54	-		-5.4	610.1		π	0	0	541,767	1,412,195		
1139	330		179°0'	+6.6°	12.6	-		-12.6	602.9			-328	-32	541,439	1,412,163		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/17/81		G. Cotcamp		B. Cotcamp		6839		ndw BC		3		134			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		New hope		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									615.5						
1140	660		178° 40'	+6.6°	12.0	BH	-3.3	-15.3		600.2		-657	-61	541,110	1,412,134
1141	990		178° 40'	+6.6°	14.9	BH	-5.0	-19.9		595.6	TP	-986 ₊₃	-91 ₋₁	540,784	1,412,103
1141	990				14.1	90° 20'	-5.8	-19.9			TP				
	330		7° 09' +180°	+6.6°	+1.0	89° 30'	-2.9	-1.9	593.7		BS	-321 ₊₃	-78 ₋₁		
	330				+2.7	89° 12'	-4.6	-1.9			BS				
1142	0				5.4	-		-5.4		588.3	π	0	0	540,466	1,412,024
<u>IL</u>	93		187° 15'	+6.6°	4.7	-		-4.7		589.0		-90	-22	540,376	1,412,002
1143	252		144° 54'	+6.6°	5.2	TH	+1.3	-3.9			TP	-221 ₊₃	+120 ₋₁	540,248	1,412,143
1143	252				6.2	89° 30'	+2.2	-4.0		589.7	TP				
	319		329° 46' -180°	+6.6°	+13.0	89° -	-5.6	+7.4	597.1		BS	-292 ₊₃	+128 ₋₁		
	319				+14.5	88° 44'	-7.0	+7.5			BS				
1144	0				5.4	-		-5.4		591.7	π	0	0	539,959	1,412,270
1145	330		115° 49'	+6.6°	11.6	91° -	-5.8	-17.4		579.7		-177	+279	539,782	1,412,549
1146	660	659.8	113° 56'	+6.6°	10.2	91° 30'	-17.3	-27.5		569.6	TP	-335 ₊₃	+568	539,627	1,412,838
1146	660				13.9	91° 10'	-13.4	-27.3			TP				
	160		328° 49' -180°	+6.6°	+4.4	-		+4.4	574.0		BS	-146 ₊₃	+67		
	160				+3.6	BH	+0.8	+4.4			BS				
π	0				5.4	-		-5.4		568.6	π	0	0	539,484	1,412,905
1147	171		175° 36'	+6.6°	6.8	-		-6.8		567.2		-171	-7	539,313	1,412,898
1148	501		" "	+6.6°	6.2	-		-6.2		567.8		-501	-19	538,983	1,412,886

540,390 + 1,412,035
T-intersect. BL 589

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/17/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	135						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Newhope		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									574.0								
1149	831		175°36'	+6.6°	2.8	74	14.2	+1.4		575.4	TP	-830 ₊₃	-32	538,657	1,412,873		
1149	831				2.6	89°44'	+3.9	+1.3			TP						
	330		356°13'180°	+6.6°	+12.3	91°-	+5.8	+18.1	593.5		BS	-330 ₊₃	-16				
	330				+14.2	90°40'	+3.8	+18.0			BS						
1150	0				5.4	-		-5.4		588.1	TP	0	0	538,330	1,412,857		
1151	330		175°56'	+6.6°	11.3	-		-11.3		582.2		-330	-15	538,000	1,412,842		
1152	660		" "	+6.6°	7.7	91°-	-11.5	-19.2		574.3		-659	-29	537,671	1,412,828		
1153	955	954.9	175°30'	+6.6°	0.8	91°-	-16.7	-17.5		576.0		-954	-35	537,376	1,412,822	537,350 + 1,412,840 4-Way Intersect. EL. 576	
1153	990		175°29'	+6.6°	10.1	90°30'	-8.6	-18.7		574.8	TP	-989 ₊₃	-36	537,344	1,412,821		
1153	990				12.9	90°20'	-5.8	-18.7			TP						
	638	636.7	303°50'180°	+6.6°	+14.7	86°20'	-40.7	-26.0	548.8		BS	-413 ₊₃	+484				
	638				+13.6	86°26'	-39.6	-26.0			BS						
1154	330		300°20'	+6.6°	3.3	86°30'	+20.1	+16.8		565.6		+198	-264	537,132	1,413,041		
1155	0				5.4	-		-5.4		543.4	TP	0	0	536,934	1,413,305		
1156	330		110°0'	+6.6°	9.7	92°-	-11.5	-21.2		527.6		-148	+295	536,786	1,413,600		
1157	660		109°39'	+6.6°	8.5	-		-8.5		540.3	TP	-291 ₊₃	+592	536,646	1,413,897		
1157	660				11.8	74	13.3	-8.5			TP						
	330		296°47'180°	+6.6°	+3.3	89°-	-5.8	-2.5	537.8		BS	-182 ₊₃	+276				
	330				+1.4	89°20'	-3.8	-2.4			BS						
1158	0				5.4	-					TP	0	0	536,467	1,414,173		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/17/81		G. Cotcamp		D. Libenson		6837		adw B.C.		3	136						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Newhope/Center Point		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									537.8								↑
1159	330		116°31'	+6.6°	10.2	-		-10.2		527.6		-180	+276	536,287	1,414,449		Newhope Quad.
1160	659	658.9	116°31'	+6.6°	7.7	89°	+11.5	+3.8		541.6	TP	-360.3	+552	536,110	1,414,725		Center Point Quad.
1160	659				3.9	89°20'	+7.7	+3.8			TP						↓
	666		289°13' -180°	+6.6°	+5.2	TH	-3.3	+1.9	543.5		BS	-290.3	+600				
	666				+5.8	89°40'	-3.9	+1.9			BS						
1161	330		289°13'	+6.6°	6.3	-		-6.3		537.2		+144	-297	535,967	1,415,028		
1162	0				5.4	-		-5.4		538.1	TP	0	0	535,823	1,415,325		TP opposite sta
1163	337		141°47'	+6.6°	10.4	-		-10.4		533.1	TP	-287.3	+177	535,539	1,415,502		
1163	337				12.1	TH	+1.7	-10.4			TP						
	330		341°57' -180°	+6.6°	+1.5	89°-	-5.8	-4.3	528.8		BS	-323.3	+66				
	330				+0.5	89°10'	-4.8	-4.3			BS						
1164	0				5.4	-		-5.4		523.4	TP	0	0	535,219	1,415,568		
1165	330		171°24'	+6.6°	8.1	92°-	-11.5	-19.6		509.8		-330	+12	534,889	1,415,580		
1166	660	659.6	171°24'	+6.6°	12.9	92°-	-23.0	-35.9		492.9	TP	-659	+23	534,560	1,415,591		
1166	660				14.8	91°50'	-21.1	-35.9			TP						
	660		357°42' -180°	+6.6°	+12.9	BH	+3.3	+16.2			BS	-658	-49				
	660				+14.2	90°10'	+1.9	+16.1	509.0		BS						
1167	330		357°42'	+6.6°	11.3	BH	-1.7	-13.0		496.0		+329	+25	534,231	1,415,567		
1168	0				5.4	-		-5.4		503.6	TP	0	0	533,902	1,415,542		
1169	380		170°33'	+6.6°	5.2	-		-5.2		503.8		-330	+16	533,572	1,415,558		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445




Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/17/81		G. Cotcamp		D. Libenson		6834		B.C.		3	137						
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER								
Arkansas		Center Point	Arkansas	Howard					L. Davis								
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									509.0								
1170	660		169°0'	+6.6°	11.0	-		-11.0		498.0		-658	+51	533,244	1,415,593		
1170	990		168°23'30"	+6.6°	13.4	04	-5.0	-18.4		490.6	TP	-986	+86	532,916	1,415,628		
1171	990				14.3	90°14'	-4.0	-18.3			TP						
	990	989.7	333°45'30"-180°	+6.6°	+13.3	91°30'	+25.9	+39.2	529.8		BS	-932	+333				
	990				+10.4	91°40'	+28.8	+39.2			BS						
1172	660		332°42'	+6.6°	10.2	91°20'	-15.4	-25.6		504.2		+617	-233	532,601	1,415,728		
1173	330		" "	+6.6°	12.9	-		-12.9		516.9		+309	-117	532,293	1,415,844		
1174	0				5.4	-		-5.4		524.4	X	0	0	531,984	1,415,961	horiz. correct y=+60 x=-8'	
1175	330		153°0'	+6.6°	3.2	-		-3.2		526.6		-309	+115	531,675	1,416,076		
IF	472		151°48'	+6.6°	9.2	-		-9.2		520.6		-439	+174	531,545	1,416,135	T-rod 531,145 + 1,416,135	
TP	567		153°23'	+6.6°	14.8	-		-14.8		515.0	TP	-533-3	+194+2	531,448	1,416,157		
TP	567				12.0	04	-2.8	-14.8			TP						
	424		12°10'+180°	+6.6°	+13.8	04	+2.1	+15.9	530.9		BS	-401-3	-136+2				
	424				+14.2	90°14'	+1.7	+15.9			BS						
1176	330		16°20'	+6.6°	19.9	89°-	+5.8	-14.1		516.8		+304	+129	531,348	1,416,152		
1177	0				5.4	-		-5.4		525.5	X	0	0	531,044	1,416,023		
1178	327	362.7	188°0'	+6.6°	14.3	87°20'	+15.2	+6.9		531.8	TP	-316-3	-82+2	530,785	1,415,993		
1178	327				14.9	87°14'	+15.8	+0.9			TP						
	330	329.8	328°32'+180°	+6.6°	+14.4	92°-	+11.5	+25.9	557.7		BS	-299-3	+139+2				
	330				+13.4	92°10'	+12.5	+25.9			BS						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 3/17/81		INSTRUMENT MAN G. Cotcamp		ROD MAN D. Libenson		PARTY NUMBER 6837		NOTES CHECKED BY BC		LINE NO. 3	PAGE 138					
AREA Arkansas		TOPO MAP Newhope		STATE Arkansas	COUNTY Howard		TWP	RANGE	PPM	PARTY MANAGER L. Davis						
STATION NO.	 SLOPE DISTANCE	 PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	 VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES Y X		REMARKS
									557.7							
1179	0				5.4	-		-5.4		552.3	TP	0	0	530,423	1,416,084	
1180	320		147°10'	+6.6°	10.0	91°26'	-8.0	-18.0		539.7	TP	-287-3	+141+2	530,133	1,416,227	
1180	320				8.9	91°38'	-9.1	-18.0			TP					
	325		324°09'-180°	+6.6°	+10.3	TH	-1.6	+8.7			BS	-284-3	+159+2			
	325				+7.0	BH	+1.6	+8.6	548.3		BS					
1181	0				5.4	-		-5.4		542.9	TP	0	0	529,846	1,416,388	
TP	179		115°39'	+6.6°	12.6	91°-	-3.1	-15.7		532.6	TP	-96-3	+151+2	529,747	1,416,541	
TP	179				14.7	90°20'	-1.0	-15.7			TP					
	353		344°12'-180°	+6.6°	+4.7	-		+4.7	537.3		BS	-348-3	+56+2			
	353				+6.5	TH	-1.8	+4.7			BS					
1182	200		349°17'	+6.6°	12.1	-		-12.1		525.2		+199	-14	529,595	1,416,585	
##	165		354°13'	+6.6°	13.7	-		-13.7		523.6		+165	+2	529,561	1,416,601	railroad E.L. 523
TP	0				5.4	-		-5.4		531.9	TP	0	0	529,396	1,416,599	
1183	132		177°24'	+6.6°	11.3	93°-	-6.9	-18.2		519.1		-132	-9	529,264	1,416,590	
1184	462		174°09'	+6.6°	11.7	-		-11.7		525.6	TP	-462-3	-6	528,931	1,416,593	
1184	462				9.4	BH	-2.3	-11.7			TP					
	332	331.2	17°11'+180°	+6.6°	+11.4	94°-	+23.1	+34.5	560.1		BS	-303-3	-134			
	332				+14.3	93°30'	+20.2	+34.5			BS					
1185	0				5.4	-		-5.4		554.7	TP	0	0	528,625	1,416,459	
1186	320		169°46'	+6.6°	1.0	-		-1.0		559.1		-329	+21	528,296	1,416,480	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
3/19/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		139				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Center Point		Arkansas		Howard								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X
									560.1							
JL	352		169°37'	+6.6°	1.3	-		-1.3		558.8		-351	+23	528,274	1916,982	528,230 + 1916,990 T-intersect.
TP	368		169°27'	+6.8°	2.7	-		-2.7		557.4	TP	-369.2	+56	528,259	1916,515	
TP	368				4.5	TH	+1.8	-2.7			TP					
	180		261°20'-180°	+6.8°	+3.8	89°-	-3.1	+0.7			BS	+6.2	+180			
	180				+4.8	88°40'	-4.2	+0.6	558.0		BS					
π	0				5.4	-		-5.4		552.6	π	0	0	528,263	1916,695	
1187	30		47°0'	+6.8°	6.7	-		-6.7		551.3		+18	+24	528,281	1916,719	
TP	304		37°40'	+6.8°	6.7	-		-6.7		551.3	TP	+217.2	+213	528,478	1916,908	
TP	304				8.2	TH	+1.5	-6.7			TP					
	237		264°42'-180°	+6.8°	+11.7	-		+11.7	563.0		BS	-6	+237			
	237				+10.5	OH	+1.2	+11.7			BS					
1188	160		266°0'	+6.8°	9.0	-		-9.0		554.0		+8	-160	528,480	1916,985	
π	0				5.4	-		-5.4		557.6	π	0	0	528,472	1917,195	
1189	170		100°11'	+6.8°	3.2	-		-3.2		559.8		-50	+163	528,422	1917,308	
1190	500		96°58'	+6.8°	10.1	-		-10.1		552.9	TP	-119	+486	528,353	1917,631	
1190	500				12.6	TH	+2.5	-10.1			TP					
	228		291°56'-180°	+6.8°	+4.7	87°30'	-9.9	-5.2	547.7		BS	-110	+200			
	228				+3.8	87°44'	-9.0	-5.2			BS					
π	0				5.4	-		-5.4		542.3	π	0	0	528,243	1917,831	
1191	99		149°0'	+6.8°	10.6	-		-10.6		537.1		-90	+41	528,153	1917,872	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/19/81		G. Cotcamp		B. Cotcamp		6834		rdw B.C.		3	140					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Center Point		Arkansas	Howard					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
									547.7							
1192	388	387.8	133°46'	+6.8°	13.1	88°20'	+11.3	-1.8			TP	-300	+246	527,943	1,418,077	
1192	388				12.5	88°26'	+10.6	-1.9		545.8	TP					
	240		261°27'-180°	+6.8°	+6.8	88°30'	-6.3	+0.5	546.3		BS	+7	+240			
	240				+7.5	88°20'	-7.0	+0.5			BS					
π	0				5.4	-		-5.4		540.9	π	0	0	527,950	1,418,317	
1193	80		109°06'	+6.8°	4.5	-		-4.5		541.8		-29	+75	527,921	1,418,392	
TP	217		77°39'	+6.8°	6.3	87°30'	+9.5	+3.2			TP	+21	+216	527,971	1,418,533	
TP	217				7.6	87°10'	+10.7	+3.1		549.4	TP					
	189		244°10'-180°	+6.8°	+3.2	88°-	-6.6	-3.4	546.0		BS	+62	+179			
	189				+2.1	88°20'	-5.5	-3.4			BS					
1194	0				5.4	-		-5.4		540.6	π	0	0	528,033	1,418,712	π opposite sta.
1195	333		111°55'	+6.8°	6.7	-		-6.7		539.3	TP	-160	+292	527,873	1,419,004	
1195	333				8.4	TH	+1.7	-6.7			TP					
	330		298°34'-180°	+6.8°	+8.5	-		+8.5	547.8		BS	-191	+269			
	330				+6.8	BH	+1.7	+8.5			BS					
1196	0				5.4	-		-5.4		542.4	π	0	0	527,682	1,419,273	
1197	330		116°0'	+6.8°	11.5	-		-11.5		536.3		-179	+277	527,503	1,419,550	
1198	660		113°22'	+6.8°	13.6	BH	-3.3	-16.9		530.9	TP	-332	+571	527,350	1,419,844	
1198	660				14.2	90°14'	-2.7	-16.9			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/19/81		G. Cotcamp		B. Cotcamp		6839		B.C.		3		191		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Center Point		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1198										530.9				
	453		304°36'-180°	+6.8°	+9.2	-		+9.2	540.1		BS	-300	+340	
	453				+11.5	TH	-2.3	+9.2			BS			
1199	123		304°0'	+6.8°	5.0	-		-5.0		535.1		+80	-93	527,130 1,420,091
TP	0				5.4	-		-5.4		534.7	TP	0	0	527,050 1,420,184
1200	207		95°06'	+6.8°	9.8	-		-9.8		530.3		-43	+203	527,007 1,420,387
TP	462		92°04'	+6.8°	13.1	-		-13.1		527.0	TP	-71	+456	526,979 1,420,640
TP	462				10.8	BH	-2.3	-13.1			TP			
	405		298°03'-180°	+6.8°	+14.3	90°40'	+4.7	+19.0	546.0		BS	-232	+332	
	405				+13.2	90°50'	+5.9	+19.1			BS			
1201	330		297°6'	+6.8°	12.0	91°20'	-7.7	-19.7		526.3		+184	-274	526,431 1,420,698
1202	0				5.4	-		-5.4		540.6	TP	0	0	526,747 1,420,972
1203	327		137°10'	+6.8°	10.3	-		-10.3		535.7		-264	+192	526,483 1,421,164
TP	390		134°03'	+6.8°	12.4	-		-12.4		533.6	TP	-303	+246	526,444 1,421,218
TP	390				14.3	TH	+2.0	-12.3			TP			
	262		270°22'-180°	+6.8°	+2.6	-		+2.6	536.2		BS	-33	+260	
	262				+3.9	TH	-1.3	+2.6			BS			
1204	0				5.4	-		-5.4		530.8	TP	0	0	526,411 1,421,978
1205	330		73°40'	+6.8°	12.2	91°-	-5.8	-18.0		518.2	TP	+55	+325	526,466 1,421,803
1205	330				14.1	90°40'	-3.8	-17.9			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/19/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		142		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Center Point		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1205										518.2				
	250		253°14' -180°	+6.8°	+6.7	-		+6.7			BS	+43	+246+2	
	250				+7.9	TH	-1.3	+6.6	524.8		BS			
π	0				5.4	-		-5.4		519.4	π	0	0	526,509 1,422,051
1206	80		52° 0'	+6.8°	6.6	-		-6.6		518.2		+41	+68	526,550 1,422,119
1207	413	+12.8	48° 29'	+6.8°	10.3	92° -	-14.4	-24.7		500.1	TP	+235	+339+2	526,744 1,422,392
1207	413				13.9	91° 30'	-10.8	-24.7			TP			
	331		251° 29' -180°	+6.8°	+1.3	88° 40'	-7.7	-6.4	493.7		BS	+67	+327+2	
	331				+3.2	88° 20'	-9.6	-6.4			BS			
1208	0				5.4	-		-5.4		488.3	π	0	0	526,811 1,422,718
1209	330		90° 29'	+6.8°	1.5	-		-1.5		492.2	TP	-42	+327+2	526,769 1,423,047
1209	330				3.2	TH	+1.7	-1.5			TP			
	432		290° 06' -180°	+6.8°	+1.1	-		+1.1	493.3		BS	-195	+385+2	
	432				+3.3	TH	-2.2	+1.1			BS			
1210	102		287° 20'	+6.8°	5.6	-		-5.6		487.7		+42	-93	526,616 1,423,341
π	0				5.4	-		-5.4		487.9	π	0	0	526,574 1,423,434
1211	230		76° 39'	+6.8°	12.7	84	-1.2	-13.9		479.4		+26	+229	526,600 1,423,663
1212	560	559.7	74° 44'	+6.8°	8.3	92° -	-19.5	-27.8			TP	+82	+554+2	526,656 1,423,990
1212	560				13.2	91° 30'	-14.7	-27.9		465.4	TP			
	321		243° 19' -180°	+6.8°	+3.2	-		+3.2	468.6		BS	+109	+302+2	
	321				+4.8	TH	-1.6	+3.2			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
3/19/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	143						
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Center Point		Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									468.6								
≡	23		289° 0'	+6.8°	4.5	-		-4.5		464.1		+10	-21	526,775	1,424,273	526,790 + 1,424,290 T-intersect.	
π	0				5.4	-		-5.4		463.2	π	0	0	526,765	1,424,294		
1213	54		174° 35'	+6.8°	5.8	-		-5.8		462.8		-54	-1	526,711	1,424,293		
1214	389		156° 35'	+6.8°	7.2	-		-7.2		461.4	TP	-373	+111.1	526,392	1,424,906		
1214	389				5.3	BH	-1.9	-7.2			TP						
	339		40° 06' +180°	+6.8°	+7.8	-		+7.8	469.2		BS	-232	-248				
	339				+6.1	BH	+1.7	+7.8			BS						
1215	0				5.4	-		-5.4		463.8	π	0	0	526,160	1,424,158		
1216	330		182° 42'	+6.8°	3.0	-		-3.0		466.2		-325	-54	525,835	1,424,104		
1217	658	657.8	180° 59'	+6.8°	2.5	88° 40'	+15.3	+12.8		482.0	TP	-652	-89	525,508	1,424,069		
1217	658				0.6	88° 50'	+13.4	+12.8			TP						
	327		0° 09' +180°	+6.8°	+12.7	-		+12.7	494.7		BS	-325	-40				
	327				+14.3	TH	-1.6	+12.7			BS						
1218	0				5.4	-		-5.4		489.3	π	0	0	525,183	1,424,029		
TP	261	260.8	192° 47'	+6.8°	3.9	88° -	+9.1	+5.2			TP	-246	-87	524,937	1,423,942		
TP	261				8.5	87° -	+13.6	+5.1		499.8	TP						
	730		46° 38' +180°	+6.8°	+10.9	-		+10.9	510.7		BS	-435	-586				
	730				+14.6	TH	-3.7	+10.9			BS						
1219	660		46° 38'	+6.8°	8.1	-		-8.1		502.6		+393	+530	524,895	1,423,886		
1220	330		" "	"	9.4	-		-9.4		501.3		+197	+265	524,699	1,423,621		

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/19/81		G. Cotcamp		B. Cotcamp		6839		B.C.		3		144			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									510.7						
1221	0				5.4	-		-5.4		505.3	π	0	0	524,502	1,423,356
1222	330		208°44'	+6.8°	1.3	89°20'	+3.8	+2.5		513.2	TP	-269.	-192.	524,233	1,423,164
1222	330				3.2	89°-	+5.8	+2.6			TP				
	990		8°25'20"+180°	+6.8°	+6.1	-		+6.1	519.3		BS	-955	-260.		
	990				+11.1	TH	-5.0	+6.1			BS				
1223	660		8° 0'	+6.8°	2.5	-		-2.5		516.8		+638	+169	523,916	1,423,073
1224	330		" "	"	8.8	-		-8.8		510.5		+319	+84	523,599	1,422,988
1225	0				5.4	-		-5.4		513.9	π	0	0	523,278	1,422,904
<u>1225</u>	320		198°51'	+6.8°	5.9	TH	+1.6	-4.3		515.0		-288	-139	522,990	1,422,765
1226	302		199°17'	+6.8°	5.7	TH	+1.5	-4.2		515.1	TP	-271+2	-133+2	523,009	1,422,773
1226	302				5.9	89°40'	+1.8	-4.1			TP				
	327	326.6	329°10'-180°	+6.8°	+6.7	87°-	-17.1	-10.4	504.7		BS	-298+2	+133+2		
	327				+3.3	87°36'	-13.7	-10.4			BS				
1227	0				5.4	-		-5.4		499.3	π	0	0	522,713	1,422,908
1228	311	310.7	149°53'	+6.8°	14.6	92°38'	-14.3	-28.9		475.8	TP	-285+2	+123+2	522,930	1,423,033
1228	311				12.6	93°-	-16.3	-28.9			TP				
	330		311°44'-180°	+6.8°	+7.9	89°-	-5.8	+2.1	477.9		BS	-247+2	+218+2		
	330				+6.9	89°10'	-4.8	+2.1			BS				
1229	0				5.4	-		-5.4		472.5	π	0	0	522,185	1,423,253

horiz. correct. y = -36'
x = +31'
522,990 + 1,422,765
T-intersect. at 514

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/20/81		G. Cotcamp		G. Cotcamp		6834		B.C.		3		145			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									477.9						
1230	329		170° 54'	+6.8°	8.0	88° 30'	+8.6	+0.6	478.5	TP	-329+2	+13+2	521,858	1,423,268	
1230	329				8.9	88° 20'	+9.6	+0.7		TP					
	330		358° 56' - 180°	+6.8°	+10.1	-		+10.1	488.6	BS	-328+2	-33+2			
	330				+8.4	BH	+1.7	+10.1		BS					
1231	0				5.4	-		-5.4	483.2	X	0	0	521,532	1,423,237	
1232	330		169° 01'	+6.8°	2.5	88°	+11.5	+9.0	497.6	TP	-329+2	+24+2	521,205	1,423,263	
1232	330				5.4	87° 30'	+14.4	+9.0		TP					
	330	329.6	323° 0' - 180°	+6.8°	+9.5	93° -	+17.2	+26.7	524.3	BS	-285+2	+166+2			
	330				10.5	92° 50'	+16.3	+26.8		BS					
1233	0				5.4	-		-5.4	518.9	X	0	0	520,922	1,423,431	ACROSS STATION
1234	330		148° 09'	+6.8°	4.9	-		-4.9	519.4	TP	-299+2	+140+2	520,625	1,423,573	
1234	330				6.6	TH	+1.7	-4.9		TP					
	330		338° 56' - 180°	+6.8°	+10.8	-		+10.8	530.2	BS	-320+2	+8+2			
	330				+9.1	BH	+1.7	+10.8		BS					
1235	0				5.4	-		-5.4	524.8	X	0	0	520,307	1,423,656	
1236	330		172° 50'	+6.8°	2.2	86° -	+23.0	+20.8	551.0		-330	+2	519,977	1,423,658	
#1	508	506.8	172° 50'	+6.8°	5.6	86° -	+35.4	+29.8	540.0		-507	+3	519,800	1,423,659	519,795 + 1,423,660 T-R D 557
TP	508	506.8	172° 50'	+6.8°	5.6	86°	+35.4	+29.8		TP	-507	+3+2	519,800	1,423,661	
TP	508				10.0	85° 30'	+39.7	+29.7	559.9	TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/20/81		B. Gotcamp		G. Gotcamp		6834		Jew B.C.		3	146					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Center Point		Arkansas	Howard					L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
TP										559.9						
	812		7° 21' 20" +180°	+6.6°	+14.5	-		+14.5	574.4		BS	-788	-196.2			
	812				+10.5	BH	+4.1	+14.6			BS					
1237	660		8' 31"	+6.6°	10.7	91°	-11.5	-22.2		552.2		+637	+172	519,649	1,423,639	
1238	330		8' 31"	+6.6°	9.8	91°	-5.8	-15.6		558.8		+319	+86	519,331	1,423,553	
1239	0				5.4	-		-5.4		569.0	X	0	0	519,012	1,423,467	
1240	330		205' 37"	+6.6°	9.4	88°	+11.5	+2.1		576.5		-279	-176	518,733	1,423,291	
1241	660		" "	"	7.1	89°	+11.5	+4.4		578.8		-558	-352	518,454	1,423,115	
1242	990		" "	"	10.3	89°	+17.3	+7.0		581.4		-838	-528	518,174	1,422,939	
1243	1320	1319.8	204° 42' 40"	+6.6°	8.1	89°	+23.0	+14.9			TP	-1128	-686.2	517,824	1,422,783	
1243	1320				9.40	88° 58'	+23.8	+14.8		589.2	TP					
	990		21° 36' 20" +180°	+6.6°	+10.0	89° 30'	-8.6	+1.4			BS	-872	-468.4			
	990				+4.2	89° 30'	-2.9	+1.3	590.5		BS					
1244	660		21° 36'	+6.6°	8.0	89° 30'	+5.8	-2.2		588.3		+582	+312	517,594	1,422,628	
1245	330		" "	"	8.8	89° 30'	+2.9	-5.9		584.6		+291	+156	517,303	1,422,478	
1246	0				5.4	-		-5.4		585.1	X	0	0	517,012	1,422,316	
1247	330		189° 18'	+6.6°	2.1	-		-2.1		588.4		-317	-90	516,695	1,422,226	
1248	659		189° 18'	+6.6°	14.8	88°	+23.0	+8.2		598.7	TP	-633	-180	516,379	1,422,136	
1248	659				9.0	88° 30'	+17.2	+8.2			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
3/20/81		B. Cotcamp		G. Cotcamp		6834		B.C.		3	147					
AREA		TOPO MAP	STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER							
Arkansas		Center Point	Arkansas	Howard					L. Davis							
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	NORTH + SOUTH -	EAST + WEST -	COORDINATES		REMARKS
												LAT.	DEP.	Y	X	
1248	660		4° 11' +180°	+6.6°	+13.2	89°	-11.5	+1.7	600.4	598.7	BS	-698	-123			
	660				+7.5	89° 30'	-5.8	+1.7		BS						
1249	330		4° 11'	+6.6°	6.2	89°	+5.8	-0.4		600.0		+329	+62	516,055	1,422,075	
1250	0				5.4	-		-5.4		595.0	TP	0	0	515,731	1,422,013	
1251	329		182° 38'	+6.6°	12.3	-		-12.3		588.1	TP	-325	-53	515,406	1,421,960	
1251	329				13.9	TH	+1.6	-12.3			TP					
	330		342° 17' -180°	+6.6°	+13.8	92°	+11.5	+25.0	613.1		BS	-324	+64			
	330				+10.8	92° 30'	+14.4	+25.0		BS						
1252	0				5.4	-		-5.4		607.7	TP	0	0	515,082	1,422,024	
1253	330	329.2	169° 38'	+6.6°	8.7	86°	+23.0	+14.3			TP	-328	+22	514,754	1,422,046	
1253	330				9.7	85° 50'	+23.9	+14.2		627.3	TP					
	330		351° 58' -180°	+6.6°	+6.8	-		+6.8	634.1		BS	-330+2	+8			
	330				+5.1	BH	+1.7	+6.8		BS						
1254	6				5.4	-		-5.4		628.7	TP	0	0	514,926	1,422,054	ACROSS STATION
11	80		183° 45°	+6.6°	2.3	-		-2.3		631.8		-79	-14	514,347	1,422,040	y-intersect EL 631.0
1255	330		184° 42'	+6.6°	5.9	-		-5.9		628.2	TP	-324+2	-65	514,104	1,421,989	
1255	330				7.6	TH	+1.7	-5.9			TP					
	330		18° 45' +180°	+6.6°	+7.3	-		+7.3	635.5		BS	-298+2	-141			
	330				+5.7	BH	+1.7	+7.4		BS						

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY			LINE NO.		PAGE				
3/20/81		B. Cotcamp		C. Cotcamp		6834		B.C.			3		198				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER			
Arkansas		Center Point		Arkansas		Howard								L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS	
														Y	X		
									635.5								horiz. correct. y = +26' x = +27'
1256	0				5.4	-		-5.4		630.1	TP	0	0	513,808	1,421,848		
TP	75		199° 15'	+6.6°	2.1	-		-2.1		633.4		-68	-33	513,740	1,421,815		513,740 + 1,421,815 V.M.
1257	180		99° 59'	+6.3°	6.5	89°	+3.1	-3.4		632.1	TP	-50 +3	+173.	513,761	1,422,021		
1257	180				8.0	88° 30'	+4.7	-3.3			TP						
	278	277.6	277° 18' - 180°	+6.3°	+4.7	87°	-14.5	-9.8	622.3		BS	-65 +3	+270.				
	278				+9.6	86°	-19.3	-9.7			BS						
TP	0				5.4	-		-5.4		616.9	TP	0	0	513,699	1,422,291		
1258	52		118° 9'	+6.3°	7.0	-		-7.0		615.3		-29	+43	513,670	1,422,334		
1259	382		" "	"	4.0	90°		-4.0		618.3		-216	+315	513,483	1,422,606		
1260	712		118° 9' 20"	+6.3°	13.9	-		-13.9		608.4	TP	-403 +3	+587.	513,299	1,422,878		
1260	712				10.3	BH	-3.6	-13.9			TP						
	320		283° 6' - 180°	+6.3°	+10.8	-		+10.8	619.2		BS	-106 +3	+302.				
	320				+12.4	TH	-1.6	+10.8			BS						
1261	0				5.4	-		-5.4		613.8	TP	0	0	513,196	1,423,180		ACROSS STATION
1262	330		79° 30'	+6.3°	7.5	91°	-5.8	-13.3		605.9		+24	+329	513,220	1,423,509		
TP	495		79° 30'	+6.3°	6.9	91°	-8.6	-15.5		603.7	TP	+36 +3	+499.	513,235	1,423,674		
TP	495				11.2	90° 30'	-4.3	-15.5			TP						
	4801		278° 57' - 180°	+6.3°	+13.6	88°	-16.8	-3.2	600.5		BS	-126 +3	+469.				
	4801				+9.4	88° 30'	-12.6	-3.2			BS						

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/20/81						6834		J.W. B.C.		3		149			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									600.5						
1263	330		275° 59'	+6.3°	11.8	88° -	+11.5	-0.3		600.2		+70	-322	513,182	1,423,916
1264	0				5.4	-		-5.4		595.1	X	0	0	513,112	1,424,138 ACROSS STATION
1265	330		114° 0'	+6.3°	12.8	91° -	-5.8	-18.6		581.9	TP	-166+3	+285	512,949	1,424,423
1265	330				14.8	90° 40'	-3.8	-18.6			TP				
	660	659.6	300° 37' -180°	+6.3°	+5.2	88° -	-23.0	-17.8			BS	-396+3	+527		
	660				+10.9	87° 30'	-28.8	-17.9	564.0		BS				
1266	330		300° 37'	+6.3°	8.9	88°	+11.5	+2.6		566.6		+198	-264	512,954	1,424,686
1267	0				5.4	-		-5.4		558.6	X	0	0	512,556	1,424,950 ACROSS STATION
Pipe Line	102		118° 52'	+6.3°	5.8	-		-5.8		558.2		-59	+83	512,497	1,425,033 EL. 558.0
TP	283		181° 38'	+6.3°	12.6	-		-12.6		551.4	TP	-174+3	+223	512,385	1,425,173
TP	283				14.0	TH	+1.4	-12.6			TP				
	231	230.1	347° 56' -180°	+6.3°	+7.1	85°	-20.1	-13.0			BS	-229+3	+23		
	231				+5.0	85° 30'	-18.1	-13.1	538.3		BS				
					5.4						X				
1268	180		347° 56'	+6.3°	7.0	85° 30'	+14.1	+7.1		545.4		+179	-18	512,338	1,425,178
X	0				5.4	-		-5.4		532.9	X	0	0	512,159	1,425,196
1269	160		207° 15'	+6.3°	3.5	89°	+2.8	-0.7		537.6		-133	-88	512,026	1,425,108
1270	490		207° 15'	+6.3°	5.7	89° -	+8.6	+2.9			TP	-408+3	-271	511,754	1,424,925
1270	490				10.0	88° 30'	+12.8	+2.8		541.1	TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GE0-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
3/20/81		B. Cotcamp		G. Cotcamp		6834		B.C.		3	150			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
ARKANSAS		CENTER POINT		ARKANSAS	HOWARD					L. DAVIS				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1270										541.1				
	660		29° 35' +180°	+6.3°	+3.8	89°	+11.5	+15.3	556.4		BS	-535+3	-387	
	660				+7.7	90° 40'	+7.7	+15.4			BS			
1271	330		29° 35'	+6.3°	9.6	91°	-5.8	-15.4		541.0		+267	+193	511,489 424,731
1272	0				5.4	-		-5.4		551.0	X	0	0	511,222 1424,538
BRIDGE	238		169° 40'	+6.3°	8.8	91°	-4.2	-13.0		543.4		-237	+17	510,985 1424,555 EL. 543.0
1273	330		" "	"	9.2	91°	-5.8	-15.0		541.4		-329	+23	510,893 1424,561
1274	660		" "	"	9.0	-		-9.0		547.4		-658	+46	510,564 1424,584
1275	990		169° 40' 40"	+6.3°	13.0	89°	+17.3	+4.3		560.7	TP	-987+3	+69	510,238 1424,607
1275	990				10.2	89° 10'	+14.4	+4.2			TP			
	213		352° 48' -180°	+6.3°	+12.3	91°	+3.7	+16.0	576.7		BS	-213+3	+3	
	213				+9.8	91° 40'	+6.2	+16.0			BS			
X	0				5.4	-		-5.4		571.3	X	0	0	510,028 1424,610
1276	116		186° 52'	+6.3°	6.8	86°	+8.1	+1.3		578.0		-113	-26	509,915 1424,584
1277	442	4409	186° 52'	+6.3°	3.1	86°	+30.8	+27.7		604.4	TP	-429+3	-100	509,602 1424,510
1277	442				5.7	85° 40'	+33.3	+27.6			TP			
	330		3° 30' +180°	+6.3°	+7.3	-		+7.3	611.7		BS	-325+3	-56	
	330				+8.9	TH	-1.7	+7.2			BS			
1278	0				5.4	-		-5.4		606.3	X	0	0	509,280 1424,454
1279	327	326.2	166° 17'	+6.3°	8.2	94°	-22.8	-31.0			TP	-323+3	+42	508,960 1424,496
1279	327				9.1	93° 50'	-21.8	-30.9		580.8	TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 3/21/81		INSTRUMENT MAN G. Cotcamp		ROD MAN B. Cotcamp		PARTY NUMBER 6837		NOTES CHECKED BY B.C.		LINE NO. 3	PAGE 151			
AREA Arkansas		TOPO MAP Center Point		STATE Arkansas		COUNTY Howard		TWP	RANGE	PPM	PARTY MANAGER L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1279										580.8				
	330		328° 22' -180°	+6.3°	+13.5	91° -	+5.8	+19.3	600.1		BS	-298+3	+141	
	330				+14.9	90° 46'	+4.4	+19.3			BS			
1280	0				54	-		-5.4		594.7	X	0	0	508,665 1,424,637
1281	322		138° 51'	+6.3°	4.4	89° -	+5.6	+1.2		601.3	TP	-264+4	+184	508,905 1,424,821
1281	322				6.3	88° 40'	+7.5	+1.2			TP			
	660		311° 22' -180°	+6.3°	+11.0	-		+11.0	612.3		BS	-488+4	+444	
	660				+14.3	TH	-3.3	+11.0			BS			
1282	330		311° 22'	+6.3°	6.4	-		-6.4		605.9		+244	-222	508,165 1,425,043
1283	0				5.4	-		-5.4		606.9	X	0	0	507,921 1,425,265
1284	335	3348	137° 23'	+6.3°	12.8	92° -	-11.7	-24.5		587.8	TP	-270+4	+198	507,655 1,425,463
1284	335				14.4	91° 44'	-10.1	-24.5			TP			
	331	330.8	337° 22' -180°	+6.3°	+13.3	92° -	+11.5	+24.8			BS	-317+4	+93	
	331				+14.7	91° 46'	+10.2	+24.9	612.7		BS			
1285	0				5.4	-		-5.4		607.3	X	0	0	507,342 1,425,556 X opposite st.
1286	330		200° 43'	+6.3°	3.1	85° 40'	+24.9	+21.8		634.5		-294	-150	507,048 1,425,406
1287	660	657.5	200° 43'	+6.3°	3.8	85° -	+57.3	+53.5			TP	-586+4	-299	506,760 1,425,257
1287	660				1.1	85° 14'	+54.7	+53.6		666.3	TP			
	329		27° 34' +180°	+6.3°	+14.5	91° 20'	+7.7	+22.2	688.5		BS	-273+4	-183	
	329				+12.6	91° 40'	+9.6	+22.2			BS			
1288	0				5.4	-		-5.4		683.1	X	0	0	506,491 1,425,074

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
3/21/81		G. Cotcamp		B. Cotcamp		6839		B.C.		3		152		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Center Point		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	
									688.5					
1289	320		167°23'	+6.3°	3.4	89°-	+5.6	+2.2		690.7	TP	-318+4	+35	506,177 1,425,109
1289	320				4.7	88°46'	+6.9	+2.2			TP			
	329		329°48'-180°	+6.3°	+15.0	-		+15.0	705.7		BS	-301+4	+133	
	329				+13.4	BH	+1.6	+15.0			BS			
1290	0				5.4	-		-5.4		700.3	TP	0	0	505,880 1,425,242 TP opposite sta.
1291	330		163°23'	+6.3°	3.1	89°-	+5.8	+2.7		708.4		-325	+59	505,555 1,425,301
1292	660	659.6	169°57'	+6.3°	7.5	88°-	+23.0	+15.5			TP	-652+4	+100	505,332 1,425,342
1292	660				5.9	88°8'	+21.5	+15.6		721.3	TP			
	660		355°42'-180°	+6.3°	+9.9	TH	-3.3	+6.6			BS	-660+4	-23-1	
	660				+10.5	89°40'	-3.8	+6.7	728.0		BS			
JL JF	472		355°52'	+6.3°	5.4	TH	+2.4	-3.0		725.0		+472	+18	505,048 1,425,336 505,060 +1,425,335 4-way Intersect El. 725.0
1293	330		355°42'	+6.3°	4.8	TH	+1.7	-3.1		724.9		+330	+12	504,906 1,425,330
1294	0				5.4	-		-5.4		722.6	TP	0	0	504,576 1,425,318
1295	330		175°04'	+6.3°	10.8	93°-	-17.2	-28.0		700.0		-330	-8	504,246 1,425,310
1296	660		" "	"	8.8	92°-	-23.0	-31.8		696.2		-660	-16	503,916 1,425,302
1297	990		175°04'	+6.3°	13.1	91°30'	-25.9	-39.0		689.0	TP	-989+4	-24-2	503,591 1,425,292
1297	990				14.7	91°24'	-24.2	-38.9			TP			
	990		354°46'30"-180°	+6.3°	+11.7	88°30'	-25.9	-14.2	674.8		BS	-989+4	-18-2	
	990				+3.1	89°-	-17.3	-14.2			BS			
1298	660		354°45'	+6.3°	6.7	89°-	+11.5	+4.8		679.6		+660	+12	503,266 1,425,284

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/21/81		G. Cotcamp		B. Cotcamp		6837		B.C.		3		153			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH-	EAST+ WEST-		Y
									674.8						
1299	330		354°45'	+6.3°	6.0	89°-	+5.8	-0.2		674.6		+330	+6	562,936	1,425,278
1300	0				5.4	-		-5.4		669.4	X	0	0	502,606	1,425,272
1301	273	270.9	145°13'	+6.3°	12.0	82°54'	+33.5	+21.5		696.3	TP	-238+4	+129-2	502,372	1,425,399
1301	273				13.1	82°40'	+34.6	+21.5			TP				
	186		342°12' +180°	+6.3°	+9.3	-		+9.3	705.6		BS	-182+4	+37-2		
	186				+10.2	TH	-0.9	+9.3			BS				
X	0				5.4	-		-5.4		700.2	X	0	0	502,194	1,425,434
1302	139		178°05'	+6.3°	9.0	-		-9.0		696.6		-139	-11	502,055	1,425,423
1303															horiz. correct. y = +110' y = -9'
1E	335		176°57'	+6.3°	13.7	-		-13.7		691.9		-339	-19	501,860	1,425,415
1303	469		178°05'	+6.6°	9.1	91°-	-8.2	-17.3		688.3		-467	-38	501,727	1,425,396
1304	799		176°29'	+6.6°	7.7	91°-	-13.9	-21.6			TP	-798	-42-2	501,396	1,425,390
1304	799				14.7	90°30'	-7.0	-21.7		683.9	TP				
	945		3°02'20" +180°	+6.6°	+3.5	TH	-4.7	-1.2	682.7		BS	-932	-158		
	945				+4.3	89°40'	-5.5	-1.2			BS				
1305	620		1°55'	+6.6°	13.1	BH	-3.1	-16.2		666.5		+613	+92	501,077	1,425,324
1306	330		355°39'	+6.6°	8.9	95°-	-28.7	-37.6		645.1		+330	+13	500,799	1,425,245
1307	0				5.4	-		-5.4		677.3	X	0	0	500,969	1,425,232
1308	321		168°29'	+6.6°	13.4	89°-	+5.6	-7.8			TP	-320	+28	500,144	1,425,260
1308	321				14.4	88°50'	+6.5	-7.9		674.8	TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
3/21/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	154			
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Center Point		Arkansas		Howard						L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1308										674.8				
	330		331°30'180°	+6.6°	+1.1	88°30'	-8.6	-7.5			BS	-306	+123	
	330				+3.0	88°10'	-10.6	-7.6	667.2		BS			
71	36		342°26'	+6.6°	8.0	-		-8.0	659.2			+35	-7	499,873 1,425,376 Y-intersect
1309	0				5.4	-		-5.4	661.8		TP	0	0	499,838 1,425,383
1310	330		181°07'	+6.6°	7.5	-		-7.5	659.7			-327	-44	499,511 1,425,339
1311	660		181°07'	+6.6°	28	89°20'	+7.7	+4.9	672.1		TP	-654	-89	499,184 1,425,294
1311	660				4.7	89°10'	+9.6	+4.9			TP			
	330		2°27'180°	+6.6°	+4.8	-		+4.8	676.9		BS	-326	-52	
	330				+6.5	TH	-1.7	+4.8			BS			
1312	0				5.4	-		-5.4	671.5		TP	0	0	498,858 1,425,242
1313	329		173°41'	+6.6°	11.6	-		-11.6	665.3		TP	-329	-2	498,529 1,425,240
1313	329				13.2	TH	+1.6	-11.6			TP			
	543	542.5	355°07'180°	+6.6°	+6.9	87°38'	-22.4	-15.5	649.8		BS	-542	-16	
	543				+9.7	87°20'	-25.2	-15.5			BS			
1314	215		357°07'	+6.6°	11.9	-		-11.9	637.9			+215	+14	498,202 1,425,238
TP	0				5.4	-		-5.4	644.4		TP	0	0	497,987 1,425,224
1315	115		182°33'	+6.6°	13.7	91°-	-2.0	-15.7	634.1			-114	-18	497,873 1,425,206
1316	445		179°33'	+6.6°	4.9	-		-4.9	644.9		TP	-442	-48	497,545 1,425,176
1316	445				7.1	TH	+2.2	-4.9			TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/23/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		155			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH-	EAST+ WEST-		Y
1316										644.9					
	330		352°29'-180°	+6.6°	+14.7	-		+14.7	659.6		BS	-330	+5		
	330				+13.0	0H	+1.7	+14.7			BS				
1317	0				54	-		-5.4	654.2		TP	0	0	497,215 1,425,181	
1318	330		165°48'	+6.6°	11.9	92°-	-11.5	-23.4	636.2			-327	+44	496,888 1,425,225	
1319	660		162°38'	+6.6°	8.7	91°-	-11.5	-20.2			TP	-648	+123	496,567 1,425,304	
1319	660				14.5	90°30'	-5.8	-20.3	639.3		TP				
	660		356°30'-180°	+6.6°	+13.8	89°20'	-7.7	+6.1	645.4		BS	-659	-36		
	660				+11.9	89°30'	-5.8	+6.1			BS				
1320	330		357°09'	+6.6°	1.3	TH	+1.7	+0.4	645.8			+329	+21	496,237 1,425,289	
1321	0				54	-		-5.4	640.0		TP	0	0	495,908 1,425,268	
1322	330		197°44'	+6.6°	7.7	-		-7.7	637.7			-301	-136	495,607 1,425,172	
1323	641		184°38'	+6.6°	9.6	-		-9.6	635.8		TP	-629	-125	495,279 1,425,143	
1323	641				12.8	TH	+3.2	-9.6			TP				
	330		350°05'-180°	+6.6°	+2.8	-		+2.8			BS	-329	+19		
	330				+4.9	TH	-1.7	+2.7	638.5		BS				
1324	0				54	-		-5.4	633.1		TP	0	0	494,950 1,425,162	
1325	330		176°16'	+6.6°	13.7	-		-13.7	624.8			-330	-17	494,620 1,425,145	
1326	660		176°27'	+6.6°	12.7	-		-12.7	625.8		TP	-659	-35	494,291 1,425,127	
1326	660				9.4	0H	-3.3	-12.7			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
3/23/81		G. Cotcamp		B. Cotcamp		6834		J.W.		3	156			
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER			
Arkansas		Center Point		Arkansas		Howard					L. Davis			
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1326										625.8				
	322	321.7	344° 0' -180°	+6.6°	8.9	87° 24'	-14.6	-6.2	619.6		BS	-317	+53	
	322				10.1	87° 6'	-16.3	-6.2			BS			
1327	0				5.4	-		-5.4	614.2		T	0	0	493,974 1,425,180
1328	330		133° 53'	+6.6°	4.7	-		-4.7	614.9		TP	-255	+210	493,719 1,425,390
1328	330				6.4	TH	+1.7	-4.7			TP			
	329		304° 26' -180°	+6.6°	10.2	-		+10.2	625.1		BS	-216	+248	
	329				11.9	TH	-1.6	+10.3			BS			
1329	0				5.4	-		-5.4	619.7		T	0	0	493,503 1,425,638
1330	330		106° 34'	+6.6°	4.2	92° -	-11.5	-15.7	609.4			-130	+303	493,373 1,425,941
1331	660		106° 34'	+6.6°	10.0	91° -	-11.5	-21.5	603.6		TP	-260	+607	493,243 1,426,245
1331	660				7.3	91° 14'	-14.2	-21.5			TP			
	330	329.2	280° 22' -180°	+6.6°	4.3	86° -	-23.0	-18.7	584.9		BS	-96	+315	
	330				3.0	86° 14'	-21.6	-18.6			BS			
1332	0				5.4	-		-5.4	579.5		T	0	0	493,147 1,426,566
1333	330		120° 05'	+6.6°	2.7	94° -	-23.0	-25.7	559.2			-197	+265	492,950 1,426,825
1334	660		120° 05'	+6.6°	14.2	90° 32'	-6.1	-20.3			TP	-394	+529	492,753 1,427,089
1334	660				12.7	90° 40'	-7.7	-20.4	564.5		TP			
	656	655.8	265° 13' -180°	+6.6°	14.1	91° 16'	+14.5	+28.6	593.1		BS	-21	+656	
	656				12.2	91° 26'	+16.4	+28.6			BS			
1335	330		262° 21'	+6.6°	2.8	94° -	-23.0	-25.8	567.3			-6	-330	492,726 1,427,415

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/24/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		157			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Center Point Mineral Springs North		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									593.1						
1336	0				5.4	-		-5.4		587.7	π	0	0	492,732	1,427,745
1337	375	374.8	57°06'	+6.6°	5.2	88°-	+13.1	+7.9		601.0		+166	+336	492,898	1,428,081
1337	329		59°25'	+6.6°	6.4	88°-	+11.5	+5.1		598.2		+134	+301	492,866	1,428,046
1338	540	539.8	92°14'	+6.6°	9.9	88°18'	+16.0	+6.1		599.2	TP	-83-	+533	492,648	1,428,278
1338	540				8.9	88°24'	+15.1	+6.2			TP				
	658		319°18'-180°	+6.6°	+9.1	89°-	-11.5	-2.4	596.8		BS	-545-	+369		
	658				+6.8	89°12'	-9.2	-2.4			BS				
1339	330		321°42'	+6.6°	0.2	-		-0.2		596.6		+281	-173	492,383	1,428,474
1340	0				5.4	-		-5.4		591.4	π	0	0	492,102	1,428,647
1341	330		163°50'	+6.6°	8.3	-		-8.3		588.5		-325	+55	491,777	1,428,702
1342	660		" "	"	3.2	90°40'	-7.7	-10.9		585.9		-651	+110	491,451	1,428,757
1343	990		" "	"	4.2	90°40'	-11.5	-15.7		581.1		-976	+165	491,126	1,428,810
1344	1320		163°50'	+6.6°	10.9	84	-6.6	-17.5		579.3	TP	-1302-	+219	490,799	1,428,866
1344	1320				10.6	90°18'	-6.9	-17.5			TP				
	604		329°15'-180°	+6.6°	+0.4	89°-	-10.5	-10.1	569.2		BS	-551-	+247		
	604				+4.0	88°40'	-14.0	-10.0			BS				
1345	293		314°40'	+6.6°	0.5	-		-0.5		568.7		+229	-183	490,476	1,428,930
1345	102		268°49'	+6.6°	4.2	-		-4.2		565.0		+10	-102	490,257	1,429,011
1346	0				5.4	-		-5.4		563.8	π	0	0	490,247	1,429,113
1347	330		87°50'	+6.6°	4.0	-		-4.0		565.2		-26	+329	490,221	1,429,442

↑
Center Point Quad.
490,280+1,428,965
T-intersect.
Mineral Springs North
↓

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/23/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		158			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Mineral Springs North		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									569.2						
1348	659		87°50'	+6.6°	4.1	-		-4.1		565.1	TP	-51-1	+657	490,195	1,429,770
1348	659				7.4	TH	+3.3	-4.1			TP				
	632	631.7	303°14'480°	+6.6°	+4.9	88°16'	-19.1	-14.2	550.9		BS	-405-1	+485		
	632				+7.1	88°4'	-21.3	-14.2			BS				
1349	330		317°17'	+6.6°	3.8	89°-	+5.8	+2.0		552.9		+267	-195	490,056	1,430,060
1350	0				5.4	-		-5.4		545.5	TP	0	0	489,789	1,430,259
1351	330		136°24'	+6.6°	3.2	-		-3.2		547.7		-264	+199	489,525	1,430,454
1352	660		" "	"	4.7	-		-4.7		546.2		-527	+397	489,262	1,430,652
TP	935		135°09'	+6.6°	13.7	89°-	+16.3	+2.6		553.5	TP	-734-1	+579	489,059	1,430,834
TP	935				5.5	89°30'	+8.2	+2.7			TP				
	690	689.	250°08'-180°	+6.6°	+8.6	87°-	-36.1	-27.5	526.0		BS	+158-2	+671		
	690				+4.6	87°20'	-32.1	-27.5			BS				
IF	729	728.2	249°27'	+6.6°	5.5	87°20'	+33.9	+28.4		554.4		-176	-707	489,039	1,430,798 489,005 + 1,430,810 T-intersect.
1353	650		249°07'	+6.6°	7.4	87°10'	+32.1	+24.7		550.7		-160	-630	489,050	1,430,875
1354	325		257°0'	+6.6°	4.3	88°10'	+10.4	+6.1		532.1		-36	-323	489,179	1,431,182
1355	0				5.4	-		-5.4		520.6	TP	0	0	489,210	1,431,505 Mineral Springs North
1356	330		101°30'	+6.6°	5.8	92°30'	-14.4	-20.2		505.8		-103	+314	489,107	1,431,819 Nashville Road.
1357	655		93°11'	+6.6°	5.9	91°30'	-17.1	-23.0		503.0		-111	+645	489,099	1,432,150 ↓
1358	985		89°38'20"	+6.6°	3.8	91°-	-17.2	-21.0		505.0	TP	-107.	+979	489,103	1,432,484
1358	985				14.7	90°22'	-6.3	-21.0			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
3/23/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		159							
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER					
Arkansas		Nashville		Arkansas		Howard								L. Davis					
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH + SOUTH -		EAST + WEST -		COORDINATES		REMARKS	
												LAT.	DEP.	Y	X				
1358										505.0									
	658		298°50'180°	+6.6°	+12.6	91°-	+11.5	+24.17	529.1		BS	-381	+536						
	658				+14.5	90°50'	+9.6	+24.1			BS								
1359	330		295°05'	+6.6°	3.7	91°-	-5.8	-9.5		519.6		+173	-281	488,895	1,432,739				
1360	0				5.4	-		-5.4		523.7	TP	0	0	488,722	1,433,020				
1361	330		86°10'	+6.6°	0.9	TH	+1.7	+0.8		529.9		-16	+330	488,706	1,433,350				
1362	660		" "	"	0.1	TH	+3.3	+3.2		532.3		-32	+659	488,690	1,433,679				
1363	990		" "	"	6.3	89°-	+17.3	+11.0		540.1		-48	+989	488,674	1,434,009				
1364	1320	1319.4	86°10'	+6.6°	5.9	88°20'	+38.4	+32.5		561.6	TP	-64	+1318	488,658	1,434,338				
1364	1320				9.7	88°10'	+42.2	+32.5			TP								
	330	329.8	265°24'180°	+6.6°	+13.9	92°-	+11.5	+25.4			BS	-12	+330						
	330				+8.1	93°-	+17.2	+25.3	586.9		BS								
1365	0				5.4	-		-5.4		581.5	TP	0	0	488,646	1,434,668				last sta. on pavement.
1366	330		83°34'	+6.6°	11.7	-		-11.7		575.2	TP	-1	+330	488,645	1,434,998				
1366	330				13.4	TH	+1.7	-11.7			TP								
	1320	1319.2	266°56'40"180°	+6.6°	+5.5	88°-	-46.0	-40.5	534.7		BS	-82	+1317						
	1320				+1.7	88°10'	-42.2	-40.5			BS								
1367	990		266°57'	+6.6°	4.3	88°40'	+23.0	+18.7		553.4		+61	-988	488,624	1,435,327				
1368	660		" "	"	3.3	88°40'	+15.4	+12.1		546.8		+41	-659	488,604	1,435,656				
1369	330		" "	"	5.8	89°-	+5.8	0.0		534.7		+20	-329	488,583	1,435,986				
1370	0				5.4	-		-5.4		529.3	TP	0	0	488,563	1,436,315				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
3/23/81		G. Cotcamp		B. Cotcamp		6834		rdw B.C.		3		160				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Nashville 7 1/2'		Arkansas		Howard								L. Davis		
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS		
												NORTH+ SOUTH-	EAST+ WEST-		Y	X
									534.7						horiz. correct. y = -9' x = -2'	
1371	330	r	86°27'	+6.6°	6.0	91°	-5.8	-11.8		522.9		-18	+330	488,545	1,436,645	488,545, 1,436,785 T-rd (south) EL. 520
BT	470		85°32'	+6.6°	14.7	-		-14.7		520.0		-18	+470	488,545	1,436,785	
1372	660		86°27'	+6.6°	4.7	91°	-11.5	-16.2		518.5		-35	+659	488,528	1,436,974	
1373	990		" "	"	6.9	90°40'	-11.5	-17.9		516.8		-53	+989	488,510	1,437,304	
1374	1320		85°43'22"	+6.6°	11.6	BH	-6.6	-18.2			TP	-54+1	+1319-2	488,510	1,437,632	
1374	1320				14.2	90°10'	-3.8	-18.0		516.7	TP					
	1320		266°41'40"-180°	+6.6°	+9.8	-		+9.8	526.5		BS	-76+1	+1318-2			
	1320				+3.2	BH	+6.6	+9.8			BS					
1375	990		266°09'	+6.6°	11.9	91°	-17.3	-29.2		497.3		+48	-989	488,983	1,437,959	
1376	660		" "	"	13.4	91°	-11.5	-24.9		501.6		+32	-659	488,467	1,438,289	
1377	330		" "	"	10.4	91°	-5.8	-16.2		510.3		+16	-330	488,451	1,433,618	
1378	0				5.4	-		-5.4		521.1	T	0	0	488,435	1,438,948	
BM	70		65°28'	+6.6°	2.9	-		-2.9		523.6		+22	+67	488,457	1,439,015	U.S.G.S TT52 K10 EL. 524.0 1949
1379	330		87°05'	+6.6°	10.0	-		-10.0		516.5		-21	+329	488,414	1,439,277	
TF	437		86°51'	+6.6°	13.7	90°30'	-3.8	-17.5		509.0		-26	+436	488,409	1,439,384	488,400 + 1,439,405 T-rd (south)
1380	660		87°05'	+6.6°	10.0	-		-10.0		516.5		-42	+659	488,393	1,439,607	
1381	990		86°37'36"	+6.6°	9.7	-		-9.7			TP	-56	+988-3	488,379	1,439,183	
1381	990				4.8	BH	-5.0	-9.8		516.7	TP					
	990	989.	266°42'-180°	+6.6°	+4.8	87°28'	-43.7	-38.9	477.8		BS	-57	+987-3			
	990				+2.5	87°26'	-41.4	-38.9			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 3/25/81	INSTRUMENT MAN G. Cotcamp	ROD MAN B. Cotcamp	PARTY NUMBER 6834	NOTES CHECKED BY B.C.	LINE NO. 3	PAGE 162
AREA Arkansas	TOPO MAP Nashville	STATE Arkansas	COUNTY Howard	TWP	RANGE	PPM
				PARTY MANAGER L. Davis		

STATION NO.	SLOPE DISTANCE	PLOTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS			
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y	X	
1382	660		266° 42'	+6.6°	3.3	89° -	+11.5	+8.2		486.0		+38	-659	488,360	1440,258		
1383	330		" "	"	9.9	-		-9.9		467.9		+19	-329	488,341	1440,688		
1384	0				5.4	-		-5.4		472.4	TP	0	0	488,322	1440,917		
≡	193		89° 35'	+6.8°	1.7	-		-1.7		476.1		-21	+192	488,301	1441,109	↳ intersect. EL 475.0	
1385	300		108° 44'	+6.8°	3.9	89° 34'	+2.3	-1.6		476.2		-129	+271	488,193	1441,188	first sta. on pavement	
1386	592		134° 48'	+6.8°	6.6	89° 40'	+3.4	-3.2	} 3.1	474.6	TP	-464	+368-3	487,858	1441,282		
1386	592				5.1	89° 48'	+2.1	-3.0		TP							
	660		346° 06' -180°	+6.8°	+3.1	TH	-3.3	-0.2		474.4	BS	-655	+82-3				
	660				+7.5	89° 30'	-7.7	-0.2			BS						
1387	330		346° 06'	+6.8°	1.5	-		-1.5		472.9		+327	-41	487,530	1441,320		
1388	0				5.4	-		-5.4		469.0	TP	0	0	487,203	1441,361	↳ opposite sta.	
1389	330		189° 0'	+6.8°	11.5	-		-11.5		468.9		-318	-90	486,885	1441,271		
1390	660		" "	"	6.4	91° -	-11.5	-17.9		456.5		-635	-180	486,568	1441,181		
1391	990		187° 34'	+6.8°	4.0	91° -	-17.3	-21.3	} 456.1	453.1	TP	-959	-246-3	486,244	1441,112		
1391	990				12.7	90° 30'	-8.6	-21.3		TP							
	330		352° 11' -180°	+6.8°	+3.0	-		+3.0		456.1	BS	-330	+6-3				
	330				+4.7	TH	-1.7	+3.0			BS						horiz. coord. y=+2, x=-25
1392	0				5.4	-		-5.4		450.7	TP	0	0	485,914	1441,115		
1K	240		168° 56'	+6.8°	6.2	-		-6.2	} 485,675	449.9	TP	-239	+18-3	485,675	1441,130	↳ rd (east) EL 449.0	
1K	240				7.4	TH	+1.2	-6.2				TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/26/81		G. Cotcamp		B. Cotcamp		6837		BL		3		162			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Nashville 7 1/2		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
IF										449.9					
	1716	1715	266° 10' 20" - 180°	+6.5°	+3.5	92° -	+59.9	+63.4			BS	-80 +2	+1713		
	1716				+13.6	91° 40'	+49.9	+63.5	513.4		BS				
1393	1650		265° 54'	+6.5°	10.3	91° 50'	-52.8	-63.1		450.3		+69	-1649	485,666 1,441,194	
1394	1320		" "	"	9.7	92° 10'	-49.9	-59.6		453.8		+55	-1319	485,652 1,441,524	
1395	990		" "	"	9.1	92° 30'	-43.1	-52.2		461.2		+41	-989	485,638 1,441,854	
1396	860		266° 04'	+6.5°	10.4	92° 30'	-37.5	-47.9		465.5		+39	-859	485,636 1,441,984 railroad	
1396	660		265° 54'	+6.5°	10.3	93° -	-34.5	-44.8		468.6		+28	-659	485,625 1,442,184 last sta on pavement	
1397	330		" "	"	8.2	93° -	-17.2	-25.4		488.0		+14	-330	485,611 1,442,513	
1398	0				5.9	-	-	-5.4		508.0	X	0	0	485,597 1,442,843	
1399	330		87° 08' 30"	+6.5°	9.9	91° -	-5.8	-15.7		497.7		-21	+329	485,576 1,443,172	
1400	660		" "	"	5.7	-	-	-5.7		507.7		-42	+659	485,555 1,443,502	
1401	990		" "	"	3.7	-	-	-3.7		509.7		-63	+988	485,534 1,443,831	
1402	1200		86° 49'	+6.5°	1.8	TH	+6.0	+4.2		517.6		-69	+1198	485,528 1,444,041 Y-intersect. (south)	
1402	1320		87° 08' 30"	+6.5°	5.3	TH	+6.6	+1.3		514.7	TP	-84 +2	+1317	485,515 1,444,160	
1402	1320				5.7	89° 42'	+6.9	+1.2			TP				
	660		267° 58' - 180°	+6.5°	+2.9	TH	-3.3	-0.4	514.3		BS	-51 +2	+658		
	660				+5.3	89° 30'	-5.8	-0.5			BS				
1403	330		267° 58'	+6.5°	1.7	TH	+1.7	0.0		514.3		+26	-329	485,492 1,444,489	
1404	213		269° 20'	+6.5°	1.0	-	-	-1.0		513.3		+22	-212	485,488 1,444,606 T-rd (north) 516.0	
1404	0				5.4	-	-	-5.4		508.9	X	0	0	485,466 1,444,818	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 3/26/81	INSTRUMENT MAN G. Cotcamp	ROD MAN B. Cotcamp	PARTY NUMBER 6837	NOTES CHECKED BY B.C.	LINE NO. 3	PAGE 163
AREA Arkansas	TOPO MAP Nashville	STATE Arkansas	COUNTY Howard/Hempstead	RANGE	PPM	PARTY MANAGER L. Davis

STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
									514.3					
1405	330		87° 59'	+6.5°	12.2	91° -	-5.8	-18.0		496.3		-26	+329	485,990 1,445,147
1406	660		" "	"	12.2	91° -	-11.5	-23.7		490.6		-52	+658	485,914 1,445,476
1407	990		87° 59'	+6.5°	10.4	91° -	-17.3	-27.7			TP	-77+2	+987	485,391 1,445,805
1407	990				14.4	90° 46'	-13.2	-27.6		486.7	TP			
	990		267° 29' - 180°	+6.5°	+1.4	-	-	+1.4	488.1		BS	-69+2	+988	
	990				+6.4	TH	-5.0	+1.4			BS			
1408	660		267° 29'	+6.5°	6.5	-	-	-6.5		481.6		+46	-658	485,370 1,446,135
1409	330		" "	"	7.9	-	-	-7.9		480.2		+23	-329	485,347 1,446,464
1410	0				5.4	-	-	-5.4		482.7	X	0	0	485,327 1,446,793
1411	330		87° 36'	+6.5°	12.0	91° -	-5.8	-17.8		470.3		-24	+329	485,300 1,447,122
≡	492		86° 32'	+6.5°	14.1	91° 20'	-11.4	-25.5		462.6	TP	-26+2	+991+1	485,300 1,447,285 T-intersect.
≡	492				12.7	91° 30'	-12.9	-25.6			TP			Howard-Hempstead
	536		357° 03' - 180°	+6.5°	+14.4	89° 10'	-7.8	+6.6			BS	-535+2	-33+2	Co. line road
	536				+12.9	89° 20'	-6.2	+6.7	469.3		BS			↓
1412	330		355° 22'	+6.5°	4.8	89° -	+5.8	+1.0		470.3		+330	+11	485,097 1,447,265
1413	0				5.4	-	-	-5.4		463.9	X	0	0	484,767 1,447,254
1414	330		176° 46'	+6.5°	12.2	-	-	-12.2		457.1		-329	-19	484,438 1,447,235
1415	660		" "	"	5.3	91° -	-11.5	-16.8		452.5		-659	-38	484,108 1,447,216
1416	990		176° 46'	+6.5°	4.1	91° -	-17.3	-21.4			TP	-988+2	-56+2	483,781 1,447,200
1416	990				12.7	90° 30'	-8.6	-21.3		448.0	TP			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/26/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		167			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Nashville		Arkansas		Howard								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
1416										448.0					
	1320		356°06'20"±180°	+6.5°	+6.9	-		+6.9	454.9		BS	-1319±2	-60±2		
	1320				+13.5	TH	-6.6	+6.9			BS				
1417	990		356°06'20"	+6.5°	8.8	-		-8.8		446.1		+989	+45	483,453	1,447,187
1418	660		" "	"	12.7	-		-12.7		442.2		+659	+30	483,123	1,447,172
1419	330		" "	"	12.7	-		-12.7		442.2		+330	+15	482,799	1,447,157
1420	0				5.4	-		-5.4		449.5	TP	0	0	482,464	1,447,142
1421	330		176°34'	+6.5°	5.8	88°-	+11.5	+5.7		460.6		-330	-18	482,134	1,447,124
1422	660		" "	"	7.9	87°-	+34.5	+26.6		481.5		-659	-35	481,805	1,447,107
TP	870	868.8	176°34'20"	+6.5°	9.9	87°-	+45.5	+35.6		490.5	TP	-868±2	-47±2	481,598	1,447,097
TP	870				5.8	87°16'	+41.4	+35.6			TP				
	780		355°56'18"±180°	+6.5°	+6.5	89°-	-13.6	-7.1	483.4		BS	-779±2	-33±2		
	780				+1.9	89°20'	-9.1	-7.2			BS				
1423	660		355°56'	+6.5°	3.8	TH	+3.3	-0.5		482.9		+659	+28	481,480	1,447,094
1424	330		" "	"	0.6	-		-0.6		482.8		+330	+14	481,151	1,447,080
1425	0				5.4	-		-5.4		478.0	TP	0	0	480,821	1,447,066
1426	330		176°27'	+6.5°	12.0	TH	-1.7	-13.7		469.7		-330	-17	480,991	1,447,049
1427	660		" "	"	8.2	-		-8.2		475.2		-659	-34	480,162	1,447,032
±1	790		175°32'	+6.5°	3.6	TH	+4.0	+0.4		483.8		-790	-28	480,031	1,447,038
1428	990		176°26'40"	+6.5°	3.3	89°20'	+11.5	+8.2		491.6	TP	-989±2	-51±2	479,834	1,447,017
1428	990				6.2	89°10'	+14.4	+8.2			TP				first sta. on pavement

480,050 + 1,447,020
T-rod (west)

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/26/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		165			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Nashville		Arkansas		Hempstead								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
1428										491.6					
	328		356°27'180°	+6.5°	+0.3	89°-	-5.7	-5.4	486.2		BS	-328+1	-17+2		
	328				+3.1	88°30'	-8.6	-5.5			BS				
1429	0				5.4	-		-5.4	480.8		π	0	0	479,507 1,447,002	
<u>JL</u>	17		125°03'	+6.5°	5.2	-		-5.2	481.0			-11	+13	479,496 1,447,015 T-intersect. (B+22) EL. 491.0	
1430	300		83°24'	+6.5°	5.6	-		-5.6	480.6			+1	+300	479,508 1,447,302	
1431	620		78°47'	+6.5°	5.6	-		-5.6	480.6		TP	+51	+618+2	479,558 1,447,622	
1431	620				2.5	811	-3.1	-5.6			TP				
	1320	1319.2	256°53'180°	+6.5°	+8.2	88°-	-46.0	-37.8	442.8		BS	+152	+1310+2		
	1320				+5.1	88°08'	-43.0	-37.9			BS				
1432	990		256°53'	+6.5°	8.3	88°-	+34.5	+26.2		469.0		-114	-983	479,596 1,447,951	
1433	660		" "	"	3.6	88°30'	+17.3	+13.7		456.5		-76	-656	479,639 1,448,278	
1434	330		" "	"	0.1	89°30'	+2.9	+2.8		445.6		-38	-328	479,672 1,448,606	
1435	0				5.4	-		-5.4		437.4	π	0	0	479,710 1,448,934	
1436	330		76°20'	+6.5°	2.0	-		-2.0		440.8		+41	+327	479,751 1,449,261	
1437	660		" "	"	2.2	89°-	+11.5	+9.3		452.1		+82	+655	479,792 1,449,589	
1438	990		76°19'40"	+6.5°	7.3	89°-	+17.3	+10.0		452.8	TP	+124	+982+2	479,834 1,449,918	
1438	990				4.5	89°10'	+14.4	+9.9			TP				
	974	973.7	240°50'20"-180°	+6.5°	+8.2	88°-	-34.0	-25.8			BS	+375	+898+2		
	974				+3.7	88°16'	-29.4	-25.7	427.1		BS				
1439	655		234°15'	+6.5°	5.7	88°30'	+17.1	+11.4		438.5		-320	-571	479,889 1,450,247	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 3/26/81		INSTRUMENT MAN G. Cotcamp		ROD MAN B. Cotcamp		PARTY NUMBER 6839		NOTES CHECKED BY B.C.		LINE NO. 3	PAGE 166					
AREA Arkansas		TOPO MAP Nashville		STATE Arkansas		COUNTY Hempstead		RANGE	PPM	PARTY MANAGER L. Davis						
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	COORDINATES Y X		REMARKS
									427.1							
1440	330		229°27'	+6.5°	3.3	-		-3.3		423.8		-185	-273	480,024	1,450,545	
1441	0				5.4	-		-5.4		421.7	T	0	0	480,209	1,450,818	last sta. on Rt 27 480,415 + 1,451,005 Y-intersect. EL 423.0
	278		35°45'	+6.5°	5.4 7.3 _{gc}	-		-5.4		421.7		+206	+187	480,415	1,451,005	
1442	320		46°54'	+6.5°	8.9	TH	+1.6	-7.3		419.8	TP	+191.1	+257.1	480,399	1,451,076	horiz. correct. y = +25' x = +23'
1442	320				7.3	-		-7.3			TP					
	990		266°24'39" - 180°	+6.5°	+6.0	-		+6.0	425.8		BS	-50.1	+989			
	990				+11.0	TH	-5.0	+6.0			BS					
1443	660		266°25'	+6.5°	5.2	-		-5.2		420.6		+34	-659	480,382	1,451,406	
1444	330		" "	"	6.1	-		-6.1		419.7		+17	-330	480,365	1,451,735	
1445	0				5.4	-		-5.4		420.4	T	0	0	480,348	1,452,065	
1446	330		86°37'	+6.5°	5.4	-		-5.4		420.4		-18	+330	480,330	1,452,395	
1447	665		90°25'	+6.5°	2.4	-		-2.4		423.4	TP	-80.1	+660	480,267	1,452,725	
1447	665				5.7	TH	+3.3	-2.4			TP					
	990		356°28'18" - 180°	+6.5°	+3.7	89°20'	-11.5	-7.8	415.6		BS	-989.1	-51			
	990				+9.5	89°-	-17.3	-7.8			BS					
1448	660		356°03'	+6.5°	9.7	89°-	+11.5	+1.8		417.4		+659	+29	479,936	1,452,703	
1449	330		" "	"	0.8	TH	+1.7	+0.9		416.5		+330	+15	479,607	1,452,689	
1450	0				5.4	-		-5.4		410.2	T	0	0	479,277	1,452,674	
1451	330		176°34'	+6.5°	5.6	-		-5.6		410.0		-330	-18	478,947	1,452,656	
1452	660		" "	"	8.9	-		-8.9		406.7		-659	-35	478,618	1,452,639	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/27/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		167			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Nashville		Arkansas		Hempstead								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									415.6						
1453	990		175°51'	+6.5°	13.3	-		-13.3		402.3	TP	-989.1	-41	478,287	1,452,633
1453	990				8.3	BH	-5.0	-13.3			TP				
	300		322°06'-180°	+6.5°	+8.8	89°	-5.2	+3.6	405.9		BS	-256.1	+156		
	300				+9.7	88°50'	-6.1	+3.6			BS				
1454	0				5.4	-		-5.4		400.5	π	0	0	478,630	1,452,789
1455	330		127°56'	+6.5°	7.8	-		-7.8		398.1		-231	+236	477,799	1,453,625
1456	658		123°21'	+6.5°	9.4	-		-9.4		396.5	TP	-922.1	+505.	477,607	1,453,294
1456	658				12.7	TH	+3.3	-9.4			TP				
	990		298°40'40"-180°	+6.5°	+2.5	-		+2.5	399.0		BS	-570.1	+809		
	990				+7.5	TH	-5.0	+2.5			BS				
1457	660		298°41'	+6.5°	3.2	-		-3.2		395.8		+380	-539	477,416	1,453,564
1458	330		" "	"	4.4	-		-4.4		394.6		+190	-270	477,226	1,453,833
1459	0				5.4	-		-5.4		393.6	π	0	0	477,636	1,454,103
1460	319		101°58'	+6.5°	5.8	-		-5.8		393.2	TP	-101.1	+303	476,934	1,454,406
1460	319				7.4	TH	+1.6	-5.8			TP				
	990		265°30'-180°	+6.5°	+2.4	-		+2.4			BS	-35.1	+989		
	990				+7.3	TH	-5.0	+2.3	395.5		BS				
1461	660		263°40'	+6.5°	3.9	-		-3.9		391.6		+2	-660	476,900	1,454,735
1462	330		" "	"	4.7	-		-4.7		390.8		+1	-330	476,899	1,455,065
1463	0				5.4	-		-5.4		390.1	π	0	0	476,898	1,455,395

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
3/27/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3		168			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Nashville		Arkansas		Hempstead								L. Davis	
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
									395.5						
1464	330		81° 49'	+6.5°	6.8	-		-6.8		388.7		+10	+330	476,908	1,455,725
1465	660		" "	"	8.3	-		-8.3		387.2		+19	+660	476,917	1,456,055
1466	989		80° 15' 18"	+6.5°	10.7	-		-10.7		384.8	TP	+56.1	+987	476,953	1,456,382
1466	989				5.8	BH	-4.9	-10.7			TP				
	331		257° 56' -180°	+6.5°	+9.2	-		+9.2	394.0		BS	+32.1	+329		
	331				+7.5	BH	+1.7	+9.2			BS				
1467	0				5.4	-		-5.4		388.6	π	0	0	476,984	1,456,711
1468	330		86° 33'	+6.5°	1.1	-		-1.1		392.9		-18	+330	476,966	1,457,041
1469	660		" "	"	3.0	TH	+3.3	+0.3		394.3		-35	+659	476,949	1,457,370
1470	990		86° 33' 30"	+6.5°	2.8	TH	+5.0	+2.2		396.2	TP	-53	+989	476,931	1,457,700
1470	990				4.7	89° 36'	+6.9	+2.2			TP				
	990		265° 22' 40" -180°	+6.5°	+6.6	89° 30'	-8.6	-2.0	394.2		BS	-32	+989		
	990				+9.4	89° 20'	-11.5	-2.1			BS				
1471	660		265° 23'	+6.5°	5.4	89° 20'	+7.7	+2.3		396.5		+22	-660	476,921	1,458,629
1472	330		" "	"	8.6	89° 20'	+3.8	-4.8		389.4		+11	-330	476,910	1,458,359
1473	0				5.4	-		-5.4		388.8	π	0	0	476,899	1,458,689
1474	330		87° 0'	+6.5°	10.8	-		-10.8		383.4		-20	+329	476,879	1,459,018
1474	530		86° 07'	+6.5°	10.2	-		-10.2		384.0		-24	+529	476,875	1,459,218
1475	550		104° 36'	+6.3°	11.7	-		-11.7		382.5	TP	-196	+514+2	476,703	1,459,205
1476	550				8.9	BH	-2.8	-11.7			TP				

T-intersect. EL. 384.0
paved road
↓

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
3/27/81		G. Cotcamp		B. Cotcamp		6834		B.C.		3	169			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Nashville		Arkansas	Hempstead					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.	
1475										382.5				
	1320		355°53'40" -180°	+6.3°	+0.5	-		+0.5	383.0		BS	-1319	-51+2	
	1320				+7.1	TH	-6.6	+0.5			BS			
1476	990		355°54'	+6.3°	2.1	-		-2.1		380.9		+989	+38	476,373 1,459,194
1477	660		" "	"	3.5	-		-3.5		379.5		+660	+25	476,044 1,459,181
1478	330		" "	"	4.8	-		-4.8		378.2		+330	+13	475,714 1,459,169
1479	0				54	-		-5.4		377.6	π	0	0	475,364 1,459,156
1480	330		165°0'	+6.3°	3.9	-		-3.9		379.1		-326	+50	475,058 1,459,206 bridge
1481	660		" "	"	5.0	-		-5.0		378.0		-652	+100	474,732 1,459,256
1482	990		" "	"	6.3	-		-6.3		376.7		-979	+150	474,405 1,459,306
1482	1320		165°12'20"	+6.3°	4.6	-		-4.6		378.4	TP	-1306	+195+2	474,078 1,459,353 T.P. opposite sta.
1483	1320				11.2	TH	+6.6	-4.6			TP			
	661		358°29' -180°	+6.3°	+14.1	BH	+3.3	+17.4	395.8		BS	-659	-55+2	
	661				+14.3	90°16'	+3.1	+17.4			BS			
1484	330		358°29'	+6.3°	13.1	-		-13.1		382.7		+329	+28	473,748 1,459,328
1485	0				54	-		-5.4		390.4	π	0	0	473,419 1,459,300
1486	330		193°52'	+6.3°	0.9	88°-	+11.5	+10.6		406.4		-310	-114	473,109 1,459,186
1487	659	658.1	193°52'	+6.3°	6.6	87°-	+34.4	+27.8			TP	-618	-227+2	472,861 1,459,075
1487	659				0.8	87°30'	+28.7	+27.9		423.7	TP			
	330		359°53' -180°	+6.3°	+13.8	91°-	+5.8	+19.6	443.3		BS	-328	-36+2	
	330				+11.9	91°20'	+7.7	+19.6			BS			

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
3/28/81		G. Cotcamp		B. Cotcamp		6834		slw		3	171 of 171				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Nashville		Arkansas		Hempstead					L. Davis				
STATION NO.	SLOPE DISTANCE	PLOTTING DISTANCE	AZIMUTH FROM MAGNETIC NORTH	DEC	ROD READING	VERTICAL ANGLE	VERTICAL CHANGE	DIFFERENCE IN ELEVATION	ELEVATION OF INSTRUMENT	ELEVATION OF STATION	BS X TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									421.1						
TP	492				13.4	88°40'	+11.4	-2.0		419.1	TP				
TP	492				19.3	88°34'	+12.3	-2.0			TP				
	540				+7.2	88°-	-18.8	-11.6	407.5		BS				
	540				+4.1	88°20'	-15.7	-11.6			BS				
TP	790				10.6	-		-10.6		396.9	TP				
TP	790				14.6	TH	+4.0	-10.6			TP				
	800				+12.5	90°30'	+7.0	+19.5	416.4		BS				
	800				+5.5	91°-	+14.0	+19.5			BS				
TP	620				13.6	90°40'	-7.2	-20.8			TP				
TP	620				9.9	91°-	-10.8	-20.7		395.7	TP				
	364				+1.3	89°-	-6.4	-5.1			BS				
	364				+4.5	88°30'	-9.5	-5.0	390.7		BS				
1/2	300				0.1	89°30'	+2.6	+2.5		393.2					
1/2	300				2.7	89°-	+5.2	+2.5							Frd (east) EL. 394.0