

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc. Client - COCORP

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1-10-81		G. Cotcamp		D. Liberson		6837		D.L. B.C. also		/		1 of 56				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
ARKANSAS		Booneville 15'		Arkansas		Logan								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	
TP				+6.48'						497.6				290,565	1,435,900	→ scaled
	521		57° 53.5' +180°	+6.8°	+12.8	BH	+2.6	+15.4	513.0		BS	-223	-471			T-intersect.
	521				+11.0	90° 30'	+4.5	+15.5			BS					
1	330		57° 53.5'	+6.8°	10.7	-		-10.7		502.3		+141	+298	290,483	1,435,727	
2	0				5.4	-		-5.4		507.6	X	0	0	290,342	1,435,429	
3	343		228° 55.3'	+6.8°	4.5	-		-4.5		508.5	TP	-193	-283	290,149	1,435,146	curve
3	343				6.2	TH	+1.7	-4.5			TP					
	648		53° 43.3' +180°	+6.8°	+8.9	92° -	+22.6	+31.5	540.0		BS	-319	-564			
	648				+12.7	91° 40'	+18.8	+31.5			BS					
4	330		53° 43.3'	+6.8°	7.0	92° -	-11.5	-18.5		521.5		+162	+287	289,992	1,434,869	
5	0				5.4	-		-5.4		534.6	X	0	0	289,830	1,434,582	
6	328		225° 52.7'	+6.8°	0.7	-		-0.7		539.3	TP	-199	-261	289,631	1,434,321	
6	328				2.3	TH	+1.6	-0.7			TP					
	431		32° 1' +180°	+6.8°	+10.6	91° -	+7.5	+18.1	557.4		BS	-336	-270			
	431				+13.1	90° 40'	+5.0	+18.1			BS					
7	101		32° 1'	+6.8°	7.3	-		-7.3		550.1		+79	+63	289,374	1,434,114	
X	0				5.4	-		-5.4		552.0	X	0	0	289,295	1,434,051	split sta - curve
8	228		188° 10'	+6.8°	4.9	-		-4.9		552.5		-220	-59	289,075	1,433,992	
9	558		188° 10'	+6.8°	1.2	-		-1.2		556.2	TP	-539	-144	288,756	1,433,907	
9	558				4.0	TH	+2.8	-1.2			TP					

instrument - Wild T1A
chaining - 330' steel
cable & pins.

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DATE 1/10/81	INSTRUMENT MAN G. Cotcamp	ROD MAN D. Libenson	PARTY NUMBER 6834	NOTES CHECKED BY D.L. B.C. Miller	LINE NO. 1	PAGE 2
AREA Arkansas	TOPO MAP Bonneville 15'	STATE Arkansas	COUNTY Logan	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	COORDINATES		REMARKS
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.	
9										556.2				
	270		6°54' +180°	+6.8°	+5.5	-		+5.5	561.7		BS	-262	-64	
	270				+6.8	TH	-1.4	+5.4			BS			
π	0				5.4	-		-5.4		556.3	π	0	0	288,494 1433,813 split sta.-curve
10	60		174°23.7'	+6.8°	7.5	-		-7.5		554.2		-60	-1	288,434 1433,842
11	390		" "	"	7.3	BH	-2.0	-9.3		562.4		-390	-8	288,104 1433,835
12	720		174°23.7'	+6.8°	7.4	-		-7.4		554.3	TP	-720	-15	287,774 1433,828
12	720				3.8	BH	-3.6	-7.4			TP			
	660		353°49.5' -180°	+6.8°	+9.5	-		+9.5	563.8		BS	-660	-7	
	660				+12.8	TH	-3.3	+9.5			BS			
13	330		353°49.5'	+6.8°	8.8	-		-8.8		555.0		+330	+4	287,444 1433,825
14	0				5.4	-		-5.4		558.4	π	0	0	287,114 1433,821
15	330		172°42.2'	+6.8°	3.1	-		-3.1		560.7		-330	+3	286,784 1433,824
16	660		172°42.2'	+6.8°	1.4	-		-1.4		562.4	TP	-660	+6	286,954 1433,827 elevations lapped
16	660				4.7	TH	+3.3	-1.4			TP			back from Twd sta 16
	660		329°29' -180°	+6.8°	+3.8	TH	-3.3	+0.5	562.9		BS	-604	+265	to T-rd sta 1.
	660				+6.2	89°30'	-5.8	+0.4			BS			
17	630		329°29.4'	+6.8°	3.1	TH	+3.2	+0.1		563.0		+577	-253	286,427 1433,839 driveway (west) el. 563.
17	330		329°29'	+6.8°	4.5	-		-4.5		558.4		+302	-133	286,152 1433,959 R.
	0				5.4	-		-5.4		557.5	π	0	0	285,850 1434,092

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DATE 1/10/81	INSTRUMENT MAN G. Cotcamp	ROD MAN D. Libenson	PARTY NUMBER 6834	NOTES CHECKED BY DL B.C. Jern	LINE NO. 1	PAGE 3
AREA Arkansas	TOPO MAP Booneville 15'	STATE Arkansas	COUNTY Logan	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.	
									562.9					
19	330		159° 8'	+6.8°	7.6	-		-7.6		555.3	TP	-320-2	+80	285,528 1,434,172
19	330				9.3	TH	+1.7	-7.6			TP			
	330		+353° 50' -180°	+6.8°	+2.4	89° -	-5.8	-3.4			BS	-330-2	-4	
	330				+0.5	89° 20'	-3.8	-3.3	552.0		BS			
20	0				5.4	-		-5.4		546.6	TP	0	0	285,196 1,434,168
21	330		166° 49'	+6.8°	13.8	-		-13.8		538.2	TP	-328-2	+37	284,866 1,434,205
21	330				12.1	BH	-1.7	-13.8			TP			
	330		337° 15' -180°	+6.8°	+2.2	-		+2.2	540.4		BS	-317-2	+91	
	330				+3.9	TH	-1.7	+2.2			BS			
22	0				5.4	-		-5.4		535.0	TP	0	0	284,547 1,434,296
TP	300		153° 25'	+6.8°	5.1	88° -	+10.5	+5.4		545.8	TP	-282-2	+102	284,263 1,434,398
TP	300				2.5	88° 30'	+7.9	+5.4			TP			split sta. - curve
	283	282	2° 28' +180°	+6.8°	+8.3	94° -	+19.7	+28.0	573.8		BS	-278-2	-45	
	283				+6.6	94° 20'	+21.3	+27.9			BS			
23	250		358° 37'	+6.8°	11.1	93° -	-13.1	-24.2		549.6		+249	+24	284,232 1,434,377
TP	0				5.4	-		-5.4		568.4	TP	0	0	283,983 1,434,353
24	79		152° 10'	+6.8°	4.1	-		-4.1		569.7		-74	+28	283,909 1,434,381
25	409		152° 10'	+6.8°	2.3	88° -	+14.3	+12.0		585.8	TP	-382-2	+147	283,599 1,434,500
25	409				0.6	88° 14'	+12.6	+12.0			TP			

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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/10/81		G. Cotcamp		D. Libenson		6834		DL B.C. xlv		1		4			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Bonnevile 15'		Arkansas		Logan								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
25										585.8					
	330		316° 5' - 180°	+6.8°	+3.8	-		+3.8	589.6		BS	-263.2	+199		
	330				+5.5	TH	-1.7	+3.8			BS				
26	0				5.4	-		-5.4		584.2	X	0	0	283,334	1,434,699
27	330		124° 19'	+6.8°	4.3	-		-4.3		585.3	TP	-217.2	+249	283,115	1,434,948
27	330				6.0	TH	+1.7	-4.3			TP				
	330		312° 20' - 180°	+6.8°	+120	90° 50'	+4.8	+16.8	602.1		BS	-250.2	+216		
	330				+11.0	91° -	+5.8	+16.8			BS				
28	163		315° 32'	+6.8°	7.8	-		-7.8		594.3		+129	-100	282,992	1,435,064
															283,000 + 1,435,075 Y-intersect.
28	0				5.4	-		-5.4		596.7	X	0	0	282,863	1,435,164
29	328		128° 8'	+6.8°	13.5	-		-13.5			TP	-232	+232.2	282,631	1,435,394
29	328				11.8	BH	-1.6	-13.4		588.7	TP				
	660	659	291° 6' - 180°	+6.8°	+10.0	87° -	-34.5	-24.5	564.2		BS	-308	+582.2		
	660				+8.4	87° 8'	-33.0	-24.6			BS				
30	330		291° 6'	+6.8°	4.5	88° -	+11.5	+7.0		571.2		+154	-291	282,477	1,435,683
31	0				5.4	-		-5.4		558.8	X	0	0	282,323	1,435,974
32	330		111° 59.3'	+6.8°	6.3	-		-6.3		557.9		-159	+289	282,164	1,436,263
33	660		" "		8.5	-		-8.5		555.7		-318	+578	282,005	1,436,552
34	990		111° 59.3'	+6.8°	13.4	BH	-5.0	-18.4			TP	-477	+868.2	281,846	1,436,840
34	990				14.8	90° 12'	-3.5	-18.3		545.9	TP				

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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE		
1/10/81		G. Cotcamp		B. Cotcamp		6837		D.L. Bo. Co. etc.		1		5		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Booneville 15		Arkansas		Logan						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	660		287° 56' - 180°	+6.8°	+14.7	84	+3.3	+18.0	543.9	545.9	BS	-276	+599-2	
	660				+14.2	90° 20'	+3.8	+18.0			BS			
35	330		287° 56'	+6.8°	3.3	92° -	-11.5	-14.8		549.1		+138	-300	281,708 1,437,137
36	0				5.4	-		-5.4		558.5	X	0	0	281,570 1,437,437
37	336		114° 13'	+6.8°	12.0	89° 20'	+3.9	-8.1			TP	-173	+288-2	281,397 1,437,723 T.P. opposite sta.
37	336				13.9	89° -	+5.9	-8.0		555.9	TP			
	118		332° 58' - 180°	+6.8°	+1.6	88° -	-4.1	-2.5	553.4		BS	-111	+41-2	
	118				+0.6	88° 30'	-3.1	-2.5			BS			
X	0				5.4	-		-5.4		548.0	X	0	0	281,286 1,437,762 split sta. - curve
38	220		175° 25'	+6.8°	6.9	93° -	-11.5	-18.4		535.0		-220	-9	281,066 1,437,753
IF	395		174° 37.5'	+6.8°	12.1	92° -	-13.8	-25.9		527.5		-395	-10	280,891 1,437,752 trail (east)
39	550		175° 25'	+6.8°	14.4	92° -	-19.2	-33.6		519.8	TP	-550	-21-2	280,736 1,437,739
39	550				8.0	92° 40'	-25.6	-33.6			TP			
	1650		355° 8.6' - 180°	+6.8°	+3.5	88° 50'	-33.6	-30.1	489.7		BS	-1649	-56-2	
	1650				+8.2	88° 40'	-38.9	-30.2			BS			
40	1320		355° 8.6'	+6.8°	6.0	89° -	+23.0	+17.0		506.7		+1319	+45	280,406 1,437,726
41	990		" "	"	2.2	89° 20'	+11.5	+9.3		499.0		+989	+34	280,076 1,437,715
42	660		" "	"	4.3	89° 20'	+7.7	+3.4		493.1		+660	+22	279,747 1,437,703
43	330		" "	"	2.4	-		-2.4		487.3		+330	+11	279,417 1,437,692
44	0				5.4	-		-5.4		484.3	X	0	0	279,087 1,437,681

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DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
1/10/81		G. Cotcamp		B. Cotcamp		6837		DL B. Cortus		1	6			
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Booneville 15'		Arkansas	Logan					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.	
									489.7					
45	330		176°3.6'	+6.8°	7.3	-		-7.3		482.4		-330	-16	278,757 1,437,665
46	660		" "	"	4.0	-		-4.0		485.7		-659	-33	278,928 1,437,648
47	990		" "	"	1.6	-		-1.6		488.1		-989	-49	278,098 1,437,632
48	1320		" "	"	5.2	TH	+6.6	+1.4		491.1		-1318	-66	277,769 1,437,615
49	1650		176°3.6'	+6.8°	2.9	TH	+8.3	+5.4		495.1	TP	-1648	-82-2	277,939 1,437,597
49	1650				4.3	89°40'	+9.6	+5.3			TP			
	990		355°8.4'-180°	+6.8°	+13.0	90°30'	+8.6	+21.6	516.7		BS	-989	-34-2	
	990				+10.1	90°40'	+11.5	+21.6			BS			
50	660		355°8.4'	+6.8°	6.2	91°-	-11.5	-17.7		499.0		+660	+22	277,110 1,437,583
51	330		" "	"	6.4	91°-	-5.8	-12.2		504.5		+330	+11	276,780 1,437,572
51	120		358°16'	+6.8°	7.2	-		-7.2		509.5		+120	+11	276,570 1,437,572 276,585+1,437,580 driveway (east)
52	0				5.4	-		-5.4		511.3	X	0	0	276,450 1,437,561
53	330		173°57.7'	+6.8°	1.9	-		-1.9		514.8		-330	-4	276,120 1,437,557
54	660		173°57.7'	+6.8°	5.2	89°-	+11.5	+6.3			TP	-660	-9	275,790 1,437,552 last sta on dirt road
54	660				1.3	89°20'	+7.7	+6.4		523.1	TP			
	330		4°37'+180°	+6.5°	+8.2	-		+8.2			BS	-324	-64	
	330				+6.6	BH	+1.7	+8.3	531.4		BS			
55	0				5.4	-		-5.4		526.0	X	0	0	275,466 1,437,488 pavement
56	327		153°36'	+6.5°	6.4	-		-6.4		525.0	TP	-307	+111	275,159 1,437,599 ↓
56	327				8.0	TH	+1.6	-6.4			TP			curve

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11/12/81		G. Cotcamp		D. Libenson		6834		DL B.Cost.		/		7		
AREA		TOPO MAP		STATE		COUNTY		RANGE		PPM		PARTY MANAGER		
Arkansas		Booneville 15'		Arkansas		Logan						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-	
56										525.0				
	660		319°14'-180°	+6.5°	+2.5	-		+2.5	527.5		BS	-545	+372	
	660				+5.8	TH	-3.3	+2.5			BS			
57	330		319°14'	+6.5°	2.3	-		-2.3	525.2			+273	-186	274,887 1,437,785
58	0				54	-		-54	522.1		X	0	0	274,619 1,437,971
59	330		148°9'	+6.5°	9.9	-		-9.9	517.6		TP	-298	+141	274,316 1,438,112
59	330				11.6	TH	+1.7	-9.9			TP			
	660		335°7'-180°	+6.5°	+6.7	89°-	-11.5	-4.8	512.8		BS	-626	+208	
	660				+2.9	89°20'	-7.7	-4.8			BS			
60	330		335°7'	+6.5°	3.8	89°-	+5.8	+2.0	514.8			+313	-104	274,003 1,438,216
61	0				54	-		-54	507.4		X	0	0	273,690 1,438,320
62	330		146°24'	+6.5°	12.6	BH	-1.7	-14.3	498.5			-294	+150	273,396 1,438,470
TP	495		147°37'	+6.5°	14.0	-		-14.0	498.8		TP	-445	+216	273,295 1,438,536 split sta - curve
TP	495				11.5	BH	-2.5	-14.0			TP			
	165		346°59'-180°	+6.5°	+12.3	-		+12.3	511.1		BS	-164	+19	
	165				+13.1	TH	-0.8	+12.3			BS			
63	0				54	-		-54	505.7		X	0	0	273,081 1,438,555
64	330		190°40'	+6.5°	6.3	-		-6.3	504.8			-315	-97	272,766 1,438,458
27/	368		190°40'	+6.5°	7.9	-		-7.9	503.2			-352	-109	272,729 1,438,446 72,790 + 1,438,440 driveway @ 1,505.
TP	487		189°42.3'	+6.8°	13.6	BH	-2.4	-16.0			TP	-467.2	-138.3	272,612 1,438,914 split sta - curve, hill
TP	487				14.5	90°10'	-1.4	-15.9	495.2		TP			

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1/10/81		G. Cotcamp		D Libenson		6834		DL B. Co. rd		1		8			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15'		Arkansas		Logan								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
64 1/2										495.2					
	824		350°46'-180°	+6.8°	+0.8	89°30'	-7.2	-6.4	488.8		BS	-823.2	+35.3		
	824				+8.0	89°-	-14.9	-6.4			BS				
65	660		348°-	+6.8°	2.7	-		-2.7		486.1		+657	-60	272,444	1,438,386
66	330		" "	+6.8°	5.1	-		-5.1		483.7		+329	-30	272,116	1,438,416
67	0				5.4	-		-5.4		483.4	TP	0	0	271,787	1,438,446
68	310		142°15'	+6.8°	6.1	-		-6.1		482.7	TP	-266.2	+159.3	271,519	1,438,602
68	310				4.5	0H	-1.6	-6.1			TP				curve
	238		321°29'-180°	+6.8°	+7.8	88°-	-8.3	-0.5	482.2		BS	-202.2	+125.3		
	238				+5.7	88°30'	-6.2	-0.5			BS				
TP	0				5.4	-		-5.4		476.8	TP	0	0	271,315	1,438,724
69	84		159°47.5'	+6.8°	5.0	-		-5.0		477.2		-82	+19	271,233	1,438,743
70	414		" "		4.8	-		-4.8		477.4		-403	+96	270,912	1,438,820
71	744		159°47.5'	+6.8°	4.0	-		-4.0		478.2	TP	-724.2	+173.3	270,589	1,438,894
71	744				7.7	TH	+3.7	-4.0			TP				
	660		309°46'-180°	+6.8°	+14.3	90°40'	+7.7	+22.0	500.2		BS	-479.2	+454.3		
	660				+12.4	90°50'	+9.6	+22.0			BS				
72	330		305°41'	+6.8°	9.3	92°-	-11.5	-20.8		479.4		+223	-243	270,331	1,439,102
73	0				5.4	-		-5.4		494.8	TP	0	0	270,108	1,439,345
74	330		146°18'	+6.8°	11.8	92°-	-11.5	-23.3		476.9		-294	+149	269,814	1,439,494
YY	482		148°47'	+6.8°	11.0	92°-	-16.8	-27.8		472.4		-439	+199	269,669	1,439,544

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/10/81		G. Cotcamp		G. Cotcamp		6837		DL B. Cortner		1		9			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Bonnevill 15'		Arkansas		Logan								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
									500.2						
75	630		143°23.8'	+6.8°	5.5	92°-	-22.0	-27.5		472.7	TP	-547.2	+313.2	269,559	1,439,655
75	630				12.8	91°20'	-14.7	-27.5			TP				
	1320		300°49'-180°	+6.8°	+14.6	91°20'	+30.7	+45.3	518.0		BS	-806.2	+1046.2		
	1320				+10.8	91°30'	+34.5	+45.3			BS				
76	990		300°49'	+6.8°	12.7	91°20'	-25.9	-38.6		479.4		+604	-784	269,355	1,439,915
77	660	659	" "	"	8.7	92°30'	-28.8	-37.5		480.5		+402	-522	269,153	1,440,177
78	330	329	" "	"	11.3	94°-	-23.0	-34.3		483.7		+201	-261	268,952	1,440,938
79	0				5.4	-		-5.4		512.6	TP	0	0	268,751	1,440,699
80	330		119°19'	+6.8°	7.9	89°-	+5.8	-2.1		515.9	TP	-195.2	+267.2	268,554	1,440,964
80	330				6.9	89°10'	-4.8	-2.1			TP				
	330		312°32'-180°	+6.8°	+10.0	-		+10.0	525.9		BS	-250.2	+215.2		
	330				+8.3	BH	+1.7	+10.0			BS				
IF	168		319°46'	+6.8°	9.1	-		-9.1		516.8		+140	-93	268,442	1,441,084 T-rd (east)
81	0				5.4	-		-5.4		520.5	TP	0	0	268,302	1,441,177
82	330		150°1'	+6.8°	2.2	89°-	+5.8	+3.6		529.5	TP	-303	+130.2	267,999	1,441,305
82	330				4.1	88°40'	+7.7	+3.6			TP				
	658		351°29'-180°	+6.8°	+14.6	BH	+3.3	+17.9	547.4		BS	-658	+20.2		
	658				+14.0	90°20'	+3.8	+17.8			BS				
83	330		354°45'	+6.8°	9.3	-		-9.3		538.1		+330	+9	267,671	1,441,332
84	0				5.4	-		-5.4		542.0	TP	0	0	267,341	1,441,323

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/81		G. Cotcamp		B. Cotcamp		6834		D.L. B. Cotcamp		1		10			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15'		Arkansas		Logan								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
									547.4						
85	330		175° 36.3'	+6.8°	0.7	TH	+1.7	+1.0		548.4		-330	-14	267,011	1,441,309
86	660		" "	"	3.3	89°-	+11.5	+8.2		555.6		-659	-28	266,582	1,441,295
87	990		" "	"	1.4	89°-	+17.3	+15.9		563.3		-989	-42	266,352	1,441,281
88	1320		175° 36.3'	+6.8°	3.8	88° 46'	+30.7	+26.9		574.3	TP	-1319	-55.2	266,022	1,441,266
88	1320				1.5	88° 46'	+28.4	+26.9			TP				
	568		290° 57' -180°	+6.8°	+10.5	-		+10.5	584.8		BS	-264	+503.		shooting across 90' band
	568				+13.3	TH	-2.8	+10.5			BS				
89	330		267° 24'	+6.8°	8.3	-		-8.3		576.5		+24	+329	265,782	1,441,439
90	0				5.4	-		-5.4		579.4	X	0	0	265,758	1,441,768
91	330		85° 54'	+6.8°	9.0	-		-9.0		575.8		-16	+330	265,742	1,442,098
92	660		85° 54'	+6.8°	11.8	-		-11.8		573.0	TP	-31	+659.	265,727	1,442,427
92	660				8.5	OH	-3.3	-11.8			TP				
	305		311° 22' -180°	+6.8°	+11.8	-		+11.8	584.8		BS	-227	+203.		
	305				+13.3	TH	-1.5	+11.8			BS				
TP	230		355° 56'	+6.8°	9.9	-		-9.9		574.9		+230	+11	265,730	1,442,641 T-; intersect
93	0				5.4	-		-5.4		579.4	X	0	0	265,500	1,442,630
94	330		175° 4'	+6.8°	2.6	-		-2.6		582.2		-330	-11	265,170	1,442,619 horiz. correct. y = -33', x = -54'
95	660		" "	"	4.1	89°-	+11.5	+7.4		592.2		-660	-21	264,840	1,442,609
IF	940		175° 2'	+6.8°	5.1	88° 0'	+30.1	+25.0		609.8		-940	-30	264,560	1,442,600 driveway
X	950		173° 39'	+6.8°	8.0	88°-	+33.1	+25.1		609.9		-950	-7	264,550	1,442,623 concrete cattle guard

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/81		G. Cotcamp		G. Cotcamp		6834		B.C. [Signature]		1		11			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15'		Arkansas		Logan								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
									584.8						
96	990	989	175° 4'	+6.8°	7.8	88° -	+34.5	+26.7		611.5	TP	-988-2	-32-2	264,510	1,442,596
96	990				2.1	88° 20'	+28.8	+26.7			TP				
	1320		355° 13' -180°	+6.8°	+12.0	91° -	+23.0	+35.0	646.5		BS	-1319-2	-46-2		
	1320				+13.6	90° 56'	+21.5	+35.1			BS				
97	990		355° 13'	+6.8°	9.9	91° 20'	-23.0	-32.9		613.6		+989	+35	264,170	1,442,583
98	660		" "	"	10.9	91° 40'	-19.2	-30.1		616.4		+660	+23	263,849	1,442,571
99	330		" "	"	10.7	92° -	-11.5	-22.2		624.3		+330	+12	263,519	1,442,560
100	0				5.4	-		-5.4		641.1	X	0	0	263,189	1,442,548
101	330		176° 15.3'	+6.8°	1.4	88° -	+11.5	+10.1		656.6		-330	-18	262,859	1,442,530
102	660		" "	"	1.1	88° -	+23.0	+21.9		668.4		-659	-35	262,530	1,442,513
TP	809	808	176° 15.3°	+6.8°	8.0	87° -	+42.3	+39.3		680.8	TP	-807-2	-43-2	262,380	1,442,503 split sta. - curve
TP	809				3.3	87° 20'	+37.6	+39.3			TP				
	210	209	43° 59' +180°	+6.8°	+6.0	94° -	+14.6	+20.6	701.4		BS	-132-2	-162-2		
	210				+4.2	94° 30'	+16.4	+20.6			BS				
103	0				5.4	-		-5.4		696.0	X	0	0	262,296	1,442,339
104	330	329	191° 10'	+6.8°	4.9	85° -	+28.7	+23.8		725.2		-313	-101	261,933	1,442,238
105	660	657	187° 44'	+6.8°	10.0	85° -	+57.3	+47.3		748.7	TP	-636-2	-165-2	261,608	1,442,172
105	660				4.3	85° 30'	+51.6	+47.3			TP				
	660	659	7° 57.4' +180°	+6.8°	+14.7	92° 34'	+29.5	+44.2	792.9		BS	-637-2	-168-2		
	660				+14.0	92° 38'	+30.3	+44.3			BS				

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/80		G. Cotcamp		B. Cotcamp		6834		B.C. Costin		1		12			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15'		Arkansas		Logan								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
									792.9						
106	330		7°57.4'	+6.8°	8.2	72°-	-11.5	-19.7		773.2		+319	+84	261,288	1,442,086
107	0				5.4	-		-5.4		787.5	X	0	0	260,969	1,442,002
108	330	329	196°0'	+6.8°	12.8	85°30'	+25.8	+13.0		805.9	TP	-303-2	-127-2	260,664	1,441,873
108	330				12.2	85°36'	+25.2	+13.0			TP				
	660	659	38°53.6'+180°	+6.8°	+11.0	93°18'	+37.9	+48.9	854.8		BS	-460-2	-472-2		
	660				+11.8	93°14'	+37.2	+49.0			BS				
109	330		38°53.6'	+6.8°	8.0	93°-	-17.2	-25.2		829.6		+231	+236	260,933	1,441,635
110	0				5.4	-		-5.4		849.4	X	0	0	260,202	1,441,399
Y	90		228°14'	+6.8°	2.8	-		-2.8		852.0		-52	-74	260,150	1,441,325 Y-intersect. 121+19
111	330		231°55'	+6.8°	12.6	-		-12.6		842.2	TP	-171-2	-282-2	260,029	1,441,115
111	330				14.3	TH	+1.7	-12.6			TP				
	330		62°33'+180°	+6.8°	+2.0	89°-	-5.8	-3.8	838.4		BS	-116-2	-309-2		
	330				+0.0	89°20'	-3.8	-3.8			BS				
112	0				5.4	-		-5.4		833.0	X	0	0	259,911	1,440,804
113	309		231°54'	+6.8°	14.9	BH	-1.5	-16.4		822.0	TP	-161-2	-264-2	259,798	1,440,538
113	309				13.7	90°30'	-2.7	-16.4			TP				
	290		309°53'-180°	+6.8°	+4.3	-		+4.3	826.3		BS	-211-1	+199-2		sharp curve
	290				+5.8	TH	-1.5	+4.3			BS				
Y	150		293°30'	+6.8°	4.6	-		-4.6		821.7		+76	-130	259,612	1,440,605 Y-intersect.
114	0				5.4	-		-5.4		820.9	X	0	0	259,536	1,440,735

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
11/1/81		G. Cotcamp		B. Cotcamp		6834		B.C. [initials]		1		13			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15'		Arkansas		Logan								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
									826.3						
115	330		108°49'	+7.1°	2.4	89°	+5.8	+3.4		829.7		-144	+297	259,392	1,441,032
116	660		108°49'	+7.1°	12.1	89°	+11.5	-0.6		825.7	TP	-288	+594-2	259,248	1,441,327
116	660				8.3	89°20'	+7.7	-0.6			TP				
	333	332	291°5' -180°	+7.1°	+4.9	87°	-17.4	-12.5	813.2		BS	-157	+293-2		
	333				+2.0	87°30'	-14.5	-12.5			BS				
117	0				5.4	-		-5.4		807.8	π	0	0	259,091	1,441,618
															set-up opposite sta.
118	336		162°41'	+7.1°	13.0	92°	-11.7	-24.7		788.5	TP	-331	+60-2	258,760	1,441,676
118	336				13.9	91°30'	-10.7	-24.6			TP				
	330		354°45' -180°	+7.1°	+3.6	88°	-11.5	-7.9	780.6		BS	-330	-11-2		
	330				+0.8	88°30'	-8.6	-7.8			BS				
119	0				5.4	-		-5.4		775.2	π	0	0	258,430	1,441,663
120	328		158°42'	+7.1°	7.2	88°	+11.4	+4.2		787.8	TP	-318	+80-2	258,112	1,441,741
120	328				1.5	89°	+5.7	+4.2			TP				
	315		320°52' -180°	+7.1°	+13.2	89°	-5.5	+7.7	792.5		BS	-267	+167-2		curve
	315				+14.5	88°46'	-6.8	+7.7			BS				
121	0				5.4	-		-5.4		787.1	π	0	0	257,845	1,441,706
122	330		98°35'	+7.1°	9.5	92°	-11.5	-21.0		771.5	TP	-89	+318-2	257,756	1,442,222
122	330				14.3	91°10'	-6.7	-21.0			TP				
	309	308	323°22' -180°	+7.1°	+10.3	86°	-26.8	-16.5	755.0		BS	-268	+152-2		
	309				+11.3	84°50'	-27.7	-16.4			BS				

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/81		G. Cotcamp		B. Cotcamp		6834		B. Cotcamp		1		14			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 15		Arkansas		Logan								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
									755.0						
123	0				5.4	-		-5.4		749.6	TP	0	0	257,488	1,442,372
124	300		125°58'	+7.1°	9.1	93°-	-15.7	-24.8			TP	-205	+219.2	257,283	1,442,589
124	300				144	92°-	-10.5	-24.9		730.1	TP				
	700	699	278°9'-180°	+7.1°	+4.2	86°30'	-42.7	-38.5	691.6		BS	-184	+674-1		
	700				+1.0	86°46'	-39.4	-38.4			BS				horiz. correct. y = -23' x = -43'
125	370	369	278°9'	+7.1°	2.3	87°-	+19.3	+17.0		708.6		+97	-356	257,196	1,442,906
TP	58		289°3'	+7.1°	1.8	-		-1.8		689.8		+26	-52	257,125	1,443,210
126	40		278°9'	+7.1°	3.8	-		-3.8		687.8		+11	-39	257,110	1,443,223
TP	0				5.4	-		-5.4		686.2	TP	0	0	257,099	1,443,262
127	294		191°68'	+6.8°	13.5	93°-	-15.4	-28.9		662.7	TP	-278+4	-95+1	256,825	1,443,168
127	294				10.9	93°30'	-17.9	-28.8			TP				
	330	329	50°4'+180°	+6.8°	+1.3	86°40'	-19.2	-17.9	644.8		BS	-180+4	-276+1		
	330				+2.3	86°30'	-20.1	-17.8			BS				
128	0				5.4	-		-5.4		639.4	TP	0	0	256,649	1,442,893
129	330		198°40'	+6.8°	9.8	-		-9.8		635.0	TP	-298+4	-142+1	256,355	1,442,752
129	330				11.5	TH	+1.7	-9.8			TP				
	490		343°13'-180°	+6.8°	+13.2	89°-	-8.6	+4.6	639.6		BS	-483+4	+85+1		
	490				+11.7	89°0'	-7.1	+4.6			BS				
130	160		337°31'	+6.8°	2.2	-		-2.2		637.4		+154	-43	256,030	1,442,795
TP	0				5.4	-		-5.4		634.2	TP	0	0	255,876	1,442,838

↑
Logan Co.

split sta. - curve

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/11/81		G. Cotcamp		D. Libenson		6834		B.C. [initials]		1		15				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Booneville 15'		Arkansas		Scott Co.								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
									639.6							
131	173		186°36'	+6.8°	5.7	-		-5.7		633.9	TP	-168+4	-40+1	255,712	1,442,799	Scott Co.
131	173				6.6	TH	+0.9	-5.7			TP					↓
	330		31°47'+180°	+6.8°	+3.6	-		+3.6	637.5		BS	-258+4	-206+1			
	330				+5.3	TH	-1.7	+3.6			BS					
132	0				5.4	-		-5.4		632.1	X	0	0	255,958	1,442,599	
	290		209°19'	+6.8°	13.2	-		-13.2		624.3		-234	-171	255,224	1,442,423	bridge
133	330		" "	"	12.4	-		-12.4		625.1		-267	-195	255,191	1,442,399	
134	658		211°24'	+6.8°	2.1	BH	-3.3	-5.4		632.1	TP	-517+4	-407+1	254,945	1,442,188	
134	658				3.5	90°10'	-1.9	-5.4			TP					
	330		58°7'+180°	+6.8°	+8.1	-		+8.1			BS	-140+4	-299+1			
	330				+9.7	TH	-1.7	+8.0	640.1		BS					
135	0				5.4	-		-5.4		634.7	X	0	0	254,809	1,441,890	
136	330		244°30'	+6.8°	2.6	-		-2.6		637.5		-106	-313	254,703	1,441,577	
137	660		244°30'	+6.8°	3.2	TH	+3.3	+0.1		640.2	TP	-212+4	-625+1	254,601	1,441,266	
137	660				5.7	89°30'	+5.8	+0.1			TP					
	422		51°42'+180°	+6.8°	+12.6	-		+12.6	652.8		BS	-220+4	-360+1			
	422				+10.5	BH	+2.1	+12.6			BS					
138	98		41°5'	+6.8°	8.9	-		-8.9		643.9		+66	+73	254,451	1,440,980	
X	0				5.4	-		-5.4		647.7	X	0	0	254,385	1,440,907	split sta.-curve
139	230		187°10'	+6.8°	0.9	89°	+4.0	+3.1		655.9		-223	-56	254,162	1,440,851	IF

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/81		G. Cotcamp		O. L. Benson		6837		B. Colwell		1		16			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Boonville 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
									652.8						
140	560	559	183°15'	+6.8°	0.8	87°-	+29.3	+28.5		681.3	TP	-550+3	-98+1	253838	1440810
140	560				4.0	86°40'	+32.5	+28.5			TP				
	327		313°12'-180°	+6.8°	+12.5	92°-	+11.4	+23.9	705.2		BS	-250+3	+210+1		
	327				+14.5	91°40'	+9.5	+24.0			BS				
141	0				5.4	-	-	-5.4		699.8	X	0	0	253591	1441021
142	330		116°40'	+6.8°	6.0	92°-	-11.5	-17.5			TP	-182+3	+275+1	253412	1441297
142	330				11.8	91°-	-5.8	-17.6		687.6	TP				
	332	331	316°46'-180°	+6.8°	+13.3	87°-	-17.4	-4.1	683.5		BS	-266+3	+197+1		
	332				+7.5	88°-	-11.6	-4.1			BS				
143	0				5.4	-	-	-5.4		678.1	X	0	0	253149	1441495 Set up opposite sta.
144	330		165°46'	+6.8°	0.8	-	-	-0.8		682.7		-327	+43	252822	1441538
145	660		" "	"	0.7	TH	+3.3	+2.6		686.1		-654	+85	252495	1441580
146	990		165°46'	+6.8°	6.6	89°-	+17.3	+10.7		694.2	TP	-982+3	+128+1	252170	1441624
146	990				3.7	89°10'	+14.4	+10.7			TP				
	990	989	328°50'-180°	+6.8°	+11.6	92°-	+34.5	+46.1	740.3		BS	-901+3	+408+1		
	990				+14.5	91°50'	+31.7	+46.2			BS				
147	660	659	328°50'	+6.8°	9.5	92°-	-23.0	-32.5		707.8		+600	-272	251872	1441761
148	330	329	" "	"	9.8	93°-	-17.2	-27.0		713.3		+300	-136	251572	1441897
149	0				5.4	-	-	-5.4		734.9	X	0	0	251272	1442033

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/11/81		G. Cotcamp		D. Libenson		6834		B.C. Dow		1		17			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Booneville 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.		Y
									740.3						
150	327		139°4'	+6.8°	8.2	88°30'	+8.6	+0.4		740.7	TP	-271+3	+183+1	251,004	1,442,217
150	327				9.1	88°30'	+9.5	+0.4			TP				
	112		281°16'-180°	+6.8°	+1.7	-		+1.7	742.4		BS	-35+3	+106+1		
	112				+2.3	TH	-0.6	+1.7			BS				
π	0				5.4	-		-5.4		737.0	π	0	0	250,972	1,442,329
151	216		93°11'	+6.8°	12.4	-		-12.4		730.0		-37	+213	250,935	1,442,537
TP	285		93°11'	+6.8°	14.0	BH	-1.4	-15.4			TP	-49+3	+281+1	250,926	1,442,606
TP	285				138	90°20'	-1.7	-15.5		726.9	TP				
	232		7°1'+180°	+6.8°	+8.9	-		+8.9	735.8		BS	-225+3	-55+1		
	232				+10.1	TH	-1.2	+8.9			BS				
π	0				5.4	-		-5.4		730.4	π	0	0	250,704	1,442,552
152	40		123°7'	+6.8°	7.4	-		-7.4		728.4		-26	+31	250,678	1,442,583
153	370		123°7'	+6.8°	14.4	90°30'	-3.2	-17.6			TP	-237+3	+284+1	250,470	1,442,837
153	370				11.2	91°-	-6.5	-17.7		718.1	TP				
	650		317°10'-180°	+6.8°	+9.6	88°-	-22.7	-13.1	705.0		BS	-526+3	+382+1		
	650				+6.2	88°18'	-19.3	-13.1			BS				curve
154	330		322°25'	+6.8°	3.7	-		-3.7		701.3		+284	-169	250,231	1,443,051
155	0				5.4	-		-5.4		699.6	π	0	0	249,947	1,443,220
156	330		136°5'	+6.8°	1.0	TH	+1.7	+0.7		705.7		-263	+199	249,684	1,443,419
157	660		" "	"	0.4	TH	+3.3	+2.9		707.9		-526	+398	249,421	1,443,618

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
11/1/81		G. Cotcamp		B. Cotcamp		6834		B.C.		1		18				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Booneville 15/Parks		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	
									705.0							
158	990		136°5'	+6.8°	1.3	89°30'	+8.6	+7.3		712.3	TP	-789+3	+597	249,161	1,443,817	
158	990				4.2	89°20'	+11.5	+7.3			TP					
	330		340°6'-180°	+6.8°	+7.4	-		+7.4	719.7		BS	-321+3	+75			
	330				+5.7	BH	+1.7	+7.4			BS					
159	0				5.4	-		-5.4		714.3	TP	0	0	248,893	1,443,892	
160	330		165°56.5'	+6.8°	3.8	-		-3.8		715.9		-327	+42	248,516	1,443,934	↑
161	660		" "	"	3.2	-		-3.2		716.5		-655	+83	248,188	1,443,975	Booneville 15'
162	990		165°56.5'	+6.8°	2.9	TH	+5.0	+2.1		721.8	TP	-982+3	+125	247,864	1,444,017	Parks 15'
162	990				4.9	89°36'	+6.9	+2.0			TP					↓
	148		351°22'-180°	+6.8°	+6.7	-		+6.7	728.5		BS	-148+3	+5			
	148				+7.4	TH	-0.7	+6.6			BS					
BM	330		20°14'	+6.8°	5.1	89°-	+5.8	+0.7		729.2		+294	+150	248,013	1,444,172	U.S.G.S 1w1937 TP 729.
TP	0				5.4	-		-5.4		723.1	TP	0	0	247,719	1,444,022	
163	185		192°20'	+6.8°	4.0	-		-4.0		724.5		-175	-61	247,544	1,443,961	
164	516		192°20'	+6.5°	4.3	-		-4.3		724.2	TP	-488+3	-167	247,234	1,443,855	
164	516				5.3	TH	+2.6	-4.2			TP					
	320		19°0'+180°	+6.5°	+12.8	-		+12.8	737.0		BS	-289+3	-138			
	320				+11.2	BH	+1.6	+12.8			BS					
TP	250		15°23'	+6.5°	14.4	-		-14.4		722.5		+232	+93	247,180	1,443,810	c/L bridge
165	0				5.4	-		-5.4		731.6	TP	0	0	246,948	1,443,717	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
1/14/81		G. Cotcamp		B. Cotcamp		6834		D.L. <i>2 Dec</i>		1	19						
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Parks		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		
									737.0								
166	330		178°18'	+6.5°	1.1	-		-1.1		735.9		-32°	-28	246,619	1,443,689		
167	660		175°51'	+6.5°	12.0	88°40'	+15.4	+3.4		740.4	TP	-659+3	-27	246,292	1,443,690		
167	660				10.1	88°50'	+13.4	+3.3			TP						
	328		356°4' +180°	+6.5°	+12.0	-		+12.0	752.4		BS	-328+3	-15				
	328				+10.3	BH	+1.6	+11.9			BS						
168	0				5.4	-		-5.4		747.0	X	0	0	245,967	1,443,675	set-up opposite sta.	
169	330		184°53'	+6.5°	3.3	87°-	+17.2	+13.9		766.3		-324	-65	245,643	1,443,610		
170	660	659	184°53'	+6.5°	4.5	87°-	+34.5	+30.0		782.4	TP	-646+3	-130	245,324	1,443,545		
170	660				5.6	86°34'	+35.6	+30.0			TP						
	330		34°54' +180°	+6.5°	+8.7	-		+8.7	791.1		BS	-248+3	-218				
	330				+7.0	BH	+1.7	+8.7			BS						
171	0				5.4	-		-5.4		785.7	X	0	0	245,079	1,443,327		
172	330		201°17'	+6.5°	4.3	89°-	+5.8	+1.5		792.6		-292	-154	244,787	1,443,173		
173	660		201°17'	+6.5°	13.1	89°30'	+5.8	-7.3		783.8	TP	-584+3	-308	244,498	1,443,019		
173	660				14.2	89°24'	+6.9	-7.3			TP						
	990		21°28.5' +180°	+6.5°	+1.9	TH	-5.0	-3.1	780.7		BS	-874+3	-464				
	990				+5.6	89°30'	-8.6	-3.0			BS						
174	660		21°28.5'	+6.5°	3.0	-		-3.0		777.7		+583	+310	244,210	1,442,865		
175	330		" "	+6.5°	3.6	-		-3.6		777.1		+291	+155	243,918	1,442,710		
176	0				5.4	-		-5.4		775.3	X	0	0	243,627	1,442,555	set-up opposite sta.	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/14/81		G. Cotcamp		B. Cotcamp		6834		D.L. New		1		280				
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	
									780.7							
177	330		221°41.6'	+6.5°	2.0	-		-2.0		778.7		-220	-246	243,407	1,442,309	
178	660		"		6.8	89°29'	+6.9	+0.1		780.8		-440	-492	243,187	1,442,063	
179	986		221°41.6'	+6.5°	5.2	89°14'	+13.2	+8.0		788.7	TP	-657+3	-735	242,973	1,441,820	
179	986				3.4	89°20'	+11.5	+8.1			TP					
	660		15°30' +180°	+6.5°	+14.0	TH	-3.3	+10.7	799.4		BS	-612+3	-247			
	660				+4.9	90°30'	+5.8	+10.7			BS					
180	330		15°30'	+6.5°	9.5	-		-9.5		789.9		+306	+124	242,670	1,441,697	
181	0				5.4	-		-5.4		794.0	π	0	0	242,364	1,441,573	
182	330		196°40'	+6.5°	3.1	89°-	+5.8	+2.7			TP	-303+3	-130	242,064	1,441,443	
182	330				1.2	89°20'	+3.8	+2.6		802.0	TP					
	294		44°0' +180°	+6.5°	+11.2	-		+11.2	813.2		BS	-187+3	-227			
	294				+12.7	TH	-1.5	+11.2			BS					
π	0				5.4	-		-5.4		807.8	π	0	0	241,880	1,441,216	split sta - culvert
183	36		170°0'	+6.5°	5.5	-		-5.5		807.7		-76	+2	241,844	1,441,218	
184	366		"		4.8	-		-4.8		808.4		-365	+22	241,515	1,441,238	
185	692		167°0'	+6.5°	1.0	-		-1.0		812.2	TP	-688+3	+70	241,195	1,441,294	
185	692				4.5	TH	+3.5	-1.0			TP					
	333		347°15' -180°	+6.5°	+11.7	92°10'	+12.6	+24.3	836.5		BS	-331+3	+26			
	333				+14.1	91°46'	+10.3	+24.4			BS					
186	0				5.4	-		-5.4		831.1	π	0	0	240,867	1,441,330	set-up on exterior of curve

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/14/81		G. Cotcamp		B. Cotcamp		6834		DL		1		21				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Parke 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	
									836.5							
187	330	329	221°10'	+6.5°	5.5	86°-	+23.0	+17.5		854.0		-222	-243	240,695	1,441,087	
TP	590	589	221°10'	+6.5°	4.4	86°-	+41.1	+36.7		873.2	TP	-396+3	-435	240,474	1,440,895	
TP	590				1.0	86°20'	+37.7	+36.7			TP					
	410		10°25'+180°	+6.5°	+11.4	92°-	+14.3	+25.7	898.9		BS	-392+3	-119			
	410				+13.8	91°40'	+11.9	+25.7			BS					
188	330		10°25'	+6.5°	10.2	92°-	-11.5	-21.7		877.2		+316	+96	240,401	1,440,872	
189	0				5.4	-		-5.4		893.5	TP	0	0	240,085	1,440,776	set up opposite sta
190	335		220°29'	+6.5°	6.0	-		-6.0		892.9	TP	-229+3	-245	239,859	1,440,531	
190	335				4.3	0H	-1.7	-6.0			TP					
	660		45°29'+180°	+6.5°	+1.9	88°30'	-13.4	-11.5	881.4		BS	-406+3	-520			
	660				+3.8	88°40'	-15.4	-11.6			BS					
191	330		45°29'	+6.5°	1.9	-		-1.9		879.5		+203	+260	239,659	1,440,271	
192	0				5.4	-		-5.4		876.0	TP	0	0	239,456	1,440,011	
193	328		229°47'	+6.5°	3.7	-		-3.7		877.7	TP	-182+3	-273	239,277	1,439,738	
193	328				5.4	TH	+1.6	-3.8			TP					
	330		24°35'+180°	+6.5°	+13.2	92°30'	+14.4	+27.6			BS	-283+4	-170			
	330				+10.3	93°	+17.2	+27.5	905.2		BS					
194	0				5.4	-		-5.4		899.8	TP	0	0	238,998	1,439,568	
195	312		189°53.5'	+6.5°	9.9	89°-	+5.4	-4.5		900.7	TP	-306+3	-62	238,695	1,439,506	
195	312				8.4	89°16'	+4.0	-4.4			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/14/81		G. Cotcamp		B. Cotcamp		6837		D.L. <i>dlw</i>		1/	222					
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	
195									900.7	900.7						
	330	328	325°1' -180°	+6.5°	+6.0	84°-	-34.3	-28.3			BS	-288+3	+157			
	330				+8.0	83°40'	-36.2	-28.2	872.5		BS					
196	0				5.4	-		-5.4		867.1	π	0	0	238,410	1,439,663	set-up opposite sta.
197	330		135°57'	+6.5°	12.3	-		-12.3		860.2	TP	-262+3	+201	238,151	1,439,864	
197	330				13.9	TH	+1.7	-12.3			TP					
	505		319°27' -180°	+6.5°	+11.1	71°-	+8.8	+19.97	880.1		BS	-418+3	+283			
	505				+12.6	70°50'	+7.3	+19.9			BS					
198	175		319°27'	+6.5°	8.9	-		-8.9		871.2		+145	-98	237,881	1,440,049	
	π	0			5.4	-		-5.4		879.7	π	0	0	237,736	1,440,147	split sta. - bridge
199	152		147°7'	+6.5°	12.5	-		-12.5			TP	-136+3	+68	237,603	1,440,215	bridge
199	152				13.2	TH	+0.8	-12.4		867.7	TP					
	336		354°1' -180°	+6.5°	+14.4	90°26'	+2.5	+16.97	884.6		BS	-336+3	-3			
	336				+12.1	90°40'	+3.9	+16.0			BS					horiz. correct. y = +166' x = +22'
200	0				5.4	-		-5.4		879.2	π	0	0	237,270	1,440,212	
1F	78		189°54'	+6.5°	2.3	-		-2.3		882.3		-75	-22	237,195	1,440,190	237,195 + 1,440,190 T-rod (cast)
201	330		186°47'	+6.5°	3.1	88°-	+11.5	+8.4		893.0		-321	-76	236,949	1,440,114	
202	660	659	186°47'	+6.5°	5.5	87°30'	+28.8	+23.37			TP	-641+1	-151-2	236,630	1,440,059	
202	660				3.6	87°40'	+26.8	+23.2		907.8	TP					
	332		54°4' +180°	+6.5°	+6.8	92°-	+11.6	+18.47	926.2		BS	-163+1	-289-2			
	332				+9.7	91°30'	+8.7	+18.4			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE						
1/14/81		G. Cotcamp		O. Libenson		6834		D.L. <i>dlw</i>		1	23						
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Parks 15'		Arkansas		Scott					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		
									926.2								
203	0				5.4	-		-5.4		920.8	π	0	0	236,468	1,439,768		
204	312		230°41'	+6.5°	9.3	88°-	+10.9	+1.67		927.8	TP	-169+1	-262-2	236,300	1,439,504		
204	312				8.0	88°14'	+9.6	+1.65			TP						
	336		346°54'+180°	+6.5°	+2.7	88°-	-11.7	-9.07	918.8		BS	-333-1	+39-2				
	336				+0.7	88°20'	-9.7	-9.05			BS						
205	0				5.4	-		-5.4		913.4	π	0	0	235,968	1,439,541	set-up opposite sta.	
206	330		229°49'	+6.5°	5.4	-		-5.47		913.4	TP	-206+1	-258-2	235,763	1,439,251		
206	330				7.0	TH	+1.7	-5.45			TP						
	454		53°39'+180°	+6.5°	+11.8	91°-	+7.9	+19.77	933.1		BS	-226+1	-394-2				
	454				+14.5	90°40'	+5.3	+19.85			BS						
207	124		53°39'	+6.5°	6.5	-		-6.5		926.6		+62	+108	235,600	1,438,993		
	π	0			5.4	-		-5.4		927.7	π	0	0	235,538	1,438,885	split sta. - curve	
208	210		260°0'	+6.5°	11.3	-		-11.37			TP	-13+1	-210-2	235,526	1,438,673		
208	210				10.3	04	-1.1	-11.45		921.7	TP						
	660		103°27'+180°	+6.5°	+2.0	89°20'	-7.7	-5.77	916.0		BS	+225+1	-620-2				
	660				+0.1	89°30'	-5.8	-5.75			BS						
209	330		103°27'	+6.5°	3.4	-		-3.4		912.6		-113	+310	235,639	1,438,361		
210	0				5.4	-		-5.4		910.6	π	0	0	235,752	1,438,051		
211	330		258°43'	+6.5°	3.8	89°-	+5.8	+2.0		918.0		-28	-329	235,724	1,437,722		

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
1/15/81		G. Cotcamp		D. Libenson		6837		D.L.		11	24				
AREA		TOPO MAP		STATE		COUNTY		TWP	RANGE	PPM	PARTY MANAGER				
Arkansas		Parks 15'		Arkansas		Scott					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 A TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
									916.0						
212	660		258°43'	+6.8°	5.2	89°-	+11.5	+6.3		922.3	TP	-52+1	-658-2	235,701	1,437,391
212	660				1.4	89°20'	+7.7	+6.3			TP				
	330		69°15.5'+180°	+6.8°	+13.5	-		+13.5	935.8		BS	-80+1	-320-2		
	330				+11.8	BH	+1.7	+13.5			BS				
213	0				5.4	-		-5.4		930.4	π	0	0	235,622	1,437,069
214	326		236°11'	+6.8°	2.5	89°-	+5.7	+3.2		939.0	TP	-148+1	-290-2	235,475	1,436,777
214	326				0.6	89°20'	+3.8	+3.2			TP				
	218		25°0'+180°	+6.8°	+10.7	-		+10.7	949.7		BS	-185+1	-115-2		
	218				+11.8	TH	-1.1	+10.7			BS				
π	0				5.4	-		-5.4		944.3	π	0	0	235,291	1,436,660 split sta.-curve
215	110		186°33'	+6.8°	3.2	-		-3.2		946.5		-107	-25	235,184	1,436,635
TP	239		186°33'	+6.8°	2.5	89°-	+4.2	+1.7			TP	-233+1	-55-2	235,059	1,436,603
TP	239				0.5	89°30'	+2.1	+1.6		951.3	TP				
	470		39°0'+180°	+6.8°	+12.9	-		+12.9	964.2		BS	-328+1	-337-2		
	470				+10.6	BH	+2.4	+13.0			BS				
216	310		45°11'	+6.8°	7.0	91°30'	-8.1	-15.1		949.1		+191	+244	234,923	1,436,508 bridge
217	0				5.4	-		-5.4		958.8	π	0	0	234,732	1,436,264
TP	272	271	215°14'	+6.8°	5.7	85°-	+23.6	+17.9		982.1	TP	-201+1	-181-2	234,532	1,436,081
TP	272				6.5	84°50'	+24.4	+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				
1/15/81		G. Cotcamp		O. Libenson		6837		D.L.		1		25				
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	
217 1/2										982.1						
	265		71° 11.5' +180°	+6.8°	+14.5	93° -	+13.8	+28.3	1010.4		BS	-55+1	-259			
	265				+12.2	93° 30'	+16.1	+28.3			BS					
218	200		71° 11.5'	+6.8°	12.0	93° -	-10.5	-22.5		987.9		+42	+196	234,520	1,436,018	
π	0				5.4	-		-5.4		1005.0	π	0	0	234,478	1,435,822	curve
219	135	134	303° 54'	+6.8°	9.4	84° -	+14.0	+4.6		1015.0	TP	+87+1	-102	234,566	1,435,720	
219	135				8.6	84° 20'	+13.3	+4.7			TP					
	330		148° 24' +180°	+6.8°	+13.5	92° -	+11.5	+25.0	1040.0		BS	+300+1	-138			
	330				+14.8	91° 46'	+10.2	+25.0			BS					
220	0				5.4	-		-5.4		1034.6	π	0	0	234,867	1,435,582	
221	332		307° 47'	+6.8°	1.9	89° -	+5.8	+3.9		1043.9	TP	+233+1	-236	235,101	1,435,346	
221	332				5.8	88° 20'	+9.7	+3.9			TP					
	332	331	152° 39' +180°	+6.8°	+1.7	86° -	-23.1	-21.4	1022.5		BS	+310+1	-116			
	332				+3.6	85° 40'	-25.0	-21.4			BS					
222	0				5.4	-		-5.4		1017.1	π	0	0	235,912	1,435,230	
223	330		325° 20.5'	+6.8°	12.1	93° -	-17.2	-29.3		993.2	TP	+292+1	-154	235,705	1,435,076	
223	330				15.0	92° 30'	-14.4	-29.4			TP					
	322		122° 39' +180°	+6.8°	+7.1	-		+7.1	1000.3		BS	+205+1	-249			
	322				+8.7	TH	-1.6	+7.1			BS					curve
224	0				5.4	-		-5.4		994.9	π	0	0	235,911	1,434,827	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/15/81		G. Cotcamp		D. Libenson		6834		D.L. [Signature]		1		26				
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER		
Arkansas		Parks		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	
									1000.3							
225	330		288° 17'	+6.8°	5.7	-	-5.7			994.6	TP	+140+1	-299	236,052	1,434,528	
225	330				4.1	OH	-1.7	-5.8			TP					
	330		88° 39' +180°	+6.8°	+8.0	-	+8.0		1002.6		BS	+31+1	-329			
	330				+9.7	TH	-1.7	+8.1			BS					
226	0				5.4	-	-5.4			997.2	X	0	0	236,084	1,434,199	
227	327		241° 30'	+6.8°	4.6	-	-4.6			998.0	TP	-121+1	-304	235,964	1,433,895	
227	327				6.2	TH	+1.6	-4.6			TP					curve
	322		33° 52' +180°	+6.8°	+9.2	TH	-1.6	+7.6	1005.6		BS	-244+1	-210			
	322				+10.5	89° 30'	-2.8	+7.7			BS					
228	0				5.4	-	-5.4			1000.2	X	0	0	235,721	1,433,685	
229	330		185° 28'	+6.8°	1.6	-	-1.6			1004.0	TP	-322+1	-70	235,400	1,433,615	
229	330				3.0	TH	+1.7	-1.7			TP					
	660		356° 46' -180°	+6.8°	+10.3	-	+10.3		1014.3		BS	-659+1	-41			
	660				+7.0	OH	+3.3	+10.3			BS					
230	330		356° 46'	+6.8°	7.0	-	-7.0			1007.3		+329	+21	235,071	1,433,595	
231	0				5.4	-	-5.4			1008.9	X	0	0	234,742	1,433,579	
232	330		186° 37.5	+6.8°	1.2	TH	+1.7	+0.5		1014.8	TP	-321+1	-77	234,422	1,433,497	
232	330				5.4	89° -	+5.8	+0.4			TP					
	332		46° 12' +180°	+6.8°	+14.6	-	+14.6		1029.4		BS	-200+1	-265			
	332				+12.9	OH	+1.7	+14.6			BS					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/15/81		G. Cotcamp		D. Libenson		6834		DL		1		27			
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
									1029.7						
233	0				5.4	-		-5.4		1024.0	π	0	0	234,223	1,433,232
234	290		219°40'	+6.8°	8.3	-		-8.3		1021.1	TP	-200+1	-210	234,024	1,433,022
234	290				6.9	BH	-1.5	-8.4			TP				
	180		312°16'-180°	+6.8°	+10.6	-		+10.6	1031.7		BS	-136+1	+118		
	180				+11.5	TH	-0.9	+10.6			BS				
Y	100		263°14'	+6.8°	3.6	89°-	+1.7	-1.9		1029.8		0	-100	233,889	1,433,040
BM	138		252°15'	+6.8°	1.0	89°-	+2.4	+1.4		1033.1		-26	-135	233,863	1,433,005
π	0				5.4	-		-5.4		1026.3	π	0	0	233,889	1,433,140
235	100		87°59.5'	+6.8°	6.2	-		-6.2		1025.5		-8	+100	233,881	1,433,290
236	430		87°59.5'	+6.8°	8.4	-		-8.4		1023.3	TP	-36	+428.2	233,853	1,433,566
236	430				10.6	TH	+2.2	-8.5			TP				
	277		306°5.6'-180°	+6.8°	+9.9	-		+9.9	1033.2		BS	-189	+203.2		
	277				+11.3	TH	-1.4	+9.9			BS				
π	0				5.4	-		-5.4		1027.8	π	0	0	233,664	1,433,767
237	60		158°48.4'	+6.8°	4.2	-		-4.2		1029.0		-58	+15	233,606	1,433,782
238	390		158°48.4'	+6.8°	2.8	89°-	+6.8	+4.0		1037.2	TP	-378	+97.2	233,286	1,433,862
238	390				1.7	89°10'	+5.7	+4.0			TP				
	655		0°5'-180°	+6.8°	+13.6	BH	+3.3	+16.9	1054.1		BS	-650	-79.2		
	655				+15.0	90°10'	+1.9	+16.9			BS				
239	328		0°5'	+6.8°	11.8	-		-11.8		1042.3		+326	+39	232,962	1,433,820

233,890 + 1,433,050
Y-intersect.
U.S.G.S. 855 1957d. 1033
split sta. - curve

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/15/81		G. Cotcamp		D. Libensan		6834		DL		1		28				
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 TP	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									1054.1							
240	0				5.4	-		-5.4		1048.7	T	0	0	232,636	1,433,781	
241	330		163°16'	+6.8°	8.4	87°-	+17.2	+8.8		1062.9		-325	+57	232,311	1,433,838	
242	660	659	163°16'	+6.8°	7.7	87°-	+34.5	+26.8		1080.9	TP	-649	+114-2	231,987	1,433,893	
242	660				0.1	87°40'	+26.8	+26.7			TP					
	330		347°41'-180°	+6.8°	+9.4	92°-	+11.5	+20.9	1101.8		BS	-328	+32-2			
	330				+13.3	91°20'	+7.7	+21.0			BS					
243	0				5.4	-		-5.4		1096.4	T	0	0	231,659	1,433,923	
244	330		195°38'	+6.8°	9.7	88°-	+11.5	+1.8		1103.6	TP	-305	-125-2	231,354	1,433,796	
244	330				8.8	88°10'	+10.6	+1.8			TP					
	330		18°5'+180°	+6.8°	+10.2	-		+10.2	1113.8		BS	-310	-112-2			
	330				+11.9	TH	-1.7	+10.3			BS					
245	0				5.4	-		-5.4		1108.4	T	0	0	231,044	1,433,682	
246	330		182°0'	+6.8°	3.2	89°-	+5.8	+2.6		1116.4	TP	-326	-50-2	230,718	1,433,630	
246	330				1.3	89°20'	+3.8	+2.5			TP					
	322		328°14'-180°	+6.8°	+7.7	TH	-1.6	+6.1	1122.5		BS	-292	+136-2			
	322				+6.1	-		+6.1			BS					
247	0				5.4	-		-5.4		1117.1	T	0	0	230,426	1,433,764	
248	325		99°1'	+6.8°	9.9	88°-	+11.3	+1.4		1123.9	TP	-89	+313-2	230,337	1,434,075	
248	325				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				
1/15/81		G. Cotcamp		D. Libenson		6834		DL		1		29				
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	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
248										1123.9						
	142		276°37'-180°	+6.8°	+14.1	39°-	-2.5	+11.6	1135.5		BS	-33	+138-2			
	142				+11.6	-		+11.6			BS					
π	0				54	-		-5.4		1130.1	π	0	0	230,304	1434,211	split sta. - curve
249	193		159°12'	+6.8°	1.5	-		-1.5		1134.0		-187	+47	230,117	1434,258	
250	523		159°12'	+6.8°	0.5	89°-	+9.1	+8.6		1144.1	TP	-507	+127-2	229,797	1434,336	
250	523				3.6	88°40'	+12.2	+8.6			TP					
	330		333°41'-180°	+6.8°	+10.3	92°-	+11.5	+21.8			BS	-311	+110-2			
	330				+14.2	91°20' 91°40'	+7.7	+21.9	1166.0		BS					✓ rechecked angle 1/16/81
251	0				54	-		-5.4		1160.6	π	0	0	229,486	1434,444	
252	320		139°26'	+6.8°	6.8	86°52'	+17.5	+10.7		1176.7	TP	-266	+178-2	229,220	1434,620	Curve
252	320				8.9	86°30'	+19.5	+10.6			TP					
	660	658	290°6'-180°	+6.8°	+14.4	94°-	+45.9	+60.3	1237.0		BS	-298	+587-1			
	660				+10.6	94°20'	+49.7	+60.3			BS					
253	330		290°6'	+6.8°	8.4	94°-	-23.0	-31.4		1205.6		+149	-294	229,071	1434,912	
254	0				54	-		-5.4		1231.6	π	0	0	228,922	1435,206	
255	330		94°14'	+6.8°	7.6	85°-	+28.7	+21.1		1258.1	TP	-63	+323	228,859	1435,529	T. Opposite sta.
255	330				4.8	85°30'	+25.8	+21.0			TP					
	345		279°19'-180°	+6.8°	+14.1	91°40'	+10.0	+24.1	1282.2		BS	-96	+331			horiz. correct. y = -32' x = -61'
	345				+12.0	92°-	+12.0	+24.0			BS					228,790 + 1,435,910 I-intersect
π	57		54°42'	+6.8°	1.9	-		-1.9		1280.3		+27	+50	228,790	1435,910	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/15/81		G. Cotcamp		D. Libenson		6834		D.L.		1/		30				
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	NORTH + SOUTH - LAT.	EAST + WEST - DEP.	COORDINATES		REMARKS
														Y	X	
									1282.2							
256	0				5.4	-		-5.4		1276.8	π	0	0	228,763	1,435,860	
TP	228		187°48'	+6.5°	150	92°-	-8.0	-23.07			TP	-221+2	-56	228,544	1,435,804	curve
TP	228				130	92°30'	-9.9	-22.97		1259.3	TP					
	447	446	41°19'+180°	+6.5°	+7.1	85°30'	-35.0	-25.97	1233.4		BS	-299+2	-330			
	447				+7.3	85°44'	-33.2	-25.97			BS					
257	330	329	41°19'	+6.5°	3.7	86°-	+23.0	+19.3		1252.7		+221	+244	228,468	1,435,718	
258	0				5.4	-		-5.4		1228.0	π	0	0	228,247	1,435,474	
259	330		227°34'	+6.5°	12.9	73°-	-17.2	-30.1		1203.3		-193	-267	228,054	1,435,207	
260	660	659	227°34'	+6.5°	12.8	73°30'	-40.2	-53.07		1180.4	TP	-387+2	-533	227,862	1,434,941	
260	660				14.7	93°20'	-38.3	-53.07			TP					
	322	321	26°9'+180°	+6.5°	+6.2	86°-	-22.4	-16.27			BS	-270+2	-173			
	322				+7.2	85°50'	-23.3	-16.17	1164.3		BS					
261	0				5.4	-		-5.4		1158.9	π	0	0	227,594	1,434,768	
262	326		98°56.5'	+6.5°	1.3	-		-1.37		1163.0	TP	-87+2	+314	227,509	1,435,082	
262	326				2.9	TH	+1.6	-1.37			TP					
	330		260°35'-180°	+6.5°	+3.7	-		+3.77	1166.7		BS	+17+2	+330			
	330				+5.4	TH	-1.7	+3.87			BS					
263	0				5.4	-		-5.4		1161.3	π	0	0	227,528	1,435,412	
TP	310		105°46'	+6.5°	8.0	92°-	-10.8	-18.87		1147.9	TP	-117+2	+287	227,413	1,435,694	
TP	310				11.6	91°20'	-7.2	-18.87			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/15/81		G. Cotcamp		D. Libenson		6834		DL		1/	31					
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 +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
LAT.	DEP.															
263 1/2										1147.9						
	358	357	319° 2' - 180°	+6.5°	+5.0	85° 50'	-25.9	-20.9	1127.0		BS	-294 +2	+202			
	358				+6.0	85° 40'	-27.0	-21.0			BS					
264	330	329	319° 2'	+6.5°	4.9	85° 40'	+24.9	+20.0		1147.0		+271	-186	227,392	1,435,715	
265	0				5.4	-		-5.4		1121.6	π	0	0	227,121	1,435,901	
266	330	329	149° 3'	+6.5°	12.5	94° -	-23.0	-35.5		1091.5		-300	+136	226,821	1,436,037	
267	660	658	144° 37'	+6.5°	6.0	94° -	-45.9	-51.9		1075.1	TP	-576 +2	+318	226,547	1,434,219	
267	660				9.9	93° 40'	-42.1	-52.0			TP					
	330		315° 31' - 180°	+6.5°	+3.5	88° -	-11.5	-8.0	1067.1		BS	-260 +2	+203			
	330				+0.6	88° 30'	-8.6	-8.0			BS					
268	0				5.4	-		-5.4		1061.7	π	0	0	226,289	1,436,422	
269	330		166° 20'	+6.5°	14.7	-		-14.7		1052.4	TP	-327 +2	+41	225,967	1,436,463	
269	330				13.0	84	-1.7	-14.7			TP					
	660		359° 40' - 180°	+6.5°	+14.6	89° 14'	-8.8	+5.8	1058.2		BS	-656 +1	-71			
	660				+11.5	89° 30'	-5.8	+5.7			BS					
270	330		359° 40'	+6.5°	11.3	89° 30'	+2.9	-8.4		1049.8		+328	+35	225,637	1,436,427	
271	0				5.4	-		-5.4		1052.8	π	0	0	225,309	1,436,392	
272	330		191° 10.5'	+6.5°	6.7	-		-6.7		1051.5	TP	-314	-100	224,995	1,436,292	
272	330				8.3	TH	+1.7	-6.7			TP					
	990		14° 54' + 180°	+6.5°	+13.4	90° 30'	+8.6	+22.0	1073.5		BS	-922	-361			
	990				+10.6	90° 40'	+11.5	+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			
1/16/81		G. Cotcamp		B. Cotcamp		6837		DL Jew		1		32			
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
									1073.5						
273	660		14°54'	+6.5°	7.8	91°-	-11.5	-19.3		1054.2		+614	+241	224,687	1,436,172
274	330		" "	"	13.1	92°-	-11.5	-24.6		1048.9		+307	+120	224,380	1,436,051
275	0				5.4	-		-5.4		1068.1	π	0	0	224,073	1,435,931
276	332		221°36'	+6.5°	4.7	88°-	+11.6	+6.97		1080.4	TP	-222	-247	223,851	1,435,684
276	332				2.7	88°20'	+9.7	+7.05			TP				
	330		51°3'+180°	+6.5°	+14.8	-		+14.87	1095.2		BS	-177	-278		
	330				+13.1	84	+1.7	+14.87			BS				
277	0				5.4	-		-5.4		1089.8	π	0	0	223,674	1,435,906
278	330		229°19'	+6.5°	14.9	84	-1.7	-16.67		1078.6	TP	-185	-273	223,989	1,435,133
278	330				10.8	91°-	-5.8	-16.67			TP				
	290	289	349°40'+180°	+6.5°	+7.9	86°-	-20.2	-12.37	1066.3		BS	-289	+19+2		Curve
	290				+5.3	86°30'	-17.7	-12.45			BS				
Y	237		340°16'	+6.5°	3.1	87°-	+12.4	+9.3		1075.6		+230	-54	223,430	1,435,100 Y-intersect.
BM	212		345°16'	+6.5°	2.4	87°-	+11.1	+8.7		1075.0		+210	-30	223,410	1,435,124 U.S.G.S. 7ES 1957 1075.
279	0				5.4	-		-5.4		1060.9	π	0	0	223,200	1,435,154 jeep trail
TP	295		170°41'	+6.8°	13.6	84	-1.5	-15.17		1051.2	TP	-295+1	+13-2	222,906	1,435,165 ↓
TP	295				13.3	90°20'	-1.7	-15.05			TP				
	368		47°38'+180°	+6.8°	+9.3	92°-	+12.8	+22.17	1073.3		BS	-214+1	-299-2		
	368				+12.6	91°30'	+9.6	+22.25			BS				
280	330		51°42'	+6.8°	13.5	91°-	-5.8	-19.3		1054.0		+172	+281	222,865	1,435,145

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/16/81		G. Cotcamp		B. Cotcamp		6834		DL <i>rdw</i>		1		333			
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
									1073.3						
281	0				5.4	-		-5.4		1067.9	π	0	0	222,693	1,434,864
TP	210		228°28'	+6.8°	4.3	83°-	+7.3	+3.0		1076.3	TP	-120+1	-173-2	222,574	1,434,689
TP	210				2.5	88°30'	+5.5	+3.0			TP				
	230		27°19'+180°	+6.8°	+8.1	-		+8.1	1084.4		BS	-190+1	-129-2		
	230				+7.0	84	+1.2	+8.2			BS				
282	123		33°16'	+6.8°	1.6	-		-1.6		1082.8		+94	+79	222,479	1,434,637
π	0				5.4	-		-5.4		1079.0	π	0	0	222,385	1,434,558
283	190		191°41'	+6.8°	14.4	90°50'	-2.8	-17.2		1067.2	TP	-180+1	-60-2	222,206	1,434,496
283	190				12.2	91°30'	-5.0	-17.2			TP				
	330		342°40'-180°	+6.8°	+14.7	90°20'	+1.9	+16.6	1083.8		BS	-324+1	+60-2		
	330				+10.9	91°-	+5.8	+16.7			BS				
284	0				5.4	-		-5.4		1078.4	π	0	0	221,883	1,434,554
285	330		158°19'	+6.8°	1.3	87°-	+17.2	+15.9		1099.7	TP	-319+1	+85-2	221,565	1,434,637
285	330				3.2	86°40'	+19.2	+16.0			TP				
	330		324°5'-180°	+6.8°	+10.6	92°-	+11.5	+22.1	1121.8		BS	-288+1	+161-2		
	330				+8.6	92°20'	+13.4	+22.0			BS				
286	0				5.4	-		-5.4		1116.4	π	0	0	221,278	1,434,796
287	330	329	166°23'	+6.8°	6.0	85°40'	+24.9	+18.9		1140.7	TP	-327+1	+39-2	220,952	1,434,833
287	330				7.0	85°30'	+25.8	+18.8			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/16/81		G. Cotcamp		B. Cotcamp		6834		DL <i>rlw</i>		11		34			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Arkansas		Scott								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 TP	COORDINATES		REMARKS	
												NORTH + SOUTH - LAT.	EAST + WEST - DEP.		Y
287	238	237	331°36'-180°	+6.8°	9.5	96°-	+24.7	+34.27	1174.9		BS	-220+1	+87-2		
	238				+13.7	95°-	+20.7	+34.4			BS				
	0				5.4	-		-5.4		1169.5	π	0	0	220,733	1,434,918
288	90		123°3'	+6.8°	3.6	84°-	+9.4	+5.8		1180.7		-58	+69	220,675	1,434,987
	180	179	116°19'	+6.8°	4.2	84°-	+18.7	+14.57		1189.4	TP	-98+1	+150-2	220,636	1,435,066
	180				1.0	85°-	+15.6	+14.6			TP				
	240	239	269°13'-180°	+6.8°	+14.9	95°-	+20.8	+35.77	1225.1		BS	-25+1	+238-2		
	240				+10.8	96°-	+25.0	+35.8			BS				
289	0				5.4	-		-5.4		1219.7	π	0	0	220,612	1,435,302
290	330	328	96°26'	+6.8°	1.6	84°-	+34.3	+32.77		1257.8	TP	-75+1	+319-2	220,538	1,435,619
290	330				3.5	83°40'	+36.2	+32.7			TP				
	330	329	272°38'-180°	+6.5°	+12.7	94°-	+23.0	+35.77	1293.5		BS	-52+1	+325-2		
	330				+13.8	93°50'	+22.0	+35.8			BS				
291	0				5.4	-		-5.4		1288.1	π	0	0	220,487	1,435,942
292	330		78°48'	+6.5°	3.9	89°-	+5.8	+1.9		1295.4		+27	+329	220,514	1,436,271
293	660		78°48'	+6.5°	2.4	89°-	+11.5	+9.17		1302.6	TP	+54+1	+658-2	220,542	1,436,598
293	660				6.3	88°40'	+15.4	+9.1			TP				
	330		253°1'-180°	+6.5°	+14.4	89°32'	-2.7	+11.77	1314.3		BS	+60+1	+324-2		
	330				+14.6	89°30'	-2.9	+11.7			BS				
294	0				5.4	-		-5.4		1308.9	π	0	0	220,603	1,436,920

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE					
1/16/81		G. Cotcamp		D. Liberson		6834		DL		1/		35					
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		
									1314.3								
295	330		71°30'	+6.5°	6.5	-		-6.5		1307.8	TP	+69+1	+323-2	220,673	1,437,241		
295	330				7.5	89°50'	+1.0	-6.5			TP						
	660		249°36' -180°	+6.5°	+4.7	91°40'	+19.2	+23.9			BS	+159+1	+641-2				
	660				+6.6	91°30'	+17.3	+23.9	1331.7		BS						
296	330		249°36'	+6.5°	4.0	92°-	-11.5	-15.5		1316.2		-79	-320	220,754	1,437,560		
297	0				5.4	-		-5.4		1326.3	TP	0	0	220,833	1,437,880		
298	330		71°15'	+6.5°	0.7	89°-	+5.8	+5.1		1336.8	TP	+70+1	+322-2	220,904	1,438,200		
298	330				3.6	88°30'	+8.6	+5.0			TP						
	660		251°23' -180°	+6.5°	+4.3	88°40'	-15.4	-11.1	1325.7		BS	+139+1	+645-2				
	660				+3.1	88°46'	-14.2	-11.1			BS						
299	330		251°23'	+6.5°	0.9	TH	+1.7	+0.8		1326.5		-69	-323	220,975	1,438,520		
300	0				5.4	-		-5.4		1320.3	TP	0	0	221,044	1,438,843		
301	330		70°19'	+6.5°	1.5	89°-	+5.8	+4.3		1330.0		+75	+321	221,119	1,439,164		
302	660		70°19'	+6.5°	5.2	88°16'	+20.0	+14.8		1340.5	TP	+151+1	+643-2	221,196	1,439,484		
302	660				8.3	88°-	+23.0	+14.7			TP						
	330		251°23' -180°	+6.5°	+10.5	87°40'	-13.4	-2.9	1337.6		BS	+69+1	+322-2				
	330				+13.8	87°6'	-16.7	-2.9			BS						
303	0				5.4	-		-5.4		1332.2	TP	0	0	221,266	1,439,804		
304	330		93°35'	+6.5°	4.9	92°10'	-12.5	-17.4		1320.2	TP	-58+1	+325-2	221,209	1,440,127		
304	330				3.9	92°20'	-13.4	-17.3			TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/16/81		G. Cotcamp		D. Libenson		6837		DL rlw		1		336			
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
304	285		274°37' -180°	+6.5°	+6.5	88° -	-9.9	-3.47	1316.8		BS	-55+1	+279-2		
	285				+7.3	87°50'	-10.8	-3.5			BS				
π	0				5.4	-		-5.4		1311.4	π	0	0	221,155	1,440,404
305	43		87°31'	+6.5°	8.3	-		-8.3		1308.5		-3	+43	221,152	1,440,447
TP	270	269	87°31'	+6.5°	10.5	93°40'	-17.2	-27.7		1289.1	TP	-19+1	+269-2	221,137	1,440,671
TP	270				12.0	93°20'	-15.7	-27.7			TP				
	172		254°37' -180°	+6.5°	+1.2	-		+1.2	1290.3		BS	+27+1	+170-2		
	172				+2.1	74	-0.9	+1.2			BS				
306	69		254°37'	+6.5°	3.2	-		-3.2		1287.1		-11	-68	221,154	1,440,771
π	0				5.4	-		-5.4		1284.9	π	0	0	221,165	1,440,839
307	268	267	77°07'	+6.5°	6.2	96° -	-27.9	-34.1		1256.2	TP	-63+1	+259-2	221,103	1,441,096
307	268				10.8	95° -	-23.3	-34.1			TP				
	200		272°46' -180°	+6.5°	+3.8	86°34'	-12.0	-8.2	1248.0		BS	-32+1	+197-2		
	200				+2.6	86°54'	-10.8	-8.2			BS				
π	0				5.4	-		-5.4		1242.6	π	0	0	221,072	1,441,291
308	130		84°56'	+6.5°	9.9	-		-9.9		1238.1		-3	+130	221,069	1,441,421
TP	330		84°56'	+6.5°	14.9	93° -	-17.2	-32.1		1215.9	TP	-8+1	+330-2	221,065	1,441,619
TP	330				12.0	93°30'	-20.1	-32.1			TP				
	129		279°43' -180°	+6.5°	+2.2	85° -	-11.2	-9.0	1206.9		BS	-36+1	+129-2		
	129				+1.1	85°30'	-10.1	-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						
1/16/81		G. Cotcamp		D. Libenson		6834		B.L. J.W.		1	37						
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	NORTH+ SOUTH-	EAST+ WEST-	COORDINATES		REMARKS	
												LAT.	DEP.	Y	X		
									1206.9								
309	0				5.4	-		-5.4		1201.5	π	0	0	221,030	1441,741		
310	330	328	89°11'	+6.5°	12.2	97°-	-39.9	-52.1		1154.8	TP	-4+2	+328-2	221,028	1,442,067		
310	330				13.5	96°40'	-38.1	-51.6			TP						
	159	154	3°57'+180°	+6.8°	+10.0	75°-	-39.8	-29.8	1125.0		BS	-15+2	-29-2				
	159				+9.1	75°20'	-38.9	-29.8			BS						
π	0				5.4	-		-5.4		1119.6	π	0	0	220,879	1,442,036	split sta. - sharp curve	
311	67		229°21'	+6.8°	14.2	-		-14.2		1110.8		-37	-56	220,842	1,441,980		
TP	259		229°21'	+6.8°	12.0	92°-	-9.0	-21.0		1104.0	TP	-144+2	-215-2	220,737	1,441,819		
TP	259				13.5	91°40'	-7.5	-21.0			TP						
	132		69°25'+180°	+6.8°	+2.1	85°-	-11.5	-9.4	1094.6		BS	-32+2	-128-2				
	132				+0.9	85°30'	-10.3	-9.4			BS						
312	0				±5.4	-		-5.4		1089.2	π	0	0	220,707	1,441,689		
TP	200		208°37'	+6.8°	14.6	92°10'	-7.6	-22.2		1072.4	TP	-163+2	-116-2	220,546	1,441,571		
TP	200				13.5	92°30'	-8.7	-22.2			TP						
	130	129	62°02'+180°	+7.1°	+2.4	84°-	-13.5	-11.1			BS	-46+2	-121-2				
	130				+1.6	84°20'	-12.8	-11.2	1061.2		BS						
313	0				5.4	-		-5.4		1055.8	π	0	0	220,502	1,441,448		
TP	190	188	169°37'	+7.1°	13.6	99°-	-29.4	-43.0			TP	-187+2	+11-2	220,317	1,441,457		
TP	190				14.8	98°40'	-28.3	-43.1		1018.1	TP						

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE								
1/19/81		D. Libenson		B. Cotcamp		6834		B. Cotcamp		11	38								
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				
313 1/2										1018.1									
	72	71	316° 10' - 180°	+7.1°	+24	83° -	-8.7	-6.3	1011.8		BS	-57+2	+42-2						
	72				+1.8	83° 30'	-8.1	-6.3			BS								
314	0				5.4	-		-5.4		1006.4	X	0	0	220,262	1,441,497				
315	326	325	153° 55'	+7.1°	5.9	94° 30'	-25.5	-30.9		980.9	TP	-307+2	+106-2	219,957	1,441,601				
315	326				6.7	94° 16'	-24.2	-30.9			TP								
	281		315° 09' - 180°	+7.1°	+13.0	87° 56'	-10.1	+2.9	983.8		BS	-222+2	+172-2						
	281				+9.4	88° 40'	-6.5	+2.9			BS								
X	0				5.4	-		-5.4		978.4	X	0	0	219,737	1,441,771				
316	69		194° 53'	+7.1°	4.9	93° -	-3.6	-8.5		975.3		-64	-26	219,673	1,441,745				
317	389		194° 53'	+7.1°	6.1	92° -	-13.6	-19.7		964.1	TP	-361+2	-146-2	219,378	1,441,623				
317	389				12.9	91° -	-6.8	-19.7			TP								
	332		22° 03' 30" + 180°	+7.1°	+2.2	89° -	-5.8	-3.6	960.5		BS	-290+2	-162-2						
	332				+5.1	88° 30'	-8.7	-3.6			BS								
318	0				5.4	-		-5.4		955.1	X	0	0	219,090	1,441,459			set-up opposite sta.	
TP	245		237° 40'	+7.1°	12.9	89° -	+4.3	-8.6			TP	-104+2	-222-2	218,988	1,441,235				
TP	245		74° 55' + 180° DL		14.4	88° 40'	+5.7	-8.7		951.8	TP								
	356	355	74° 55' + 180°	+7.1°	+10.1	86° 26'	-22.7	-12.6	939.2		BS	-49+2	-352-2						
	356				+6.0	87° -	-18.6	-12.6			BS								
319	268		73° 11'	+7.1°	3.8	86° 56'	+14.8	+11.0		950.2		+45	+264	218,986	1,441,145				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/19/81		D Liberson		B Cotcamp		6834		B.C. Allen		1/		39			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Ark		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
									939.2						
X	0				5.4	-		-5.4		933.8	X	0	0	218,941	1,440,881
320	62		223° 09'	+7.1°	9.5	90° 16'	-0.2	-9.7		929.5	TP	-40	-48	218,901	1,440,833
TP	270		196° 10'	+7.1°	2.1	92° 36'	-12.2	-14.3		924.9	TP	-248+2	-107-2	218,695	1,440,772
TP	270				1.0	92° 50'	-13.3	-14.3			TP				
	195		354° 10' - 180°	+7.1°	+5.1	86° -	-13.6	-8.5	916.4		BS	-195+2	-9-2		
	195				+8.5	85° -	-16.9	-8.4			BS				
321	102		0° 34'	+7.1°	5.0	95° 10'	+8.6	+3.6		920.0		+101	+14	218,603	1,440,780
X	0				5.4	-		-5.4		911.0	X	0	0	218,502	1,440,766
322	241		220° 16'	+7.1°	7.7	92° 30'	-10.5	-18.2		898.2	TP	-163+2	-177-2	218,341	1,440,587
322	241				9.8	92° -	-8.4	-18.2			TP				
	330	329	60° 14' + 180°	+7.1°	+12.2	86° -	-23.0	-10.8	887.4		BS	-127+2	-304-2		
	330				+9.7	86° 26'	-20.5	-10.8			BS				
323	0				5.4	-		-5.4		882.0	X	0	0	218,216	1,440,881
TP	272	271	241° 11'	+7.1°	14.3	93° 40'	-17.4	-31.7		855.7	TP	-100+2	-252	218,118	1,440,039
TP	272				11.9	94° 10'	-19.7	-31.6			TP				
	370	369	356° 08' - 180°	+7.1°	+6.1	84° 50'	-33.2	-27.1	828.6		BS	-368+2	-21		
	370				+9.5	84° 13'	-36.6	-27.1			BS				
324	325	324	350° 47'	+7.1°	4.4	85° 24'	+26.0	-21.6		807.0		+324	-12	218,076	1,439,996
325	0				5.4	-		-5.4		823.2	X	0	0	217,752	1,440,008

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/16/81		D Libensin		B Cotcamp		6834		B.C. xlv		1	40					
AREA		TOPO MAP		STATE	COUNTY		TWP	RANGE	PPM	PARTY MANAGER						
Arkansas		Perks 15'		Ark	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 +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
									828.6							
326	330		155° 31'	+7.1°	14.7	93° -	-17.2	-31.9			TP	-315+2	+99	217,439	1,440,107	
326	330				11.9	92° 30'	-20.1	-32.0		796.6	TP					
	330 257	256	332° 15' - 180°	+7.1°	+8.9	86° 18'	-16.6	-7.7	788.9		BS	-240+2	+90			
	330 257				+8.0	86° 30'	-15.7	-7.7			BS					
326 117			285° 28'	+7.1°	1.7	92° 26'	-5.0	-6.7		782.2		+45	-108	217,046	1,440,089	±1 RT #80
327	0				5.4	—		-5.4		783.5	K	0	0	217,201	1,440,197	State Rt 80
328	330		95° 31'	+7.1°	3.0	89° 36'	+2.9	-0.1		788.8		-72	+322	217,129	1,440,519	↓
321	660		97° 06'	+7.1°	14.4	90° 02'	-0.4	-14.8		774.1	TP	-162+2	+690	217,041	1,440,837	
321	660				14.7	90° -		-14.7			TP					
	983		294° 05' - 180°	+7.1°	+6.7	88° 50'	-20.0	-13.3	760.8		BS	-509+2	+891			
	983				+1.0	89° 10'	-14.3	-13.3			BS					
B.M.	871		294° 50'	+7.1°	5.5	89° 16'	+12.7	+7.2		768.0		+461	-739	216,955	1,440,939	e1. 767.2 U.S.G.S 6ES 1960 Reprint 1972
330	660		297° 18'	+7.1°	9.0	89° 16'	+9.6	+0.6		761.4		+373	-595	216,907	1,441,133	
331	330		288° 31'	+7.1°	7.3	89° 16'	+4.8	-2.5		758.3		+192	-268	216,726	1,441,410	
332	0				5.4	—		-5.4		755.4	K	0	0	216,534	1,441,678	
333	330		116° 07'	+7.1°	6.9	89° 16'	+4.8	-2.1		758.7		-181	+276	216,353	1,441,954	
334	656		111° 25'	+7.1°	8.2	89° 16'	+9.5	+1.3		762.1	TP	-313+2	+576	216,223	1,442,254	
334	656				2.5	88° 40'	+3.8	+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			
1/15/81		D Libenson		G Cotcamp		6834		B. C. Cole		1/1		4/1			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Parks 15'		Ark		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
334										762.1					
	610		322°21'-180°	+7.1°	+9.9	—		+9.9	772.0		BS	-525+2	+310		
	610				+6.3	90°20'	+3.6	+9.9			BS				
TP	530		334°37'	+7.1°	13.7	—		-13.7		758.3		+503	-166	216,203	1,442,398
335	332		325°25'	+7.1°	0.4	90°40'	-3.9	-16.3		755.7		+295	-153	215,995	1,442,411
336	0				5.4	—		-5.4		766.6	X	0	0	215,700	1,442,564
337	326		150°07'	+7.1°	3.2	88°26'	+8.9	+5.7		777.7		-301	+126	215,399	1,442,690
TP	507	506	149°46'	+7.1°	10.9	87°—	+26.5	+15.6		787.6	TP	-465+2	+199	215,237	1,442,763
TP	507				5.1	87°40'	+20.6	+15.5			TP				
	575	574	344°52'-180°	+7.1°	+3.8	87°34'	-24.4	-20.6	767.0		BS	-568+2	+80		
	575				+7.1	87°10'	-28.4	-21.3			BS				
338	330		349°33'	+7.1°	2.0	—		-2.0		765.0		+329	-19	215,000	1,442,824
339	0				5.4	—		-5.4		761.6	X	0	0	214,671	1,442,843
TP	278	277	178°06'30"	+7.1°	10.5	86°—	+19.3	+8.8		775.8	TP	-276+2	-25	214,397	1,442,818
TP	278				8.1	86°30'	+16.9	+8.8			TP				
	270	269	343°00'-180°	+7.1°	+1.6	85°—	-23.4	-21.8	754.0		BS	-265+2	+46		
	270				+3.2	84°40'	-25.0	-21.8			BS				
340	221	220	341°09'	+7.1°	2.6	84°40'	+20.5	+17.9		771.9		+215	-45	214,349	1,442,819
X	0				5.4	—		-5.4		748.6	X	0	0	214,134	1,442,864
341	103		110°42'	+7.1°	13.0	—		-13.0		741.0	TP	-48+2	+91	214,088	1,442,955
341	103				13.5	TH	+0.5	-13.0			TP				

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE							
1/19/81		D Liberson		G Cotcamp		6834		B. Co. edw		1/		42							
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER					
Arkansas		Parks 15'		Ark		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				
341										741.0									
	332	330	270° 09' - 180°	+7.1°	+2.7	83° 28'	-37.5	-34.8	706.2		BS	-42.2	+32.7						
	332				+0.9	83° 46'	-35.8	-34.9		BS									
342	0				5.4	—		-5.4		700.8	X	0	0	214,048	1,443,282				
343	334		153° 05'	+7.1°	8.9	—		-8.9		697.3	TP	-314.2	+113	213,736	1,443,395				
343	334				10.6	TH	+1.7	-8.9			TP								
	329		31° 20' + 180°	+7.1°	+13.6	89° 30'	-2.9	+10.7	708.0		BS	-258.2	-205						
	329				+13.0	89° 26'	-2.3	+10.7		BS									
344	0				5.4	—		-5.4		702.6	X	0	0	213,480	1,443,190				
TP	169		204° 32'	+7.1°	2.1	—		-2.1		705.9	TP	-144.2	-89	213,338	1,443,101				
TP	169				1.3	BU	-0.8	-2.1			TP								
	482		17° 40' + 180°	+7.1°	+11.2	—		+11.2	717.1		BS	-439	-202						
345	330		17° 45'	+7.1°	10.1	—		-10.1			707.0		+299	+139	213,198	1,443,038			
346	0				5.4	—		-5.4		711.7	X	0	0	212,899	1,442,899				horiz. corrad. y = +100' x = -96'
347	330		201° 57'	+7.1°	0.8	—		-0.8		716.3		-288	-160	212,611	1,442,739				
TP	822		201° 57'	+7.1°	6.7	89° -	+14.3	+7.6		724.7		-719	-399	212,180	1,442,500				212,180 + 1/492,500 T-intersect.
348	656		202° 08' 36"	+7.3°	3.1	89° 20'	+7.6	+4.5			TP	-571.2	-322.2	212,326	1,442,575				
348	656				5.7	89° 06'	+10.3	+4.6		721.7	TP								
	498		345° 02' - 180°	+7.3°	+13.0	91° 54'	+16.5	+29.5	751.2		BS	-494	+66.2						
	498				+9.1	92° 20'	+20.3	+29.4		BS									
349	322		357° 50'	+7.3°	11.5	92° 40'	-15.0	-26.9		724.3		+321	+29	212,153	1,442,668				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/19/81		D Libenson		G. Cotcamp		6834		R. Cordw		✓		43			
AREA		TOPO MAP		STATE		COUNTY		TWP		RANGE		PPM		PARTY MANAGER	
Arkansas		Perks 15'		Ark.		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
349									751.2						
350	0				5.4	—		-5.4		745.8	π	0	0	211,832	1442,639
TP	205		163°11'	+7.3°	2.7	87°32'	+8.8	+6.1		757.3	TP	-202	+34-2	210,630	1442,671
TP	205				5.3	86°50'	+11.3	+6.0			TP				
	121		322°57'30" - 180°	+7.3°	+3.8	—		+3.8	761.1		BS	-105	+60-2		
	121				+3.2	BH	+0.6	+3.8			BS				
351	0				5.4	—		-5.4		755.7	π	0	0	211,525	1442,729
352	325		159°09'	+7.3°	6.9	88°30'	+8.5	+1.6		762.7	TP	-316	+76-2	211,209	1442,863
352	325				5.0	88°56'	+6.6	+1.6			TP				
	378	377.5	313°59' - 180°	+7.3°	+13.5	93°—	+19.8	+33.3	796.0		BS	-295	+236-2		
	378				+11.3	93°20'	+21.9	+33.2			BS				
353	68		264°00'	+7.3°	6.6	—		-6.6		789.4		+2	-68	210,916	1442,969
1	72		275°55'	+7.3°	7.4	—		-7.4		788.6		+16	-70	210,930	1442,967
π					5.4	—		-5.4		790.6	π	0	0	210,914	1443,037
354	240	239	83°02'	+7.3°	3.9	86°—	+16.7	+12.8		808.8		-1	+239	210,913	1443,276
355	571	569	83°50'	+7.3°	2.7	85°30'	+44.7	+42.0		838.0	TP	-11	+569-2	210,908	1443,604
355	571				1.0	85°40'	+43.0	+42.0			TP				
	331		270°24' - 180°	+7.3°	+10.3	92°—	+11.5	+21.8			BS	-44	+328-2		
	331				+13.2	91°30'	+8.7	+21.9	859.9		BS				
356	0				5.4	—		-5.4		854.5	π	0	0	210,859	1443,930

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/23/81		G. Cotcamp		B. Cotcamp		6834		Bo Carter		1/1		44				
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	X
									859.9							
357	338	337.5	105° 05'	+7.3°	3.2	87° -	+17.7	+14.5		874.4	TP	-129	+312.2	210,736	1444,240	7 P. opposite sta.
357	338				0.7	87° 26'	+15.1	+14.4			TP					
	290		333° 11' -180°	+7.3°	+12.5	72° -	+10.1	+22.6			BS	-273	+97.2			
	290				+14.3	91° 40'	+8.4	+22.7	897.1		BS					
π	0				5.4	-		-5.4		891.7	π	0	0	210,457	1444,335	split sta. - curve
358	40		181° 48'	+7.3°	3.1	-		-3.1		894.6		-40	-6	210,417	1444,329	
TP	360	358	181° 48'	+7.3°	12.3	84° 26'	+34.8	+22.5		919.6	TP	-354	-57.2	210,103	1444,276	
TP	360				12.9	84° 20'	+35.4	+22.5			TP					
	1010	1007.5	29° 18' +180°	+7.3°	+12.0	94° -	+70.3	+82.3			BS	-809	-601.2			
	1010				+14.5	93° 52'	+68.6	+82.5	1,002.1		BS					
359	990	988	29° 18'	+7.3°	12.3	94° -	-68.9	-81.2		920.9		+793	+589	210,087	1444,262	
360	660	658	"	"	12.2	94° -	-45.9	-58.1		944.0		+530	+394	209,824	1444,064	
361	330	329	"	"	12.0	93° -	-17.2	-29.2		972.9		+264	+196	209,558	1443,869	
362	0				5.4	-		-5.4		996.7	π	0	0	209,294	1443,673	
363	328	327.5	179° 40'	+7.3°	4.6	87° -	+17.1	+12.5		1,014.6	TP	-325	-40.2	208,969	1443,631	
363	328				2.7	87° 20'	+15.2	+12.5			TP					
	198		304° 32' -180°	+7.3°	+14.2	84	+1.0	+15.2	1,029.8		BS	-132	+148.2			
	198				+11.7	91° -	+3.5	+15.2			BS					
π	0				5.4	-		-5.4		1,024.4	π	0	0	208,837	1443,777	split sta. - curve
364	122		83° 15'	+7.3°	0.1	-		-0.1		1,029.7		-1	+122	208,836	1,443,899	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/23/81		G. Cotcamp		D. Libenson		6834		B. C. [Signature]		1	45					
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	
									1,029.8							
365	450		72°41'	+7.3°	6.1	88°50'	+9.2	+3.1		1,032.9	TP	+78	+443.2	208,915	1,444,218	
365	450				8.7	88°30'	+11.8	+3.1			TP					
	330	328	263°58'-180°	+7.3°	+1.1	96°-	+34.3	+35.4	1,068.3		BS	-7	+328.2			
	330				+2.6	95°44'	+32.8	+35.4			BS					
366	0				5.4	-		-5.4		1,062.9	X	0	0	208,908	1,444,544	
367	334	332	89°14'	+7.3°	11.7	84°-	+34.7	+23.0			TP	-38	+330.2	208,876	1,444,872	T.P. opposite sta.
367	334				5.9	85°-	+29.0	+23.1		1,091.4	TP					
	127		319°22'-180°	+7.3°	+8.2	-		+8.2	1,099.6		BS	-106	+70.2			
	127				+7.6	BH	+0.6	+8.2			BS					
X	0				5.4	-		-5.4		1,094.2	X	0	0	208,764	1,444,946	
368	206		183°0'	+7.3°	1.1	TH	+1.0	-0.1		1,099.5		-203	-37	208,561	1,444,903	
369	540		180°55'30"	+7.3°	5.7	89°-	+9.4	+3.7			TP	-534	-77.2	208,230	1,444,861	
369	540				4.1	89°10'	+7.9	+3.8		1,103.4	TP					
	330		347°39'-180°	+7.3°	+12.1	91°-	+5.8	+17.9	1,121.3		BS	-329	+29.2			
	330				+14.0	90°40'	+3.8	+17.8			BS					
370	0				5.4	=		-5.4		1,115.9	X	0	0	207,901	1,444,888	
371	328	327	136°03'	+7.3°	3.2	85°-	+28.5	+25.3		1,146.6	TP	-262	+195.1	207,639	1,445,082	
371	328				1.3	85°20'	+26.6	+25.3			TP					
	660	658	270°38'-180°	+7.3°	+7.4	94°-	+45.9	+53.3			BS	-91	+652			
	660				+11.3	93°40'	+42.1	+53.4	1,200.0		BS					

SURVEY NOTES-HIGH RESOLUTION DATA
GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/23/81		G. Cotcamp		O. Libenson		6834		B. C. Cole		1		46			
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
									1200.0						
372	330		270°38'	+7.3°	9.5	93°-	-17.2	-26.7		1,173.3		+46	-327	207,594	1,445,407
373	0				5.4	-		-5.4		1,194.6	π	0	0	207,548	1,445,734
374	330	329	97°47'20"	+7.3°	4.0	85°-	+28.7	+24.7		1,224.7		-86	+318	207,462	1,446,052
375	660	657.5	97°47'20"	+7.3°	0.9	85°-	+57.3	+56.4		1,256.4	TP	-171	+635	207,377	1,446,369
375	660				4.8	84°40'	+61.1	+56.3			TP				
	660	659.5	265°16'-180°	+7.3°	+13.3	92°20'	+26.8	+40.1			BS	-30	+659		
	660				+11.4	92°30'	+28.8	+40.2	1,296.6		BS				
376	330		265°16'	+7.3°	13.2	91°-	+5.8	-7.4		1,289.2		+15	-330	207,362	1,446,698
377	0				5.4	-		-5.4		1,291.2	π	0	0	207,347	1,447,028
378	330		94°0'	+7.3°	3.7	87°30'	+14.4	+10.7		1,307.3		-65	+324	207,282	1,447,352
379	660	659	94°0'	+7.3°	2.9	87°30'	+28.8	+25.9		1,322.5	TP	-129	+697	207,218	1,447,675
379	660				1.0	87°40'	+26.2	+25.8			TP				
	660		259°46'-180°	+7.3°	+11.1	-		+11.1	1,333.6		BS	+33	+659		horiz. corrd. y = -2, x = +4
	660				+14.4	TH	-3.3	+11.1			BS				
380	330		258°48'	+7.3°	9.6	-		-9.6		1,324.0		-41	-609	207,210	1,447,725 Y. intersect. (Line 2 tie)
380	330		" "	"	4.8	-		-4.8		1,328.8		-22	-329	207,229	1,448,005 R.M. destroyed
381	0				5.4	-		-5.4		1,328.2	π	0	0	207,251	1,448,334
382	330		78°46'35"	+7.3	5.0	87°-	+17.2	+12.2		1,345.8		+23	+329	207,274	1,448,663
383	660	659	" "	"	3.0	86°40'	+38.3	+35.3		1,368.9		+45	+657	207,296	1,448,991

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/23/81		G. Cotcamp		D. Libenson		6834		B. Corlew		✓		47			
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
									1,333.6						
384	990	988	78°46'35"	+7.3°	7.4	86°40'	+57.5	+50.1		1383.7	TP	+68	+986	207,319	1449,320
384	990				4.5	86°50'	+54.6	+50.1			TP				
	990	989	259°0' -180°	+7.3°	+14.0	88°-	-34.5	-20.5	1363.2		BS	+64	+987		
	990				+9.9	88°14'	-30.5	-20.6			BS				
TP	1036		259°1'	+7.3°	9.6	88°20'	+30.1	+20.5		1383.7		-67	-1037	207,316	1449,273
385	660		259°0'	+7.3°	4.1	88°-	+23.0	+18.9		1382.1		-43	-659	207,340	1449,648
386	330		"	"	3.1	88°-	+11.5	+8.4		1371.6		-2'	-329	207,362	1449,978
387	0				5.4	-		-5.4		1357.8	TP	0	0	207,383	1450,307
388	331	330	76°36'	+7.3°	13.7	93°20'	-19.2	-32.9		1330.3	TP	+35	+328	207,418	1450,635
388	331				12.8	93°30'	-20.2	-33.0			TP				
	320	319	284°13' -180°	+7.3°	+4.8	86°-	-22.3	-17.5	1312.8		BS	-117	+297		
	320				+1.1	86°40'	-18.6	-17.5			BS				curve
389	0				5.4	-		-5.4		1307.4	TP	0	0	207,301	1450,932
390	330		168°18'	+7.3°	14.6	90°56'	-5.4	-20.0			TP	-329	+25	206,972	1450,957
390	330				11.3	91°30'	-8.6	-19.9		1292.9	TP				
	327	326	320°18' -180°	+7.3°	+8.8	86°-	-22.8	-14.0	1278.9		BS	-275	+175		
	327				+6.9	86°20'	-20.9	-14.0			BS				
391	0				5.4	-		-5.4		1273.5	TP	0	0	206,697	1451,132
392	330		129°19'	+7.3°	14.8	92°-	-11.5	-26.3			TP	-240	+227	206,457	1451,359
392	330				9.0	93°-	-17.2	-26.2		1252.7	TP				

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE 7/23/81		INSTRUMENT MAN G. Cotcamp		ROD MAN B. Cotcamp		PARTY NUMBER 6834		NOTES CHECKED BY DL B.C. Shaw		LINE NO. 1	PAGE 48				
AREA Arkansas		TOPO MAP Parles 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 X TP	COORDINATES		REMARKS	
												NORTH+ SOUTH - LAT.	EAST+ WEST - DEP.		Y
392										1252.7					
	324	322	269°42' -180°	+7.3°	+14.8	83°52'	-34.4	-19.6	1233.1		BS	-39	+320		curve
	324				+14.3	83°38'	-33.9	-19.6			BS				
393	0				5.4	-		-5.4		1227.7	π	0	0	206,918	1,451,679
394	330	329.5	70°06'	+7.3°	8.7	93°-	-17.2	-25.9		1207.2	TP	+72	+322	206,490	1,452,001
394	330				14.4	92°-	-11.5	-25.9			TP				
	330	329.5	237°24' -180°	+7.3°	+0.5	87°-	-17.2	-16.7	1190.5		BS	+141	+298		
	330				+2.4	86°40'	-19.2	-16.8			BS				
395	0				5.4	-		-5.4		1185.1	π	0	0	206,631	1,452,299
396	324		107°02'	+7.3°	2.9	92°36'	-14.7	-17.6		1172.9	TP	-134	+295	206,497	1,452,599
396	324				3.3	92°32'	-14.3	-17.6			TP				
	332		311°18' -180°	+7.3°	+1.1	87°40'	-13.5	-12.4	1160.5		BS	-249	+220		
	332				+3.0	87°20'	-15.4	-12.4			BS				
397	0				5.4	-		-5.4		1155.1	π	0	0	206,548	1,452,819
398	334	333.5	169°17'	+7.3°	7.8	93°-	-17.5	-25.3		1135.2	TP	-333	+20	205,915	1,452,834
398	334				13.7	92°-	-11.6	-25.3			TP				
	330	329.5	4°51' +180°	+7.3°	+1.6	87°-	-17.2	-15.6	1119.6		BS	-322	-69		
	330				+3.6	86°40'	-19.2	-15.6			BS				
399	0				5.4	-		-5.4		1114.2	π	0	0	205,593	1,452,765
400	330		192°23'	+7.3°	8.8	93°-	-17.2	-26.0		1093.6		-311	-111	205,282	1,452,659

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/23/81		G. Cotcamp		B. Cotcamp		6834		DL B.C. [Signature]		11	49					
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	
									1119.6							
401	660	659	192° 23'	+7.3°	13.5	93° -	-34.5	-48.0		1071.6	TP	-620	-222	204,973	1952,593	
401	660				9.7	93° 20'	-38.3	-48.0			TP					
	330	329.5	4° 21' +180°	+7.3°	+0.6	87° -	-17.2	-16.6	1055.0		BS	-323	-67			
	330				+34	86° 30'	-20.1	-16.7			BS					
402	0				5.4	-		-5.4		1049.6	X	0	0	204,650	1452,976	
403	330	329.5	167° 06'	+7.3°	13.7	93° -	-17.2	-30.9		1024.1	TP	-328	+32	204,322	1952,508	
403	330				11.8	93° 20'	-19.2	-31.0			TP					
	330	329.5	331° 34' -180°	+7.3°	+6.7	87° -	-17.2	-10.5	1013.6		BS	-307	+119			
	330				+1.0	88° -	-11.5	-10.5			BS					
404	0				5.4	-		-5.4		1009.2	X	0	0	204,015	1452,627	
405	327	326.5	132° 37'	+7.3°	6.4	93° -	-17.1	-23.5		990.1	TP	-250	+210	203,765	1452,837	
405	327				14.0	91° 40'	-9.5	-23.5			TP					
	330	329.5	271° 06' -180°	+7.3°	+3.9	87° -	-17.2	-13.3	976.8		BS	-48	+326			
	330				+1.0	87° 30'	-14.4	-13.4			BS					
406	0				5.4	-		-5.4		971.4	X	0	0	203,717	1453,153	
407	300		115° 03'	+7.3°	14.0	92° 30'	-13.1	-27.1			TP	-161	+253	203,556	1453,416	curve
407	300				13.1	92° 40'	-13.9	-27.0		949.8	TP					
	330		21° 39' +180°	+7.3°	+0.6	89° -	-5.8	-5.2	944.6		BS	-289	-160			
	330				+4.3	88° 20'	-9.6	-5.3			BS					
408	0				5.4	-		-5.4		939.2	X	0	0	203,267	1453,256	

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/23/81		G. Cotcamp		B. Cotcamp		6834		B.C. [Signature]		1	50					
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	
									944.6							
409	328	327.5	189° 12'	+7.3°	11.0	93° -	-17.1	-28.1		916.5	TP	-314	-93	202,953	1,453,163	
409	328				13.9	92° 30'	-14.3	-28.2			TP					
	660	659.6	339° 07' +180°	+7.3°	+4.4	88° -	-23.6	-18.6	897.9		BS	-641	+155			
	660				+0.6	88° 20'	-19.2	-18.6			BS					
410	330		339° 07'	+7.3°	4.5	88° -	+11.5	+7.0		904.9		+321	-78	202,633	1,453,290	
411	0				5.4	-		-5.4		892.5	TP	0	0	202,312	1,453,818	
412	332		165° 24'	+7.3°	13.6	-		-13.6		884.3	TP	-329	+42	201,983	1,453,360	
412	332				11.9	0H	-1.7	-13.6			TP					
	330		11° 22' +180°	+7.3°	+9.8	-		+9.8	894.1		BS	-313	-106			
	330				+11.4	TH	-1.7	+9.8			BS					
413	0				5.4	-		-5.4		888.7	TP	0	0	201,670	1,453,259	
414	330		205° 02'	+7.3°	9.0	92° -	-11.5	-20.5		873.6		-269	-191	201,401	1,453,063	
415	660		208° 02'	+7.3°	4.6	91° 30'	-17.3	-21.9			TP	-538	-382	201,132	1,452,872	
415	660				8.4	91° 10'	-13.4	-21.8		872.3	TP					
	330		37° 01' +180°	+7.3°	+8.6	-		+8.6			BS	-236	-231			
	330				+10.3	TH	-1.7	+8.7	881.0		BS					
416	0				5.4	-		-5.4		875.6	TP	0	0	200,896	1,452,641	
417	327	326.5	205° 07'	+7.3°	13.4	87° -	+17.1	+3.7		884.7	TP	-276	-175	200,620	1,452,466	
417	327				11.1	87° 24'	+14.8	+3.7			TP					

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE					
1/24/81		G. Cotcamp		B. Cotcamp		6834		DL		1	51					
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 +	EAST +	COORDINATES		REMARKS
												SOUTH -	WEST -	Y	X	
												LAT.	DEP.			
417										884.7						
	327	326.5	326°32' -180°	+7.3°	+13.6	86°32'	-17.8	-4.2	880.5		BS	-293	+194			
	327				+14.1	86°46'	-18.4	-4.3			BS					curve
418	0				5.4	-		-5.4		875.1	π	0	0	200,327	1,452,610	
419	330		100°06'	+7.3°	12.8	84°	-1.7	-14.5		866.6		-99	+315	200,228	1,452,925	
420	660		97°11'40"	+7.3°	13.6	91°10'	-13.4	-27.0		853.5	TP	-165	+639	200,162	1,453,249	
420	660				14.7	91°4'	-12.3	-27.0			TP					
	332		282°48' -180°	+7.3°	+2.8	-		+2.8	856.3		BS	-114	+312			
	332				+4.5	TH	-1.7	+2.8			BS					
421	0				5.4	-		-5.4		850.9	π	0	0	200,098	1,453,561	set-up opposite sta.
422	325		158°57'	+7.3°	9.8	89°50'	+0.9	-8.9			TP	-316	+77	199,732	1,453,638	
422	325				8.8	-		-8.8		847.5	TP					
	660		359°46' -180°	+7.3°	+14.5	91°04'	+12.3	+26.8	874.3		BS	-655	-81			
	660				+13.4	91°10'	+13.4	+26.8			BS					
423	330		359°46'	+7.3°	12.4	91°-	-5.8	-18.2		856.1		+327	+41	199,404	1,453,598	
424	0				5.4	-		-5.4		868.9	π	0	0	199,077	1,453,557	
425	330		179°12'40"	+7.3°	9.0	-		-9.0		865.3		-328	-37	198,749	1,453,520	
426	660		"	"	11.8	84°	-3.3	-15.1		859.2		-656	-75	198,421	1,453,482	
427	990		179°12'40"	+7.3°	7.3	91°-	-17.3	-24.6		849.7	TP	-984	-112	198,093	1,453,445	
427	990				13.2	90°40'	-11.5	-24.7			TP					

SURVEY NOTES-HIGH RESOLUTION DATA

GEO-445

Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE			
1/24/81		G. Cotcamp		B. Cotcamp		6834		B.C.		1	52			
AREA		TOPO MAP		STATE		COUNTY		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.	
427										849.7				
	660	659	356°21' -180°	+7.3°	+3.2	86°40'	-38.3	-35.1	814.6		BS	-658	-42	
	660				+2.0	86°46'	-37.2	-35.2			BS			
428	330		353°46'	+7.3°	2.4	87°-	+17.2	+14.8		829.4		+330	+6	197,765 1,453,909
429	0				5.4	-		-5.4		809.2	π	0	0	197,935 1,453,903
430	322		115°0'	+7.3°	13.9	91°48'	-10.1	-24.0		790.6	TP	-172.1	+272	197,264 1,453,675 curve
430	322				14.7	91°40'	-9.4	-24.1			TP			
	309	308	291°47' -180°	+7.3°	+5.4	85°16'	-25.4	-20.0	770.6		BS	-150+2	+269	
	309				+5.9	85°10'	-25.9	-20.0			BS			curve
431	0				5.4	-		-5.4		765.2	π	0	0	197,116 1,453,944
432	305		193°54'	+7.3°	12.1	90°30'	-2.7	-14.8		755.8	TP	-287+2	-110	196,834 1,453,834 curve
432	305				11.3	90°40'	-3.5	-14.8			TP			
	260		54°20' +180°	+7.3°	+1.7	-		+1.7	757.5		BS	-124+2	-229	
	260				+0.4	84	+1.3	+1.7			BS			
π	0				5.4	-		-5.4		752.1	π	0	0	196,712 1,453,605 split sta. - curve
433	70		260°14'	+7.3°	6.8	-		-6.8		750.7		-3	-70	196,709 1,453,535
434	400		260°14'	+7.3°	11.7	-		-11.7		745.8	TP	-17+2	-400	196,697 1,453,205
434	400				13.9	TH	+2.0	-11.7			TP			
	330		56°50' +180°	+7.3°	+1.4	-		+1.4	747.2		BS	-144+2	-297	
	330				+3.1	TH	-1.7	+1.5			BS			
435	0				5.4	-		-5.4		741.8	π	0	0	196,555 1,452,908

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.	PAGE				
1/24/81		G. Cotcamp		B. Cotcamp		6834		B. Co		11	53				
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
									747.2						
436	330		227°45'	+7.3°	2.0	-		-2.0		745.2		-189	-270	196,336	1,452,638
437	660		227°45'	+7.3°	7.0	-		-7.0		740.2	TP	-378+2	-541	196,179	1,452,367
437	660				10.3	TH	+3.3	-7.0			TP				
	330	329.5	47°52' +180°	+7.3°	+1.6	87°-	-17.2	-15.6	724.6		BS	-188+2	-271		
	330				+0.6	87°10'	-16.3	-15.7			BS				
438	0				54	-		-5.4		719.2	X	0	0	195,993	1,452,096
TP	290		183°20'	+7.3°	14.6	92°-	-10.1	-24.7		699.9	TP	-285+2	-54	195,710	1,452,042 curve
TP	290				12.9	92°20'	-11.8	-24.7			TP				
	690	689	319°42' -180°	+7.0°	+2.1	87°-	-36.1	-34.6	665.9		BS	-576+2	+378		
	690				+0.8	87°6'	-34.9	-34.1			BS				
439	660		319°22'	+7.0°	2.5	87°-	+34.5	+32.6		697.9		+550	-366	195,686	1,452,054
440	330		" "	"	2.8	87°-	+17.2	+14.4		680.3		+275	-183	195,411	1,452,237
441	0				5.4	-		-5.4		660.5	X	0	0	195,136	1,452,420
442	330		131°30'	+7.0°	14.5	90°40'	-3.8	-18.3		647.6	TP	-247+2	+219	194,891	1,452,639
442	330				12.6	91°-	-5.8	-18.4			TP				
	658	657.6	302°59' -180°	+7.0°	+7.6	88°-	-23.0	-15.4	632.3		BS	-423+2	+509		
	658				+3.8	88°20'	-19.1	-15.3			BS				
443	330		304°15'	+7.0°	2.8	88°-	+11.5	+8.7		641.0		+218	-248	194,688	1,452,895
444	0				5.4	-		-5.4		626.9	X	0	0	194,470	1,453,143

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/24/81		G. Cotcamp		D. Libenson		6834		DL B.C. [signature]		1/		54			
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
									632.3						
445	321		136° 57'	+7.0°	8.9	BH	-1.6	-10.5		621.8	TP	-260+2	+189	194,212	1,453,332
446	321				13.4	89° 30'	+2.8	-10.6			TP				
	332		281° 28' -180°	+7.0°	+9.6	-		+9.6	631.4		BS	-105+2	+315		
	332				+11.3	TH	-1.7	+9.6			BS				
446	0				5.4	-		-5.4		626.0	X	0	0	194,109	1,453,647
447	330		140° 32'	+7.0°	10.2	91° -	-5.8	-16.0		615.4		-278	+177	193,831	1,453,824
448	660		140° 32'	+7.0°	9.9	91° -	-11.5	-21.4		610.0	TP	-557+2	+354	193,554	1,454,001
448	660				12.6	90° 46'	-8.8	-21.4			TP				
	215		308° 30' -180°	+7.0°	+1.7	-		+1.7	611.7		BS	-153+2	+151-1		
	215				+2.8	TH	-1.1	+1.7			BS				
X	0				5.4	-		-5.4		606.3	X	0	0	193,403	1,454,151
449	115		115° 0'	+7.0°	6.6	-		-6.6		605.1		-61	+98	193,342	1,454,249
TP	382		110° 02'	+7.0°	12.0	-		-12.0		599.7	TP	-174+2	+340-1	193,231	1,454,490
TP	382				10.1	BH	-1.9	-12.0			TP				
	385		280° 14' -180°	+7.0°	+1.6	-		+1.6			BS	-114+2	+368-1		
	385				+3.6	TH	-1.9	+1.7	601.4		BS				
450	330		280° 14'	+7.0°	3.0	-		-3.0		598.4		+98	-315	193,217	1,454,542
451	0				5.4	-		-5.4		596.0	X	0	0	193,119	1,454,857
452	328		90° 37'	+7.0°	4.4	-		-4.4		597.6	TP	-43+2	+325-1	193,078	1,455,181
452	328				6.1	TH	+1.6	-4.5			TP				

SURVEY NOTES-HIGH RESOLUTION DATA
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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE			
1/24/81		G. Cotcamp		P. Liberson		6834		DL B.C. ...		11		55			
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
452										597.0					
	660		293°45'-180°	+7.0°	+1.9	TH	-3.3	-16.47	595.6		BS	-337+2	+567-1		
	660				+6.2	89°20'	-7.7	-16.53			BS				
453	330		293°45'	+7.0°	2.3	-		-2.3		593.3		+169	-284	192,912	1,455,462
454	0				5.4	-		-5.4		590.2	TP	0	0	192,743	1,455,747
455	330		119°02'	+7.0°	11.8	BH	-1.7	-13.5		582.1		-194	+267	192,549	1,456,014
456	660		119°02'	+7.0°	12.5	BH	-3.3	-15.8			TP	-388+2	+539-1	192,357	1,456,280
456	660				13.8	90°10'	+1.9	-15.73		579.9	TP				
	330		313°16'-180°	+7.0°	+2.7	-		+2.77	582.6		BS	-254+2	+211-1		
	-330				+4.3	TH	-1.7	+2.73			BS				
457	0				5.4	-		-5.4		577.2	TP	0	0	192,105	1,456,490
458	326		159°55'	+7.0°	9.5	BH	-1.6	-11.17		571.5	TP	-318+2	+74-1	191,789	1,456,563 curve
458	326				8.3	90°30'	-2.8	-11.13			TP				
	418		325°0'-180°	+7.0°	+3.1	-		+3.17	574.6		BS	-369+2	+196-1		
	418				+5.2	TH	-2.1	+3.13			BS				
459	88		325°0'	+7.0°	3.9	-		-3.9		570.7		+78	-41	191,500	1,456,717
	TP	0			5.4	-		-5.4		569.2	TP	0	0	191,422	1,456,758 split sta. - curve
460	244		187°42'	+7.0°	8.1	-		-8.17			TP	-236+2	-62-1	191,188	1,456,695
460	244				6.8	BH	-1.2	-8.03		566.6	TP				
	175		350°52'-180°	+7.0°	+2.7	-		+2.77	569.3		BS	-175+2	+7-1		
	175				+3.6	TH	-0.9	+2.73			BS				

SURVEY NOTES-HIGH RESOLUTION DATA

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Geosource Inc.

DATE		INSTRUMENT MAN		ROD MAN		PARTY NUMBER		NOTES CHECKED BY		LINE NO.		PAGE				
1/24/81		G. Cotcamp		D. Libenson		6834		B.L.C.		✓		56 of 56				
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	X
									569.3							
π	0				5.4	-		-5.4		563.9	π	0	0	191,015	1,456,781	split sta. - curve
461 DL 20+	152		137°42'	+7.0°	6.5	-		-6.5		562.8		-124	+88	190,891	1,456,789	E.O.L. #1
TP	390		133°02'	+7.0°	9.8	-		-9.8		559.5	TP	-299+2	+251-1	190,718	1,456,951	traverse to T-intersect.
TP	390				11.7	TH	+2.0	-9.8			TP					and B.M.
	243		3°18'+180°	+7.0°	+0.6	-		+0.6	560.1		BS	-239+2	-43-1			↓
	243				+1.8	TH	-1.2	+0.6			BS					horiz. correct. y = +55' x = -13'
π	0				5.4	-		-5.4		554.7	π	0	0	190,461	1,456,907	
<u>DL</u>	210		203°42'	+7.0°	4.6	-		-4.6		555.5	TP	-181	-107	190,300	1,456,800	190,300+1,456,800 T-intersect.
	320				+2.8	-		+2.8	558.3		BS					
BM	70				4.0	-		-4.0		554.3						U.S.G.S. 3 E.S. 1957