

January 4, 2002

MEMORANDUM

TO: Katherine B. Kelly, Administrator
Air Quality Division

FROM: Kent Berry
Environmental Quality Management, Inc.

THROUGH: Daniel P. Salgado
New Source Review ~~Coordinator~~
Air Quality Division

SUBJECT: **PERMIT TO CONSTRUCT TECHNICAL ANALYSIS**
P-010547, Mickelsen Construction, Portable
(Standard HMA plant Permit to Construct No. 777-00296; including Aggregate,
Asphalt, and Concrete Production when Collocated in Attainment Areas)

PURPOSE

The purpose of this memorandum is to satisfy the requirements of IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho*) for issuing permits to construct (PTC).

PROJECT DESCRIPTION

Mickelsen Construction is proposing to commence construction of a portable hot-mix asphalt (HMA) plant to be operated in both attainment and nonattainment areas within the state of Idaho. Note, the standard PTC for a portable HMA plant also includes provisions for collocated operations in attainment areas with one other portable source (i.e., rock crusher, hot-mix asphalt, or concrete batch plant). The HMA plant's maximum hourly throughput is 250 tons per hour (250 T/hr).

SUMMARY OF EVENTS

On June 15, 2001, the Idaho Department of Environmental Quality received an application from Mickelsen Construction for a portable HMA plant. On November 20, 2001, the application was determined complete.

DISCUSSION

1. **Process Description**

The facility is a portable drum-mix HMA plant used for the production of asphaltic concrete. The dryer burner is permitted to be fired on fuel oil, natural gas, or propane gas.

The Standard PTC requested will allow this HMA facility to collocate and simultaneously operate with one other portable plant (i.e., rock crusher, HMA plant, and/or concrete batch plant) in attainment areas. It is important to note, during collocated operations, this HMA plant becomes part of a single, larger source engaged in the production of either

asphalt or concrete and/or aggregate, depending upon which type of portable plant the HMA plant is collocated with. While collocated, the two portable plants are now considered to be one source, and the emissions of this single source are the sum of the emissions from the two portable plants. This single, larger source must comply with all applicable federal, state, and local requirements. To maintain compliance, specific requirements and limitations have been included in the standard PTC for this HMA plant for collocated operations. As described in the following sections of this Technical Memorandum, specific conservative assumptions and calculations were made to determine these standard PTC collocation requirements. For this reason, the permit for the other portable plant, with which this HMA plant will collocate, must also contain specific collocation requirements based on the same conservative assumptions and calculations used in this standard PTC.

2. Equipment Listing

This standard permit analysis includes the following equipment as submitted in the application:

2.1 Portable HMA plant

Manufacturer/Model:	Plant Steel Hard Engineering/Havek Model SJ520
Type:	Drum-Mix
Throughput Capacity (T/hr):	250
Burner Fuel Type:	Propane or Diesel

2.2 Air Pollution Control Device

Type:	Scrubber
Manufacturer:	Hetherington and Berner Hot Mix Asphalt Plant
Model:	Model 5894

2.3 HMA Stack Information

Stack Height (ft):	22
Stack Diameter (ft):	10.5
Exhaust Gas Flowrate (acfm):	40,000
Stack Exhaust Temp (°F):	180

When collocated, this HMA plant is then part of a single, larger source that produces either hot-mix asphalt or concrete and/or aggregate, depending upon which type of portable plant the HMA plant is collocated with. The equipment used by this single, larger source would include the HMA plant equipment listed above, plus the equipment of the other portable plant. To see an equipment description for the other portable plant, see the corresponding permitting files for that plant.

3. Area Classification

The HMA facility is a portable source and may operate in both attainment and nonattainment areas throughout the state of Idaho.

4. Emission Estimates

Emission estimates for this HMA facility were calculated using a spreadsheet and emission factors obtained from AP-42, Section 11.1, 1/95 edition. For purposes of maximum flexibility, the spreadsheet calculates the potential to emit (PTE) based on the worst-case emission factors of all possible fuels to be used at the hot-mix plant (diesel fuel oils, propane, and natural gas). The following air pollutant emissions are calculated by the spreadsheet: Particulate matter (PM), particulate matter with an aerodynamic diameter of less than or equal to 10 microns (PM_{10}), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), and carbon monoxide (CO). In calculating the PTE for each pollutant, the spreadsheet solves for the most limiting pollutant, which will give the facility a PTE of less than 100 tons per any consecutive 12-month period (T/yr) (i.e., 99 T/yr). In addition, allowable operational limits for the facility, which corresponds to the PTE <100 T/yr, are given as part of the spreadsheet output. A copy of the spreadsheet showing all calculations and results is presented as Appendix A of this memo.

For collocated operations, a conservative approach is taken by limiting the emissions of each of the collocated units to half of the levels allowed when operating alone. Therefore, the combined emissions of the two collocated sources will be within the allowable levels. See the information below for a more detailed description. This approach is designed to result in acceptable throughput limits for most collocation situations. In cases where the throughput limits are too restrictive, a site-specific analysis and permit amendment may be completed.

In summary, the emission estimates for this facility assume 250 T/hr throughput to a drum-mix HMA plant, one propane/diesel-fired dryer, and fugitive dust emissions from specified sources (see the spreadsheet). The most limiting pollutant which gives the facility a PTE of 84 T/yr is SO_2 .

This standard PTC will only allow collocation with one other portable source (i.e., rock crushing plant, HMA plant, or concrete batch plant) which has also received a standard PTC that specifically allows collocation. When a combination of one portable hot-mix asphalt unit and one other portable unit are operated at a single location, the emissions of both units must be added together when determining PTE. Consistent with the approach taken for attainment area operations, the spreadsheet inherently limits the combined emissions of the two portable units to below certain triggering levels (i.e., PSD and Title V thresholds) by limiting the maximum throughput of each. For collocated operations, half of the attainment area triggering levels are used as limits for calculating throughput for each source. The HMA plant throughput is then established based on the most limiting pollutant or pollutants (i.e., the pollutant whose emission rate is closest to 49.5 T/yr). For collocated attainment area operations, the most limiting pollutant, which gives the hot-mix asphalt facility a PTE of 49.5 T/yr, is SO_2 .

5. Modeling

Modeling of the asphalt plant stack emissions was conducted using the EPA-approved SCREEN 3 computer-run model. The maximum one-hour impact from the dryer stack was calculated to be 22.47 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) using a 1 pound per hour (lb/hr) unity emission rate input to the model. The spreadsheet calculates the ambient impact for each air pollutant (PM, PM₁₀, NO_x, SO₂, and CO) based on the calculated lb/hr emission rate, averaging periods, and background concentrations. The spreadsheet solves for the most limiting pollutant in attainment areas and gives appropriate operational limits, which protects the applicable National Ambient Air Quality Standard (NAAQS) as defined in IDAPA 58.01.01.577. In addition, the spreadsheet also calculates the most limiting pollutant in nonattainment areas and gives operational limits to protect applicable significant contribution requirements as defined in IDAPA 58.01.01.006.89. All SCREEN 3 modeling output files are presented as Appendix B of this memo. Spreadsheet impact calculations and results are presented as part of Appendix A.

For collocated operations in attainment areas, operation of the HMA plant and its generator (if used) are limited as needed so that the modeled impacts will be half of the allowable ambient impact. Likewise for collocated operations, the modeled impacts of the other portable facility will also be limited to half of the allowable ambient impact so that the combined emissions of the two collocated sources will remain within the NAAQS. Using the 24-hour NAAQS standard for PM₁₀ (attainment area) as an example, one half of the allowable available impact would be equal to $32 \mu\text{g}/\text{m}^3$, as follows:

$$32 \mu\text{g}/\text{m}^3 = 0.5 \times [150 \mu\text{g}/\text{m}^3 - 86 \mu\text{g}/\text{m}^3],$$

where $150 \mu\text{g}/\text{m}^3$ is the 24-hour average standard and $86 \mu\text{g}/\text{m}^3$ is the conservative statewide 24-hour average background value. Then operation of the HMA plant and its generator (if used) would be limited as needed, based on the specific ambient impact modeling, so that the modeled 24-hour concentration does not exceed $32 \mu\text{g}/\text{m}^3$ at or beyond the facility's property boundary. This approach is designed to result in acceptable operational limits for most collocation situations. In cases where these limits are too restrictive, a site-specific analysis and permit amendment may be completed. If a generator is used, the modeling estimates are included as Appendix B.

6. Facility Classification

HMA plants (including collocated operations producing asphalt, concrete, and aggregate) are not designated facilities, as defined in IDAPA 58.01.01.006.27. This facility is not a major facility as defined in IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. The Standard Industrial Classification code for this HMA facility is 2951. The AIRS facility classification for this facility is "SM" because allowable emissions are less than all thresholds for Tier I permits. The spreadsheet included as Appendix A automatically determines the facility classification.

7. Regulatory Review

The following rules and regulations were reviewed for this permit analysis:

IDAPA 58.01.01.201	Permit to Construct
IDAPA 58.01.01.202	Application Procedures
IDAPA 58.01.01.203	Permit Requirements for New and Modified Stationary Sources
IDAPA 58.01.01.209	Procedures for Issuing Permits
IDAPA 58.01.01.211	Conditions for Permits to Construct
IDAPA 58.01.01.212	Obligation to Comply
IDAPA 58.01.01.577	Ambient Air Quality Standards
IDAPA 58.01.01.625	Visible Emissions
IDAPA 58.01.01.650	Rules for Control of Fugitive Dust
IDAPA 58.01.01.725	Rules for Sulfur Content of Fuels
IDAPA 58.01.01.805	Rules for the Control of HMA plants

This facility is an affected facility and is subject to regulation in accordance with 40 CFR Part 60, Subpart I, "Standards of Performance for Hot-mix Asphalt Facilities."

8. Permit Coordination

This HMA facility is not a major facility as defined by IDAPA 58.01.01.006.55 and IDAPA 58.01.01.008.10. However, the applicant has indicated that it is an New Source Performance Standard-affected facility (40 CFR Part 60, Subpart I), and as such, it is a Tier I source as defined by IDAPA 58.01.01.006.104(b). In accordance with IDAPA 58.01.01.313.01.e.ii, new Tier I sources constructed after January 1, 2000, but before January 1, 2005, must either 1) submit a Tier I application within 12 months after commencing construction; or 2) register the source with the DEQ by submitting the information in Subsection 313.01.f within 12 months after commencing operation.

9. AIRS Information

The Aerometric Information Retrieval System (AIRS) database will be updated to include this new permit. AIRS forms are included as Appendix C of this technical analysis.

FEES

This facility is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration and registration fees, in accordance with IDAPA 58.01.01.526 are not applicable.

RECOMMENDATION

Based on review of application materials and state and federal rules and regulations, staff recommends Mickelsen Construction be issued a PTC for a portable HMA facility. No public comment period is recommended, no entity has requested a comment period, and the project does not involve Prevention of Significant Deterioration PTC requirements.

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cc: Kent Berry
Jorge Garcia, Idaho Falls Regional Office

APPENDIX A

Emissions Estimates

INPUT SECTION - enter info in highlighted areas only

Company: Mickelsen Construction
 Permit Engineer: EQM
 Date: 11/21/01
 Filename: Mickelsen Construction PTC Calc.xls

Enter the HMA Plant Type: B (A = Batch Mix Hot Mix Asphalt Plant) (B = Drum Mix Hot Mix Asphalt Plant)
 Dryer Fuel Type: R (A = Natural Gas-Fired Dryer) (B = Oil-Fired Dryer)

Enter Dryer Stack Flow Rate: 40,000 actual cubic feet per minute (acfm)
 Enter Dryer Stack Temperature: 180 temperature (°F)
 Enter Dryer Stack Moisture: 18.00 moisture wt % (Default 18 wt%)
 Enter Dryer Stack Pressure: 29.92 stack pressure (Default 29.92 inHg)
 Calculated Corrected Flow Rate: 27,057 dry standard cubic feet per minute (dscfm)

Enter HMA Maximum Capacity: 250 Tons/hr (Asphalt Throughput)
 Enter HMA Modeled Concentration: 22.47 µg/m³ (1-hr concentration @ 1 lb/hr)

Is a PM performance test required for this HMA plant? N Y or N (based on 40 CFR 60.90 Requirements)
 Does Plant Require a Generator? N Y or N

SPREADSHEET DATA - Information used by spreadsheet

State Wide Background Concentrations for Criteria Air Pollutants					
	1-hr	3-hr	8-hr	24-hr	Annual
PM-10					32.7
CO	11,000		5,130	86	
NO _x					40
SO _x		543		144	23.5

Parameters used in the Fugitive Emissions Calculations

Mean Wind Speed (U) 10 mph
 Material Moisture Content (M) 2.5 %
 Particle Size Multiplier (k) 0.35 dimensionless

Emission Factor¹
 PM-10 (<10 µm) 0.0020 lb/VT
 PM_{2.5} 0.0053 lb/VT

Notes: ¹ EF = k*0.0032*(U/5)^{1.3}/(M/2)^{1.4}
 Drop-Point Equivalem. Rating "A." AP-42, 5th Ed. p.13.2.4-3.
 Assumptions: Wind Speed = 10 mph; Moisture = 2.5%; and
 Aggregate = 94% of product.

FACILITY CLASSIFICATION INPUT

Enter Annual Emission Limit: 100 T/yr
 Note: Use 100 T/yr for Title V Limitation
 Use 250 T/yr for PSD Limitation
 For the standard HMA permit, use 100 T/yr.

PERMIT REQUIREMENTS SECTION - enforceable permit limits
 A2
 AIRS Facility Classification:

Non-attainment Area		Attainment Area	
Allowable Emission Limits		Allowable Emission Limits	
	NA lb/hr	NA T/yr	NA T/yr
HMA Dryer Stack:	NA lb/hr	NA T/yr	NA T/yr
Generator:	NA hr/day NA hr/year	NA T/yr	NA T/yr
HMA Plant Throughput Limits:	360 T/day	131,328 T/yr	1,680,999 T/yr

Collocated Attainment Areas		CO 1-hr Standard		SO2 3-hr standard		CO 8-hr Standard	
	minutes/1-hr	hr/3-hr	hr/8-hr				
HMA Dryer Stack:	60.0	2.2	8.0				

Allowable Emission Limits		NA T/yr
HMA Dryer Stack:	NA lb/hr	NA T/yr
Generator:	NA hr/day NA hr/year	NA T/yr
HMA Plant Throughput Limits:	2,303 T/day	840,500 T/yr

INPUTS TO PERMIT TO CONSTRUCT (PTC)		Value	Units
Section B "Attainment Area When Not Collocated"			
Section B.1.1 Facility Throughput Limits:		Annual Throughput Limit	T/yr
	<<OR>>	Daily Throughput Limit	T/day
	<<AND/OR>>	Annual Hours of Operation	hr/year
	<<AND/OR>>	Daily Hours of Operation	hr/day
Section C "Attainment Area When Collocated"			
Section C.1.3 Facility Throughput Limits:		Annual Throughput Limit	T/yr
	<<OR>>	Daily Throughput Limit	T/day
	<<AND/OR>>	Annual Hours of Operation	hr/year
	<<AND/OR>>	Daily Hours of Operation	hr/day
Section D "Nonattainment Area"			
Section D.1.1 Facility Throughput Limits:		Annual Throughput Limit	T/yr
	<<OR>>	Daily Throughput Limit	T/day
	<<AND/OR>>	Annual Hours of Operation	hr/year
	<<AND/OR>>	Daily Hours of Operation	hr/day

Note: Add to Section C; In a 3-hr period the HMA/generator can only operate:

2.2 Hours

DRYER EMISSION RATE CALCULATIONS

Pollutant	DRYER STACK		Emission Rate (Controlled) lb/hr
	Emission Factor lb/ton	Emission Rate (Uncontrolled) lb/hr	
Total PM	19.00	4,750.00	9.28
Total PM-10	87/dscf	1,075.00	9.28
CO	lb/ton	9.00	9.00
NO _x	0.036	18.75	18.75
SO ₂	0.075	25.00	25.00

HMA emission factors for CO, NO_x, SO₂, and uncontrolled PM & PM-10 are from AP-42 Section 11.1. Controlled PM & PM-10 is from the NSPS 0.04 gridset.

GENERATOR EMISSION RATE CALCULATIONS

Pollutant	GENERATOR STACK		
	Emission Factor lb/hp-hr	Emission Rate (Uncontrolled) lb/hr	Emission Rate (Controlled) lb/hr
Total PM	N/A	0.00	0.00
Total PM-10	N/A	0.00	0.00
CO	N/A	0.00	0.00
NO _x	N/A	0.00	0.00
SO ₂	N/A	0.00	0.00

Generator emission factors are from AP-42 Section 3.3 and 3.4.

MODELING ANALYSIS CALCULATIONS FOR ATTAINMENT AREAS

Pollutant	Allowable Impacts				Permitted Impacts			
	NAAQS		< 100 TPY		NAAQS		< 100 TPY	
	Hours of Operation hr/day	Hours of Operation hr/year	Hours of Operation hr/day	Hours of Operation hr/year	Calculated 24-hr Impact µg/m3	Calculated Annual Impact µg/m3	Other µg/m3	Calculated Emissions ton/year
PM	N/S	N/S	18.4	8,760	64.00	12.80		35.97
PM-10	18.4	8,760	18.4	8,760	62.09	12.42		30.26
CO	N/S	N/S	Based on: PM-10	Based on: PM-10				
CO ^a							202.23	
CO ^b							141.56	
NO _x	N/S	8,760	Limited by NAAQS	Limited by NAAQS		25.87		63.04
SO ₂	23.6	8,760			172.48	34.50		84.05
SO ₂ ^c							505.58	

MODELING ANALYSIS CALCULATIONS FOR NONATTAINMENT AREAS

Pollutant	Allowable Impacts				Permitted Impacts			
	NAAQS		< 100 TPY		NAAQS		< 100 TPY	
	Hours of Operation hr/day	Hours of Operation hr/year	Hours of Operation hr/day	Hours of Operation hr/year	Calculated 24-hr Impact µg/m3	Calculated Annual Impact µg/m3	Other µg/m3	Calculated Emissions ton/year
PM	N/S	N/S	1.4	525	5.00	1.00		2.81
PM-10	1.4	525	1.4	525	4.85	0.97		2.36
CO	N/S	N/S	Based on: PM-10	Based on: PM-10				
CO ^a							202.23	
CO ^b							25.47	
NO _x	N/S	8,760	Limited by Significant Co	Limited by Significant Co		2.02		4.92
SO ₂	23.6	8,760			13.47	2.69		6.57
SO ₂ ^c							242.54	

FUGITIVE EMISSION CALCULATIONS FOR ATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/hr)		
Loader -> Cold Aggregate Bin	1.25	0.47
Cold Aggregate Bin -> Conveyor	1.25	0.47
Conveyor -> Drum Dryer	1.25	0.47
Total Pre-Dryer Source Emissions	3.76	1.42
Post-Dryer Source Emissions		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions (lb/hr)	3.76	1.42
Total Uncontrolled Emissions (T/yr)	12.64	4.78
Total Controlled Emissions (lb/hr)	3.76	1.42
Total Controlled Emissions (T/yr)	12.64	4.78

Source: National Asphalt Pavement Association

* CO 1-hr Averaging Period

† CO 8-hr Averaging Period

‡ SO₂ 3-hr Averaging Period

FUGITIVE EMISSION CALCULATIONS FOR NONATTAINMENT AREAS

	PM	PM-10
Pre-Dryer Source Emissions (lb/hr)		
Loader -> Cold Aggregate Bin	1.25	0.47
Cold Aggregate Bin -> Conveyor	1.25	0.47
Conveyor -> Drum Dryer	1.25	0.47
Total Pre-Dryer Source Emissions	3.76	1.42
Post-Dryer Source Emissions 2		
Screening Process	#N/A	#N/A
Screen -> Hot Bins	#N/A	#N/A
Hot Bins -> Weigh Hopper	#N/A	#N/A
Weigh Hopper -> Pug Mill	#N/A	#N/A
Total Post-Dryer Source Emissions	#N/A	#N/A
Scavenger Control Efficiency	#N/A	#N/A
Total Uncontrolled Emissions (lb/hr)	3.76	1.42
Total Uncontrolled Emissions (T/yr)	0.99	0.37
Total Controlled Emissions (lb/hr)	3.76	1.42
Total Controlled Emissions (T/yr)	0.99	0.37

APPENDIX B

SCREEN3 MODELING OUTPUT FILES

12/06/01
15:26:23

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Mickelsen Construction HMA Plant

SIMPLE TERRAIN INPUTS:

SOURCE TYPE = POINT
EMISSION RATE (G/S) = .126000
STACK HEIGHT (M) = 6.7056
STK INSIDE DIAM (M) = 3.2004
STK EXIT VELOCITY (M/S) = 2.3467
STK GAS EXIT TEMP (K) = 355.3700
AMBIENT AIR TEMP (K) = 293.0000
RECEPTOR HEIGHT (M) = .0000
URBAN/RURAL OPTION = RURAL
BUILDING HEIGHT (M) = .0000
MIN HORIZ BLDG DIM (M) = .0000
MAX HORIZ BLDG DIM (M) = .0000

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

STACK EXIT VELOCITY WAS CALCULATED FROM
VOLUME FLOW RATE = 40000.000 (ACFM)

BUOY. FLUX = 10.342 M**4/S**3; MOM. FLUX = 11.626 M**4/S**2.

*** FULL METEOROLOGY ***

*** SCREEN AUTOMATED DISTANCES ***

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES **

*

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	1	1.0	1.0	320.0	130.26	1.20	1.14	NO
100.	21.98	4	20.0	20.0	6400.0	6.18	8.27	4.77	NO
200.	12.47	4	15.0	15.0	4800.0	8.24	15.73	8.80	NO
300.	8.600	4	10.0	10.0	3200.0	12.36	22.88	12.60	NO
400.	6.605	4	8.0	8.0	2560.0	15.44	29.78	15.89	NO
500.	5.224	4	8.0	8.0	2560.0	15.44	36.41	18.82	NO

Screen

600.	4.475	4	5.0	5.0	1600.0	24.82	43.30	22.36	NO
700.	3.944	4	5.0	5.0	1600.0	24.82	49.69	25.05	NO
800.	3.460	4	5.0	5.0	1600.0	24.82	56.02	27.70	NO
900.	3.083	4	4.5	4.5	1440.0	27.90	62.38	30.49	NO
1000.	2.782	4	4.0	4.0	1280.0	31.75	68.70	33.28	NO
1100.	2.534	4	4.0	4.0	1280.0	31.75	74.83	35.25	NO
1200.	2.335	4	3.5	3.5	1120.0	36.70	81.07	37.47	NO
1300.	2.282	6	4.0	4.0	10000.0	34.71	44.12	19.10	NO
1400.	2.312	6	4.0	4.0	10000.0	34.71	47.05	19.79	NO
1500.	2.325	6	4.0	4.0	10000.0	34.71	49.98	20.46	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:
 88. 22.47 4 20.0 20.0 6400.0 6.18 7.43 4.32 NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

 * SUMMARY OF TERRAIN HEIGHTS ENTERED FOR *
 * SIMPLE ELEVATED TERRAIN PROCEDURE *

TERRAIN HT (M)	DISTANCE RANGE (M)	
	MINIMUM	MAXIMUM
0.	1.	1500.

 *** SUMMARY OF SCREEN MODEL RESULTS ***

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	22.47	88.	0.

 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
