

APPENDIX O:
PRELIMINARY SOURCE IDENTIFICATIONS

Table O-1. Preliminary Source Identifications for the PMF Solutions

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Acadia National Park	1	63.1				?
Acadia National Park	2	9.5			Oil/diesel.	
Acadia National Park	3	392.5	Sea salt	S, Winter		sea salt
Acadia National Park	4	72.7	Crustal			crustal
Acadia National Park	5	2262.5	Powerplant?	Pt., SW, Summer	OK	regional transport
Acadia National Park	6	3936.4	Secondary; aged air mass	Pt., SW, Summer	Secondary OC	regional transport
Acadia National Park	7	341.4	Veg. burning?	Reg., SW, Winter	OK	veg burning
Acadia National Park	8	399.3	Incinerator? or Diesel?	Pt., SW, Winter	? Not an incinerator with all that C. Diesel or industrial burning?	incinerator
Acadia National Park	9	37.8			?	smear signature
Arendtsville	1	13940.0	?	Summer	?	
Arendtsville	2	58.3		Fall	Oil/diesel	smudge pots
Arendtsville	3	40.6			Road salt/dust?	
Arendtsville	4	111.0	Crustal	Spring	OK	
Arendtsville	5	13.4			?	
Arendtsville	6	60.0			Veg. Burning?	
Arendtsville	7	36.5			Oil/diesel?	
Arendtsville	8	6215.7	Secondary sulfate	Summer		
Arendtsville	9	2019.3	Secondary OC	Summer	OK	
Boundary Waters Canoe Area	1	183.6	Veg. burning		OK	
Boundary Waters Canoe Area	2	54.2			Crustal	
Boundary Waters Canoe Area	3	10.3				cu mining
Boundary Waters Canoe Area	4	2188.4	Secondary OC	Summer	OK	
Boundary Waters Canoe Area	5	199.7	?	UNMIX 1	?	fe mining
Boundary Waters Canoe Area	6	53.2			Road salt?	
Boundary Waters Canoe Area	7	2354.0	Powerplant?	Spring	OK	
Boundary Waters Canoe Area	8	231.1	Incinerator?	Winter	EC?	
Boundary Waters Canoe Area	9	148.9	Crustal		OK	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Brigantine National Wildlife Refuge	1	330.4	?	Winter	?	industrial
Brigantine National Wildlife Refuge	2	651.2	Diesel?	Winter	Probably	
Brigantine National Wildlife Refuge	3	2713.0	Crustal?	Winter	Mobile/road dust?	
Brigantine National Wildlife Refuge	4	618.7	Residual oil combustion?	Winter	OK	
Brigantine National Wildlife Refuge	5	662.6	Sea salt			
Brigantine National Wildlife Refuge	6	769.4	Mobile Sources?	Winter	?	
Brigantine National Wildlife Refuge	7	5704.1	Secondary sulfate	Summer	OK	
Brigantine National Wildlife Refuge	8	7.5				
Brigantine National Wildlife Refuge	9	112.4	Crustal	Summer	OK	
Bondville	1	829.0	Veg. burning	Fall	OK	
Bondville	2	6980.8	Smelter?			no smelter / trash burning
Bondville	3	5228.2	Secondary sulfate	Summer	OK	
Bondville	4	970.7	?	Spring		
Bondville	5	272.3	Secondary OC		OK	
Bondville	6	4077.0	?	Summer		
Bondville	7	133.5	Powerplant?		?	
Bondville	8	102.3	Crustal	Events	OK	
Bondville	9	133.0	Incinerator?		?	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Connecticut Hill	1	11722.0	Smelter?	Summer	? Huge mass contribution, but no SO ₄ , OC, or EC?	
Connecticut Hill	2	86.4			Diesel/other	
Connecticut Hill	3	1513.0	Secondary OC			
Connecticut Hill	4	9.9				
Connecticut Hill	5	34.6				
Connecticut Hill	6	4.5				
Connecticut Hill	7	5534.3	Secondary sulfate			
Connecticut Hill	8	12.5				
Connecticut Hill	9	84.3	Crustal		OK	
Dolly Sods Wilderness Area	1	638.0	Crustal?		OK	
Dolly Sods Wilderness Area	2	4141.7	Mobile Sources?			
Dolly Sods Wilderness Area	3	379.8	Incinerator?	Summer	Mobile sources? Too much C for incinerator.	
Dolly Sods Wilderness Area	4	5041.9	Secondary sulfate	Summer	OK	
Dolly Sods Wilderness Area	5	225.9	Diesel?	Summer	OK	
Dolly Sods Wilderness Area	6	1162.7	Sea salt?		Maybe some, but too much SO ₄ .	
Dolly Sods Wilderness Area	7	157.7	Crustal	Summer	OK, but a lot of sulfate	
Dolly Sods Wilderness Area	8	729.3	veg. burning		OK	
Dolly Sods Wilderness Area	9	192.5	Incinerator?	Summer	Again C.	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Great Smoky Mountains National Park	1	155.5	Diesel?	NE, summer, area		
Great Smoky Mountains National Park	2	73.8				
Great Smoky Mountains National Park	3	4416.4	Secondary sulfate	summer, area	OK	
Great Smoky Mountains National Park	4	391.9	Secondary sulfate	area	OK	
Great Smoky Mountains National Park	5	556.5	Crustal	SW, summer, pt.	OK	
Great Smoky Mountains National Park	6	6628.5	Secondary OC	summer, area/pt.	OK	
Great Smoky Mountains National Park	7	177.5	Sea salt	summer, area, S	OK	
Great Smoky Mountains National Park	8	328.0	Incinerator?	spring, area		
Great Smoky Mountains National Park	9	707.8	veg. burning	S, spring, area	OK	
James River Face Wilderness Area	1	287.4	Secondary sulfate		? with EC?	
James River Face Wilderness Area	2	6909.8	Secondary sulfate	summer		
James River Face Wilderness Area	3	405.0	Residual oil combustion?	winter	Diesel?	
James River Face Wilderness Area	4	509.7	Crustal	spring	OK	
James River Face Wilderness Area	5	2163.9	woodsmoke	winter	OK	
James River Face Wilderness Area	6	267.5	Incinerator?		?	
James River Face Wilderness Area	7	474.1	Sea salt? industrial?	Winter	Pulp mill contribution?	
James River Face Wilderness Area	8	3563.1	Mobile Sources?		Probably	
James River Face Wilderness Area	9	138.2	Mobile Sources?		Probably	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Livonia	1	1867.4	incinerator?	Winter	OK	
Livonia	2	228.4	Smelter?	Winter		
Livonia	3	6259.6	Secondary sulfate	summer	OK	
Livonia	4	463.2	Crustal		OK	
Livonia	5	7330.5	Crustal limestone?	summer		
Livonia	6	29.4	Crustal?		?	
Livonia	7	3776.5	secondary OC	summer	OK	
Livonia	8	47.8			Veg. Burning?	
Livonia	9	141.8	Secondary OC/smoke?	Events	Smoke should have some EC.	
Lye Brook Wilderness Area	1	359.9	Powerplant?	Winter		
Lye Brook Wilderness Area	2	457.0	Smelter?	Winter		
Lye Brook Wilderness Area	3	134.3	Crustal	spring	Mix of crustal and something else.	
Lye Brook Wilderness Area	4	190.0	incinerator?	Winter		
Lye Brook Wilderness Area	5	2421.6	veg. burning	summer	OK	
Lye Brook Wilderness Area	6	3197.1	Secondary sulfate	summer	OK	
Lye Brook Wilderness Area	7	367.3	Crustal?	spring		
Lye Brook Wilderness Area	8	376.4	secondary OC		Mobile?	
Lye Brook Wilderness Area	9	70.8	Sea salt		Road salt; spring.	
Mammoth Cave National Park	1	525.3	Crustal	SW, summer, reg.		
Mammoth Cave National Park	2	62.8			diesel plus other?	
Mammoth Cave National Park	3	2997.5	veg. burning	S, winter, reg.	OK	
Mammoth Cave National Park	4	227.2	Crustal	Spring, area	OK	
Mammoth Cave National Park	5	4931.7	Secondary sulfate	summer, area	Ok	
Mammoth Cave National Park	6	330.9	road salt? diesel?	spring, reg., S		
Mammoth Cave National Park	7	141.9	industrial	Winter, area		
Mammoth Cave National Park	8	6099.6	Secondary OC	summer, area, E		
Mammoth Cave National Park	9	685.7	Residual oil combustion?	winter, N, reg.	Probably.	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
M.K. Goddard	1	6.6				
M.K. Goddard	2	368.5	incinerator?	fall		
M.K. Goddard	3	437.1	veg. burning			
M.K. Goddard	4	5785.6	Secondary sulfate	summer	OK	
M.K. Goddard	5	13.9				
M.K. Goddard	6	4213.4	Secondary OC	summer		
M.K. Goddard	7	8123.6	Crustal limestone?	summer		
M.K. Goddard	8	207.6	Crustal		Crustal plus mobile - road source.	
M.K. Goddard	9	317.7	Diesel?		Probably.	
Quaker City	1	55.3				
Quaker City	2	881.9	Crustal?			
Quaker City	3	7890.6	Crustal limestone? powerplant?	summer		
Quaker City	4	1956.4	Secondary OC	summer	OK	
Quaker City	5	1224.0	?	winter		
Quaker City	6	2105.6	?			
Quaker City	7	25.1			Veg. Burning?	
Quaker City	8	36.5			Crustal.	
Quaker City	9	6290.9	Secondary sulfate	summer	OK	
Shenandoah National Park	1	176.5	Crustal?	summer, reg.	OK	
Shenandoah National Park	2	328.2	Sea salt	summer, SW, reg.		
Shenandoah National Park	3	64.0				
Shenandoah National Park	4	4470.6	Secondary sulfate	summer, area	OK	
Shenandoah National Park	5	613.6	veg. burning	spring, reg., SW	A lot of SO4 relative to OC/EC	
Shenandoah National Park	6	60.5				
Shenandoah National Park	7	2866.1	veg. burning?	summer, reg., NE	Probably	
Shenandoah National Park	8	2142.7	secondary OC	summer		
Shenandoah National Park	9	1079.0	Mobile Sources?	spring, reg.	OK	

Table O-1. Preliminary Source Identifications for the PMF Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	STI Source guess	Notes	Battelle Concurrence and Source Guesses	Additional/local guesses
Washington D.C.	1	289.1	Residual oil combustion?	winter	OK	
Washington D.C.	2	935.0	Diesel?	winter		
Washington D.C.	3	278.3	veg. burning	summer		
Washington D.C.	4	7543.2	Secondary sulfate	summer		
Washington D.C.	5	588.4	Diesel?	fall	OK	
Washington D.C.	6	311.4	Sea salt?	winter	Maybe	
Washington D.C.	7	6593.3	Mobile Sources?	winter	OK	
Washington D.C.	8	1171.3	Mobile Sources? Crustal?	summer	Mobile plus road dust.	
Washington D.C.	9	198.6	Crustal	summer	OK	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
Acadia National Park	1	559.7	Sea salt		sea salt	winter	
Acadia National Park	2	576.5	Regional Transport?		mobile	winter	
Acadia National Park	3	3491.2	Secondary?		sec. Sulfate	summer	
Acadia National Park	4	1385.6	Resid oil?		oil burning	winter	
Acadia National Park	5	296.2	industrial	Veg. Burning?	incinerator industrial	winter	
Acadia National Park	6	606.1	Crustal		crustal	summer	
Arendtsville	1	133.1	resid oil?			sulfate and V	
Arendtsville	2	4347.6	long range transport?	Regional mix.		combo resid oil and crustal; winter	Crustal or urban plume?
Arendtsville	3	168.7	veg burning?	OK			
Arendtsville	4	1.8					
Arendtsville	5	8818.4	Crustal	Regional mix; similar to Arendtsville #2		summer	Could this be an urban plume?
Arendtsville	6	2077.3	Industrial, non-oil or coal			fall	
Boundary Waters Canoe Area	1	360.1	PMF 5				
Boundary Waters Canoe Area	2	1049.0	road sanding?			winter	
Boundary Waters Canoe Area	3	392.5	sea salt			winter	
Boundary Waters Canoe Area	4	649.3	Incinerator?			winter	
Boundary Waters Canoe Area	5	602.4	Crustal			spring	
Boundary Waters Canoe Area	6	2100.7	Mobile Sources?			summer	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
Brigantine National Wildlife Refuge	1	1093.1	Sea salt			spring	
Brigantine National Wildlife Refuge	2	1421.4	Mobile Sources?			winter	
Brigantine National Wildlife Refuge	3	219.9	combustion			winter	
Brigantine National Wildlife Refuge	4	6514.3	Mobile Sources?			summer	Se, Ti from what?
Brigantine National Wildlife Refuge	5	712.7	Crustal			summer	
Brigantine National Wildlife Refuge	6	905.1	Incinerator?			winter	
Bondville	1	563.8	Incinerator?			higher EC	
Bondville	2	586.4	Crustal			dust storm event?	
Bondville	3	622.5	secondary sulfate			spring	
Bondville	4	703.2	Crustal			Al, Si, Ca, Fe	
Bondville	5	1603.9	Resid oil?			Se, Ni, Sulfate	
Bondville	6	8470.6	Mobile Sources?			Lacks Al, Ca to be crustal	Could this be an urban plume?
Connecticut Hill	1	6548.5	Crustal			large event	Could this be an urban plume?
Connecticut Hill	2	1947.7	Resid oil?			winter	
Connecticut Hill	3	873.2	Resid oil?			sulfate, V	
Connecticut Hill	4	75.4	secondary sulfate			spring	
Connecticut Hill	5	1766.0	Incinerator?			spring	
Connecticut Hill	6	2014.1	Resid oil?/sea salt?			summer, combo oil combustion and sea salt	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
Dolly Sods Wilderness Area	1	1051.5	Sea salt?			summer	
Dolly Sods Wilderness Area	2	448.0	Mobile Sources?	OK		winter	
Dolly Sods Wilderness Area	3	6436.9	secondary OC, sulfate			summer	
Dolly Sods Wilderness Area	4	1723.7	veg burning?	OK		winter	
Dolly Sods Wilderness Area	5	1419.7	Mobile Sources?			winter	
Dolly Sods Wilderness Area	6	253.7	crustal			summer	
Great Smoky Mountains National Park	1	2369.9	Resid oil?/sea salt?			S, summer (odd)	
Great Smoky Mountains National Park	2	271.3	veg burning?			N, winter	
Great Smoky Mountains National Park	3	2775.9	Secondary			summer	
Great Smoky Mountains National Park	4	1671.1	Incinerator?			NE, spring	
Great Smoky Mountains National Park	5	2218.1	Crustal			SW, summer	
Great Smoky Mountains National Park	6	3576.6	secondary sulfate			Cu, Zn	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
James River Face Wilderness Area	1	2848.5	Sea salt?			summer	
James River Face Wilderness Area	2	509.8	veg burning?			winter	
James River Face Wilderness Area	3	1321.4	Crustal			spring	
James River Face Wilderness Area	4	1613.6	Incinerator?			Pb, Cu, K	
James River Face Wilderness Area	5	2629.1	Crustal?			Si, Ca, Fe	lacks Al, higher in EC
James River Face Wilderness Area	6	5846.1	Mobile Sources?			summer	
Livonia	1	375.4	Secondary			Sulfate, OC	
Livonia	2	1926.3	Incinerator?			winter	
Livonia	3	2017.6	industrial				
Livonia	4	4732.8	Crustal			summer	
Livonia	5	825.0	Resid oil?			summer	
Livonia	6	2943.0	Crustal?			winter	
Lye Brook Wilderness Area	1	947.6	Resid oil?			Ni, V, sulfate	
Lye Brook Wilderness Area	2	457.9	sea salt			Na	lacks trace others
Lye Brook Wilderness Area	3	271.5	secondary sulfate			event	
Lye Brook Wilderness Area	4	1109.0	Crustal			spring	
Lye Brook Wilderness Area	5	646.5	Incinerator?			winter	
Lye Brook Wilderness Area	6	3495.3	Incinerator?			summer	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
Mammoth Cave National Park	1	857.2	Resid oil?			N, winter	
Mammoth Cave National Park	2	2777.0	Sea salt?			odd	
Mammoth Cave National Park	3	609.9	Mobile Sources?			W, winter	
Mammoth Cave National Park	4	1937.3	Crustal			S, summer	
Mammoth Cave National Park	5	333.8	Incinerator?			winter	
Mammoth Cave National Park	6	6497.9	Mobile Sources?			SE, summer	
M.K. Goddard	1	1605.0	Resid oil?			events	
M.K. Goddard	2	484.5	veg burning?			summer	
M.K. Goddard	3	1299.6	secondary sulfate			event	
M.K. Goddard	4	1055.6	Resid oil?				
M.K. Goddard	5	3441.4	Crustal			winter	
M.K. Goddard	6	16.3				winter	
Quaker City	1	4785.6	Crustal			events	
Quaker City	2	7.5				fall	
Quaker City	3	2656.3	Industrial, non-oil or coal			events	
Quaker City	4	3689.8	Resid oil?			events	
Quaker City	5	3449.9	Crustal?			summer	
Quaker City	6	1544.6	Crustal/Long range transport			combo crustal and Power plant sig's	

Table O-2. Preliminary Source Identifications for the UNMIX Solutions (continued)

Site name	Solution number	Fine mass ng/m ³	Source Guess	Battelle Concurrence and Source Guesses	Additional/local guesses	Notes	Other
Shenandoah National Park	1	1312.5	Sea salt			SW, summer	
Shenandoah National Park	2	350.7	resid oil?			E, events	
Shenandoah National Park	3	523.6	veg burning?			N, NE, winter	
Shenandoah National Park	4	6459.0	secondary			summer	Se, Ti from what?
Shenandoah National Park	5	886.1	Crustal			summer	
Shenandoah National Park	6	1794.2	Incinerator?			spring	
Washington D.C.	1	1120.8	Resid oil?			winter	
Washington D.C.	2	3539.8	Sea salt?			summer	
Washington D.C.	3	611.7	veg burning?			event	
Washington D.C.	4	1810.9	Mobile Sources?			event	
Washington D.C.	5	4235.0	Crustal			summer	
Washington D.C.	6	5094.3	Mobile Sources?			winter	

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Acadia National Park	1	No match found	63.1	23.3
Acadia National Park	2	Residual Oil Combustion	9.5	13.34
Acadia National Park	2	Oil-Fired Power Plant	9.5	14.37
Acadia National Park	2	Oil-Fired Power Plant	9.5	17.13
Acadia National Park	3	Lime Kiln	392.5	7.54
Acadia National Park	3	Veneer Dryer / Wood - Fired	392.5	8.88
Acadia National Park	4	Soil Dust - East Helena, Montana	72.7	9.37
Acadia National Park	4	Soil Dust - Idaho	72.7	9.37
Acadia National Park	4	Coal-Fired Power Plant	72.7	11.71
Acadia National Park	5	Slash Burning (Ponderosa Pine-Smoldering Phase)	2262.5	14.97
Acadia National Park	5	Fireplaces - Softwoods	2262.5	16.8
Acadia National Park	5	Green Coke Dust	2262.5	17.06
Acadia National Park	5	Fireplaces - Hardwoods	2262.5	18.29
Acadia National Park	5	Slash Burning (Hardwood-Smoldering Phase)	2262.5	18.31
Acadia National Park	6	No match found	3936.4	24.6
Acadia National Park	7	Field Burning - Fescue	341.4	9.18
Acadia National Park	8	No match found	399.3	23.72
Acadia National Park	9	External Combustion - Waste Oil-Fired Boiler	37.8	13.48
Acadia National Park	9	Paved Road Dust - East Helena, Montana	37.8	13.89
Acadia National Park	9	Cement Kiln (Coal-Fired)	37.8	14.12
Acadia National Park	9	Paved Road Dust - Pasadena Freeway (CA)	37.8	15.15
Acadia National Park	9	Sewage Sludge Incineration	37.8	15.37
Acadia National Park	9	Wood-Fired Boiler	37.8	16.1
Acadia National Park	9	Transportation Composite	37.8	16.32
Acadia National Park	9	Solid Waste - Average	37.8	16.41
Acadia National Park	9	Paved Road Dust - Freeway Composite	37.8	16.47
Acadia National Park	9	Paved Road Dust - Pocatello, Idaho	37.8	16.71
Arendtsville	1	No match found	13940	88.13
Arendtsville	2	Primary Lead Smelting-Dross Reverberatory Furnace	58.3	9.2
Arendtsville	2	Transportation Composite	58.3	10.15
Arendtsville	2	Secondary Lead - Melting Pot Fugitives	58.3	11.9
Arendtsville	3	Veneer Dryer / Wood - Fired	40.6	19
Arendtsville	3	Kraft Recovery Furnace	40.6	19.15
Arendtsville	3	Hogged Fuel Boiler / Plywood Manufacturing	40.6	19.22
Arendtsville	3	Glass Furnace	40.6	19.86

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Arendtsville	4	Coal- And Refuse Derived Fuel (RDF)-Fired Power Plant	111	19.26
Arendtsville	4	Paved Road Dust - Pocatello, Idaho	111	19.83
Arendtsville	5	No match found	13.4	20.9
Arendtsville	6	No match found	60	21.76
Arendtsville	7	Oil-Fired Power Plant	36.5	18.63
Arendtsville	7	Oil-Fired Power Plant	36.5	19.18
Arendtsville	7	Residual Oil-Fired Boiler / Petroleum Refinery	36.5	19.97
Arendtsville	8	No match found	6215.7	41.83
Arendtsville	9	Slash Burning (Ponderosa Pine-Smoldering Phase)	2019.3	9.41
Arendtsville	9	Fireplaces - Softwoods	2019.3	10.12
Boundary Waters Canoe Area	1	Hogged Fuel Boiler / Plywood Manufacturing	183.6	13.18
Boundary Waters Canoe Area	1	Secondary Aluminum Plant - Dross Recovery Furnace	183.6	14.08
Boundary Waters Canoe Area	1	Field Burning - Fescue	183.6	16.32
Boundary Waters Canoe Area	1	Secondary Aluminum - Dross Recovery Furnace	183.6	17.12
Boundary Waters Canoe Area	2	Soil Dust - East Helena, Montana	54.2	14.01
Boundary Waters Canoe Area	2	Soil Dust - Idaho	54.2	14.01
Boundary Waters Canoe Area	2	Petroleum Refinery Catalytic Cracker	54.2	15.31
Boundary Waters Canoe Area	2	Coal-Fired Power Plant	54.2	17.67
Boundary Waters Canoe Area	2	Coal-Fired Power Plant	54.2	17.73
Boundary Waters Canoe Area	2	Paved Road Dust - Lewiston, Idaho	54.2	17.75
Boundary Waters Canoe Area	2	Coal-Fired Power Plant	54.2	17.91
Boundary Waters Canoe Area	2	Catalytic Cracker Composite	54.2	18.01
Boundary Waters Canoe Area	2	Coal-Fired Power Utility Fly Ash (Srm 1633)	54.2	18.13
Boundary Waters Canoe Area	2	Soil Dust - Portland OR	54.2	18.13
Boundary Waters Canoe Area	3	Metal Mining - General Processes - Average	10.3	8.79
Boundary Waters Canoe Area	4	Slash Burning (Ponderosa Pine-Smoldering Phase)	2188.4	16.84
Boundary Waters Canoe Area	5	No match found	199.7	23.36
Boundary Waters Canoe Area	6	No match found	53.2	31.18
Boundary Waters Canoe Area	7	No match found	2354	29.24
Boundary Waters Canoe Area	8	Light Duty Vehicles - Unleaded	231.1	17.21
Boundary Waters Canoe Area	8	Transportation Composite	231.1	19.05
Boundary Waters Canoe Area	8	Slash Burning (Tractor-Piled;Flaming Phase)	231.1	19.21
Boundary Waters Canoe Area	9	Slag Loadout Fugitives - Elemental Phosphorus Plant	148.9	10.08
Boundary Waters Canoe Area	9	Soil Dust - Creston, Iowa	148.9	10.58
Boundary Waters Canoe Area	9	Soil Dust - Des Moines, IA	148.9	11.1
Boundary Waters Canoe Area	9	Clay And Fly Ash Sintering - Average	148.9	11.52
Boundary Waters Canoe Area	9	Paved Road Dust - Pocatello, Idaho	148.9	12.53

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Brigantine National Wildlife Refuge	1	Heavy Duty Diesel	330.4	10.99
Brigantine National Wildlife Refuge	1	Transportation Composite	330.4	14.22
Brigantine National Wildlife Refuge	2	No match found	651.2	25.4
Brigantine National Wildlife Refuge	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	2713	11.25
Brigantine National Wildlife Refuge	3	Slash Burning (Hardwood-Smoldering Phase)	2713	11.62
Brigantine National Wildlife Refuge	3	Forest Prescribed Burning - Broadcast Conifer	2713	11.76
Brigantine National Wildlife Refuge	3	Fireplaces - Hardwoods	2713	12.24
Brigantine National Wildlife Refuge	3	Fireplaces - Softwoods	2713	12.65
Brigantine National Wildlife Refuge	3	Slash Burning (Crane-Piled; Smoldering Phase)	2713	13.93
Brigantine National Wildlife Refuge	3	Residential Woodstove Composite	2713	14.6
Brigantine National Wildlife Refuge	4	No match found	618.7	20.06
Brigantine National Wildlife Refuge	5	Veneer Dryer / Wood - Fired	662.6	18.66
Brigantine National Wildlife Refuge	5	Kraft Recovery Furnace	662.6	19.12
Brigantine National Wildlife Refuge	6	Natural Gas Home Appliances	769.4	19.55
Brigantine National Wildlife Refuge	7	No match found	5704.1	26.74
Brigantine National Wildlife Refuge	8	No match found	7.5	23.71
Brigantine National Wildlife Refuge	9	Soil Dust - East Helena, Montana	112.4	13.41
Brigantine National Wildlife Refuge	9	Soil Dust - Idaho	112.4	13.41
Brigantine National Wildlife Refuge	9	Petroleum Refinery Catalytic Cracker	112.4	15.47
Brigantine National Wildlife Refuge	9	Coal-Fired Power Plant	112.4	17.27
Bondville	1	Slash Burning (Ponderosa Pine-Flaming Phase)	829	11.69
Bondville	1	Forest Prescribed Burning - Broadcast Conifer	829	15.08
Bondville	2	No match found	6980.8	51.43
Bondville	3	No match found	5228.2	37.25
Bondville	4	No match found	970.7	24.34
Bondville	5	Calciner - Elemental Phosphorus Plant	272.3	14.17
Bondville	6	No match found	4077	35.31
Bondville	7	Primary Lead Smelting - Soda Flux Fugative Dust	133.5	11.09
Bondville	8	Soil Dust - East Helena, Montana	102.3	12.34
Bondville	8	Soil Dust - Idaho	102.3	12.34
Bondville	8	Coal-Fired Power Plant	102.3	15.03
Bondville	8	Coal-Fired Power Plant	102.3	15.57
Bondville	9	No match found	133	20.35
Connecticut Hill	1	No match found	11722	95.08
Connecticut Hill	2	No match found	86.4	24.81

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Connecticut Hill	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	1513	12
Connecticut Hill	3	Slash Burning (Crane-Piled;Smoldering Phase)	1513	12.39
Connecticut Hill	3	Slash Burning (Hardwood-Smoldering Phase)	1513	13.3
Connecticut Hill	3	Fireplaces - Hardwoods	1513	13.68
Connecticut Hill	3	Fireplaces - Softwoods	1513	13.98
Connecticut Hill	4	Oil-Fired Power Plant Composite	9.9	17.01
Connecticut Hill	4	Oil-Fired Power Plant	9.9	19.36
Connecticut Hill	4	Oil-Fired Power Plant	9.9	19.37
Connecticut Hill	5	Veneer Dryer / Wood - Fired	34.6	18.27
Connecticut Hill	5	Aluminum Reduction Potline	34.6	18.5
Connecticut Hill	5	Particleboard Dryer / Direct - Fired	34.6	18.86
Connecticut Hill	5	Hogged Fuel Boiler / Plywood Manufacturing	34.6	19.36
Connecticut Hill	5	Kraft Recovery Furnace	34.6	19.67
Connecticut Hill	5	Glass Furnace	34.6	19.73
Connecticut Hill	5	Paved Road Dust - Composite	34.6	19.83
Connecticut Hill	5	External Combustion Boiler - Coal-Slurry Fired	34.6	19.84
Connecticut Hill	5	Cement Kiln (Coal-Fired)	34.6	19.87
Connecticut Hill	6	Oil-Fired Power Plant	4.5	17.41
Connecticut Hill	6	Coal-Fired Power Plant	4.5	17.87
Connecticut Hill	6	Coal-Fired Power Plant/esp Composite	4.5	17.88
Connecticut Hill	6	Coal-Fired Power Plant	4.5	17.89
Connecticut Hill	6	Wood-Fired Boiler	4.5	18.09
Connecticut Hill	6	Mineral Products - Average	4.5	18.1
Connecticut Hill	6	Glass Furnace	4.5	18.12
Connecticut Hill	6	Pulp And Paper Industry	4.5	18.12
Connecticut Hill	6	Triple Super Phosphate Stack	4.5	18.12
Connecticut Hill	6	Cement Kiln (Coal-Fired)	4.5	18.13
Connecticut Hill	7	No match found	5534.3	49.33
Connecticut Hill	8	Primary Lead Smelting - Sintering	12.5	9.88
Connecticut Hill	8	Light Duty Vehicle - Leaded	12.5	11.2
Connecticut Hill	8	Light Duty Vehicles - Leaded	12.5	11.2
Connecticut Hill	8	Transportation Composite - Portland, OR (1979)	12.5	11.22
Connecticut Hill	8	Fireplaces - Synthetic Logs	12.5	11.31
Connecticut Hill	8	Transportation Composite - Medford, OR (1980)	12.5	12.15

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Connecticut Hill	9	Paved Road Dust - Pocatello, Idaho	84.3	16
Connecticut Hill	9	Earth's Crust	84.3	17.17
Connecticut Hill	9	Paved Road Dust - Pocatello, Idaho	84.3	17.79
Connecticut Hill	9	Soil Dust - Pocatello, Idaho	84.3	17.96
Connecticut Hill	9	Coal- And Refuse Derived Fuel (RDF)- Fired Power Plant	84.3	18.38
Connecticut Hill	9	Charcoal Manufacturing	84.3	18.4
Connecticut Hill	9	Shale, Crustal	84.3	19.05
Connecticut Hill	9	Paved Road Dust - Juneau, Alaska	84.3	19.14
Connecticut Hill	9	Soil Dust - Medford, OR	84.3	19.47
Connecticut Hill	9	Soil Dust - Alabama	84.3	19.47
Dolly Sods Wilderness Area	1	Triple Super Phosphate Stack	638	13.98
Dolly Sods Wilderness Area	2	No match found	4141.7	23.21
Dolly Sods Wilderness Area	3	No match found	379.8	24.88
Dolly Sods Wilderness Area	4	No match found	5041.9	33.52
Dolly Sods Wilderness Area	5	No match found	225.9	29.26
Dolly Sods Wilderness Area	6	No match found	1162.7	21.2
Dolly Sods Wilderness Area	7	Petroleum Refinery Catalytic Cracker	157.7	13.09
Dolly Sods Wilderness Area	7	Aluminum Reduction Potline	157.7	13.12
Dolly Sods Wilderness Area	7	Coal-Fired Power Plant	157.7	14.26
Dolly Sods Wilderness Area	7	Coal-Fired Power Plant	157.7	14.92
Dolly Sods Wilderness Area	7	Coal-Fired Power Plant/esp Composite	157.7	15.61
Dolly Sods Wilderness Area	7	Soil Dust - Scab Composite	157.7	15.92
Dolly Sods Wilderness Area	7	Coal-Fired Power Utility Fly Ash (Srm 1633)	157.7	16.06
Dolly Sods Wilderness Area	7	Soil Dust - Hawthorne, CA	157.7	16.15
Dolly Sods Wilderness Area	7	Petroleum Refinery Catalytic Cracker	157.7	16.39
Dolly Sods Wilderness Area	7	Excavation - El Segundo, CA	157.7	16.4
Dolly Sods Wilderness Area	8	Field Burning - Perennial Rye Grass	729.3	7.7
Dolly Sods Wilderness Area	8	Slash Burning (Chaparral;Smoldering Phase)	729.3	8.59
Dolly Sods Wilderness Area	9	Calciner - Elemental Phosphorus Plant	192.5	15.53
Great Smoky Mountains National Park	1	Calciner - Elemental Phosphorus Plant	155.5	19.65
Great Smoky Mountains National Park	2	Aluminum Reduction Potline	73.8	17.34
Great Smoky Mountains National Park	2	Petroleum Refinery Catalytic Cracker	73.8	18.73
Great Smoky Mountains National Park	2	Coal-Fired Power Plant	73.8	19.27
Great Smoky Mountains National Park	2	Coal-Fired Power Plant	73.8	19.53
Great Smoky Mountains National Park	2	Coal-Fired Power Utility Fly Ash (Srm 1633)	73.8	19.6
Great Smoky Mountains National Park	2	Coal-Fired Power Plant	73.8	19.74
Great Smoky Mountains National Park	2	Catalytic Cracker Composite	73.8	19.86
Great Smoky Mountains National Park	2	Paved Road Dust - Composite	73.8	19.9
Great Smoky Mountains National Park	2	Coal-Fired Power Plant/esp Composite	73.8	19.97
Great Smoky Mountains National Park	3	No match found	4416.4	22.89
Great Smoky Mountains National Park	4	Meat Cooking - Charbroiling	391.9	9.78
Great Smoky Mountains National Park	5	Triple Super Phosphate Stack	556.5	16.22

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Great Smoky Mountains National Park	6	No match found	6628.5	33.67
Great Smoky Mountains National Park	7	Veneer Dryer / Wood - Fired	177.5	10.11
Great Smoky Mountains National Park	7	Lime Kiln	177.5	10.27
Great Smoky Mountains National Park	8	Light Duty Vehicles - Unleaded	328	18.39
Great Smoky Mountains National Park	9	Field Burning - Perennial Rye Grass	707.8	19.83
James River Face Wilderness Area	1	Clay And Fly Ash Sintering - Average	287.4	18.83
James River Face Wilderness Area	2	No match found	6909.8	26.4
James River Face Wilderness Area	3	Calciner - Elemental Phosphorus Plant	405	14.74
James River Face Wilderness Area	4	Paved Road Dust - La Cienega Blvd. (CA)	509.7	10.1
James River Face Wilderness Area	4	Paved Road Dust - Hawthorne Composite	509.7	11.09
James River Face Wilderness Area	4	Paved Road Dust - Riverside, CA	509.7	12.12
James River Face Wilderness Area	4	Soil Dust - Bend, Oregon	509.7	12.49
James River Face Wilderness Area	4	Soil Dust - Composite	509.7	12.59
James River Face Wilderness Area	4	Soil Dust - Grant's Pass, Oregon	509.7	12.7
James River Face Wilderness Area	4	Soil Dust - Pocatello, Idaho	509.7	12.97
James River Face Wilderness Area	5	Forest Prescribed Burning - Broadcast Conifer	2163.9	14.55
James River Face Wilderness Area	5	Slash Burning (Crane-Piled;Flaming Phase)	2163.9	14.59
James River Face Wilderness Area	5	Residential Woodstove - Medford, Oregon	2163.9	16.14
James River Face Wilderness Area	5	Residential Woodstove Composite	2163.9	16.22
James River Face Wilderness Area	5	Fireplaces - Hardwoods	2163.9	16.41
James River Face Wilderness Area	5	Slash Burning (Crane-Piled;Smoldering Phase)	2163.9	17.17
James River Face Wilderness Area	5	Field Burning - Perennial Rye Grass	2163.9	17.38
James River Face Wilderness Area	5	Slash Burning (Ponderosa Pine-Smoldering Phase)	2163.9	17.51
James River Face Wilderness Area	5	Fireplaces - Softwoods	2163.9	17.78
James River Face Wilderness Area	5	Slash Burning (Ponderosa Pine-Flaming Phase)	2163.9	18.08
James River Face Wilderness Area	6	Heavy Duty Diesel	267.5	6.79
James River Face Wilderness Area	7	No match found	474.1	20.32
James River Face Wilderness Area	8	Slash Burning (Ponderosa Pine-Smoldering Phase)	3563.1	17.47
James River Face Wilderness Area	8	Forest Prescribed Burning - Broadcast Conifer	3563.1	18.41
James River Face Wilderness Area	8	Slash Burning (Hardwood-Smoldering Phase)	3563.1	18.57
James River Face Wilderness Area	9	Light Duty Vehicle - With Catalyst	138.2	6.11
Livonia	1	No match found	1867.4	34.54
Livonia	2	Calciner - Elemental Phosphorus Plant	228.4	18.58
Livonia	3	No match found	6259.6	46.48
Livonia	4	Coal-Fired Power Plant	463.2	15.83
Livonia	5	No match found	7330.5	61.28

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Livonia	6	Hogged Fuel Boiler / Plywood Manufacturing	29.4	19.18
Livonia	6	Wood-Fired Boiler	29.4	19.52
Livonia	6	Paved Road Dust - Pocatello, Idaho	29.4	19.67
Livonia	6	Unpaved Road Dust - Pocatello, Idaho	29.4	19.68
Livonia	6	Phosphate Fertilizer Calciner	29.4	19.81
Livonia	6	Hogged Fuel Boiler / Plywood Manufacturing	29.4	19.86
Livonia	7	Slash Burning (Ponderosa Pine-Smoldering Phase)	3776.5	18.13
Livonia	8	Primary Lead Smelting-Dross Reverberatory Furnace	47.8	8.95
Livonia	8	Secondary Lead - Melting Pot Fugitives	47.8	10.94
Livonia	9	Lime Kiln	141.8	8.05
Livonia	9	Soil Dust - Cedar Rapids, Iowa	141.8	8.61
Livonia	9	Soil Dust - Davenport, Iowa	141.8	10.4
Lye Brook Wilderness Area	1	No match found	359.9	23.6
Lye Brook Wilderness Area	2	Tire Wear	457	15.66
Lye Brook Wilderness Area	3	Paved Road Dust - Pocatello, Idaho	134.3	11.69
Lye Brook Wilderness Area	3	Soil Dust - Des Moines, IA	134.3	12.14
Lye Brook Wilderness Area	3	Soil Dust - Council Bluffs, Iowa	134.3	13.44
Lye Brook Wilderness Area	3	Paved Road Dust - Burbank, CA	134.3	13.8
Lye Brook Wilderness Area	3	Soil Dust - Pocatello, Idaho	134.3	14.03
Lye Brook Wilderness Area	3	Paved Road Dust - Pocatello, Idaho	134.3	14.12
Lye Brook Wilderness Area	3	Paved Road Dust - Burbank Composite	134.3	14.41
Lye Brook Wilderness Area	3	Paved Road Dust - North Main St., Los Angeles, CA	134.3	14.78
Lye Brook Wilderness Area	3	Paved Road Dust - Anaheim, CA	134.3	14.83
Lye Brook Wilderness Area	3	Slag Loadout Fugitives - Elemental Phosphorus Plant	134.3	14.84
Lye Brook Wilderness Area	4	Heavy Duty Diesel	190	12.54
Lye Brook Wilderness Area	4	Transportation Composite	190	15.79
Lye Brook Wilderness Area	4	Transportation Composite	190	16.15
Lye Brook Wilderness Area	5	Slash Burning (Ponderosa Pine-Smoldering Phase)	2421.6	14.64
Lye Brook Wilderness Area	5	Slash Burning (Crane-Piled;Smoldering Phase)	2421.6	16.68
Lye Brook Wilderness Area	5	Fireplaces - Softwoods	2421.6	16.95
Lye Brook Wilderness Area	5	Slash Burning (Hardwood-Smoldering Phase)	2421.6	18.03
Lye Brook Wilderness Area	6	No match found	3197.1	24.58
Lye Brook Wilderness Area	7	Coal-Fired Power Plant	367.3	9.4
Lye Brook Wilderness Area	8	Superphosphate Granulation	376.4	17.29
Lye Brook Wilderness Area	8	Natural Gas Home Appliances	376.4	18.77
Lye Brook Wilderness Area	9	No match found	70.8	20.5

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Mammoth Cave National Park	1	Coal-Fired Power Plant	525.3	13.5
Mammoth Cave National Park	1	Paved Road Dust - La Cienega Blvd. (CA)	525.3	15.02
Mammoth Cave National Park	1	Soil Dust - Composite	525.3	15.84
Mammoth Cave National Park	2	Vegitative Detritus	62.8	6.27
Mammoth Cave National Park	3	Forest Prescribed Burning - Broadcast Conifer	2997.5	12.67
Mammoth Cave National Park	3	Slash Burning (Crane-Piled;Flaming Phase)	2997.5	15.23
Mammoth Cave National Park	3	Fireplaces - Hardwoods	2997.5	15.29
Mammoth Cave National Park	3	Residential Woodstove Composite	2997.5	15.51
Mammoth Cave National Park	4	Soil Dust - Des Moines, IA	227.2	13.39
Mammoth Cave National Park	4	Paved Road Dust - Pocatello, Idaho	227.2	14.74
Mammoth Cave National Park	4	Slag Loadout Fugitives - Elemental Phosphorus Plant	227.2	14.82
Mammoth Cave National Park	4	Clay And Fly Ash Sintering - Average	227.2	15.61
Mammoth Cave National Park	4	Soil Dust - Creston, Iowa	227.2	15.65
Mammoth Cave National Park	4	Paved Road Dust - Pocatello, Idaho	227.2	16.55
Mammoth Cave National Park	4	Paved Road Dust - Burbank, CA	227.2	16.86
Mammoth Cave National Park	5	No match found	4931.7	26.02
Mammoth Cave National Park	6	Kraft Recovery Furnace	330.9	11.64
Mammoth Cave National Park	6	Kraft Recovery Furnace	330.9	12.94
Mammoth Cave National Park	6	Glass Furnace	330.9	14.09
Mammoth Cave National Park	6	Pulp And Paper Industry	330.9	15.1
Mammoth Cave National Park	7	Furnace Tapping - Elemental Phosphorus Plant	141.9	16.62
Mammoth Cave National Park	7	Car Shredder	141.9	17.41
Mammoth Cave National Park	8	No match found	6099.6	29.06
Mammoth Cave National Park	9	No match found	685.7	22.72
M.K. Goddard	1	No match found	6.6	23.68
M.K. Goddard	2	Car Shredder	368.5	19.89
M.K. Goddard	3	Field Burning - Fescue	437.1	13.12
M.K. Goddard	3	Slash Burning (Chaparral;Flaming Phase)	437.1	14.87
M.K. Goddard	3	Field Burning - Perennial Rye Grass	437.1	15.48
M.K. Goddard	3	Slash Burning (Hardwood-Flaming Phase)	437.1	16.26
M.K. Goddard	4	No match found	5785.6	28.4
M.K. Goddard	5	No match found	13.9	25.76
M.K. Goddard	6	No match found	4213.4	23.16
M.K. Goddard	7	No match found	8123.6	48.56

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
M.K. Goddard	8	Paved Road Dust - Pocatello, Idaho	207.6	14.04
M.K. Goddard	8	Soil Dust - Pocatello, Idaho	207.6	14.38
M.K. Goddard	8	Paved Road Dust - Pocatello, Idaho	207.6	14.78
M.K. Goddard	8	Soil Dust - Lagrande, Oregon	207.6	16.53
M.K. Goddard	8	Soil Dust - Council Bluffs, Iowa	207.6	16.77
M.K. Goddard	8	Soil Dust - Bend, Oregon	207.6	16.83
M.K. Goddard	8	Soil Dust - Oregon Composite	207.6	16.86
M.K. Goddard	8	Paved Road Dust - Artesia Freeway (CA)	207.6	17.09
M.K. Goddard	8	Soil Dust - Klamath Falls, Oregon	207.6	18.07
M.K. Goddard	8	Soil Dust - Grant's Pass, Oregon	207.6	18.11
M.K. Goddard	9	Primary Lead Smelting - Soda Flux Fugative Dust	317.7	10.21
Quaker City	1	Municipal Incinerator (Philadelphia)	55.3	15.96
Quaker City	1	Sewage Sludge Incineration	55.3	16.03
Quaker City	1	Primary Lead Smelting-Dross Reverberatory Furnace	55.3	16.89
Quaker City	1	Sewage Sludge Incineration	55.3	18.06
Quaker City	1	Overall	55.3	18.38
Quaker City	1	Solid Waste - Average	55.3	18.41
Quaker City	1	Municipal Incinerator (Philadelphia)	55.3	18.78
Quaker City	1	Sewage Sludge Incineration - Composite	55.3	19.06
Quaker City	2	No match found	881.9	24.63
Quaker City	3	No match found	7890.6	62
Quaker City	4	Residential Woodstove - Portland / Seattle	1956.4	8.14
Quaker City	4	Residential Woodstove Composite	1956.4	8.48
Quaker City	5	No match found	1224	24.96
Quaker City	6	Slash Burning (Ponderosa Pine-Smoldering Phase)	2105.6	18.38
Quaker City	6	Slash Burning (Crane-Piled;Smoldering Phase)	2105.6	18.98
Quaker City	6	Fireplaces - Softwoods	2105.6	19.63
Quaker City	7	Cast Iron Cupola	25.1	19.2
Quaker City	8	Steel Desulfurization Baghouse Dust	36.5	17.95
Quaker City	8	Ore And Road Dust Fugitives - Pocatello, Idaho	36.5	18.86
Quaker City	8	Phosphate Fertilizer Calciner	36.5	19.32
Quaker City	8	Unpaved Road Dust - Pocatello, Idaho	36.5	19.57
Quaker City	8	Gypsum Pile Dust	36.5	19.87
Quaker City	9	No match found	6290.9	48.99

Table O-3. Automated Matching of PMF Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Shenandoah National Park	1	Soil Dust - Pocatello, Idaho	176.5	13.43
Shenandoah National Park	1	Soil Dust - Council Bluffs, Iowa	176.5	14.74
Shenandoah National Park	1	Soil Dust - Lagrande, Oregon	176.5	14.76
Shenandoah National Park	1	Soil Dust - Sioux City, Iowa	176.5	14.88
Shenandoah National Park	1	Diammonium Phosphate Plant	176.5	15.21
Shenandoah National Park	1	Paved Road Dust - Pocatello, Idaho	176.5	15.28
Shenandoah National Park	1	Soil Dust - Springfield, Oregon	176.5	15.42
Shenandoah National Park	1	Soil Dust - Grant's Pass, Oregon	176.5	15.72
Shenandoah National Park	1	Paved Road Dust - Composite-Long Beach, CA	176.5	15.74
Shenandoah National Park	1	Soil Dust - Bend, Oregon	176.5	15.85
Shenandoah National Park	2	Kraft Recovery Furnace	328.2	6.28
Shenandoah National Park	2	Kraft Recovery Furnace	328.2	7.84
Shenandoah National Park	3	Aluminum Processing	64	16.7
Shenandoah National Park	3	Aluminum Reduction Potline	64	18.07
Shenandoah National Park	3	Coal-Fired Power Plant	64	19.44
Shenandoah National Park	3	Catalytic Cracker Composite	64	19.62
Shenandoah National Park	3	Coal-Fired Power Plant	64	19.72
Shenandoah National Park	4	No match found	4470.6	27.16
Shenandoah National Park	5	No match found	613.6	21.87
Shenandoah National Park	6	No match found	60.5	20.67
Shenandoah National Park	7	Slash Burning (Ponderosa Pine-Smoldering Phase)	2866.1	10.35
Shenandoah National Park	7	Fireplaces - Softwoods	2866.1	12.67
Shenandoah National Park	8	No match found	2142.7	24.26
Shenandoah National Park	9	No match found	1079	23.69
Washington D.C.	1	External Combustion - Heavy Oil-Fired Boiler Composite	289.1	5.34
Washington D.C.	2	Transportation Composite	935	17.55
Washington D.C.	2	Light Duty Vehicles - Unleaded	935	17.58
Washington D.C.	3	Slash Burning (Chaparral; Flaming Phase)	278.3	6.75
Washington D.C.	4	Residential Woodstove - Portland / Seattle	7543.2	19.83
Washington D.C.	5	Meat Cooking - Charbroiling	588.4	19.15
Washington D.C.	6	Calciner - Elemental Phosphorus Plant	311.4	16.24
Washington D.C.	6	Glass Furnace	311.4	19.36
Washington D.C.	6	Kraft Recovery Furnace	311.4	19.7
Washington D.C.	7	Residential Woodstove - Portland / Seattle	6593.3	7.73
Washington D.C.	7	Residential Woodstove Composite	6593.3	8.24
Washington D.C.	8	Triple Super Phosphate Stack	1171.3	10.51
Washington D.C.	9	Petroleum Refinery Catalytic Cracker	198.6	6.95

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Acadia National Park	1	Kraft Recovery Furnace	559.7	15.06
Acadia National Park	1	Veneer Dryer / Wood - Fired	559.7	15.66
Acadia National Park	1	Kraft Recovery Furnace	559.7	19.01
Acadia National Park	1	Lime Kiln	559.7	19.31
Acadia National Park	2	No match found	576.5	22.65
Acadia National Park	3	No match found	3491.2	24.65
Acadia National Park	4	No match found	1385.6	25.68
Acadia National Park	5	Slash Burning (Tractor-Piled;Flaming Phase)	296.2	17.82
Acadia National Park	6	No match found	606.1	24.4
Arendtsville	1	Tar Pot	133.1	1.42
Arendtsville	1	Cigarette Smoke	133.1	1.58
Arendtsville	2	No match found	4347.6	37.87
Arendtsville	3	Field Burning - Composite	168.7	4.11
Arendtsville	3	Slash Burning (Crane-Piled;Smoldering Phase)	168.7	4.37
Arendtsville	3	Slash Burning	168.7	4.78
Arendtsville	3	Tar Pot	168.7	4.93
Arendtsville	3	Slash Burning (Crane-Piled;Flaming Phase)	168.7	5.14
Arendtsville	3	Urea Fertilizer Production	168.7	5.16
Arendtsville	3	Cigarette Smoke	168.7	5.26
Arendtsville	3	Fireplaces - Softwoods	168.7	5.36
Arendtsville	3	Residential Woodstove - Portland / Seattle	168.7	5.43
Arendtsville	3	Field Burning - Perennial Rye Grass	168.7	5.65
Arendtsville	4	Transportation Composite - Medford, OR (1980)	1.8	0.35
Arendtsville	4	Sediment, Crustal	1.8	0.45
Arendtsville	4	Igneous Rock	1.8	0.47
Arendtsville	4	Sandstone, Crustal	1.8	0.5
Arendtsville	5	No match found	8818.4	67.68
Arendtsville	6	No match found	2077.3	20.09
Boundary Waters Canoe Area	1	No match found	360.1	31.55
Boundary Waters Canoe Area	2	No match found	1049	25.71
Boundary Waters Canoe Area	3	Particleboard Dryer / Direct - Fired	392.5	17.18
Boundary Waters Canoe Area	3	Pulp And Paper Industry	392.5	17.66
Boundary Waters Canoe Area	4	Tire Wear	649.3	18.62

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Boundary Waters Canoe Area	5	No match found	602.4	29.77
Boundary Waters Canoe Area	6	No match found	2100.7	21.95
Brigantine National Wildlife Refuge	1	No match found	1093.1	25.73
Brigantine National Wildlife Refuge	2	No match found	1421.4	20.11
Brigantine National Wildlife Refuge	3	Car Shredder	219.9	13.17
Brigantine National Wildlife Refuge	3	Heavy Duty Diesel	219.9	13.59
Brigantine National Wildlife Refuge	3	Transportation Composite	219.9	14.83
Brigantine National Wildlife Refuge	3	Transportation Composite	219.9	15.24
Brigantine National Wildlife Refuge	3	External Combustion - Waste Oil-Fired Boiler	219.9	15.41
Brigantine National Wildlife Refuge	3	Highway Vehicles Composite	219.9	16.1
Brigantine National Wildlife Refuge	3	Glass Furnace	219.9	17.56
Brigantine National Wildlife Refuge	3	Transportation Composite	219.9	17.88
Brigantine National Wildlife Refuge	3	Transportation Composite	219.9	18.05
Brigantine National Wildlife Refuge	3	Slash Burning (Tractor-Piled; Flaming Phase)	219.9	18.21
Brigantine National Wildlife Refuge	4	No match found	6514.3	31.91
Brigantine National Wildlife Refuge	5	Coal-Fired Power Plant	712.7	11.69
Brigantine National Wildlife Refuge	6	Tire Wear	905.1	18.96
Bondville	1	Slash Burning (Conifer-Flaming Phase)	563.8	11.2
Bondville	1	Slash Burning (Conifer-Smoldering Phase)	563.8	13.32
Bondville	1	Slash Burning (Ponderosa Pine-Smoldering Phase)	563.8	14.41
Bondville	1	Slash Burning (Crane-Piled; Flaming Phase)	563.8	15.73
Bondville	1	Boiler - #2 Fuel Oil Fired	563.8	15.91
Bondville	2	Carborundum Manufacturing	586.4	16.13
Bondville	2	Boiler - #2 Fuel Oil Fired	586.4	17.19
Bondville	2	Tire Wear	586.4	17.89
Bondville	2	Coal-Fired Power Plant	586.4	18.07
Bondville	2	Slash Burning	586.4	18.13
Bondville	2	Slash Burning (Hardwood-Smoldering Phase)	586.4	18.19
Bondville	2	Fireplaces - Softwoods	586.4	18.43
Bondville	2	Forest Prescribed Burning - Broadcast Conifer	586.4	18.78
Bondville	2	Fireplaces - Hardwoods	586.4	18.96
Bondville	2	Residential Woodstove Composite	586.4	19.18

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Bondville	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	622.5	3.83
Bondville	3	Tar Pot	622.5	3.94
Bondville	3	Slash Burning (Hardwood-Smoldering Phase)	622.5	4.24
Bondville	3	Fireplaces - Softwoods	622.5	4.3
Bondville	3	Cigarette Smoke	622.5	4.58
Bondville	3	Slash Burning (Crane-Piled;Smoldering Phase)	622.5	4.94
Bondville	3	Residential Woodstove - Pocatello, Idaho	622.5	4.95
Bondville	3	Residential Woodstove Composite	622.5	4.97
Bondville	3	Forest Prescribed Burning - Broadcast Conifer	622.5	5.02
Bondville	3	Residential Woodstove - Portland / Seattle	622.5	5.34
Bondville	4	Phosphoric Acid Plant	703.2	19.37
Bondville	5	No match found	1603.9	34.58
Bondville	6	No match found	8470.6	43.41
Connecticut Hill	1	No match found	6548.5	88.88
Connecticut Hill	2	Slash Burning (Conifer-Smoldering Phase)	1947.7	15
Connecticut Hill	2	Slash Burning (Ponderosa Pine-Smoldering Phase)	1947.7	16.05
Connecticut Hill	2	Slash Burning (Hardwood-Smoldering Phase)	1947.7	16.52
Connecticut Hill	2	Fireplaces - Softwoods	1947.7	17.28
Connecticut Hill	2	Forest Prescribed Burning - Broadcast Conifer	1947.7	19.35
Connecticut Hill	2	Residential Woodstove Composite	1947.7	19.37
Connecticut Hill	3	Slash Burning (Conifer-Smoldering Phase)	873.2	12.29
Connecticut Hill	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	873.2	14.04
Connecticut Hill	3	Slash Burning (Hardwood-Smoldering Phase)	873.2	15.99
Connecticut Hill	3	Forest Prescribed Burning - Broadcast Conifer	873.2	16.78
Connecticut Hill	3	Slash Burning (Crane-Piled;Flaming Phase)	873.2	17.09
Connecticut Hill	3	Green Coke Dust	873.2	17.4
Connecticut Hill	3	Residential Woodstove - Medford, Oregon	873.2	17.86
Connecticut Hill	3	Phosphoric Acid Plant	873.2	18.33

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Connecticut Hill	4	Slash Burning (Crane-Piled;Smoldering Phase)	75.4	0.87
Connecticut Hill	5	Slash Burning (Ponderosa Pine-Smoldering Phase)	1766	13.34
Connecticut Hill	5	Fireplaces - Softwoods	1766	14.48
Connecticut Hill	5	Residential Woodstove - Medford, Oregon	1766	15.47
Connecticut Hill	5	Forest Prescribed Burning - Broadcast Conifer	1766	16.34
Connecticut Hill	5	Residential Woodstove - Pocatello, Idaho	1766	16.37
Connecticut Hill	5	Residential Woodstove Composite	1766	16.71
Connecticut Hill	5	Slash Burning (Hardwood-Smoldering Phase)	1766	17.64
Connecticut Hill	5	Residential Woodstove - Portland / Seattle	1766	17.7
Connecticut Hill	5	Fireplaces - Hardwoods	1766	17.72
Connecticut Hill	6	Fireplaces - Softwoods	2014.1	18.55
Dolly Sods Wilderness Area	1	Particleboard Dryer / Direct - Fired	1051.5	15.79
Dolly Sods Wilderness Area	2	No match found	448	21.38
Dolly Sods Wilderness Area	3	No match found	6436.9	35.02
Dolly Sods Wilderness Area	4	Residential Woodstove Composite	1723.7	14.85
Dolly Sods Wilderness Area	4	Fireplaces - Softwoods	1723.7	15.8
Dolly Sods Wilderness Area	4	Fireplaces - Hardwoods	1723.7	16.22
Dolly Sods Wilderness Area	4	Residential Woodstove - Medford, Oregon	1723.7	16.26
Dolly Sods Wilderness Area	5	No match found	1419.7	26
Dolly Sods Wilderness Area	6	Earth's Crust	253.7	13.91
Dolly Sods Wilderness Area	6	Shale, Crustal	253.7	14.1
Dolly Sods Wilderness Area	6	Soil Dust - Pocatello, Idaho	253.7	16.19
Dolly Sods Wilderness Area	6	Soil Dust - Grant's Pass, Oregon	253.7	18.27
Dolly Sods Wilderness Area	6	Paved Road Dust - Composite	253.7	18.66
Dolly Sods Wilderness Area	6	Soil Dust - Eugene, Oregon	253.7	18.68
Dolly Sods Wilderness Area	6	Soil Dust - Oregon Composite	253.7	18.81
Dolly Sods Wilderness Area	6	Soil Dust - Medford, Oregon	253.7	19.07
Dolly Sods Wilderness Area	6	Soil Dust - Klamath Falls, Oregon	253.7	19.88

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Great Smoky Mountains National Park	1	No match found	2369.9	26.71
Great Smoky Mountains National Park	2	Pulp And Paper Industry	271.3	19.19
Great Smoky Mountains National Park	2	Tire Wear	271.3	19.71
Great Smoky Mountains National Park	3	Tar Pot	2775.9	5.88
Great Smoky Mountains National Park	4	Fireplaces - Softwoods	1671.1	19.28
Great Smoky Mountains National Park	5	No match found	2218.1	43.58
Great Smoky Mountains National Park	6	Fireplaces - Softwoods	3576.6	19.2
James River Face Wilderness Area	1	No match found	2848.5	27.94
James River Face Wilderness Area	2	No match found	509.8	24.09
James River Face Wilderness Area	3	No match found	1321.4	23.96
James River Face Wilderness Area	4	Fireplaces - Softwoods	1613.6	15.51
James River Face Wilderness Area	4	Fireplaces - Hardwoods	1613.6	16.76
James River Face Wilderness Area	4	Tire Wear	1613.6	16.95
James River Face Wilderness Area	4	Residential Woodstove - Medford, Oregon	1613.6	17.52
James River Face Wilderness Area	4	Slash Burning (Conifer-Smoldering Phase)	1613.6	17.93
James River Face Wilderness Area	4	Slash Burning (Ponderosa Pine-Smoldering Phase)	1613.6	17.95
James River Face Wilderness Area	4	Residential Woodstove Composite	1613.6	18.6
James River Face Wilderness Area	4	Slash Burning (Ponderosa Pine-Flaming Phase)	1613.6	18.7
James River Face Wilderness Area	4	Slash Burning (Crane-Piled;Flaming Phase)	1613.6	18.81
James River Face Wilderness Area	4	Forest Prescribed Burning - Broadcast Conifer	1613.6	19.21
James River Face Wilderness Area	5	No match found	2629.1	27.13
James River Face Wilderness Area	6	No match found	5846.1	22.85

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Livonia	1	Slash Burning (Hardwood-Smoldering Phase)	375.4	4.87
Livonia	1	Forest Prescribed Burning - Broadcast Conifer	375.4	5.09
Livonia	1	Slash Burning (Ponderosa Pine-Smoldering Phase)	375.4	5.4
Livonia	1	Fireplaces - Hardwoods	375.4	5.47
Livonia	1	Residential Woodstove - Medford, Oregon	375.4	5.48
Livonia	1	Tar Pot	375.4	5.63
Livonia	1	Fireplaces - Softwoods	375.4	5.82
Livonia	1	Slash Burning (Crane-Piled;Smoldering Phase)	375.4	5.92
Livonia	1	Residential Woodstove Composite	375.4	5.98
Livonia	1	Residential Woodstove - Portland / Seattle	375.4	6.02
Livonia	2	Fireplaces - Softwoods	1926.3	16.32
Livonia	2	Fireplaces - Hardwoods	1926.3	17.52
Livonia	2	Forest Prescribed Burning - Broadcast Conifer	1926.3	17.92
Livonia	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	2017.6	10.52
Livonia	3	Slash Burning (Hardwood-Smoldering Phase)	2017.6	12.75
Livonia	3	Forest Prescribed Burning - Broadcast Conifer	2017.6	13.14
Livonia	3	Slash Burning (Crane-Piled;Flaming Phase)	2017.6	14.44
Livonia	3	Fireplaces - Softwoods	2017.6	14.49
Livonia	3	Slash Burning (Crane-Piled;Smoldering Phase)	2017.6	14.95
Livonia	3	Fireplaces - Hardwoods	2017.6	15.7
Livonia	4	No match found	4732.8	33.38

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Livonia	5	Fireplaces - Softwoods	825	7.87
Livonia	5	Fireplaces - Hardwoods	825	7.98
Livonia	5	Cigarette Smoke	825	8.25
Livonia	5	Tar Pot	825	8.39
Livonia	5	Slash Burning (Crane-Piled;Smoldering Phase)	825	8.69
Livonia	5	Residential Woodstove - Pocatello, Idaho	825	8.84
Livonia	5	Residential Woodstove - Portland / Seattle	825	9.15
Livonia	5	Slash Burning (Conifer-Smoldering Phase)	825	9.42
Livonia	5	Residential Woodstove Composite	825	9.8
Livonia	5	Tire Wear	825	11.01
Livonia	6	No match found	2943	30.14
Lye Brook Wilderness Area	1	Slash Burning (Tractor-Piled;Smoldering Phase)	947.6	18.24
Lye Brook Wilderness Area	1	Green Coke Dust	947.6	19.13
Lye Brook Wilderness Area	2	Particleboard Dryer / Direct - Fired	457.9	15.54
Lye Brook Wilderness Area	2	Kraft Recovery Furnace	457.9	18.98
Lye Brook Wilderness Area	2	Pulp And Paper Industry	457.9	19.5
Lye Brook Wilderness Area	3	Carborundum Manufacturing	271.5	14.89
Lye Brook Wilderness Area	3	Fireplaces - Softwoods	271.5	19.02
Lye Brook Wilderness Area	3	Tire Wear	271.5	19.13
Lye Brook Wilderness Area	3	Phosphoric Acid Plant	271.5	19.33
Lye Brook Wilderness Area	3	Boiler - #2 Fuel Oil Fired	271.5	19.94
Lye Brook Wilderness Area	3	Residential Woodstove Composite	271.5	19.99
Lye Brook Wilderness Area	4	No match found	1109	34.78
Lye Brook Wilderness Area	5	No match found	646.5	28.95
Lye Brook Wilderness Area	6	No match found	3495.3	30.53
Mammoth Cave National Park	1	Slash Burning (Conifer-Smoldering Phase)	857.2	7.55
Mammoth Cave National Park	1	Light Duty Vehicles - Unleaded	857.2	10.21
Mammoth Cave National Park	2	No match found	2777	28.59
Mammoth Cave National Park	3	No match found	609.9	25.71
Mammoth Cave National Park	4	No match found	1937.3	37.46
Mammoth Cave National Park	5	Meat Cooking - Charbroiling	333.8	9.67
Mammoth Cave National Park	6	No match found	6497.9	40.02

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
M.K. Goddard	1	Slash Burning (Conifer-Smoldering Phase)	1605	14.08
M.K. Goddard	1	Fireplaces - Softwoods	1605	15.8
M.K. Goddard	1	Tire Wear	1605	16.4
M.K. Goddard	1	Fireplaces - Hardwoods	1605	17.92
M.K. Goddard	1	Slash Burning (Hardwood-Smoldering Phase)	1605	19.27
M.K. Goddard	1	Slash Burning (Crane-Piled;Smoldering Phase)	1605	19.31
M.K. Goddard	1	Forest Prescribed Burning - Broadcast Conifer	1605	19.55
M.K. Goddard	2	Phosphoric Acid Plant	484.5	17.15
M.K. Goddard	2	Boiler - #2 Fuel Oil Fired	484.5	17.9
M.K. Goddard	2	Fireplaces - Softwoods	484.5	18.27
M.K. Goddard	2	Residential Woodstove - Medford, Oregon	484.5	18.61
M.K. Goddard	2	Coke Cooler	484.5	18.9
M.K. Goddard	2	Residential Woodstove Composite	484.5	18.92
M.K. Goddard	2	Heavy Duty Diesel Trucks	484.5	19.34
M.K. Goddard	2	Fireplaces - Hardwoods	484.5	19.82
M.K. Goddard	3	Fireplaces - Softwoods	1299.6	5.16
M.K. Goddard	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	1299.6	5.19
M.K. Goddard	3	Residential Woodstove - Pocatello, Idaho	1299.6	5.73
M.K. Goddard	3	Slash Burning (Hardwood-Smoldering Phase)	1299.6	5.81
M.K. Goddard	3	Tar Pot	1299.6	5.9
M.K. Goddard	3	Cigarette Smoke	1299.6	6
M.K. Goddard	3	Residential Woodstove - Portland / Seattle	1299.6	6.42
M.K. Goddard	3	Residential Woodstove Composite	1299.6	6.5
M.K. Goddard	3	Fireplaces - Hardwoods	1299.6	6.81
M.K. Goddard	3	Forest Prescribed Burning - Broadcast Conifer	1299.6	6.86
M.K. Goddard	4	No match found	1055.6	23.35
M.K. Goddard	5	No match found	3441.4	28.64

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
M.K. Goddard	6	Cigarette Smoke	16.3	0.06
M.K. Goddard	6	Tar Pot	16.3	0.08
M.K. Goddard	6	Slash Burning (Hardwood-Smoldering Phase)	16.3	0.08
M.K. Goddard	6	Slash Burning (Ponderosa Pine-Smoldering Phase)	16.3	0.09
M.K. Goddard	6	Residential Woodstove - Pocatello, Idaho	16.3	0.09
Quaker City	1	No match found	4785.6	28.44
Quaker City	2	Tire Wear	7.5	2.7
Quaker City	2	Residential Woodstove - Pocatello, Idaho	7.5	2.88
Quaker City	3	Slash Burning (Ponderosa Pine-Smoldering Phase)	2656.3	16.42
Quaker City	3	Tar Pot	2656.3	17.56
Quaker City	3	Fireplaces - Softwoods	2656.3	17.59
Quaker City	3	Slash Burning (Conifer-Smoldering Phase)	2656.3	17.65
Quaker City	3	Fireplaces - Hardwoods	2656.3	18.48
Quaker City	3	Cigarette Smoke	2656.3	18.72
Quaker City	3	Slash Burning (Hardwood-Smoldering Phase)	2656.3	19.17
Quaker City	3	Slash Burning (Crane-Piled;Smoldering Phase)	2656.3	19.38
Quaker City	3	Residential Woodstove - Pocatello, Idaho	2656.3	19.61
Quaker City	3	Forest Prescribed Burning - Broadcast Conifer	2656.3	19.75
Quaker City	4	No match found	3689.8	23.88
Quaker City	5	No match found	3449.9	26.4
Quaker City	6	No match found	1544.6	29.17
Shenandoah National Park	1	No match found	1312.5	25.37
Shenandoah National Park	2	Urea Fertilizer Production	350.7	9.52
Shenandoah National Park	2	Natural Gas Home Appliances	350.7	12.81
Shenandoah National Park	2	Slash Burning (Tractor-Piled;Smoldering Phase)	350.7	13.84
Shenandoah National Park	3	No match found	523.6	23.27
Shenandoah National Park	4	No match found	6459	28.69
Shenandoah National Park	5	No match found	886.1	26.22
Shenandoah National Park	6	No match found	1794.2	20.77
Washington D.C.	1	No match found	1120.8	20.83
Washington D.C.	2	No match found	3539.8	26.18

Table O-4. Automated Matching of UNMIX Solutions with Speciate Profiles (continued)

Site	Source	Speciate Profile Name	Mean PM _{2.5}	Fit Score
Washington D.C.	3	Pulp And Paper Industry	611.7	17.68
Washington D.C.	3	Field Burning - Perennial Rye Grass	611.7	18.23
Washington D.C.	3	Tire Wear	611.7	19.97
Washington D.C.	4	Tire Wear	1810.9	15.42
Washington D.C.	4	Slash Burning (Conifer-Smoldering Phase)	1810.9	16.01
Washington D.C.	4	Fireplaces - Softwoods	1810.9	16.45
Washington D.C.	4	Residential Woodstove - Medford, Oregon	1810.9	17.18
Washington D.C.	4	Residential Woodstove Composite	1810.9	17.64
Washington D.C.	4	Fireplaces - Hardwoods	1810.9	18.93
Washington D.C.	4	Slash Burning (Crane-Piled;Smoldering Phase)	1810.9	19.58
Washington D.C.	4	Slash Burning (Crane-Piled;Flaming Phase)	1810.9	19.82
Washington D.C.	5	No match found	4235	30.15
Washington D.C.	6	No match found	5094.3	24.2