

ARKANSAS DEPARTMENT OF
POLLUTION CONTROL AND ECOLOGY

MINUTE ORDER NO. 79-25

LOCATION - SUBJECT: Approval of
Expenditures

PAGE 1 of 1 PAGES

The Department expenditures from General Revenue and Federal Funds for the period July 1, 1978 through April 30, 1979, as shown on the attached, are hereby accepted and approved

COMMISSIONERS

DB
MDV
J. S. [unclear]
[unclear]
[unclear]
[unclear]

Ralph A. Dumas
Chairman

Submitted by: A. Sacrey Date Passed: 05/25/79

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
EXPENDITURE BY ACTIVITY REPORT

05/05/79

MONTH ENDING 04/30/79

FISCAL YEAR 78-79

PAGE 567

AGENCY POLLUTION CONTROL & ECOLOGY

I

APPRO DEPT OF POLLUTION CONT/ECOLOGY ACT 769 & 855 OF 1977

930 396 WUC 0

514 WORKMAN COMP CLAIMS

515 UNEMPLOYMENT COMP CLAIMS

** CHARACTER TOTAL **

1 514 WORKMAN COMP CLAIMS

515 UNEMPLOYMENT COMP CLAIMS

** CHARACTER TOTAL **

** ACTIVITY TOTAL **

110 REG SALARIES

514 WORKMAN COMP CLAIMS

515 UNEMPLOYMENT COMP CLAIMS

** CHARACTER TOTAL **

1 130 EXTRA HELP

** CHARACTER TOTAL **

2 211 POSTAGE

212 TELE-COMMUNICATIONS

213 FREIGHT

221 PRINTING BINDING DUPLICAT

222 ADVERTISING

231 BLDG & GROUND MAINT

233 OFFICE EQPT REPAIRS

235 SAFETY & COMM EQPT

236 SPEC RESEARCH EQPT

241 ELECTRICITY

242 WATER SEWER & GARBAGE

243 HTG COOLING & LGHT FUELS

244 RENT OF LAND BLDG & OFFIC

245 RENT OF OFFICE FURN & EQP

246 RENT OF DP EQPT

25A IN STATE MILEAGE

25C MEALS & LODGING-IN STATE

25D MEALS & LODGING-OUT OF ST

25F COMMON CARRIER-OUT OF STA

255 BOARD & COMMISSION EXP

257 CHARTER SERVICES

259 OTHER TRAVEL EXPENSE

269 OTHER PROFESSIONAL FEES

271 SURETY & PERFORM BONDS

272 INS PREM - VEHICULAR EQPT

273 INSURANCE PREM - BLDG

285 CENTREX & MATTS LINES

287 DF&A QUICK COPY CENTER

288 PRINTING & REPRODUCTION C

291 ASSOC DUES & CONFER FEES

294 JANITORIAL & LAUNDRY SVC

323 CREDIT CARD PURCHASES

324 LICENSES & TITLE FEES

331 STATIONERY & OFFICE SPLS

DESCRIPTION MONTH-TO-DATE QUARTER-TO-DATE YEAR-TO-DATE

DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
514 WORKMAN COMP CLAIMS	10.51-	10.51-	127,640.76
515 UNEMPLOYMENT COMP CLAIMS	20.95-	20.95-	355.27
** CHARACTER TOTAL **	31.46-	31.46-	710.49
1 514 WORKMAN COMP CLAIMS	37.54-	37.54-	710.49
515 UNEMPLOYMENT COMP CLAIMS	75.04-	75.04-	128,706.52
** CHARACTER TOTAL **	112.58-	112.58-	621.29
** ACTIVITY TOTAL **	144.04-	144.04-	621.29
110 REG SALARIES	12,006.52	12,006.52	12,075.00
514 WORKMAN COMP CLAIMS	10.51	10.51	948.73
515 UNEMPLOYMENT COMP CLAIMS	20.95	20.95	89.08
** CHARACTER TOTAL **	12,037.98	12,037.98	12,79
1 130 EXTRA HELP			334.80
** CHARACTER TOTAL **	2,000.00	2,000.00	1,662.00
2 211 POSTAGE			3,559.29
212 TELE-COMMUNICATIONS			213.42
213 FREIGHT			330.00
221 PRINTING BINDING DUPLICAT			11,531.52
222 ADVERTISING			720.19
231 BLDG & GROUND MAINT			361.35
233 OFFICE EQPT REPAIRS			34,294.00
235 SAFETY & COMM EQPT			7,902.52
236 SPEC RESEARCH EQPT			17.01
241 ELECTRICITY	1,325.36	1,325.36	65.40
242 WATER SEWER & GARBAGE			112.55
243 HTG COOLING & LGHT FUELS			341.95
244 RENT OF LAND BLDG & OFFIC			783.65
245 RENT OF OFFICE FURN & EQP	5,533.68-	5,533.68-	879.11
246 RENT OF DP EQPT			190.40
25A IN STATE MILEAGE			24.15
25C MEALS & LODGING-IN STATE			5.70
25D MEALS & LODGING-OUT OF ST			175.00
25F COMMON CARRIER-OUT OF STA			319.44
255 BOARD & COMMISSION EXP			7,491.00
257 CHARTER SERVICES			19,038.09
259 OTHER TRAVEL EXPENSE			79.80
269 OTHER PROFESSIONAL FEES			1,440.90
271 SURETY & PERFORM BONDS			73.25
272 INS PREM - VEHICULAR EQPT			5,761.90
273 INSURANCE PREM - BLDG			388.88
285 CENTREX & MATTS LINES			31.50
287 DF&A QUICK COPY CENTER			9,037.03
288 PRINTING & REPRODUCTION C	56.90	56.90	
291 ASSOC DUES & CONFER FEES			
294 JANITORIAL & LAUNDRY SVC	815.70	815.70	
323 CREDIT CARD PURCHASES			
324 LICENSES & TITLE FEES			
331 STATIONERY & OFFICE SPLS			

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
EXPENDITURE BY ACTIVITY REPORT

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	396	010	2	335	DRUGS LAB SUPPLIES			2.97
				336	SHOP & INDUSTRIAL SPLS			69.72
				337	SUBSCRIPTIONS			1,725.10
				343	KITCHEN JANITOR SPLS			944.82
				346	SUPPLIES FOR DUPLG MCHS			952.34
				741	OFFICE MACHINES			3,095.61
				742	OFF & HSHLD FURN & EQPT			693.10
				743	MEDICAL EQPT			402.00
					** CHARACTER TOTAL **	1,335.72-	1,335.72-	128,177.06 *
			3	161	GROUP INSURANCE	171.00	171.00	1,548.50
				162	RETIREMENT	2,096.19	2,096.19	14,572.30
				163	FICA	1,070.80	1,070.80	6,277.95
					** CHARACTER TOTAL **	3,337.99	3,337.99	22,398.75 *
			9	245	RENT OF OFFICE FURN & EQP	719.72	719.72	306.68
				246	RENT OF DP EQPT	719.72	719.72	2,940.95
					** CHARACTER TOTAL **	14,759.97	14,759.97	3,247.63 *
					** ACTIVITY TOTAL **	25,190.00	25,190.00	283,151.25 **
					STATE FUNDS- WATER			250,707.70
			0	110	REG SALARIES			645.21
				514	WORKMAN COMP CLAIMS	25,190.00	25,190.00	1,290.40
				515	UNEMPLOYMENT COMP CLAIMS			252,643.31 *
					** CHARACTER TOTAL **	25,190.00	25,190.00	6,855.75
			1	130	EXTRA HELP	37.54	37.54	37.54
				514	WORKMAN COMP CLAIMS	75.04	75.04	75.04
				515	UNEMPLOYMENT COMP CLAIMS	112.58	112.58	6,968.33 *
					** CHARACTER TOTAL **	112.58	112.58	36.29
			2	211	POSTAGE			1,522.30
				212	TELE-COMMUNICATIONS			122.71
				213	FREIGHT			19.06
				221	PRINTING BINDING DUPLICAT			58.35
				222	ADVERTISING			1,132.20
				232	TRANSPORTATION EQPT			39.92
				235	SAFETY & COMM EQPT			104.64
				241	ELECTRICITY			194.24
				242	WATER SEWER & GARBAGE			26.13
				243	Htg COOLING & LGHT FUELS			605.00
				244	RENT OF LAND BLDG & OFFIC	5,783.58	5,783.58	5,833.58
				245	RENT OF OFFICE FURN & EQP			1,080.28
				25C	MEALS & LODGING-IN STATE			43.00
				25D	MEALS & LODGING-OUT OF ST			512.00
				25F	COMMON CARRIER-OUT OF STA			53.80
				255	BOARD & COMMISSION EXP			87.19
				256	EXP FOR NON-STATE EMP			2.00
				259	OTHER TRAVEL EXPENSE			2,371.64
				272	INS PREM - VEHICULAR EQPT			791.00
				273	INSURANCE PREM - BLDG			222.70
				288	PRINTING & REPRODUCTION C			54.49
				321	TIRES & TUBES			4,414.40
				323	CREDIT CARD PURCHASES			278.75
				324	LICENSES & TITLE FEES			126.54
				331	STATIONERY & OFFICE SPLS			12.49
				333	EDUC SUPPLIES & MATERIALS			

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
EXPENDITURE BY ACTIVITY REPORT

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MONTH ENDING 04/30/79

FISCAL YEAR 78-79

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	396	020	2	335	DRUGS LAB SUPPLIES	1,489.82		
				336	SHOP & INDUSTRIAL SPLS	361.19		
				337	SUBSCRIPTIONS	159.16		
				341	FOOD & SUPPLIES FOR INMAT	44.55		
				346	SUPPLIES FOR DUPLG MCHS	176.13		
				517	REFUND TO EXPENDITURES ON	96.00-		
				742	OFF & HSHLD FURN & EQPT	617.49		
					** CHARACTER TOTAL **	5,783.58	5,783.58	22,497.04 *
			3	161	GROUP INSURANCE	380.00	380.00	3,467.50
				162	RETIREMENT	4,491.30	4,491.30	28,574.95
				163	FICA	2,294.29	2,294.29	14,363.46
					** CHARACTER TOTAL **	7,165.59	7,165.59	46,405.91 *
					** ACTIVITY TOTAL **	38,251.75	38,251.75	328,514.59 **
					** CHARACTER TOTAL **	11,791.00	11,791.00	107,974.90
					** ACTIVITY TOTAL **	11,791.00	11,791.00	276.27
STATE FUNDS- AIR	030	0	0	110	REG SALARIES			552.57
				514	WORKMAN COMP CLAIMS			108,803.74 *
				515	UNEMPLOYMENT COMP CLAIMS			1,310.00
					** CHARACTER TOTAL **	11,791.00	11,791.00	1,310.00 *
			1	130	EXTRA HELP			6.21
					** CHARACTER TOTAL **			371.71
			2	211	POSTAGE			115.82
				212	TELE-COMMUNICATIONS			40.66
				213	FREIGHT			115.81
				221	PRINTING BINDING DUPLICAT			542.31
				222	ADVERTISING			30.90
				232	TRANSPORTATION EQPT			444.83
				235	SAFETY & COMM EQPT			234.76
				241	ELECTRICITY			175.00
				242	WATER SEWER & GARBAGE			39.75
				244	RENT OF LAND BLDG & OFFIC	1,608.53	1,608.53	446.37
				245	RENT OF OFFICE FURN & EQP			525.00
				25A	IN STATE MILEAGE			21.00
				25C	MEALS & LODGING-IN STATE			1,650.44
				25F	COMMON CARRIER-OUT OF STA			79.89
				256	EXP FOR NON-STATE EMP			30.00
				272	INS PREM - VEHICULAR EQPT	64.17	64.17	21.74
				288	PRINTING & REPRODUCTION C			2,555.76
				291	ASSOC DUES & CONFER FEES			134.75
				321	TIRES & TUBES			39.41
				323	CREDIT CARD PUCHASES			3.64
				324	LICENSES & TITLE FEES			864.97
				331	STATIONERY & OFFICE SPLS			423.50
				333	EDUC SUPPLIES & MATERIALS			12,907.33 *
				335	DRUGS LAB SUPPLIES			1,377.50
				336	SHOP & INDUSTRIAL SPLS			12,192.17
				337	SUBSCRIPTIONS	192.00	192.00	6,571.94
					** CHARACTER TOTAL **	1,864.70	1,864.70	20,141.61 *
					** ACTIVITY TOTAL **	152.00	152.00	143,162.68 **
			3	161	GROUP INSURANCE	1,870.32	1,870.32	
				162	RETIREMENT	1,020.37	1,020.37	
				163	FICA	3,042.69	3,042.69	
					** CHARACTER TOTAL **	16,698.39	16,698.39	
					** ACTIVITY TOTAL **			

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	396	040	0	110	REG SALARIES	4,980.00	4,980.00	65,583.30
				514	WORKMAN COMP CLAIMS			185.55
				515	UNEMPLOYMENT COMP CLAIMS			371.11
					** CHARACTER TOTAL **	4,980.00	4,980.00	66,139.96
			2	211	POSTAGE			.15
				212	TELE-COMMUNICATIONS			138.53
				221	PRINTING BINDING DUPLICAT			57.04
				232	TRANSPORTATION EQPT			543.92
				235	SAFETY & COMM EQPT			14.38
				242	WATER SEWER & GARBAGE			12.65
				25C	MEALS & LODGING-IN STATE			495.08
				25D	MEALS & LODGING-OUT OF ST			122.45
				25F	COMMON CARRIER-OUT OF STA			197.50
				259	OTHER TRAVEL EXPENSE			1.50
				272	INS PREM - VEHICULAR EQPT			732.76
				321	TIRES & TUBES			102.80
				323	CREDIT CARD PURCHASES			1,569.41
				324	LICENSES & TITLE FEES			132.50
				331	STATIONERY & OFFICE SPLS			32.62
				333	EDUC SUPPLIES & MATERIALS			49.35
				337	SUBSCRIPTIONS			71.58
				341	FOOD & SUPPLIES FOR INMAT			.75
				731	CARS BUSES ETC			133.39
					** CHARACTER TOTAL **			4,408.36
			3	161	GROUP INSURANCE	95.00	95.00	1,121.00
				162	RETIREMENT	984.53	984.53	7,375.13
				163	FICA	502.96	502.96	3,858.97
					** CHARACTER TOTAL **	1,582.49	1,582.49	12,355.10
					** ACTIVITY TOTAL **	6,562.49	6,562.49	82,903.42
					** CHARACTER TOTAL **	2,796.00	2,796.00	29,526.00
					** CHARACTER TOTAL **			78.88
					** CHARACTER TOTAL **			157.78
					** CHARACTER TOTAL **			29,762.66
					** CHARACTER TOTAL **			2.15
					** CHARACTER TOTAL **			3.62
					** CHARACTER TOTAL **			26.44
					** CHARACTER TOTAL **			8.50
					** CHARACTER TOTAL **			67.37
					** CHARACTER TOTAL **			8.81
					** CHARACTER TOTAL **			63.10
					** CHARACTER TOTAL **			506.40
					** CHARACTER TOTAL **			606.22
					** CHARACTER TOTAL **			133.50
					** CHARACTER TOTAL **			550.25
					** CHARACTER TOTAL **			6.25
					** CHARACTER TOTAL **			249.72
					** CHARACTER TOTAL **			41.12
					** CHARACTER TOTAL **			502.85
					** CHARACTER TOTAL **			21.00
					** CHARACTER TOTAL **			51.83
					** CHARACTER TOTAL **			104.26

STATE FUNDS- ENV. PRES. 050

0

110 REG SALARIES
514 WORKMAN COMP CLAIMS
515 UNEMPLOYMENT COMP CLAIMS
** CHARACTER TOTAL **

2,796.00

2,796.00

29,762.66

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2

211 POSTAGE
212 TELE-COMMUNICATIONS
221 PRINTING BINDING DUPLICAT
222 ADVERTISING
232 TRANSPORTATION EQPT
242 WATER SEWER & GARBAGE
244 RENT OF LAND BLDG & OFFIC
25A IN STATE MILEAGE
25C MEALS & LODGING-IN STATE
25D MEALS & LODGING-OUT OF ST
25F COMMON CARRIER-OUT OF STA
259 OTHER TRAVEL EXPENSE
272 INS PREM - VEHICULAR EQPT
321 TIRES & TUBES
323 CREDIT CARD PURCHASES
324 LICENSES & TITLE FEES
333 EDUC SUPPLIES & MATERIALS
336 SHOP & INDUSTRIAL SPLS

2,796.00

2,796.00

29,762.66

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ARKANSAS FINANCIAL MANAGEMENT SYSTEM
EXPENDITURE ACTIVITY REPORT

05/05/79

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	397	010	2	285	CENTREX & WATTS LINES	7,354.70	7,354.70	13,850.43
				286	INDIRECT COST ALLOCATION			4,528.00
				288	PRINTING & REPRODUCTION C			11.71
				291	ASSOC DUES & CONFER FEES	1,079.00	1,079.00	1,158.00
				294	JANITORIAL & LAUNDRY SVC	78.00	78.00	1,761.40
				321	TIRES & TUBES			74.04
				322	FUEL OIL GREASE			53.46
				323	CREDIT CARD PUCHASES	90.32	90.32	1,001.53
				331	STATIONERY & OFFICE SPLS	2,306.39	2,306.39	6,414.72
				332	EDUCATIONAL TEXTBOOKS			7.50
				333	EDUC SUPPLIES & MATERIALS			19.95
				335	DRUGS LAB SUPPLIES			5.50
				336	SHOP & INDUSTRIAL SPLS	218.36	218.36	3,077.02
				337	SUBSCRIPTIONS	814.36	814.36	1,730.67
				343	KITCHEN JANITOR SPLS	2,340.00	2,340.00	2,597.55
				346	SUPPLIES FOR DUPLG MCHS	851.32	851.32	1,647.04
				517	REFUND TO EXPENDITURES ON			944.98-
				742	OFF & HSHLD FURN & EQPT	833.38	833.38	916.04
				747	PHOTOGRAPHIC EQPT			200.15
				9	** CHARACTER TOTAL **	57,655.40	57,655.40	132,618.36
				3	** ACTIVITY TOTAL **	19.00	19.00	180.50
				161	GROUP INSURANCE	256.20	256.20	1,695.96
				162	RETIREMENT	130.86	130.86	871.81
				163	FICA	406.06	406.06	2,748.27
				9	** CHARACTER TOTAL **	814.21	814.21	814.21
				246	RENT OF DP EQPT			814.21
				0	** CHARACTER TOTAL **	59,591.08	59,591.08	152,052.96
				110	REG SALARIES	28,787.68	28,787.68	302,110.38
				514	WORKMAN COMP CLAIMS			784.61
				515	UNEMPLOYMENT COMP CLAIMS			1,569.23
				1	** CHARACTER TOTAL **	28,787.68	28,787.68	304,464.22
				130	EXTRA HELP	49.01	49.01	49.01
				514	WORKMAN COMP CLAIMS	97.96	97.96	97.96
				515	UNEMPLOYMENT COMP CLAIMS	146.97	146.97	7,542.87
				2	** CHARACTER TOTAL **	47.21	47.21	232.57
				211	POSTAGE	982.02	982.02	6,188.26
				212	TELE-COMMUNICATIONS	259.16	259.16	1,577.34
				213	FREIGHT	34.42	34.42	99.75
				221	PRINTING BINDING DUPLICAT	23.39	23.39	668.26
				222	ADVERTISING			264.32
				231	BLDG & GROUND MAINT	523.37	523.37	5,478.58
				232	TRANSPORTATION EQPT			112.00
				233	OFFICE EQPT REPAIRS			193.71
				235	SAFETY & COMM EQPT			261.44
				236	SPEC RESEARCH EQPT			1,062.22
				241	ELECTRICITY	75.33	75.33	1,062.22
				242	WATER SEWER & GARBAGE	7.20	7.20	403.34
				243	HTG COOLING & LGHT FUELS	23.84	23.84	61.54
				244	RENT OF LAND BLDG & OFFIC	1,048.30	1,048.30	8,360.80
				245	RENT OF OFFICE FURN & EQP	1,420.17	1,420.17	2,102.68
				249	OTHER RENT			11.33

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	397	020	2	25A	IN STATE MILEAGE	135.90	135.90	713.85
				25B	OUT OF STATE MILEAGE			51.60
				25C	MEALS & LODGING-IN STATE	1,160.49	1,160.49	15,331.55
				25D	MEALS & LODGING-OUT OF ST	730.26	730.26	1,659.71
				25F	COMMON CARRIER-OUT OF STA	760.50	760.50	2,756.50
				256	EXP FOR NON-STATE EMP			60.93
				259	OTHER TRAVEL EXPENSE	9.10	9.10	135.37
				26A	PROF SERVICE CONTRACTS	3,879.88	3,879.88	70,498.04
				263	LEGAL FEES			6.00
				269	OTHER PROFESSIONAL FEES			30.00
				288	PRINTING & REPRODUCTION C			296.55
				291	ASSOC DUES & CONFER FEES	463.00	463.00	2,103.00
				297	CONTRACT LABOR	1,171.61	1,171.61	1,466.86
				321	TIRES & TUBES	202.07	202.07	1,083.09
				323	CREDIT CARD PURCHASES	2,399.16	2,399.16	9,458.18
				324	LICENSES & TITLE FEES	2.00	2.00	2.00
				331	STATIONERY & OFFICE SPLS	947.61	947.61	1,168.22
				332	EDUCATIONAL TEXTBOOKS	31.40	31.40	31.40
				333	EDUC SUPPLIES & MATERIALS	86.65	86.65	537.02
				335	DRUGS LAB SUPPLIES	6,209.54	6,209.54	17,552.30
				336	SHOP & INDUSTRIAL SPLS	598.63	598.63	1,813.15
				337	SUBSCRIPTIONS	311.04	311.04	1,476.02
				341	FOOD & SUPPLIES FOR INMAT	33.05	33.05	605.76
				342	CLOTHING			26.00
				346	SUPPLIES FOR DUPLG MCHS			65.94
				517	REFUND TO EXPENDITURES ON			17,559.22-
				519	OTHER REFUNDS & CLAIMS	9,576.35	9,576.35	9,576.35
				734	MARINE			630.89
				741	OFFICE MACHINES	35.88	35.88	128.27
				742	OFF & HSHLD FURN & EQPT			1,218.82
				743	MEDICAL EQPT			285.94
				747	PHOTOGRAPHIC EQPT	241.02	241.02	300.60
				762	FIREARMS SAFETY EQPT			512.17
				789	OTHER			204.97
					** CHARACTER TOTAL **	33,429.55	33,429.55	151,305.97
					** ACTIVITY TOTAL **	446.50	446.50	4,142.00
					161 GROUP INSURANCE	5,242.76	5,242.76	34,384.78
					162 RETIREMENT	2,678.23	2,678.23	17,729.94
					163 FICA	8,367.49	8,367.49	56,256.72
					** CHARACTER TOTAL **	70,731.69	70,731.69	519,569.78
					** ACTIVITY TOTAL **	15,916.50	15,916.50	160,645.04
					110 REG SALARIES			410.17
					514 WORKMAN COMP CLAIMS			820.36
					515 UNEMPLOYMENT COMP CLAIMS	15,916.50	15,916.50	161,875.57
					** CHARACTER TOTAL **	237.50	237.50	2,320.00
					** CHARACTER TOTAL **	237.50	237.50	2,320.00
					130 EXTRA HELP	3.85	3.85	432.74
					211 POSTAGE	130.42	130.42	1,043.66
					212 TELE-COMMUNICATIONS	920.25	920.25	2,308.68
					213 FREIGHT	24.09	24.09	125.17
					221 PRINTING BINDING DUPLICAT	139.24	139.24	723.68
					222 ADVERTISING			

FEDERAL FUNDS- AIR 030

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
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05/05/79

MONTH ENDING 04/30/79

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	397	030	2	231	BLDG & GROUND MAINT	603.12	603.12	2,384.04
				232	TRANSPORTATION EQPT			8.24
				233	OFFICE EQPT REPAIRS	30.90	30.90	44.28
				235	SAFETY & COMM EQPT			31.76
				236	SPEC RESEARCH EQPT	325.34	325.34	1,494.72
				241	ELECTRICITY			102.44
				242	WATER SEWER & GARBAGE	175.00	175.00	535.64
				244	RENT OF LAND BLDG & OFFIC	404.79	404.79	508.83
				25A	IN STATE MILEAGE			105.60
				25C	MEALS & LODGING-IN STATE	417.99	417.99	3,713.93
				25D	MEALS & LODGING-OUT OF ST	752.80	752.80	1,664.90
				25F	COMMON CARRIER-OUT OF STA	661.25	661.25	2,824.03
				256	EXP FOR NON-STATE EMP	28.08	28.08	743.00
				259	OTHER TRAVEL EXPENSE	22.00	22.00	77.15
				26A	PROF SERVICE CONTRACTS	476.00	476.00	13,030.58
				26E	REIMBURSABLE EXP PROF SER			45.83
				288	PRINTING & REPRODUCTION C	69.00	69.00	157.35
				291	ASSOC DUES & CONFEE FEES	18.51	18.51	1,541.00
				321	TIRES & TUBES	1,094.27	1,094.27	5,926.24
				323	CREDIT CARD PURCHASES	13.83	13.83	488.04
				331	STATIONERY & OFFICE SPLS	51.38	51.38	365.49
				333	EDUC SUPPLIES & MATERIALS			50.32
				334	PUBLIC SAFETY SUPPLIES	3,835.49	3,835.49	14,846.57
				335	DRUGS LAB SUPPLIES	444.88	444.88	3,703.70
				336	SHOP & INDUSTRIAL SPLS	693.23	693.23	1,508.88
				337	SUBSCRIPTIONS			7.57
				341	FOOD & SUPPLIES FOR INMAT			297.28-
				517	REFUND TO EXPENDITURES ON			15,246.00
				519	OTHER REFUNDS & CLAIMS			46.07
				741	OFFICE MACHINES			247.05
				742	OFF & HSHLD FURN & EQPT			9,350.63
				743	MEDICAL EQPT	39.91	39.91	86.44
				747	PHOTOGRAPHIC EQPT			529.96
				762	FIREARMS SAFETY EQPT			
				3	** CHARACTER TOTAL **	11,375.62	11,375.62	86,284.61 *
				161	GROUP INSURANCE	247.00	247.00	1,890.50
				162	RETIREMENT	2,804.16	2,804.16	18,055.49
				163	FICA	1,478.71	1,478.71	9,414.29
				**	CHARACTER TOTAL **	4,529.87	4,529.87	29,360.28 *
				**	ACTIVITY TOTAL **	32,059.49	32,059.49	279,840.46 **
				040	REG SALARIES	7,472.00	7,472.00	55,733.00
				110	WORKMAN COMP CLAIMS			137.93
				514	UNEMPLOYMENT COMP CLAIMS	7,472.00	7,472.00	275.91
				515	CHARACTER TOTAL **	106.06	106.06	56,146.84 *
				2	TELE-COMMUNICATIONS	27.09	27.09	512.48
				221	PRINTING BINDING DUPLICAT			150.76
				222	ADVERTISING	1,365.04	1,365.04	12.78
				232	TRANSPORTATION EQPT			2,979.22
				242	WATER SEWER & GARBAGE			163.81
				244	RENT OF LAND BLDG & OFFIC			108.77

A R K A N S A S F I N A N C I A L M A N A G E M E N T S Y S T E M
E X P E N D I T U R E B Y A C T I V I T Y R E P O R T

05/05/79

MONTH ENDING 04/30/79

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	397	040	2	247	RENT OF AUTOS ETC			161.52
				25A	IN STATE MILEAGE	27.30	27.30	73.05
				25C	MEALS & LODGING-IN STATE	917.77	917.77	6,599.26
				25D	MEALS & LODGING-OUT OF ST	140.48	140.48	394.24
				25F	COMMON CARRIER-OUT OF STA	264.00	264.00	833.00
				259	OTHER TRAVEL EXPENSE			22.66
				26A	PROF SERVICE CONTRACTS	403.59	403.59	2,766.66
				26E	REIMBURSABLE EXP PROF SER			19.69
				288	PRINTING & REPRODUCTION C			113.20
				291	ASSOC DUES & CONFER FEES	235.00	235.00	574.00
				321	TIRES & TUBES	88.98	88.98	325.83
				323	CREDIT CARD PUCHASES	761.70	761.70	3,394.84
				331	STATIONERY & OFFICE SPLS	230.91	230.91	230.91
				333	EDUC SUPPLIES & MATERIALS	59.92	59.92	341.53
				336	SHOP & INDUSTRIAL SPLS	1.28	1.28	35.28
				337	SUBSCRIPTIONS	214.53	214.53	226.53
				742	OFF & HSHLD FURN & EQPT			246.09
					** CHARACTER TOTAL **	4,843.65	4,843.65	20,286.11
				161	GROUP INSURANCE	95.00	95.00	703.00
				162	RETIREMENT	1,052.64	1,052.64	6,187.32
				163	FICA	537.73	537.73	3,101.40
					** CHARACTER TOTAL **	1,685.37	1,685.37	9,991.72
					** ACTIVITY TOTAL **	14,001.02	14,001.02	86,424.67
					** CHARACTER TOTAL **	3,640.00	3,640.00	33,747.50
					** ACTIVITY TOTAL **	3,640.00	3,640.00	74.43
					** CHARACTER TOTAL **	3,640.00	3,640.00	148.86
					** ACTIVITY TOTAL **	76.56	76.56	33,970.79
					** CHARACTER TOTAL **	26.64	26.64	206.58
					** ACTIVITY TOTAL **	26.64	26.64	77.36
					** CHARACTER TOTAL **	26.64	26.64	7.68
					** ACTIVITY TOTAL **	26.64	26.64	120.30
					** CHARACTER TOTAL **	26.64	26.64	38.06
					** ACTIVITY TOTAL **	26.64	26.64	455.30
					** CHARACTER TOTAL **	26.64	26.64	2,476.65
					** ACTIVITY TOTAL **	26.64	26.64	1,432.57
					** CHARACTER TOTAL **	26.64	26.64	531.89
					** ACTIVITY TOTAL **	26.64	26.64	663.00
					** CHARACTER TOTAL **	26.64	26.64	23.05
					** ACTIVITY TOTAL **	26.64	26.64	6,846.97
					** CHARACTER TOTAL **	26.64	26.64	1,780.00
					** ACTIVITY TOTAL **	26.64	26.64	64.71
					** CHARACTER TOTAL **	26.64	26.64	365.83
					** ACTIVITY TOTAL **	26.64	26.64	154.42
					** CHARACTER TOTAL **	26.64	26.64	73.66
					** ACTIVITY TOTAL **	26.64	26.64	196.12
					** CHARACTER TOTAL **	26.64	26.64	1,267.51
					** ACTIVITY TOTAL **	26.64	26.64	254.66
					** CHARACTER TOTAL **	26.64	26.64	94.71
					** ACTIVITY TOTAL **	26.64	26.64	2,205.37
					** CHARACTER TOTAL **	26.64	26.64	38.00
					** ACTIVITY TOTAL **	26.64	26.64	294.50
					** CHARACTER TOTAL **	26.64	26.64	3,831.30
					** ACTIVITY TOTAL **	26.64	26.64	17,131.03
					** CHARACTER TOTAL **	26.64	26.64	294.50
					** ACTIVITY TOTAL **	26.64	26.64	3,831.30

ARKANSAS FINANCIAL MANAGEMENT SYSTEM
EXPENDITURE BY ACTIVITY REPORT

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AGY	APPRO	ACT	CHAR	OBJ	DESCRIPTION	MONTH-TO-DATE	QUARTER-TO-DATE	YEAR-TO-DATE
930	399	020	3	163	FICA	437.52	437.52	2,684.44
					** CHARACTER TOTAL **	1,388.96	1,388.96	8,795.64
					** ACTIVITY TOTAL **	126,146.10	126,146.10	341,679.88
030	2	288	2	288	PRINTING & REPRODUCTION C	87.05-	87.05-	
					** CHARACTER TOTAL **	87.05-	87.05-	
					** ACTIVITY TOTAL **	87.05-	87.05-	
040	2	213	2	213	FREIGHT			8.30
					SHOP & INDUSTRIAL SPLS			251.08
					** CHARACTER TOTAL **			259.38
					** ACTIVITY TOTAL **			259.38
					** APPROPRIATION TOTAL **	108,680.32	108,680.32	342,691.12
APPRO	POLLUTION CONT-ST	208	WATER QU	ACT	769 OF 1977			36.40
					400 020 2 244			73.79
					RENT OF LAND BLDG & OFFIC			2,859.85
					25C MEALS & LODGING-IN STATE			442.32
					255 BOARD & COMMISSION EXP			9,576.35-
					288 PRINTING & REPRODUCTION C			6,163.99-
					519 OTHER REFUNDS & CLAIMS			6,163.99-
					** CHARACTER TOTAL **	8,086.78-	8,086.78-	6,163.99-
					** ACTIVITY TOTAL **	8,086.78-	8,086.78-	6,163.99-
					** APPROPRIATION TOTAL **	363,356.42	363,356.42	2,308,996.53
					** AGENCY TOTAL **			****

DEPARTMENT OF POLLUTION CONTROL & ECOLOGY
 FINANCIAL STATUS REPORT
 July 1, 1978 thru May 18, 1979

Appropriation 396-HMA (State)

	<u>Appropriated</u>	<u>Expended & Encumbered</u>	<u>Balance</u>
Regular Salaries	\$ 923,423.00	\$ 615,659.95	\$ 307,763.05
Extra Help	13,025.00	8,899.62	4,125.38
Maint. & Operation	280,392.00	245,368.74	35,023.26
Soc. Sec., Ret, Ins	159,247.00	112,210.24	47,036.76
Data Processing Rental	5,498.00	3,247.63	2,520.37
Totals	<u>\$1,381,585.00</u>	<u>\$ 985,386.18</u>	<u>\$ 396,198.82</u>

Appropriation 397-FYP(Federal)

M&R Proceeds	\$ 4,051.26	\$ 34.80	\$ 4,016.46
Regular Salaries	885,495.00	599,817.04	285,677.96
Extra Help	14,272.00	10,699.27	3,572.73
Maint. & Operation	742,176.00	631,684.37	110,491.63
Soc. Sec., Ret. Ins.	159,051.00	110,105.02	48,945.98
Data Processing Rental	11,837.00	814.21	11,022.79
Totals	<u>\$1,816,882.26</u>	<u>\$1,353,154.71</u>	<u>\$ 463,727.55</u>

Appropriation 398-MWD

Maintenance & Operation	\$ 2,831.00	\$ 1,209.90	\$ 1,621.10
Totals	<u>2,831.00</u>	<u>1,209.90</u>	<u>1,621.10</u>

Appropriation 399-FYP (208)

Regular Salaries	\$ 59,006.59	\$ 48,869.89	\$ 10,136.70
Maint. & Operation	782,165.41	448,423.06	333,742.35
Soc. Sec., Ret., Ins.	10,298.00	9,274.46	1,023.54
Totals	<u>\$ 851,470.00</u>	<u>\$ 506,567.41</u>	<u>\$ 344,902.59</u>

Appropriation 400-HMA (208)

Maint. & Operation	\$ 43,195.00	\$ 10,523.41	\$ 32,671.59
Totals	<u>43,195.00</u>	<u>10,523.41</u>	<u>32,671.59</u>

Appropriation 831-KAJ (Research)

Research/Development	\$ 81,159.72	\$ -0-	\$ 81,159.72
Totals	<u>81,159.72</u>	<u>-0-</u>	<u>81,159.72</u>

ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY

MEMORANDUM

TO: Department Personnel
FROM: Jarrell E. Southall, JES
DATE: May 7, 1979
SUBJECT: NEW APPOINTMENT - H. J. "BUDDY" PARR

This is to announce that I am appointing, with Governor Clinton's concurrence, Mr. H. J. "Buddy" Parr to the position of chief of the Division of Solid Waste Management. This appointment is to be effective immediately.

I am confident that Buddy will organize the Department's waste management programs to the benefit of the people of Arkansas. I am equally confident that Buddy will receive the good wishes and cooperation of all Department personnel.

bbc

Journal

NL Baroid

May 25, 1979

Mr. R. A. Dumas, Chairman
Arkansas Pollution Control Commission
8001 National Drive
Little Rock, Arkansas 72209

Dear Mr. Chairman:

NL Industries, Inc., Baroid Division
Magnet Cove Project

By this letter and our presentation at the commission hearing today, NL Baroid submits its requests for certain revisions to Arkansas Water Quality Standards applicable to Chamberlain and Lower Cove Creeks as well as a portion of the Ouachita River. We believe these revisions are necessary to permit a proposed program which is expected to permit environmental benefits and continued employment in the area.

NL Baroid suspended its barite mining operation at Magnet Cove in July, 1977. Since operations were suspended, discharges from the open pit mine have ceased and all mine water has been impounded in ~~the~~ open pit. Due to the importance of and strong demand for barite in oil well exploration, NL Baroid contemplates reactivation of the Magnet Cove open pit mine. Our plan for reactivation assures mine operation in an environmentally sound manner.

NL Baroid supports the purposes of the State of Arkansas as expressed in its water quality law and regulations "to preserve and enhance the quality of water so that it will be reasonably available for all beneficial uses". It is fundamental to Baroid's reactivation plan to take action which will improve the area ecology, particularly as it pertains to aquatic life in Chamberlain Creek and Lower Cove Creek, while also assuring continued operation at the Magnet Cove Facility.

NL Baroid/NL Industries, Inc.

P.O. Box 1675, Houston Texas 77001 Tel. (713) 527-1100 • Cable Address: Baroid-Houston

A twofold approach to achieve these objectives is proposed.

1. Reclamation of existing overburden piles. (This plan is further described in Appendix II and ~~Dwg. 1.12-3-1249-2~~ below.)
2. Installation of a multi-million dollar ^{comprehensive} treatment plant to allow ~~comprehensive~~ treatment of water pumped from the open pit before discharge to Chamberlain Creek. There are two phases to the mine water treatment. The first will be the treatment of the water impounded in the pit since 1977 (estimated to require 6-9 months). The second will be treatment during normal operation of the mine.

This twofold plan is the culmination of extensive studies by NL Baroid, which included literature reviews, consulting engineers, and contacts with industry and government agencies. We feel it will implement the latest and most advanced technology available to us. The results of the plan will be a marked improvement in the quality of the waters of Chamberlain and Lower Cove Creeks with no interference with any existing or proposed use of the water of the Ouachita River.

Currently, the discharge from NL Baroid's tailing ponds (permitted in our NPDES permit, AR0001121, subsequently incorporated into AR0001139) continues and monitoring reports for this discharge are submitted routinely. Permit AR0001139 expires June 28, 1981. As the timetable for operating the mine extends considerably past 1981, a new NPDES permit at that time will be needed. In the absence of effluent guidelines applicable to wet Barite mining and milling, the category covering the Magnet Cove Operation, U.S. EPA-Region ~~6~~ indicates that a new NPDES Permit will be based on best engineering judgement.

The Arkansas Water Quality Standards (AWQS) play a very critical part in the determination of best engineering judgement. Therefore, without a change in the existing Water Quality Standards for sulfate and total dissolved solids (TDS) in the affected streams, limits would be written into a new NPDES Permit that could not be met. Viability of NL Baroid's treatment project as well as operation at Magnet Cove thus would be called into question.

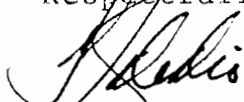
As reviewed further in Appendix III hereto, limits for sulfate and TDS based on existing AWQS cannot be met because there is no practicable technology for removal of sulfates from effluent streams in this instance. In order to install the water treatment plant which is required to treat the mine waters, the sulfate and total dissolved solids limitations of the receiving streams need to be revised.

Specifically, NL Baroid requests that the sulfate limits in Chamberlain Creek and Lower Cove Creek be changed from 250 mg/l to 7200 mg/l and the total dissolved solids be increased from 500 mg/l to 10,500 mg/l. Further, we request that the sulfate limits in the Ouachita River from Camden to Carpenter Dam be revised from 40 mg/l to 80 mg/l and total dissolved solids from 150 mg/l to 250 mg/l. It should be pointed out that these changes are for the worst case basis, namely, phase 1 of Baroid's operation when the impounded mine water will be treated and discharged to Chamberlain Creek. ^{and} Based on the 1978 low monthly flow of the Ouachita River. NL Baroid anticipates that the sulfate and total dissolved solids will decrease significantly after this initial six month period. ~~The changes requested in the Ouachita River water quality standards are also based on the worst case.~~

We firmly believe that the revisions we request will not degrade the quality of the River as sulfates at the proposed level are considered innocuous to aquatic biota. Using average river flows, our sampling indicates the sulfate increases will be 16 ppm during mine pit pumpout and only 4 ppm during the normal operation. If no additional sulfates are introduced by others upstream of Cove Creek, the yearly sulfate average of the river should remain under 40 ppm including Baroid's discharge. All of these, including the requested revisions, are well within the 250 mg/l criterion for sulfates listed in the EPA Water Quality Criteria for Water.

In summary, NL Baroid's plan creates a definite benefit to the area in the long run since, after the barite deposits are mined, the sulfates are expected ^{to} return to the area background level as a result of the reclamation plan. We feel strongly that the benefits to be derived from our proposed program far outweigh any effects resulting from changes in sulfate levels. Of course, final approval of our project still must come from senior company management, but positive response from the Commission is a critical factor in our decision. I shall be pleased to respond to any questions you or the staff may have in this matter.

Respectfully,



T. J. DeDio
Senior Project Engineer

TJD/lrs

APPENDIX

- I. Pit Water Treatment Plant: Description & Flowsheet
 - II. Reclamation Plan Description & Map
 - III. Sulfate Studies
 - A. Removal Techniques - Bibliography
 - B. Stream Flow V. Conc.
-

NL Industries, Inc.
NL Baroid
Magnet Cove, Arkansas

I. PIT WATER TREATMENT PLANT

The objective of the proposed water treatment plant is to adjust pH of the pit water and to remove undesirable minerals and suspended solids before water is discharged to Chamberlain Creek.

The plant will have four essential parts: 1) a flash mixer and pH adjustment reactor; 2) an aeration chamber; 3) a mechanical filter; 4) a sludge disposal system.

An explanation of each phase is as follows:

1. pH Adjustment

Raw mine water will be pumped from the open pit to a surge pond in the pit area. Flow from the pit will be at [1] 2000 gpm during the period required to drain the pit (about 6-9 months) and at an average flow of 700 gpm to maintain a dry mine, depending on rainfall, thereafter.

The water will be introduced to a flash mixer with lime slurry [6] to raise the pH from 3.1 to 9.25. Lime dosage will be controlled by a pH monitoring and a control system with a continuously cleaned electrode placed in the discharge of the flash mixer. Retention time in the flash mixer will be ten minutes. Lime slurry will be metered into the flash mixer by a feeder coupled to the pH controller. A pH of 9.25 is necessary to precipitate minerals, and because the next step, aeration, proceeds at a more rapid rate at higher pH.

2. Oxidation

The lime treated water [2] will then be pumped into the aeration pond. The aeration pond will provide 30 minutes retention time so that ferrous iron can be oxidized to ferric iron which is less soluble and will not further oxidize at its final disposal site. Oxidation will be accomplished by surface aerators in the aeration pond. Lab studies show that parameters of 30 minute detention time with adequate exposure to air flow permits oxidation of virtually all of the iron. Lab studies also show that the pH will drop to between 8.5 and 8.9 depending on iron content of the influent waters.

A surge pond with 3 million or more gallons capacity will follow the aeration pond. Clear water decantation will be provided to reduce filtration needs as much as possible.

3. Filtration

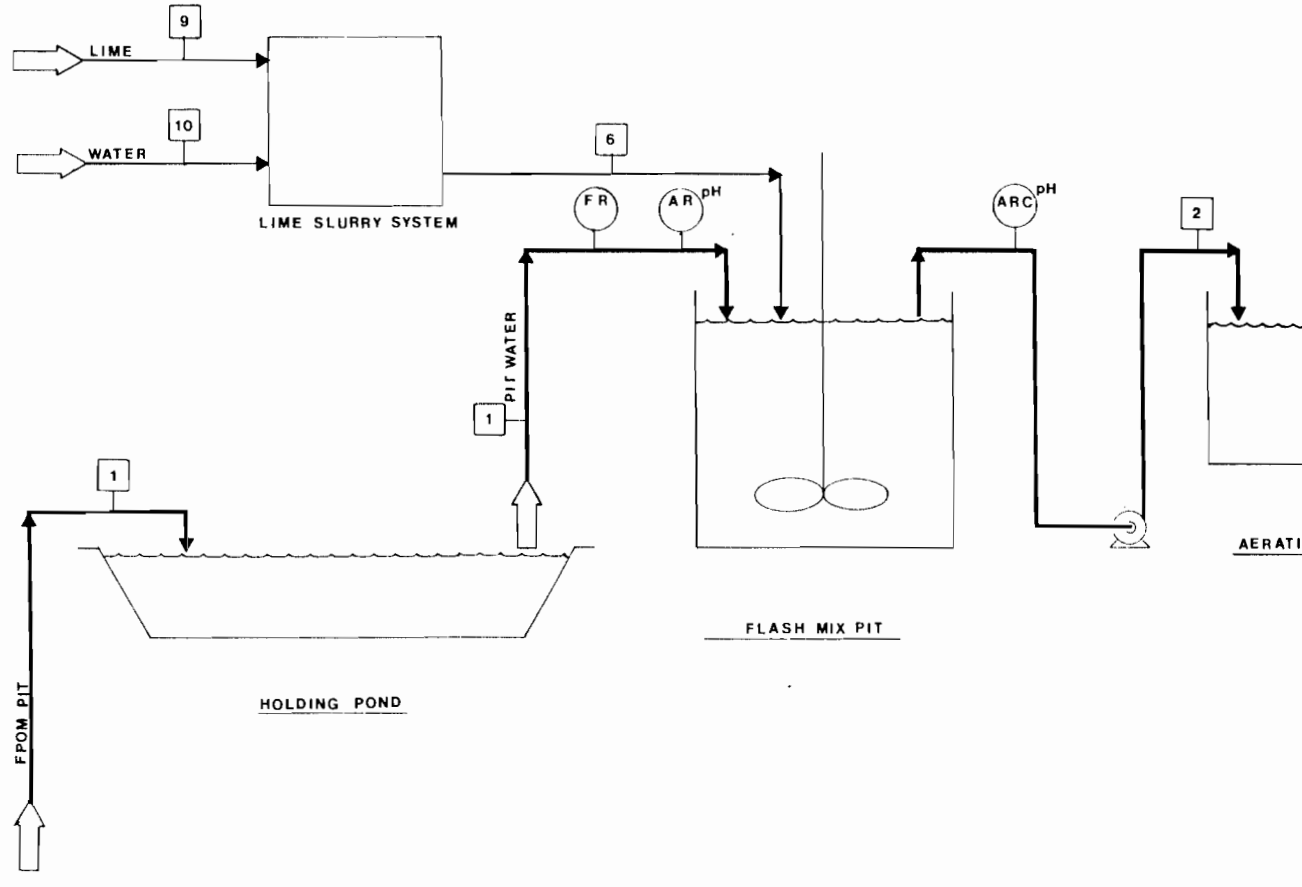
The pH adjusted, aerated water [3] will flow to a mechanical filter. Engineering and lab studies show that a filter loading

rate of .35 - .55 GPM/sq.ft. is required to give adequate filtering characteristics. Sludge volume is estimated at 1.6% of influent volume. Effluent from the filter [4] will flow to Chamberlain Creek. A 3 million gallon holding pond will be provided to accept the treated water whenever flow to the watershed must be restricted. Effluent discharge will be 30 mg/l suspended solids, <1.0 mg/l iron, <0.5 mg/l zinc, <0.8 mg/l nickel, pH 6-9 on a daily average basis. Provisions will be made to route off-quality effluent to a surge pond if a treatment plant upset occurs.

4. Sludge

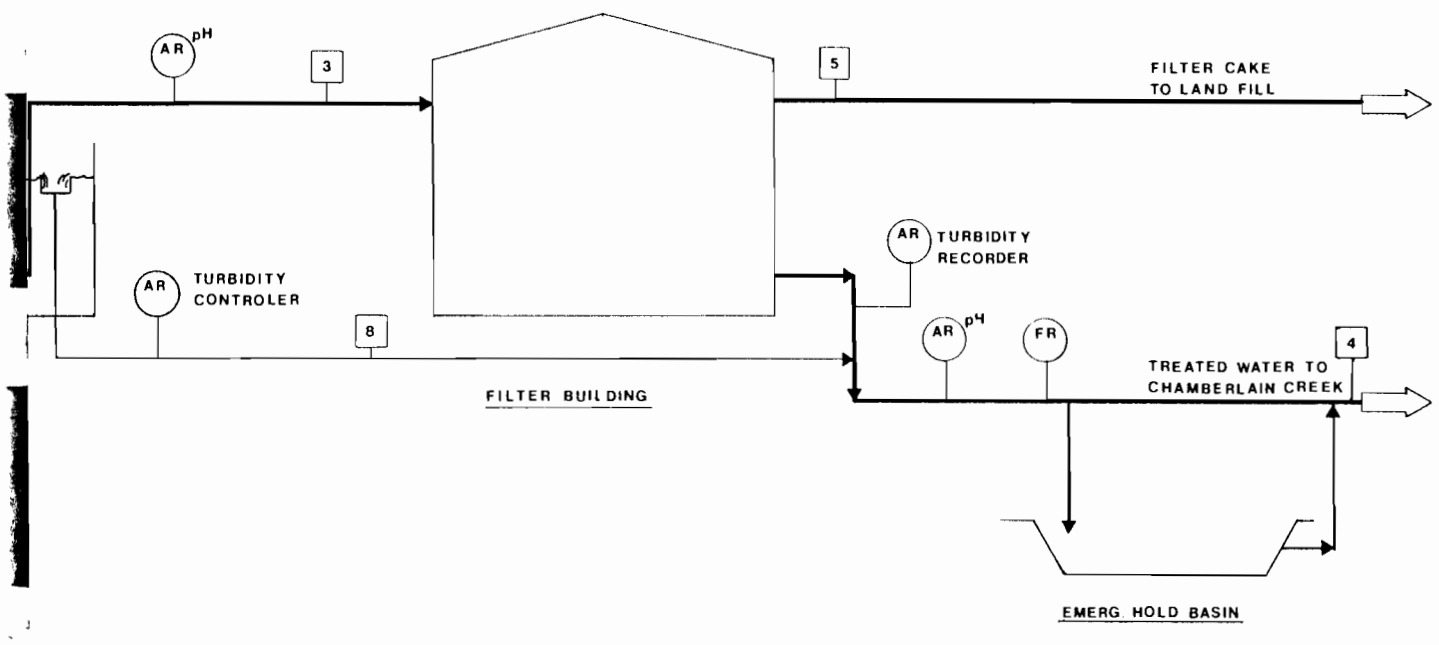
The sludge, at 20% solids [5] will be discharged by belt conveyor to a stockpile for mine use in reclamation.

NOTE: 1) Process flow sheet stream identification number.
2) See process flow sheet below (NL Baroid dwg. 1.12-3-1249-1).



	1	2	3	4	5	
	PIT WATER	NEUTRALIZED REDUCED STREAM	NEUTRALIZED OXIDIZED STREAM	TREATED WATER	SLUDGE	
GPM	2000	2075	2 - 8	1888	141 @ 20% SOL., 1.06 S.G.	75
PH	3.1	9.25	8.7	8.0		
PSIG	ATM.	ATM	40			
ALUMINUM mg/l	363			6.		
IRON mg/l	790			< 1.0		
ZINC mg/l	9.7			< 0.5		
NICKEL mg/l	0.6			< 0.8		
S.S. mg/l	133			< 30		
CA(CH ₂) ₂						49.2
SLUDGE SOLIDS					179.2 TPD DRY	
SULFATES mg/l	7200			* 7200		
T.D.S.	11500			* 11500		
O ₂						
FILTER AIDS						

* ASSUMING WORST CASE



7	8	9	10			
AIR	TREATED WATER	LIME	PROCESS WATER			
	2 - 3		74			
	8.0					
	6.0					
	0.5					
	0.2					
	0.5					
	<30					
		49.2 TPD				
	* 7200					
	* 11500					
5133 LB/DAY						

NL Baroid
 NL Baroid NL Industries, Inc.
 P.O. Box 1675 Houston, Texas 77001

OPEN PIT MINE WATER TREATMENT
PROCESS FLOW SHEET
MAGNET COVE BARITE MINE

SCALE	DRAWING NO	REV
NONE	1.12-3-1249-1	0

REVISIONS	REFERENCES	DATE
1		
2		
3		
4		

DRAWN: McAllister DATE: 4-16-79
 CHECKED: _____
 APPROVED: _____
 PLANT: MAGNET COVE, ARKANSAS

NL Industries, Inc.
NL Baroid
Magnet Cove, Arkansas

II. RECLAMATION PLAN

To reactivate the open pit mine, overburden must be removed to allow access to barite which is ultimately processed. The new mining activity will comply with the Arkansas Open Cut Land Reclamation Act of 1977. It is NL Baroid's objective to use this new overburden to:

- . Reclaim the previously affected areas
- . Restore them to productive use
- . Reduce leachate from existing overburden piles
- . Dispose of sludge generated by the water treatment plant

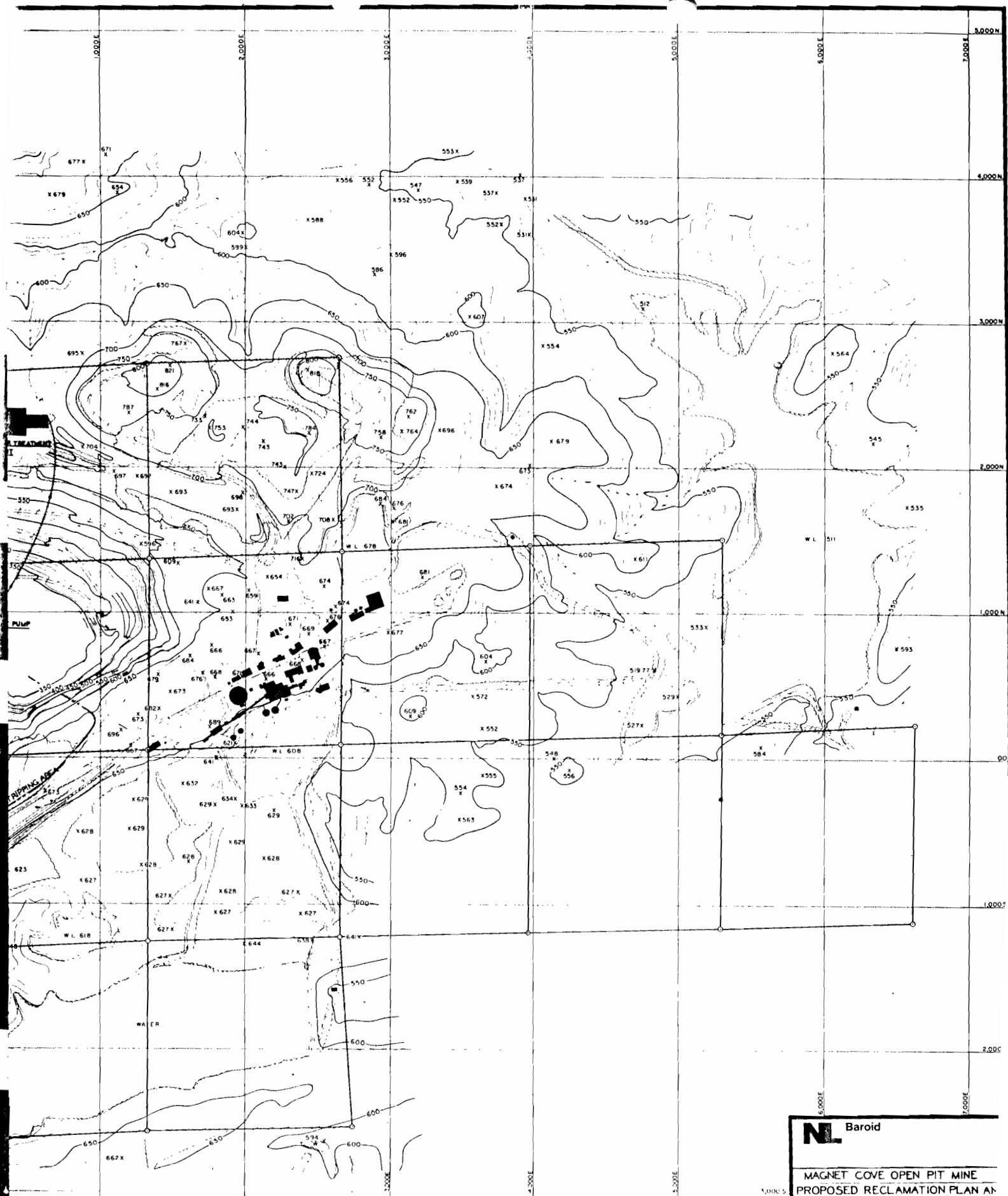
The first step in reclamation will be to smooth the existing overburden piles by filling in all low places, placing new pyrite bearing waste rock above virgin ground level to keep it away from contact with groundwater and dumping overburden in short lifts to minimize segregation and porosity of the piles. By placing the overburden in a systematic manner as shown in the drawing below (NL Baroid dwg. 1.12-3-1249-2), a certain portion of the existing overburden piles can be reclaimed each year.

Additionally, the new piles will be sloped northward to divert runoff around the existing piles to Chamberlain Creek which will be rerouted.

Percolation of water through the overburden piles will be greatly reduced by smoothing and contouring of the piles. However, more than fifty percent of the precipitation would still be expected to percolate through the piles. We propose to add a layer of clay-like impermeable barrier over the entire reclaimed area. This impermeable barrier will virtually stop precipitation from percolating through the piles.

A final three foot layer of vegetative soil will be placed over the impermeable barrier to protect it from weathering due to wind and water erosion. This soil will be conditioned by the addition of amendments as needed to support vigorous plant growth. The plant root systems will hold the vegetative soil in place. Sludge from the water treatment plant will be mixed with this soil as its final disposal method.

It is anticipated that after a period of 7-10 years, leachate from the piles will be diminished to nearly zero and sulfates will be returned to their normal background level.



NOTE DASHED CONTOURS ARE APPROXIMATE

REVISIONS	REFERENCES	BY	DATE
1		MCALLISTER	4-10-79
2			
3			
4			

Baroid

MAGNET COVE OPEN PIT MINE
 PROPOSED RECLAMATION PLAN AND
 WATER TREATMENT PLANT LAYOUT

SCALE: 1" = 100'

DRAWING NO: 112-3-1249-2

DATE: 4-10-79

BY: MCALLISTER

CHECKED: [Signature]

APPROVED: [Signature]

MAGNET COVE, ARKANSAS

NL Industries, Inc.
NL Bacoid
Magnet Cove, Arkansas

III. SULFATE STUDIES

A. Removal Techniques

Sulfate removal techniques and state of the art have been carefully studied. Attached is the bibliography (Table I) of publications that have been used to gain knowledge of sulfate removal. We believe that at this time there is no feasible method currently available to reduce sulfates. Precipitation of sulfates is the most direct method, but there is not enough reagent produced in the US to supply the amount required to treat our water. For example, to lower the sulfate content from 7200 to 250 ppm the use of 360,300 pounds per day ($BaCl_2$) is required. Only 6500 pounds per day of $BaCl_2$ is commercially available. Also the use of $BaCl_2$ will result in the release of about 121,800 pounds of Cl^- ion to the water in addition to the possibility of free barium ion, which would cause a separate undesirable environmental impact in that an additional contaminant would be created. Other possible sulfate removal methods also would create similar negative impacts. These impacts can be reviewed upon request.

TABLE I

BIBLIOGRAPHY OF PUBLICATIONS

Processes, Procedures and Methods to Control Pollution from Mining Activities - U.S. EPA Publication #EPA-540/9-73-011.

State of the Art - Acid Mine Drainage Control, by J. L. Lombardo, Environmental Quality Control Department, Consolidation Coal Company, presented at the 1973 Mining Congress, Denver, Colorado.

Biological Treatment of Acid Mine Water - Prepared for the Federal Water Quality Administration by Franco Rabolini and Philip A. Rice, Department of Chemical Engineering and Materials Science, Syracuse University.

Mine Drainage and Acid Water Treatment - Coal Age, July 1972 author unknown.

Tioga River Mine Drainage Abatement Project, EPA publication #EPA-600/2-76-106.

High Density Sludge Treats Acid, Coal Age, September, 1970 by Kostenboder and Haines of Bethlehem Steel Corp.

Development Document for Interim Final Effluent Limitation Guidelines and New Source Performance Standards for the Mineral Mining and Processing Industry Point Source Category. EPA Publication #EPA-400/1-76/059a.

B. Stream Flows and Sulfate Levels

The effect of the water treatment plant sulfate discharge on the Ouachita River varies depending on operational mode and sulfate levels in pit water.

PHASE 1

In the initial operation of dewatering the impounded pit water, sulfate levels of 7200 mg/liter, TDS of 11,500 mg/liter and flow of 2000 GPM from treatment plant are anticipated. Based on these data, at the average Ouachita River flow of 2030 CFS; sulfates will increase 15 mg/liter and TDS 25 mg/liter over existing levels; at high monthly flow of 3750 CFS sulfates will increase 8.5 mg/liter and TDS 13.5 mg/liter over existing levels; and at low monthly flow sulfates increase 65 mg/liter and TDS 104 mg/liter over existing levels.

Pit emptying operation - initial pit dewatering
WTP Flow: 4.46 CFS (2000 GPM)
WTP Sulfates: 7200 PPM
WTP Dissolved Solids: 11500 PPM

Ouachita River Flow (1978)	Sulfate Addition From WTP	Dissolved Solids Addition from WTP
2031 CFS (Average Flow)	+15.7	+ 25.0
3752 CFS (High Monthly Flow)	+ 8.5	+ 13.5
492 CFS (Low Monthly Flow)	+64.7	+103.3

PHASE 2

In the normal mode of operation where dewatering is determined by precipitation, sulfate levels of 5200 mg/liter, TDS of 8900 mg/liter and flow of 700 gpm are anticipated. Based on these data, at the average Ouachita River flow of 2030 CFS sulfates will increase 4.0 mg/liter and TDS 5.0 mg/liter over existing levels; at high monthly flow of 3750 CFS sulfates will increase 2.2 mg/liter and TDS 2.7 mg/liter over existing levels; and at low monthly flow sulfates increase 16 mg/liter and TDS 20 mg/liter over existing levels.

Pit Maintenance Operation - After initial pit dewatering
 WTP Flow: 1.56 CFS (700 GPM) (Actual Flow Depends on
 Rainfall)
 WTP Sulfates: 5200 PPM
 WTP Dissolved Solids: 8900 PPM

<u>Ouachita River Flow (1978)</u>	<u>Sulfate Addition From WTP</u>	<u>Dissolved Solids Addition from WTP</u>
2031 CFS (Average Flow)	4.0	4.9
3752 CFS (High Monthly Flow)	2.2	2.7
492 CFS (Low Monthly Flow)	16.4	20.3

TABLE II

OUACHITA RIVER FLOW - USGS MALVERN GAUGING STATION - 1978

<u>MONTH</u>	<u>FLOW (CUBIC FEET PER SECOND)</u>
January	2358
February	2072
March	3271
April	2472
May	3752 (HIGH MONTHLY FLOW)
June	1008
July	987
August	828
September	1164
October	492 (LOW MONTHLY FLOW)
November	2830
December	3139
 Yearly Average Flow	 2031 CFS

Donna

May 4, 1979

Mr. T. J. DeDio
Senior Project Engineer
Baroid Petroleum Services
Post Office Box 1675
Houston, TX 77001

Dear Mr. DeDio:

This will acknowledge receipt of your letter dated April 30, 1979 requesting that your name be placed on the agenda to address the Commission at its meeting on May 25, 1979.

You will be permitted to address the Commission on that date. All appearances are scheduled immediately following the 9:00 a.m. call to order. Because the Commission has a public hearing scheduled at another location at 1:00 p.m. that afternoon, we must ask that you keep your presentation to a minimum, preferably no more than 15 or 20 minutes.

Our meeting room is rather small and usually filled to capacity for Commission meetings, therefore, we ask that you limit your delegation to two or three persons.

If we may be of further assistance, please advise.

Sincerely yours,

Jarrell E Southall

Jarrell E. Southall
Director

bbc

**NL Baroid
Petroleum Services**

April 30, 1979

Mr. Jarrell Southall, Director
State of Arkansas Water Pollution Control Division
The Department of Pollution Control and Ecology
8001 National Drive
Little Rock AR 72209

Dear Mr. Southall:

We would like to be put on the agenda of the May 25, 1979 meeting of the Commission to request changes in standards for Chamberlain Creek, Cove Creek and Ouachita River (Camden to Carpenter Dam).

Sincerely,



T. J. DeDio
Senior Project Engineer

TJD/sb

RECEIVED
Dept. of Pollution Control
MAY 4 1979

MAY 4 1979

May 9, 1979

Mr. Don Smith
Eilbott, Smith, Eilbott & Humphries
Post Office Box 5010
Pine Bluff, AR 71011

Dear Mr. Smith:

This will acknowledge receipt of your letter dated April 25, 1979 requesting that your name be placed on the agenda to address the Commission at its meeting on May 25, 1979.

You will be permitted to address the Commission on that date. All appearances are scheduled immediately following the 9:00 a.m. call to order. Because the Commission has a public hearing at another location at 1:00 p.m. that afternoon, we must ask that you keep your presentation to a minimum, preferably no more than 15 minutes.

Our meeting room is rather small and usually filled to capacity for Commission meetings; therefore, we ask that you limit your delegation to two or three persons.

Sincerely yours,

Jarrell E. Southall
Director

bbc

Southall

EILBOTT, SMITH, EILBOTT AND HUMPHRIES

ATTORNEYS AT LAW

219 WEST FIFTH AVENUE

P. O. BOX 5010

PINE BLUFF, ARKANSAS 71611

April 25, 1979

M. L. REINBERGER (1960)
R. A. EILBOTT, JR. (1977)
DON H. SMITH
DON A. EILBOTT
ALAN R. HUMPHRIES
THOMAS E. BROWN

TELEPHONE
534-3721
AREA CODE 501

Mr. Jarrel Southall
Dept. of Pollution Control & Ecology
8001 National Drive
Little Rock, Arkansas 72201

Re: Application of Delta Specialty, Inc.
For Hazardous Waste Landfill in Hempstead County

Dear Mr. Southall:

As attorney for Delta Specialty, Inc, I am, by this letter requesting permission of Delta Specialty, Inc., and myself to appear before the Commission of Pollution Control and Ecology at the next meeting.

If this is satisfactory to you would you please advise me of the date and time of the next Commission meeting?

Very truly yours,

EILBOTT, SMITH, EILBOTT & HUMPHRIES

BY

Don A. Eilbott

DHS:dc

Please Sign

5/25/79

NAME	Representing
A. S. Naumali	ADPC & E
John Mitchell	"
A. P. FIDEL	"
Carol Grijee	Gazette
Melvyn Bell	ENSCO
Bill Dawson	Ark. Democrat
Don Hicks	Mayer, Suddarth and Edwards, Inc.
Jack	
Cathy Field	City of Hope
Joe Shaw	SPC & E
Bob Bogard	AFW AU
Chuck Nastrud	ATTY to PC & E
Bill Jones	KARK-TV
Mark Fryklund	KARK TV
LEONARD HAWKINS	NL BAROID
FRED BASER	NL INDUSTRIES INC
TUDEDIO	NL BAROID
Don Richardson	FAIRFIELD, BAY
J. E. Anderson	A. O. SMITH
Shell	ADPC & E
John Giese	ADPC & E
Buddy Van	"
Billy Clement	"
Doug Senter	ORCB
Frank Billard	Delta Specialty
J. B. Romero	
Bob Brumbelow	