PARSONS ENGINEERING SCIENCE, INC.

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December 20, 1995

Ms. Karen M. Bullard
New Source Review Program
Office of Air Quality
TNRCC
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Permit Application No. 29466/BG-0841-5

Dear Ms. Bullard:

On behalf of United States Department of the Army Camp Stanley Storage Activity, I am submitting for your review the Air Quality Analysis for the above referenced Permit Application. This analysis conforms with TNRCC guidance and shows that no adverse ambient air impacts are expected from the proposed sources. The annual emission rates reflect the new solvent usages of 500 gal/yr isopropyl alcohol, 1500 gal/yr of mineral spirits, and 50 gal/yr of stoddard solvent. Maximum short-term emission rates remain unchanged from the original submittal.

Also presented within this report are the chemical flexibility equation coefficients resulting from generic modeling of each individual source. For this analysis, each source was modeled individually at an emission rate of 1 lb/hr.

As I discussed with you, the plot plan has been revised from that included in the original submittal. A 1995 aerial photograph shows that the nearest distance to the property line from Building 90 is actually 146.8 ft, rather than the 30 ft distance originally shown. Consequently, we are also submitting to you a revised plot plan which concurs with the aerial photo. The aerial photo is included as Figure 2 of the Air Quality Analysis, for your confirmation.

Thank you for your assistance. Please call me at (512) 255-2588 or Brian Murphy at (210) 698-5208 if you have any questions.

Sincerely,

Glynis H. Fowler

Glynis H. Fowler

cc: Brian Murphy, CSSA

CPQ4039\JOBS\KARUNA\COVERLTR.DOC

PARSONS

AIR QUALITY ANALYSIS
FOR
TEXAS NATURAL RESOURCES CONSERVATION COMMISSION
AIR QUALITY PERMIT APPLICATION NO. 29466/BG-0841-5

UNITED STATES DEPARTMENT OF THE ARMY
CAMP STANLEY STORAGE ACTIVITY
BOERNE, TEXAS

DECEMBER 1995

Prepared by

Parsons Engineering Science, Inc.

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INTRODUCTION

This report summarizes the air quality dispersion modeling conducted to support the Texas Natural Resources Conservation Commission (TNRCC) Air Quality Permit Application submitted in May, 1995 by the United States Department of the Army Camp Stanley Storage Activity (CSSA) located in Boerne, Bexar County, Texas. This area is classified as attaining the National Ambient Air Quality Standard (NAAQS) for ozone. There are five sources of VOC emissions for which a permit has been applied, as outlined in the Permit Application. Dispersion modeling is required of these five sources in order to show that the proposed emissions will create no adverse health effects. Although screening modeling was conducted and summarized in the initial Permit Application, annual usages of solvents have been increased from those originally submitted. Furthermore, a closer examination by the applicant has revealed that EPNs 1, 2, 3, and 4 are actually horizontal releases, rather than vertical. Due to these and other revisions to the original Application, a full Air Quality Analysis has been conducted at the request of the TNRCC. Additional generic modeling is also submitted herein to provide a basis for the chemical flexibility equation coefficients requested by Camp Stanley; these results will provide Camp Stanley the basis from which to substitute solvents for those identified in the permit application.

MODEL INPUT

In accordance with the TNRCC Air Quality Modeling Guidelines published November, 1993, a pre-modeling conference was held on November 20, 1995 with TNRCC permit and modeling staff. A copy of the modeling checklist which resulted from this meeting is attached to this report.

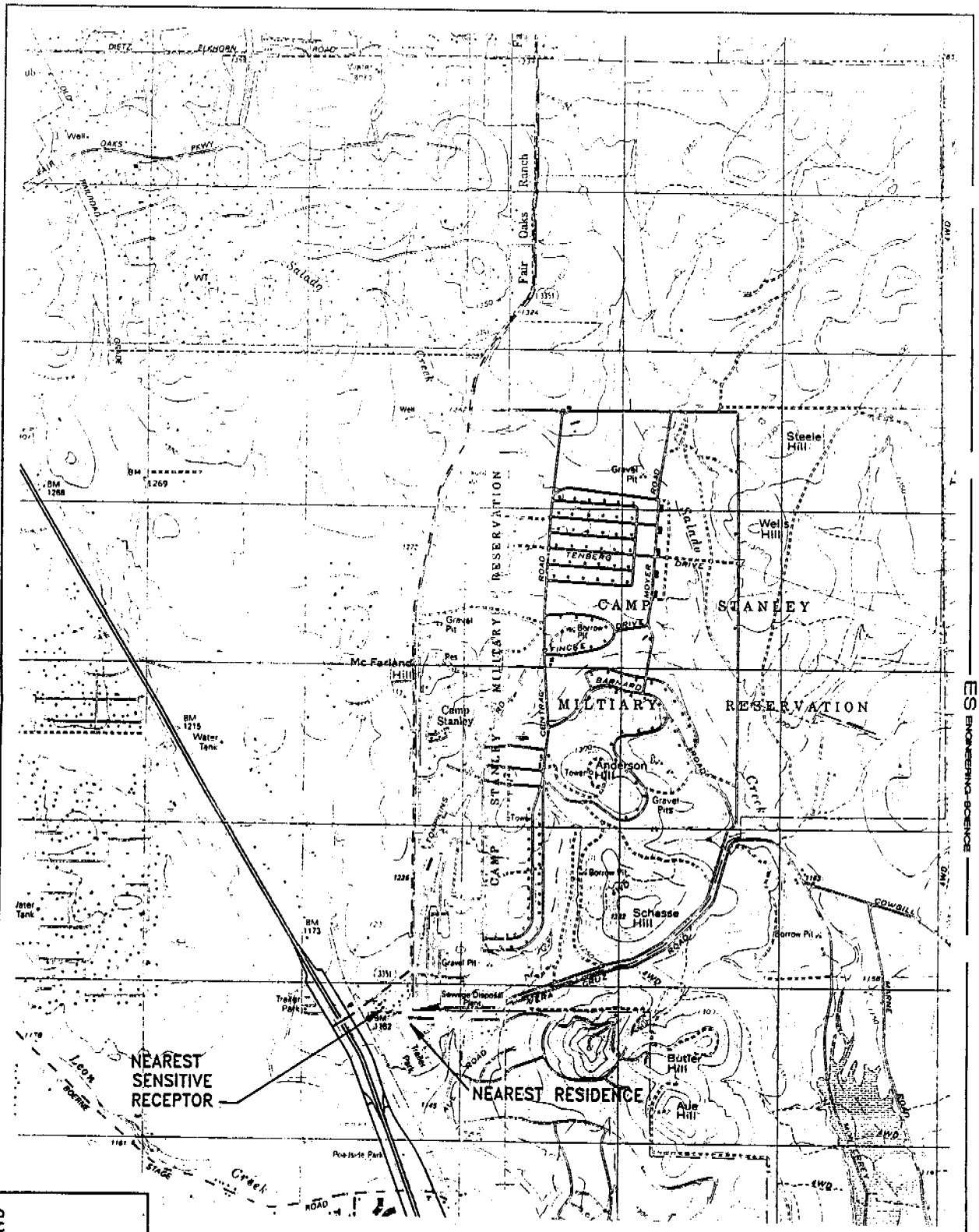
Modeling Scenarios

For the health effects analysis, a separate modeling scenario was run for each of the three VOC compounds isopropyl alcohol, mineral spirits and stoddard solvent. Isopropyl alcohol is emitted from the VCI vat (EPN 1) in Building 90. Mineral spirits are emitted from the solvent vats (EPNs 1, 2, 3) in Building 90 and solvent recovery unit (EPN 5) in Building 90-1. Stoddard solvent is emitted from the fingerprint remover vat (EPN 4) in Building 90.

For the chemical flexibility analysis, a separate modeling scenario was run for each individual source, using a generic emission rate of 1 lb/hr.

Revised Plot Plan

A revised plot plan is submitted along with this Air Quality Analysis. A recent aerial photo (1995) of Camp Stanley shows that the shortest distance to the property line is actually 147.6 ft, rather than the 30 ft shown in the plot plan included with the May 1995 Permit Application. The aerial photo is shown as Figure 1.



ES ENGINEERING-SCIENCE

FIGURE 1

AREA MAP

CAMP STANLEY STORAGE ACTIVITY

CSOYLATR 3/06/95

Source Types

EPNs 1,2,3 and 4 each have 1 ft horizontal extensions on the stacks. Consequently, each was modeled with fugitive parameters. EPN 5 is a fugitive emission from the three feet by seven feet doorway of Building 90-1, which houses the solvent recovery unit; per TNRCC guidance, this emission was modeled with fugitive parameters at the midpoint of the building doorway.

Source Inventory

There are no known off-property sources of the three pollutants analyzed; hence, no off-property sources were evaluated.

Model Used

The model used was the most recent version of ISCST3, as available on the EPA SCRAM BBS. There were no receptors higher than the elevation of the emission points evaluated. No disaster modeling is required.

Meteorological Data

As specified by the TNRCC, surface meteorological data from the San Antonio airport (Station 12921) for 1988, and upper air meteorological data from Del Rio (Station 22010) for 1988 were combined and used for all model runs.

Rural Model Option

The scenarios were run using the default regulatory options for concentrations in a flat, rural terrain, as indicated in Figure 1, a 1995 aerial photograph of Camp Stanley and surrounding area. Sources were modeled for 1 hr concentrations; the period option was utilized to obtain annual concentrations.

Building Wake Effects

Building wake effects were evaluated with the most recent version of EPA's BPIP.

Receptor Grid

The receptor grids for the modeling runs conformed with TNRCC guidance, in that receptors were spaced 100 meters apart and 25 meters apart around the locations of the maxima. Figure 2 is a map displaying the area within the requisite 3000 meter radius. The nearest residence and nearest non-residential sensitive receptor are shown on the map; impacts at these specific receptors were evaluated. (The nearest non-residential sensitive receptor is the Saint Elizabeth Ann Seton Catholic Church. There does not appear to be any day care activity at this location, but this receptor was treated as sensitive for a conservative analysis.) Concentrations were also plotted on the property line with

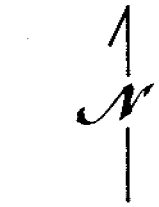
receptors spaced 25 meters apart. As requested by TNRCC staff, buildings are displayed on the receptor maps.

MODELING RESULTS

The modeling results are displayed on Tables 1 and 2. Table 1 shows the short-term and annual impacts for the three species of VOC evaluated. The maximum concentrations for all three species are far below the 1-hr and annual Effects Screening Levels (ESLs); all are less than 18 % of the respective ESLs. The modeled concentrations at the nearest residence and nearest non-residential sensitive receptor are also very low; all are less than 3 % of the respective ESLs. The results of the generic modeling of each source are given in Table 2. Figures 2-8 are the concentration maps for each modeling run. Modeling printouts are attached to this report.

SUMMARY OF IMPACTS

The results show no exceedances of the 1-hr and annual ESLs for isopropyl alcohol, mineral spirits, and stoddard solvent, and in fact show maxima which are far below the levels typically considered by the TNRCC to adversely affect the human health and welfare. Thus, there appear to be no adverse ambient impacts resulting from the proposed sources.



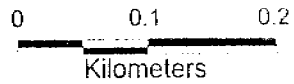


Figure 2
CSSA Air Quality
EPN and Sensitive
Receptor Locations

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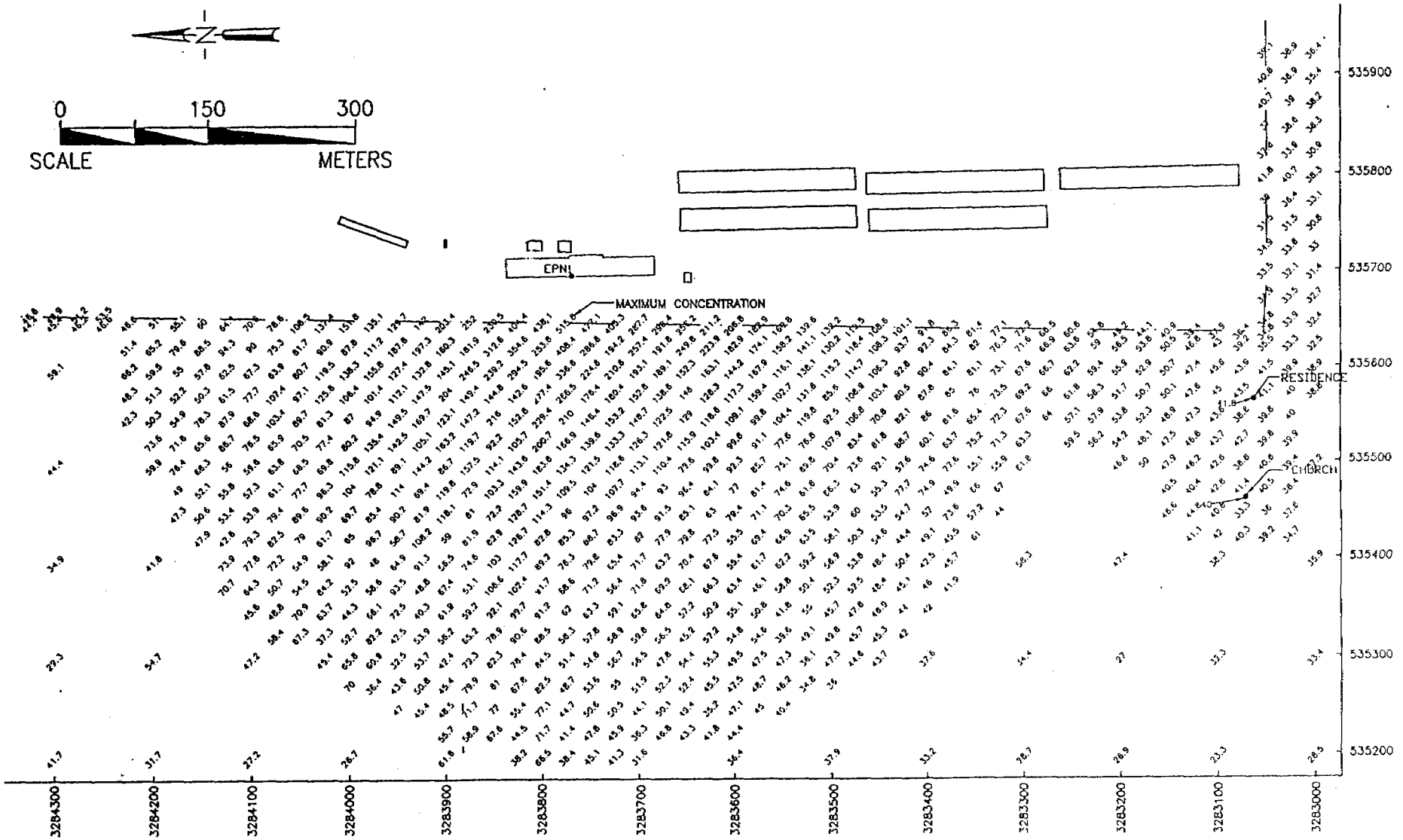
FIGURE 3
ISOPROPYL ALCOHOL EMISSIONS
ISC3 SHORT TERM MODEL RESULTS
CAMP STANLEY STORAGE ACTIVITY



IPA-LT
AIRBLDGS
AIREPN
BOUNDUTM
SENSRCPT

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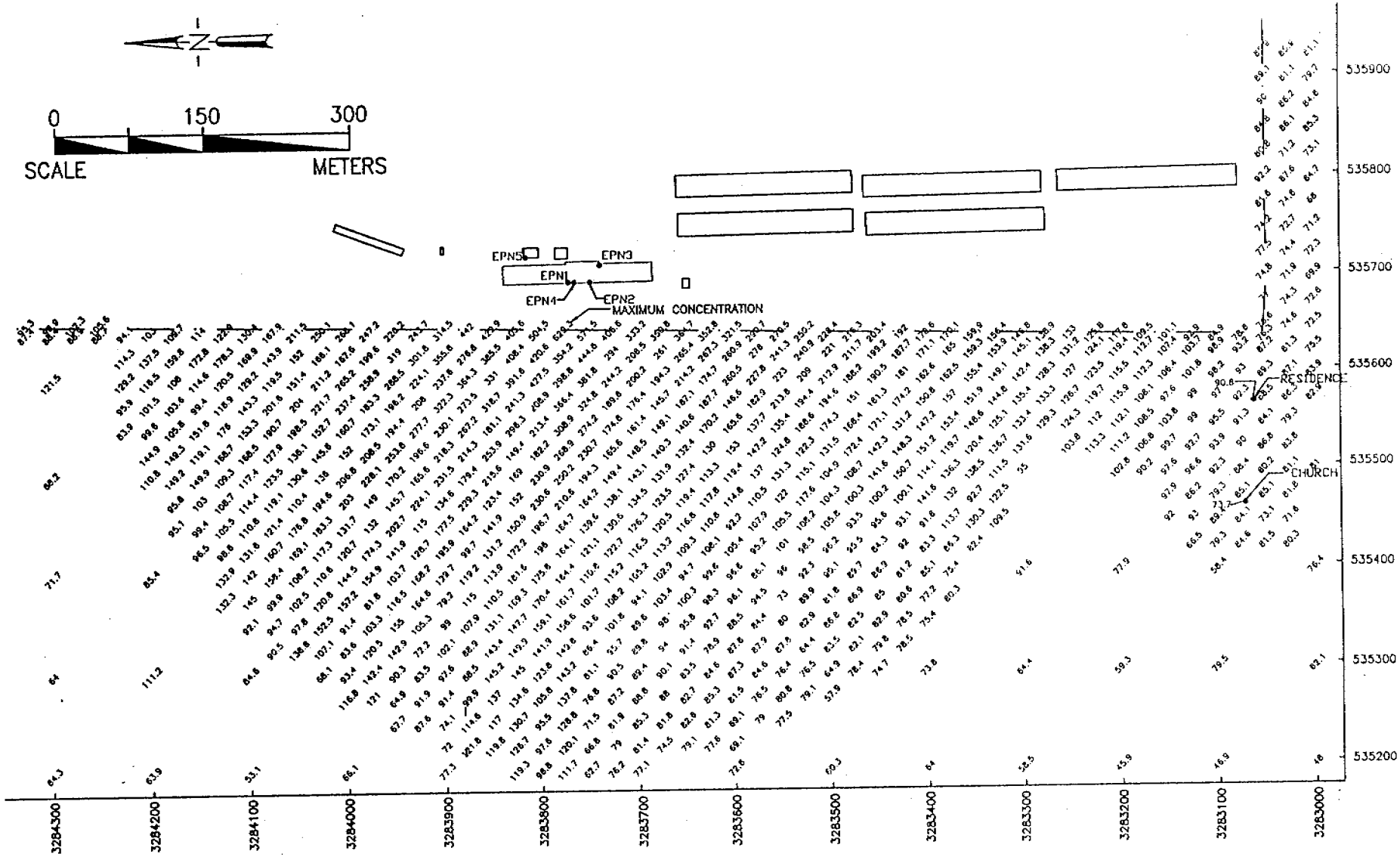
FIGURE 4
MINERAL SPIRITS EMISSIONS
ISC3 SHORT TERM MODEL RESULTS
CAMP STANLEY STORAGE ACTIVITY



BOUNDUTM
SENSRCPT
AIRBLDGS
AIREPN

MS-CSSA 12/19/95

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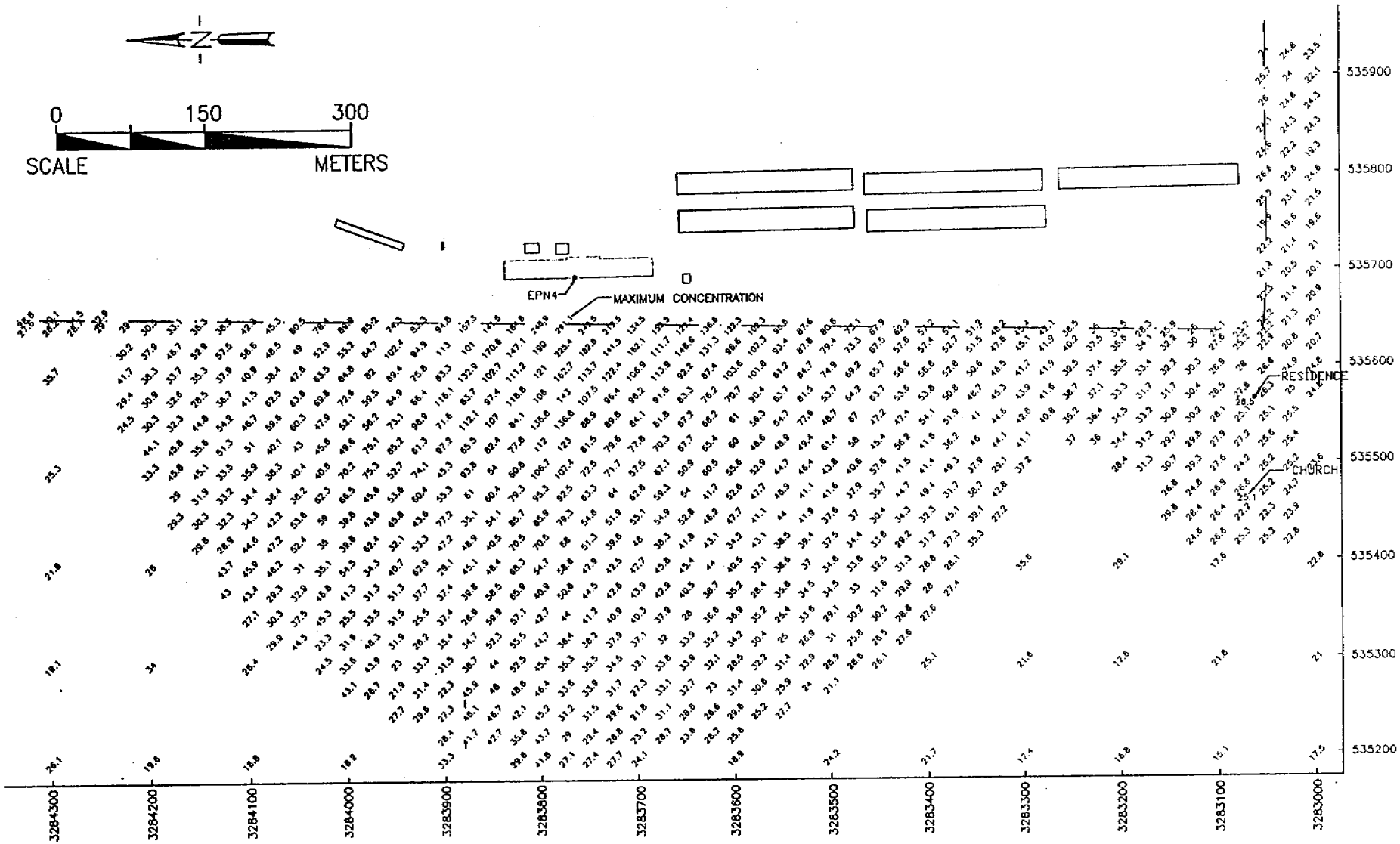
FIGURE 5
STODDARD SOLVENT EMISSIONS
ISC3 SHORT TERM MODEL RESULTS
CAMP STANLEY STORAGE ACTIVITY



AIRBLDGS BOUNDUTM
AIREPN SENSRCPT

SS 12/19/95

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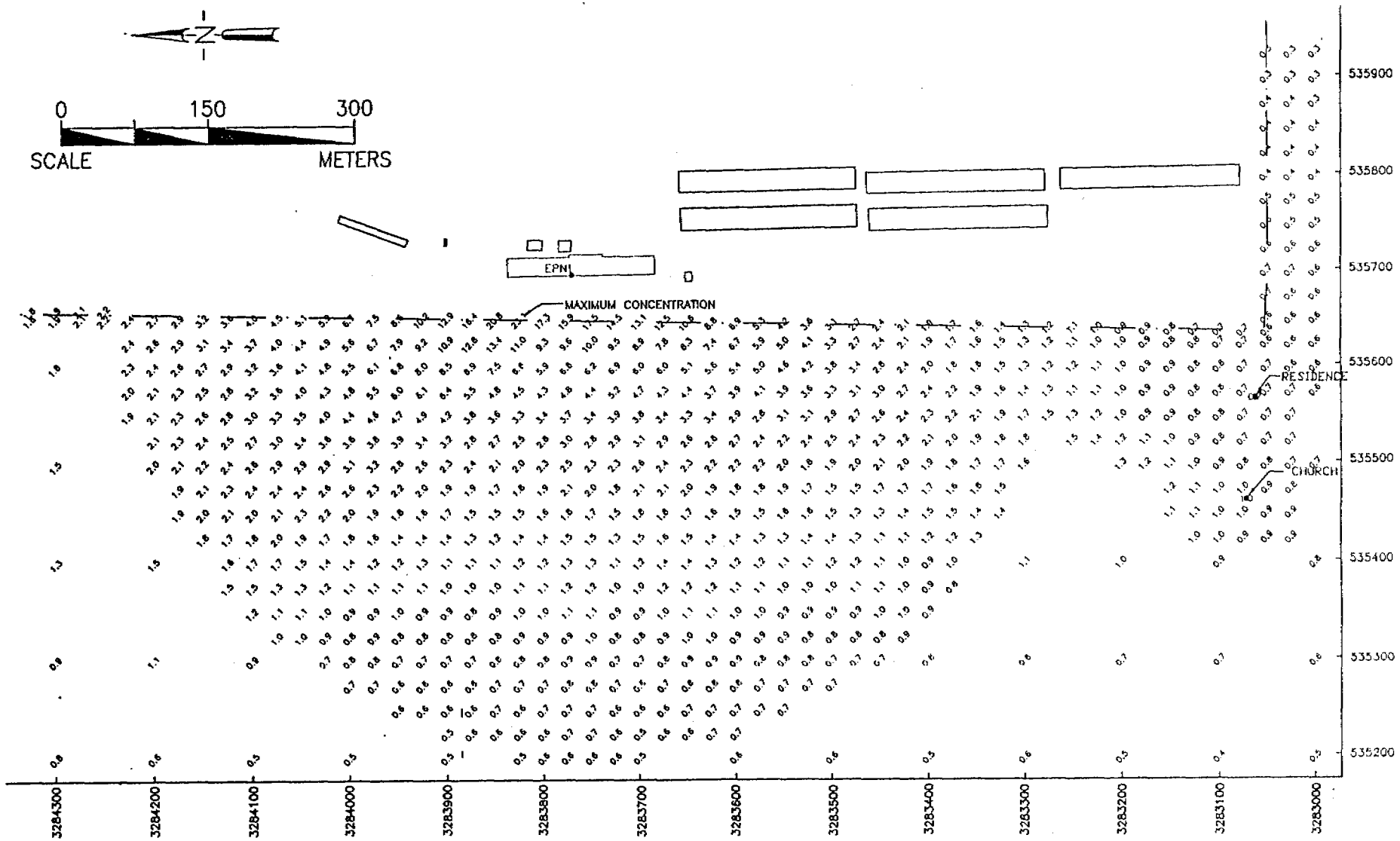
FIGURE 6
ISC3 MODEL RESULTS
ISOPROPL ALCOHOL ANNUAL EMISSIONS
CAMP STANLEY STORAGE ACTIVITY



BOUNDUTM
SENSRCPT

IPA-LT
AIRBLDGS
AIREPN

IPA-LTCS 12/19/95

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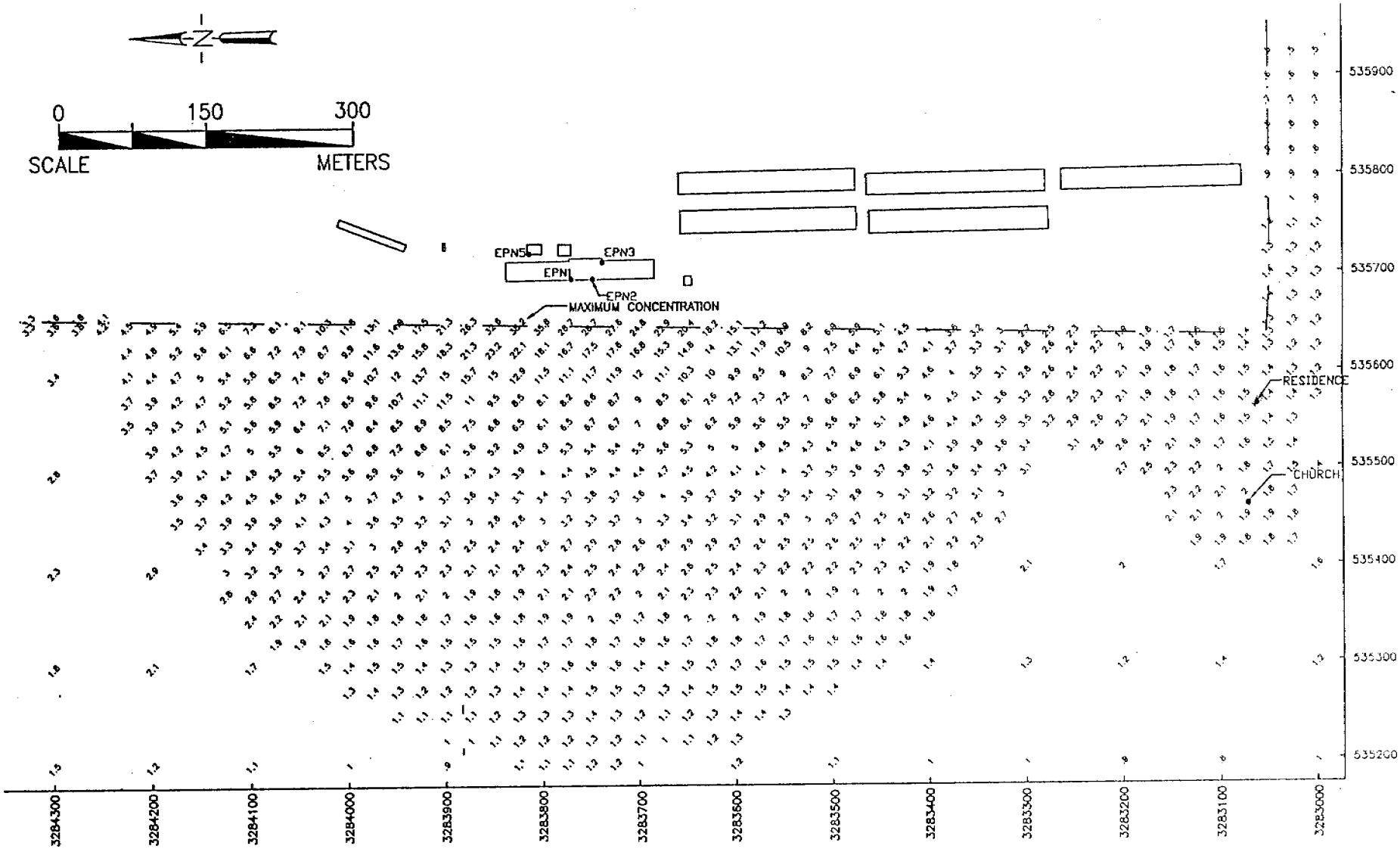
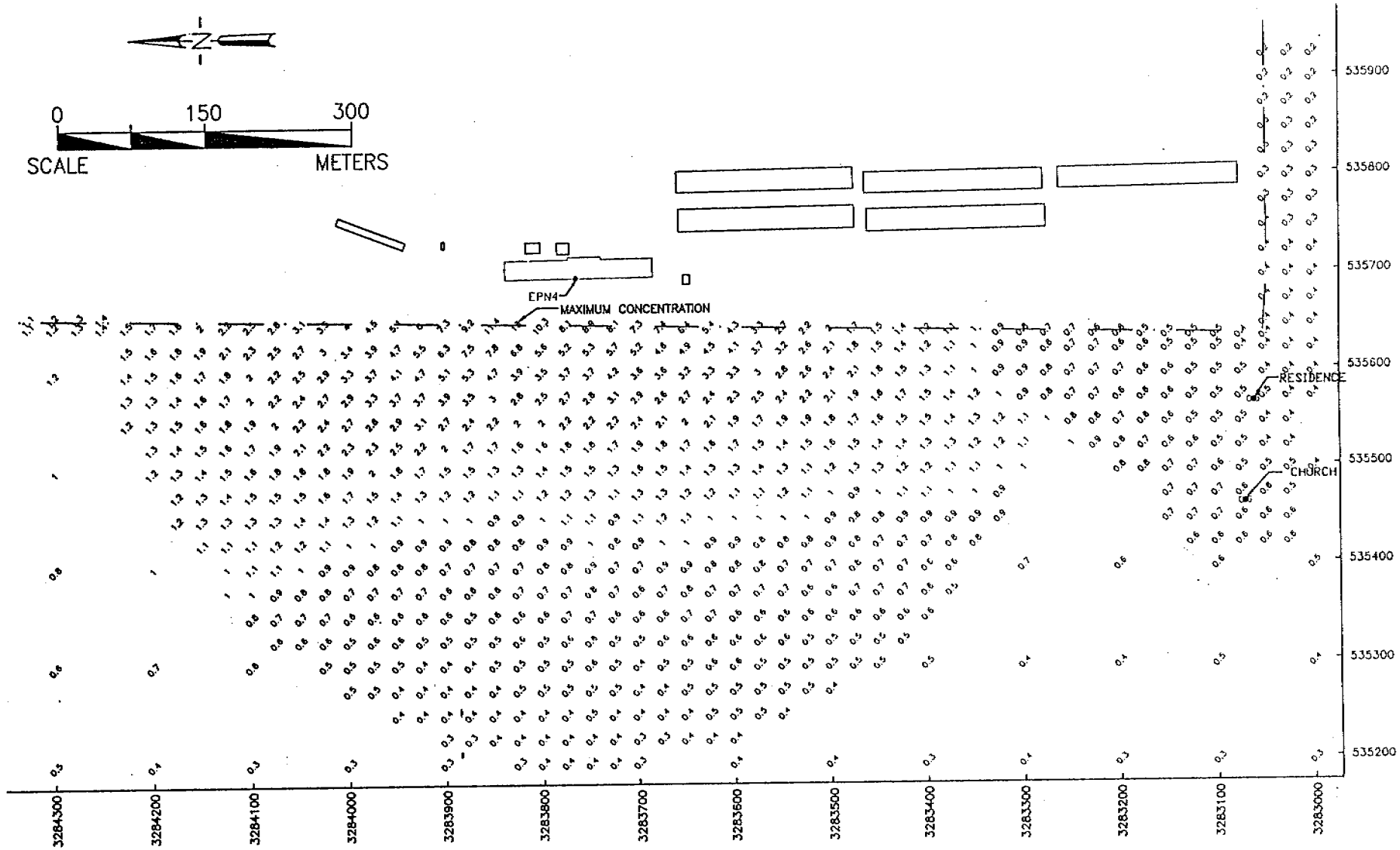
FIGURE 7
ISC3 MODEL RESULTS
MINERAL SPIRITS ANNUAL EMISSIONS
CAMP STANLEY STORAGE ACTIVITY



MS-LT
AIRBLDGS BOUNDUTM
AIREPN SENSRCPT

PARSONS ENGINEERING SCIENCE, INC.

FIGURE 8
ISC3 MODEL RESULTS
STODDARD SOLVENT ANNUAL EMISSIONS
CAMP STANLEY STORAGE ACTIVITY



BOUNDUTM
SENSRCPT

SS-LT
AIRBLDGS
AIREPN

SS-LTCS 12/19/95

Table 1 Speciated VOC Short Term and Annual Impacts

Speciated VOC Short Term Impact				
Pollutant	**Short Term ESL ug/m³**	**Maximum Modeled ug/m³**	**Modeled Concentration at Sensitive Receptor ug/m³**	**Modeled Concentration at Nearest Residence ug/m³**
Isopropyl Alcohol	7856	515.8	40.0	41.8
Mineral Spirits	3500	629.3	73.7	90.8
Stoddard Solvent	3500	291.1	25.1	26.5
Speciated VOC Annual Impact				
Isopropyl Alcohol	980	23.1	0.97	0.72
Mineral Spirits	350	38.2	1.96	1.46
Stoddard Solvent	350	13.0	0.62	0.47

Table 2 Chemical Flexibility Equation Coefficients*

	EPN 1 ug/m³	**EPN 2 ug/m³**	**EPN 3 ug/m³**	**EPN 4 ug/m³**	**EPN 5 ug/m³**
Short Term	1249.6	1476.7	868.7	1074.0	1116.7
Annual	17.33	18.18	9.99	14.89	10.59

* Sources modeled individually with generic emission rate of 1 lb/hr.

Appendix 1
TNRCC Office of Air Quality
Permit Modeling Guidance Checklist

Fax to. Glynis Fowler 255 5660

Permit File	
AQP File	
XXX File	

TNRCC OFFICE OF AIR QUALITY
PERMIT MODELING GUIDANCE CHECKLIST

1. Applicant: U.S. Department of Army, Camp Stanley
   Permit Application No(s). : 29466 / BG-0841-5

2. Consultant: Parsons Engineering Science / Fowler Consulting
   8000 Center Park Dr., Suite 200 (512) 719 6000
   Austin, Texas 78754 fax: (512) 719 6099

3. Date of Contact with TNRCC staff: Monday, November 20, 1995 Meeting

4. Names of Participants / Affiliation:

	TNRCC Staff
Glynis Fowler*/ Fowler	Karen Bullard
Michael Stimets** / Parsons	Waldon Boecker*

   Note: *Also, 11/27/95 & 12/01/95 Phone Calls.
   ** 12/01/95 Phone Call (ISC3).

5. Name of TNRCC staff Contacts
   A. NSR ~~Permits~~ Division: Karen Bullard (512) 239 6142
   B. Air Quality Planning: Waldon Boecker (512) 239 1467
   C. Legal:
   D. Toxicology & Risk Assessment:

6. Type of Permit Review:

   A. PSD applicability determined? TNRCC New Source Review (NSR) staff advised that no PSD review is needed.

   B. Realistic worst case stack parameters approved for normal operating conditions? The Applicant should use TNRCC staff approved stack parameters for analyses.

   C. Realistic worst case emission rates approved for normal operating conditions? The Applicant should use TNRCC staff approved realistic worst case emission rates for analyses.
   D. Upset condition modeling required? No.
   E. Disaster review modeling required? No.

7. Location: Nearest City: San Antonio County: Bexar TNRCC Region: 13

8. Facility type(s)/Process Description: Permanent - Storage Activity

9. Shortest Distance to Property Line (feet): ???
Plot plan available pursuant to TNRCC staff Air Quality Modeling Guidelines (RG-25) Section 2.1 and Attachment D? To be included in Applicant's submittal pursuant to this guidance checklist. No exceptions were specified.

10. Source Types:
Is information regarding the physical characteristics of the emission points definitive enough to provide modeling guidance? Definitive information to be included in Applicant's Air Quality Analysis for each of the following, as applicable:

A. Covered Stacks? If any, to be modeled with fugitive parameters.
B. Horizontal Exhausts? If any, to be modeled with fugitive parameters.
C. Fugitive Sources? Additional information may be needed for TNRCC NSR review of fugitive sources to be modeled with fugitive parameters. Applicant's Air Quality Analysis should include the following:

i. A clear physical description of each fugitive source [at point(s) of release to atmosphere] with simplified elevation drawings, if available.

ii. Discussion of ISC3 alternatives for evaluating each fugitive source and discussion supporting the alternative selected (point, volume, or area sources may be used,

iii. Discussion detailed enough to enable TNRCC staff verification of proper ISC3 input data calculation and proper use of each ISC3 alternative. Volume source height, spacing, σ_y and σ_z calculations should conform to guidance included in EPA documents and should be included in the modeling submittal, and

iv. Dimensions of fugitive sources should be specified on plot plan. If point sources are used to represent fugitive sources, then include discussion of basis for selection of locations (as specified on plot plan). The number, locations and elevations of pseudo point sources should be selected to best simulate the fugitive source. If the best simulation is in question, then assumptions should tend to over-predict concentrations (be conservative) for maximum off-property and sensitive receptor areas.

D. Area Sources? No.
E. Tanks? No.
F. Roads? No.
G. Flares? No.

TNRCC Office of Air Quality
Permit Modeling Guidance Checklist

11. A. Pollutants Evaluated: Isopropyl Alcohol, Mineral Spirits, and Stoddard Solvent. **Additional pollutants may require evaluation using refined dispersion modeling, if identified by the TNRCC NSR staff.**

    B. Applicable State & Federal Standards or Effects Screening Levels (ESL's): **TNRCC Staff 1-hr. & annual ESLs.**

12. Attainment Status by Pollutant: **Attainment**

13. Source Inventory:

    A. Are all on-property sources to be evaluated?
    The Applicant is to evaluate all emission points specified by NSR staff (same emission points evaluated in last submittal).

    B. Are off-property sources to be evaluated? **The Applicant should provide discussion in their Air Quality Analysis regarding known off-property sources of all pollutants evaluated, if any.**

    C. Ratio Techniques proposed (stack parameters approved)? **The Applicant is to provide individual source impacts based on a 1 g/s emission rate (generic impacts) in addition to three pollutant specific runs specified in 11.a. above.**

14. Models Proposed:

    A. Flat / Simple Terrain? **ISCST3 (most recent version available on the EPA SCRAM BBS).**

    B. Complex Terrain? **The Applicant's analyses should conform to EPA GAQM suggestions for predicting impacts at receptors higher than the elevation of emission points evaluated.**

    C. Disaster? **No.**

    D. Other? **None for initial modeling. Additional models/ modeling procedures may be required, depending on results of TNRCC review of the air quality analysis submitted pursuant to this guidance checklist.**

15. Meteorological Data: Short-term: **Sat/Drt 88**
    Long-term. **None.**

    Note: The ISCST3 Period Option with 1988 meteorological data may be used to calculate annual average concentrations for pollutants which have both short term and long term standards.

16. Coefficients: Applicant should provide Auer land use analysis. The 7.5 minute USGS map used for the analysis should be the most recent available (not enlarged or reduced), and the photo revision date, UTM coordinates and quadrangle(s) should be specified.

17. Methodology Proposed to Evaluate Building Wake Effects: Refined procedures for calculation of direction-specific building parameters are to be followed by Applicant, as applicable. The most recent version of EPA's BPIP (or a program which correctly uses this program) should be used. The Applicant should provide discussion of modifications to BPIP, if any, with associated test runs on diskette.

18. Receptor Grid: The Applicant should follow the RG-25 Section 6.5, except as noted: No exceptions noted.
Is an area map available pursuant to RG-25, Section 2.1? This map is to be provided with Applicant's Air Quality Analysis. All property to be owned or controlled, in whole or in part, by the Applicant and affiliated companies should be shown and clearly identified on this map.
Distances (feet) to nearest:
   A. Established residence(s): *
   B. Church(s): *
   C. School(s): *
   D. Day care center(s): *
   E. Health care facilities: *
   F. Dedicated public park or similar facilities: *
   Note: * To be specified in Air Quality Analysis for the Auer land use area (3000 meter radius).

19. Miscellaneous:
   A. The Applicant's analysis should conform to RG-25, as applicable, and the Applicant should provide all information specified in RG-25 Attachment D, as applicable: no exceptions noted;

   B. This modeling guidance may require amendment if the Applicant's Air Quality Analysis is not submitted by June 3, 1996 (that is, within about 6 months); and

   C. The Applicant will address deficiencies specified in July 3, 1995 Audit Report.

Note: This Checklist should be completed and submitted with the Applicant's Air Quality Analysis. Air Quality Analysis submitted pursuant to this checklist is subject to audit.

20. TNRCC Air Quality Planning Staff Signature: _____ Date: 12/1/95

Appendix 2
Modeling Printouts

ISC3ST Modeling Printout for Isopropyl Alcohol

**MODELOPTs: CONC   RURAL FLAT   DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION. DDPLETE = F
**Model Uses NO WET DEPLETION. WDPLETE = F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

**This Run Includes: 1 Source(s); 1 Source Group(s); and 859 Receptor(s)

**The Model Assumes A Pollutant Type of: IPA

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 7.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; ission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.52138E-01	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	EPN1 ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF IPA IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)		X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	
535568.00	3283061.75	41.78699	(88040707)	house	535463.94	3283071.00	40.03379	(88040706)	church ^@^@
534700.00	3283400.00	16.87507	(88101607)		534700.00	3283500.00	17.73375	(88061023)	
534700.00	3283600.00	17.94600	(88042801)		534700.00	3283700.00	18.55434	(88051101)	
534700.00	3283800.00	18.49903	(88011022)		534700.00	3283900.00	20.94120	(88051221)	
534700.00	3284000.00	24.12208	(88052603)		534700.00	3284100.00	12.50858	(88072304)	
534800.00	3283100.00	14.96489	(88082604)		534800.00	3283200.00	12.59214	(88042403)	
534800.00	3283300.00	17.88234	(88120223)		534800.00	3283400.00	15.54995	(88022921)	
534800.00	3283500.00	19.16566	(88043003)		534800.00	3283600.00	20.69452	(88052505)	
534800.00	3283700.00	20.98895	(88051101)		534800.00	3283800.00	21.44312	(88011022)	
534800.00	3283900.00	30.00463	(88051221)		534800.00	3284000.00	30.15910	(88052603)	
534800.00	3284100.00	19.56004	(88072304)		534900.00	3283100.00	15.57955	(88100904)	
534900.00	3283200.00	18.54241	(88082604)		534900.00	3283300.00	15.06971	(88010823)	
534900.00	3283400.00	22.00418	(88060501)		534900.00	3283500.00	18.94110	(88101607)	
534900.00	3283600.00	24.38228	(88052601)		534900.00	3283700.00	22.58844	(88051101)	
534900.00	3283800.00	26.41064	(88022420)		534900.00	3283900.00	36.54596	(88051221)	
534900.00	3284000.00	23.73604	(88101401)		534900.00	3284100.00	21.84076	(88010820)	
534900.00	3284200.00	30.42461	(88012124)		534900.00	3284300.00	14.54466	(88070921)	
535000.00	3282900.00	13.19300	(88080121)		535000.00	3283000.00	14.79845	(88012703)	
535000.00	3283100.00	19.34688	(88030604)		535000.00	3283200.00	21.26510	(88100904)	
535000.00	3283300.00	23.40209	(88010307)		535000.00	3283400.00	25.41525	(88120223)	
535000.00	3283500.00	27.32845	(88022921)		535000.00	3283600.00	23.05164	(88061023)	
535000.00	3283700.00	28.85730	(88102105)		535000.00	3283800.00	35.07957	(88022420)	
535000.00	3283900.00	42.53947	(88022421)		535000.00	3284000.00	20.21343	(88072304)	
535000.00	3284100.00	18.85064	(88072506)		535000.00	3284200.00	23.98211	(88022823)	
535000.00	3284300.00	31.32133	(88050103)		535000.00	3284400.00	20.10749	(88081504)	
535100.00	3282900.00	16.73374	(88091506)		535100.00	3283000.00	17.68066	(88021908)	
535100.00	3283100.00	20.07238	(88012703)		535100.00	3283200.00	23.58122	(88030604)	
535100.00	3283300.00	24.64808	(88100904)		535100.00	3283400.00	21.66674	(88042403)	
535100.00	3283500.00	31.73360	(88040822)		535100.00	3283600.00	34.08651	(88043003)	
535100.00	3283700.00	34.41330	(88102105)		535100.00	3283800.00	48.29902	(88022420)	
535100.00	3283900.00	43.11916	(88022421)		535100.00	3284000.00	32.81419	(88091306)	
535100.00	3284100.00	45.36734	(88012124)		535100.00	3284200.00	24.25420	(88050103)	
535100.00	3284300.00	24.64879	(88081504)		535100.00	3284400.00	32.89017	(88051223)	
535100.00	3284500.00	28.17493	(88042102)		535200.00	3282900.00	18.41795	(88011404)	
535200.00	3283000.00	28.53158	(88012208)		535200.00	3283100.00	23.30384	(88021908)	
535200.00	3283200.00	26.87931	(88012703)		535200.00	3283300.00	28.73782	(88030604)	
535200.00	3283400.00	33.19499	(88082604)		535200.00	3283500.00	37.93269	(88120223)	
535200.00	3283600.00	36.43055	(88101607)		535200.00	3283700.00	31.56083	(88102105)	
535200.00	3283725.00	41.33675	(88102105)		535200.00	3283750.00	45.08279	(88062622)	
535200.00	3283775.00	38.37145	(88011022)		535200.00	3283800.00	66.53234	(88022420)	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF IPA IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	515.82965	ON 88042921:	AT (535648.44, 3283775.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 865 Informational Message(s)

A Total of 865 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Isoprpyl Alcohol                                      ***        12/05/95
                                   ***                                                            ***        22:03:09
                                                                                                             PAGE   1
**MODELOPTs: CONC                             RURAL  FLAT          DFAULT

                                            ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:     1 Source(s);       1 Source Group(s); and     859 Receptor(s)

**The Model Assumes A Pollutant Type of:  IPA

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =      7.00 ;    Decay Coef. =   0.0000      ;   Rot. Angle =      0.0
                 Emission Units = GRAMS/SEC                                   ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3
```

*** ISCST3 - VERSION 95250 *** *** CSSA Isoprpyl Alcohol *** *** 12/05/95 22:03:09 PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.16819E+00	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Isoprpyl Alcohol                                    ***        12/05/95
                                   ***                                                          ***        22:03:09
                                                                                                           PAGE   3

**MODELOPTs: CONC                        RURAL  FLAT         DFAULT


                                    *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                             SOURCE IDs


 ALL       EPN1     ,
```

*** ISCST3 - VERSION 95250 *** *** CSSA Isoprpyl Alcohol *** *** 12/05/95 22:03:09 PAGE 4

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

*** ISCST3 - VERSION 95250 *** *** CSSA Isoprpyl Alcohol *** *** 12/05/95 22:03:09 PAGE 17

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF IPA IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
535568.00	3283061.75	0.72248 residauce	535463.94	3283071.00	0.96987 church
534700.00	3283400.00	0.20449	534700.00	3283500.00	0.19773
534700.00	3283600.00	0.15629	534700.00	3283700.00	0.20051
534700.00	3283800.00	0.19612	534700.00	3283900.00	0.17804
534700.00	3284000.00	0.16587	534700.00	3284100.00	0.15378
534800.00	3283100.00	0.20130	534800.00	3283200.00	0.20804
534800.00	3283300.00	0.21679	534800.00	3283400.00	0.23559
534800.00	3283500.00	0.24111	534800.00	3283600.00	0.19047
534800.00	3283700.00	0.22864	534800.00	3283800.00	0.22929
534800.00	3283900.00	0.21386	534800.00	3284000.00	0.18607
534800.00	3284100.00	0.18679	534900.00	3283100.00	0.24895
534900.00	3283200.00	0.24455	534900.00	3283300.00	0.25966
534900.00	3283400.00	0.26430	534900.00	3283500.00	0.28382
534900.00	3283600.00	0.24040	534900.00	3283700.00	0.26501
534900.00	3283800.00	0.27503	534900.00	3283900.00	0.26372
534900.00	3284000.00	0.21383	534900.00	3284100.00	0.21923
534900.00	3284200.00	0.26166	534900.00	3284300.00	0.24550
535000.00	3282900.00	0.23922	535000.00	3283000.00	0.29357
535000.00	3283100.00	0.33195	535000.00	3283200.00	0.30060
535000.00	3283300.00	0.30138	535000.00	3283400.00	0.32067
535000.00	3283500.00	0.35562	535000.00	3283600.00	0.32011
535000.00	3283700.00	0.31143	535000.00	3283800.00	0.33897
535000.00	3283900.00	0.32303	535000.00	3284000.00	0.27033
535000.00	3284100.00	0.29697	535000.00	3284200.00	0.29769
535000.00	3284300.00	0.35827	535000.00	3284400.00	0.36501
535100.00	3282900.00	0.37864	535100.00	3283000.00	0.31313
535100.00	3283100.00	0.35766	535100.00	3283200.00	0.41602
535100.00	3283300.00	0.38032	535100.00	3283400.00	0.39744
535100.00	3283500.00	0.42691	535100.00	3283600.00	0.44957
535100.00	3283700.00	0.37581	535100.00	3283800.00	0.43301
535100.00	3283900.00	0.38668	535100.00	3284000.00	0.35589
535100.00	3284100.00	0.41065	535100.00	3284200.00	0.42395
535100.00	3284300.00	0.45828	535100.00	3284400.00	0.57837
535100.00	3284500.00	0.51533	535200.00	3282900.00	0.48742
535200.00	3283000.00	0.51988	535200.00	3283100.00	0.44044
535200.00	3283200.00	0.45424	535200.00	3283300.00	0.55024
535200.00	3283400.00	0.50912	535200.00	3283500.00	0.55482
535200.00	3283600.00	0.61280	535200.00	3283700.00	0.48229
535200.00	3283725.00	0.56535	535200.00	3283750.00	0.62000
535200.00	3283775.00	0.60288	535200.00	3283800.00	0.57468

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF IPA IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	23.07366 AT (	535649.19,	3283825.00,	0.00,	0.00)	DC	NA
	2ND HIGHEST VALUE IS	20.76757 AT (	535649.63,	3283850.00,	0.00,	0.00)	DC	NA
	3RD HIGHEST VALUE IS	17.46726 AT (	535648.06,	3283750.00,	0.00,	0.00)	DC	NA
	4TH HIGHEST VALUE IS	17.29105 AT (	535648.88,	3283800.00,	0.00,	0.00)	DC	NA
	5TH HIGHEST VALUE IS	16.39671 AT (	535650.00,	3283875.00,	0.00,	0.00)	DC	NA
	6TH HIGHEST VALUE IS	15.86055 AT (	535648.44,	3283775.00,	0.00,	0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

ISC3ST Modeling Printout for Mineral Spririts

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 *** ISCST3 - VERSION 95250 ***     *** CSSA Mineral Spirits Emissions                                    ***        12/05/95
                                    ***                                                                   ***        09:52:42
                                                                                                                     PAGE   1
**MODELOPTs: CONC                              RURAL  FLAT          DFAULT

                                                ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    4 Source(s);      1 Source Group(s); and    859 Receptor(s)

**The Model Assumes A Pollutant Type of:  MINERALS

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     7.00 ;    Decay Coef. =   0.0000     ;    Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                    ission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3
```

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.35584E-01	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	
EPN2	0	0.42711E-01	535697.3	3283746.5	0.0	2.58	0.00	0.00	1.00	YES	
EPN3	0	0.35584E-01	535714.8	3283736.5	0.0	5.25	0.00	0.00	1.00	YES	
EPN5	0	0.28047E-02	535723.7	3283813.0	0.0	1.07	0.00	0.00	1.00	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
***,	EPN1 , EPN2 , EPN3 , EPN5 ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	3.7,	12.6,	0	18	3.7,	10.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	3.7,	12.6,	0	36	3.7,	10.4,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN1 , EPN2 , EPN3 , EPN5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF MINERALS IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
535568.00	3283061.75	90.77108	(88050404)	535463.94	3283071.00	73.66658	(88040706)
534700.00	3283400.00	33.21818	(88101607)	534700.00	3283500.00	33.00002	(88061023)
534700.00	3283600.00	30.06089	(88042801)	534700.00	3283700.00	34.75286	(88062622)
534700.00	3283800.00	49.14854	(88022420)	534700.00	3283900.00	54.81701	(88051221)
534700.00	3284000.00	55.42699	(88052603)	534700.00	3284100.00	33.47391	(88072304)
534800.00	3283100.00	33.08551	(88082604)	534800.00	3283200.00	26.00818	(88042807)
534800.00	3283300.00	30.26298	(88120223)	534800.00	3283400.00	38.89089	(88022921)
534800.00	3283500.00	39.82093	(88043003)	534800.00	3283600.00	40.83579	(88042801)
534800.00	3283700.00	40.21238	(88051101)	534800.00	3283800.00	60.02816	(88022420)
534800.00	3283900.00	63.02319	(88051221)	534800.00	3284000.00	50.72742	(88052603)
534800.00	3284100.00	40.35016	(88091306)	534900.00	3283100.00	36.46425	(88100904)
534900.00	3283200.00	38.19760	(88010307)	534900.00	3283300.00	35.14062	(88120223)
534900.00	3283400.00	43.39125	(88040822)	534900.00	3283500.00	39.21085	(88043003)
534900.00	3283600.00	47.17256	(88052505)	534900.00	3283700.00	48.18670	(88051101)
534900.00	3283800.00	72.70029	(88022420)	534900.00	3283900.00	72.22581	(88022421)
534900.00	3284000.00	40.87219	(88101401)	534900.00	3284100.00	36.35059	(88010820)
534900.00	3284200.00	64.98751	(88012124)	534900.00	3284300.00	30.18054	(88070921)
535000.00	3282900.00	33.18600	(88080121)	535000.00	3283000.00	33.85133	(88081001)
535000.00	3283100.00	37.47549	(88051006)	535000.00	3283200.00	40.36439	(88100904)
535000.00	3283300.00	40.20068	(88010307)	535000.00	3283400.00	41.56544	(88120223)
535000.00	3283500.00	51.65842	(88101607)	535000.00	3283600.00	54.10086	(88052601)
535000.00	3283700.00	55.75591	(88051101)	535000.00	3283800.00	84.68189	(88022420)
535000.00	3283900.00	76.41203	(88022421)	535000.00	3284000.00	53.79530	(88072304)
535000.00	3284100.00	41.51168	(88101606)	535000.00	3284200.00	47.70029	(88022823)
535000.00	3284300.00	68.76683	(88050103)	535000.00	3284400.00	41.78130	(88080323)
535100.00	3282900.00	34.75026	(88120601)	535100.00	3283000.00	34.19202	(88080121)
535100.00	3283100.00	38.24722	(88081001)	535100.00	3283200.00	47.43526	(88051006)
535100.00	3283300.00	49.73071	(88082604)	535100.00	3283400.00	41.72705	(88010823)
535100.00	3283500.00	51.45502	(88040822)	535100.00	3283600.00	58.51030	(88061023)
535100.00	3283700.00	63.22114	(88051101)	535100.00	3283800.00	95.67802	(88022420)
535100.00	3283900.00	99.49491	(88052603)	535100.00	3284000.00	62.56351	(88010820)
535100.00	3284100.00	80.48435	(88012124)	535100.00	3284200.00	71.52707	(88050103)
535100.00	3284300.00	50.99095	(88081504)	535100.00	3284400.00	69.97911	(88051223)
535100.00	3284500.00	54.30759	(88042102)	535200.00	3282900.00	47.53455	(88012208)
535200.00	3283000.00	47.96198	(88012208)	535200.00	3283100.00	46.85695	(88021908)
535200.00	3283200.00	45.89937	(88012703)	535200.00	3283300.00	58.53865	(88051006)
535200.00	3283400.00	64.03769	(88040821)	535200.00	3283500.00	60.28512	(88060501)
535200.00	3283600.00	72.63518	(88043003)	535200.00	3283700.00	77.05978	(88102105)
535200.00	3283725.00	76.16399	(88062622)	535200.00	3283750.00	62.65594	(88011022)
535200.00	3283775.00	111.67360	(88022420)	535200.00	3283800.00	98.76196	(88022420)

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF MINERALS IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
HIGH 1ST HIGH VALUE IS	629.25464	ON 88012124:	AT (535648.44, 3283775.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 865 Informational Message(s)

. tal of 865 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

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 *** ISCST3 - VERSION 95250 ***    *** CSSA Mineral Spirits Emissions                                  ***        12/05/95
                                   ***                                                                 ***        22:01:56
                                                                                                                  PAGE   1
**MODELOPTs: CONC                        RURAL  FLAT          DFAULT

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  -- SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
          1. Final Plume Rise.
          2. Stack-tip Downwash.
          3. Buoyancy-induced Dispersion.
          4. Use Calms Processing Routine.
          5. Not Use Missing Data Processing Routine.
          6. Default Wind Profile Exponents.
          7. Default Vertical Potential Temperature Gradients.
          8. "Upper Bound" Values for Supersquat Buildings.
          9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

    Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    4 Source(s);      1 Source Group(s); and    859 Receptor(s)

**The Model Assumes A Pollutant Type of:  MINERALS

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
        Model Outputs Tables of PERIOD Averages by Receptor
        Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
        Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
        Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     7.00 ;    Decay Coef. =   0.0000     ;    Rot. Angle =     0.0
                 Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = MICROGRAMS/M**3
```

*** ISCST3 - VERSION 95250 *** *** CSSA Mineral Spirits Emissions *** *** 12/05/95 22:01:56 PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.10071E+00	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	
EPN2	0	0.12088E+00	535697.3	3283746.5	0.0	2.58	0.00	0.00	1.00	YES	
EPN3	0	0.10071E+00	535714.8	3283736.5	0.0	5.25	0.00	0.00	1.00	YES	
EPN5	0	0.79380E-02	535723.7	3283813.0	0.0	1.07	0.00	0.00	1.00	YES	

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 *** ISCST3 - VERSION 95250 ***    *** CSSA Mineral Spirits Emissions                    ***      12/05/95
                                   ***                                                   ***      22:01:56
                                                                                                  PAGE  3

**MODELOPTs: CONC                          RURAL  FLAT          DFAULT


                                      *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                SOURCE IDs


 ALL       EPN1    , EPN2    , EPN3    , EPN5    ,
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*** ISCST3 - VERSION 95250 *** *** CSSA Mineral Spirits Emissions *** 12/05/95
*** *** 22:01:56
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**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	3.7,	12.6,	0	18	3.7,	10.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	3.7,	12.6,	0	36	3.7,	10.4,	0

*** ISCST3 - VERSION 95250 *** *** CSSA Mineral Spirits Emissions *** *** 12/05/95
*** *** 22:01:56
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**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN1 , EPN2 , EPN3 , EPN5 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF MINERALS IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
535568.00	3283061.75	1.45516 residence	535463.94	3283071.00	1.95960 church
534700.00	3283400.00	0.39395	534700.00	3283500.00	0.36354
534700.00	3283600.00	0.29836	534700.00	3283700.00	0.39581
534700.00	3283800.00	0.37563	534700.00	3283900.00	0.35670
534700.00	3284000.00	0.31148	534700.00	3284100.00	0.30255
534800.00	3283100.00	0.39247	534800.00	3283200.00	0.41023
534800.00	3283300.00	0.42185	534800.00	3283400.00	0.46420
534800.00	3283500.00	0.45641	534800.00	3283600.00	0.35731
534800.00	3283700.00	0.45782	534800.00	3283800.00	0.43722
534800.00	3283900.00	0.42525	534800.00	3284000.00	0.35525
534800.00	3284100.00	0.35948	534900.00	3283100.00	0.47626
534900.00	3283200.00	0.47695	534900.00	3283300.00	0.50337
534900.00	3283400.00	0.52716	534900.00	3283500.00	0.55123
534900.00	3283600.00	0.44729	534900.00	3283700.00	0.54141
534900.00	3283800.00	0.52059	534900.00	3283900.00	0.50300
534900.00	3284000.00	0.41654	534900.00	3284100.00	0.43069
534900.00	3284200.00	0.50000	534900.00	3284300.00	0.48902
535000.00	3282900.00	0.47456	535000.00	3283000.00	0.59833
535000.00	3283100.00	0.63181	535000.00	3283200.00	0.57736
535000.00	3283300.00	0.59157	535000.00	3283400.00	0.62306
535000.00	3283500.00	0.68422	535000.00	3283600.00	0.58583
535000.00	3283700.00	0.65407	535000.00	3283800.00	0.63554
535000.00	3283900.00	0.58955	535000.00	3284000.00	0.53021
535000.00	3284100.00	0.59935	535000.00	3284200.00	0.57419
535000.00	3284300.00	0.70103	535000.00	3284400.00	0.71755
535100.00	3282900.00	0.70143	535100.00	3283000.00	0.60126
535100.00	3283100.00	0.73779	535100.00	3283200.00	0.78668
535100.00	3283300.00	0.73522	535100.00	3283400.00	0.78089
535100.00	3283500.00	0.85249	535100.00	3283600.00	0.81134
535100.00	3283700.00	0.81208	535100.00	3283800.00	0.80356
535100.00	3283900.00	0.70461	535100.00	3284000.00	0.68395
535100.00	3284100.00	0.76884	535100.00	3284200.00	0.85408
535100.00	3284300.00	0.89470	535100.00	3284400.00	1.11986
535100.00	3284500.00	0.98017	535200.00	3282900.00	0.96538
535200.00	3283000.00	0.97818	535200.00	3283100.00	0.81181
535200.00	3283200.00	0.94394	535200.00	3283300.00	1.03256
535200.00	3283400.00	0.99087	535200.00	3283500.00	1.07827
535200.00	3283600.00	1.15949	535200.00	3283700.00	1.04428
535200.00	3283725.00	1.15068	535200.00	3283750.00	1.16157
535200.00	3283775.00	1.11898	535200.00	3283800.00	1.06300

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Mineral Spirits Emissions                          ***        12/05/95
                                   ***                                                         ***        22:01:56
                                                                                                          PAGE  40

**MODELOPTs: CONC                        RURAL  FLAT         DFAULT

                                          *** THE SUMMARY OF MAXIMUM PERIOD (  8760 HRS) RESULTS ***


                                       ** CONC OF MINERALS IN MICROGRAMS/M**3                        **

                                                                                                 NETWORK
   JP ID                     AVERAGE CONC              RECEPTOR  (XR, YR, ZELEV, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      1ST HIGHEST VALUE IS      38.19588 AT (  535649.19,  3283825.00,      0.00,      0.00)  DC      NA
         2ND HIGHEST VALUE IS      35.77192 AT (  535648.88,  3283800.00,      0.00,      0.00)  DC      NA
         3RD HIGHEST VALUE IS      32.60417 AT (  535649.63,  3283850.00,      0.00,      0.00)  DC      NA
         4TH HIGHEST VALUE IS      28.74578 AT (  535648.06,  3283750.00,      0.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS      28.72868 AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA
         6TH HIGHEST VALUE IS      27.56001 AT (  535647.69,  3283725.00,      0.00,      0.00)  DC      NA


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

ISC3ST Modeling Printout for Stoddard Solvent

*MODELOPTs: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

*Intermediate Terrain Processing is Selected

*Model Is Setup For Calculation of Average CONCentration Values.

-- SCAVENGING/DEPOSITION LOGIC --
*Model Uses NO DRY DEPLETION. DDPLETE = F
*Model Uses NO WET DEPLETION. WDPLETE = F
*NO WET SCAVENGING Data Provided.
*Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

*Model Uses RURAL Dispersion.

*Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

*Model Assumes Receptors on FLAT Terrain.

*Model Assumes No FLAGPOLE Receptor Heights.

*Model Calculates 1 Short Term Average(s) of: 1-HR
and Calculates PERIOD Averages

*This Run Includes: 1 Source(s); 1 Source Group(s); and 859 Receptor(s)

*The Model Assumes A Pollutant Type of: STODDARD

*Model Set To Continue RUNning After the Setup Testing.

*Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

*NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

*Misc. Inputs: Anem. Hgt. (m) = 7.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

*MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN4	0	0.34232E-01	535697.2	3283763.0	0.0	5.27	0.00	0.00	1.00	YES	

*MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	EPN4 ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

*MODELOPTs: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF STODDARD IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
535568.00	3283061.75	26.50455	(88040707)	535463.94	3283071.00	25.14339	(88040706)
534700.00	3283400.00	10.93495	(88101607)	534700.00	3283500.00	11.29001	(88061023)
534700.00	3283600.00	10.97361	(88042801)	534700.00	3283700.00	11.63758	(88051101)
534700.00	3283800.00	11.84429	(88011022)	534700.00	3283900.00	14.89963	(88051221)
534700.00	3284000.00	16.37386	(88052603)	534700.00	3284100.00	8.92462	(88072304)
534800.00	3283100.00	9.96010	(88082604)	534800.00	3283200.00	8.20973	(88042403)
534800.00	3283300.00	11.00956	(88120223)	534800.00	3283400.00	10.89786	(88022921)
534800.00	3283500.00	12.75707	(88043003)	534800.00	3283600.00	13.22208	(88042801)
534800.00	3283700.00	13.60092	(88051101)	534800.00	3283800.00	14.96199	(88022420)
534800.00	3283900.00	19.92519	(88051221)	534800.00	3284000.00	18.17761	(88052603)
534800.00	3284100.00	12.26551	(88091306)	534900.00	3283100.00	10.53753	(88100904)
534900.00	3283200.00	12.14252	(88040821)	534900.00	3283300.00	9.85177	(88010823)
534900.00	3283400.00	13.70420	(88040822)	534900.00	3283500.00	10.52230	(88101607)
534900.00	3283600.00	15.14122	(88052601)	534900.00	3283700.00	15.35932	(88051101)
534900.00	3283800.00	19.44106	(88022420)	534900.00	3283900.00	21.95661	(88051221)
534900.00	3284000.00	14.53146	(88101401)	534900.00	3284100.00	12.98343	(88010820)
534900.00	3284200.00	19.94790	(88012124)	534900.00	3284300.00	9.34914	(88070921)
535000.00	3282900.00	8.95666	(88080121)	535000.00	3283000.00	8.87808	(88012703)
535000.00	3283100.00	12.16994	(88030604)	535000.00	3283200.00	13.65643	(88100904)
535000.00	3283300.00	14.64572	(88010307)	535000.00	3283400.00	15.74404	(88120223)
535000.00	3283500.00	16.84612	(88022921)	535000.00	3283600.00	15.50715	(88052601)
535000.00	3283700.00	17.12679	(88102105)	535000.00	3283800.00	25.15723	(88022420)
535000.00	3283900.00	27.14606	(88022421)	535000.00	3284000.00	14.68442	(88072304)
535000.00	3284100.00	12.31550	(88072506)	535000.00	3284200.00	15.25087	(88022823)
535000.00	3284300.00	20.61227	(88050103)	535000.00	3284400.00	12.50133	(88081504)
535100.00	3282900.00	10.48758	(88091506)	535100.00	3283000.00	10.82371	(88021908)
535100.00	3283100.00	12.20674	(88012703)	535100.00	3283200.00	14.51264	(88030604)
535100.00	3283300.00	14.47168	(88100904)	535100.00	3283400.00	13.75479	(88042807)
535100.00	3283500.00	20.07419	(88040822)	535100.00	3283600.00	21.40268	(88061023)
535100.00	3283700.00	22.38715	(88102105)	535100.00	3283800.00	33.02239	(88022420)
535100.00	3283900.00	29.03192	(88052603)	535100.00	3284000.00	20.31506	(88010820)
535100.00	3284100.00	27.86835	(88012124)	535100.00	3284200.00	18.03999	(88050103)
535100.00	3284300.00	15.74136	(88081504)	535100.00	3284400.00	21.14559	(88051223)
535100.00	3284500.00	16.97972	(88042102)	535200.00	3282900.00	11.89237	(88011404)
535200.00	3283000.00	17.47640	(88012208)	535200.00	3283100.00	15.09190	(88021908)
535200.00	3283200.00	16.78942	(88012703)	535200.00	3283300.00	17.38202	(88051006)
535200.00	3283400.00	21.67082	(88082604)	535200.00	3283500.00	24.22052	(88120223)
535200.00	3283600.00	18.91591	(88101607)	535200.00	3283700.00	24.11237	(88102105)
535200.00	3283725.00	27.65772	(88051101)	535200.00	3283750.00	27.43627	(88062622)
535200.00	3283775.00	27.09847	(88011022)	535200.00	3283800.00	41.78147	(88022420)

*MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF STODDARD IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	291.09744	ON 88052603:	AT (535648.44, 3283775.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 865 Informational Message(s)

A Total of 865 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Stoddard Solvent Emissions                       ***        12/05/95
                                   ***                                                       ***        22:00:59
                                                                                                        PAGE   1
**MODELOPTs: CONC                          RURAL  FLAT         DFAULT

                                           ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    1 Source(s);      1 Source Group(s); and    859 Receptor(s)

**The Model Assumes A Pollutant Type of:  STODDARD

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
          Model Outputs Tables of PERIOD Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
          Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

 **NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                 m for Missing Hours
                                                                 b for Both Calm and Missing Hours

 **Misc. Inputs:  Anem. Hgt. (m) =     7.00 ;    Decay Coef. =   0.0000     ;   Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;  Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3
```

*** ISCST3 - VERSION 95250 *** *** CSSA Stoddard Solvent Emissions *** *** 12/05/95 *** 22:00:59 PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN4	0	0.11043E+00	535697.2	3283763.0	0.0	5.27	0.00	0.00	1.00	YES	

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Stoddard Solvent Emissions                    ***        12/05/95
                                   ***                                                    ***        22:00:59
                                                                                                     PAGE   3

**MODELOPTs: CONC                        RURAL  FLAT          DFAULT


                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                SOURCE IDs


 ALL       EPN4     ,
```

*** ISCST3 - VERSION 95250 *** *** CSSA Stoddard Solvent Emissions *** *** 12/05/95 22:00:59 PAGE 4

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

*** ISCST3 - VERSION 95250 *** *** CSSA Stoddard Solvent Emissions *** 12/05/95
*** *** 22:00:59
PAGE 17

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): EPN4 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF STODDARD IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
535568.00	3283061.75	0.46649	535463.94	3283071.00	0.62189
534700.00	3283400.00	0.13240	534700.00	3283500.00	0.12612
534700.00	3283600.00	0.10005	534700.00	3283700.00	0.13157
534700.00	3283800.00	0.12626	534700.00	3283900.00	0.11624
534700.00	3284000.00	0.10572	534700.00	3284100.00	0.10041
534800.00	3283100.00	0.13046	534800.00	3283200.00	0.13525
534800.00	3283300.00	0.14036	534800.00	3283400.00	0.15387
534800.00	3283500.00	0.15579	534800.00	3283600.00	0.12159
534800.00	3283700.00	0.15094	534800.00	3283800.00	0.14732
534800.00	3283900.00	0.13973	534800.00	3284000.00	0.11935
534800.00	3284100.00	0.12102	534900.00	3283100.00	0.16012
534900.00	3283200.00	0.15830	534900.00	3283300.00	0.16738
534900.00	3283400.00	0.17231	534900.00	3283500.00	0.18340
534900.00	3283600.00	0.15323	534900.00	3283700.00	0.17622
534900.00	3283800.00	0.17618	534900.00	3283900.00	0.17060
534900.00	3284000.00	0.13821	534900.00	3284100.00	0.14216
534900.00	3284200.00	0.16870	534900.00	3284300.00	0.16053
535000.00	3282900.00	0.15499	535000.00	3283000.00	0.19259
535000.00	3283100.00	0.21336	535000.00	3283200.00	0.19315
535000.00	3283300.00	0.19492	535000.00	3283400.00	0.20692
535000.00	3283500.00	0.22917	535000.00	3283600.00	0.20165
535000.00	3283700.00	0.20858	535000.00	3283800.00	0.21625
535000.00	3283900.00	0.20472	535000.00	3284000.00	0.17595
535000.00	3284100.00	0.19585	535000.00	3284200.00	0.19158
535000.00	3284300.00	0.23358	535000.00	3284400.00	0.23748
535100.00	3282900.00	0.24236	535100.00	3283000.00	0.20075
535100.00	3283100.00	0.23494	535100.00	3283200.00	0.26637
535100.00	3283300.00	0.24430	535100.00	3283400.00	0.25746
535100.00	3283500.00	0.27801	535100.00	3283600.00	0.28464
535100.00	3283700.00	0.25169	535100.00	3283800.00	0.27434
535100.00	3283900.00	0.24190	535100.00	3284000.00	0.22876
535100.00	3284100.00	0.26224	535100.00	3284200.00	0.27878
535100.00	3284300.00	0.29668	535100.00	3284400.00	0.37587
535100.00	3284500.00	0.32982	535200.00	3282900.00	0.31432
535200.00	3283000.00	0.33323	535200.00	3283100.00	0.27945
535200.00	3283200.00	0.29837	535200.00	3283300.00	0.35063
535200.00	3283400.00	0.32697	535200.00	3283500.00	0.35609
535200.00	3283600.00	0.39170	535200.00	3283700.00	0.31622
535200.00	3283725.00	0.37577	535200.00	3283750.00	0.39512
535200.00	3283775.00	0.38058	535200.00	3283800.00	0.36054

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF STODDARD IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG) OF TYPE					NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	13.01834 AT (	535649.19,	3283825.00,	0.00,	0.00)	DC	NA
	2ND HIGHEST VALUE IS	11.39287 AT (	535649.63,	3283850.00,	0.00,	0.00)	DC	NA
	3RD HIGHEST VALUE IS	10.32682 AT (	535648.88,	3283800.00,	0.00,	0.00)	DC	NA
	4TH HIGHEST VALUE IS	9.22124 AT (	535650.00,	3283875.00,	0.00,	0.00)	DC	NA
	5TH HIGHEST VALUE IS	8.93102 AT (	535648.06,	3283750.00,	0.00,	0.00)	DC	NA
	6TH HIGHEST VALUE IS	8.11104 AT (	535647.69,	3283725.00,	0.00,	0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

ISC3ST Modeling Printout for Chemical Flexibility (EPN 1-5)

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                              ***        12/05/95
                                   ***                                                               ***        10:40:12
                                                                                                                PAGE   1
**MODELOPTs: CONC                            RURAL  FLAT        DFAULT

                                             ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
   and Calculates PERIOD Averages

**This Run Includes:    5 Source(s);      1 Source Group(s); and    859 Receptor(s)

**The Model Assumes A Pollutant Type of:  VOC

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs[illegible]em. Hgt. (m) =     7.00 ;   Decay Coef. =   0.0000     ;    Rot. [illegible]e =     0.0
              [illegible]ission Units = GRAMS/SEC                            ;  Emissi[illegible]e Unit Factor =   0.10000E+07
               Output Units    = MICROGRAMS/M**3
```

*** ISCST3 - VERSION 95250 *** *** CSSA Generic VOC *** *** 12/05/95 *** 10:40:12 PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.12630E+00	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	
EPN2	0	0.12630E+00	535697.3	3283746.5	0.0	2.58	0.00	0.00	1.00	YES	
EPN3	0	0.12630E+00	535714.8	3283736.5	0.0	5.25	0.00	0.00	1.00	YES	
EPN4	0	0.12630E+00	535697.2	3283763.0	0.0	5.27	0.00	0.00	1.00	YES	
EPN5	0	0.12630E+00	535723.7	3283813.0	0.0	5.27	0.00	0.00	1.00	YES	

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                    ***        12/05/95
                                   ***                                                     ***        10:40:12
                                                                                                      PAGE   3

**MODELOPTs: CONC                        RURAL  FLAT          DFAULT


                                          *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                                 SOURCE IDs


 GROUP1    EPN1    ,
```

*** ISCST3 - VERSION 95250 *** *** CSSA Generic VOC *** *** 12/05/95 10:40:12 PAGE 4

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

*** ISCST3 - VERSION 95250 *** *** CSSA Generic VOC *** 12/05/95
*** *** 10:40:12
PAGE 41

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF VOC IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
GROUP1	1ST HIGHEST VALUE IS	17.32717 AT (	535649.19,	3283825.00,	0.00,	0.00)	DC	NA
	2ND HIGHEST VALUE IS	15.59544 AT (	535649.63,	3283850.00,	0.00,	0.00)	DC	NA
	3RD HIGHEST VALUE IS	13.11704 AT (	535648.06,	3283750.00,	0.00,	0.00)	DC	NA
	4TH HIGHEST VALUE IS	12.98471 AT (	535648.88,	3283800.00,	0.00,	0.00)	DC	NA
	5TH HIGHEST VALUE IS	12.31311 AT (	535650.00,	3283875.00,	0.00,	0.00)	DC	NA
	6TH HIGHEST VALUE IS	11.91050 AT (	535648.44,	3283775.00,	0.00,	0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                           ***        12/05/95
                                   ***                                                            ***        10:40:12
                                                                                                             PAGE  42
**MODELOPTs: CONC                               RURAL  FLAT          DFAULT

                                         *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***

                                   ** CONC OF VOC      IN MICROGRAMS/M**3                          **

                                                      DATE                                                     NETWORK
GROUP ID                              AVERAGE CONC    (YYMMDDHH)          RECEPTOR  (XR, YR, ZELEV, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GROUP1   HIGH  1ST HIGH VALUE IS    1249.55493  ON 88042921: AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA

 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                           ***        12/05/95
                                   ***                                                            ***        10:30:07
                                                                                                             PAGE   1
'*MODELOPTs: CONC                                RURAL  FLAT          DFAULT

                                            ***      MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

'*Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
           1. Final Plume Rise.
           2. Stack-tip Downwash.
           3. Buoyancy-induced Dispersion.
           4. Use Calms Processing Routine.
           5. Not Use Missing Data Processing Routine.
           6. Default Wind Profile Exponents.
           7. Default Vertical Potential Temperature Gradients.
           8. "Upper Bound" Values for Supersquat Buildings.
           9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    5 Source(s);      4 Source Group(s); and    859 Receptor(s)

**The Model Assumes A Pollutant Type of:  VOC

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
         Model Outputs Tables of PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                                m for Missing Hours
                                                                b for Both Calm and Missing Hours

**Misc. Inputs    nem. Hgt. (m) =     7.00 ;   Decay Coef. =    0.0000     ;   Rot.    le =     0.0
                  ission Units = GRAMS/SEC                                ;  Emissi    e Unit Factor =    0.10000E+07
                  Output Units    = MICROGRAMS/M**3
```

*** ISCST3 - VERSION 95250 *** *** CSSA Generic VOC *** *** 12/05/95
*** 10:30:07
PAGE 2

**MODELOPTs: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
EPN1	0	0.12630E+00	535697.4	3283769.0	0.0	3.51	0.00	0.00	1.00	YES	
EPN2	0	0.12630E+00	535697.3	3283746.5	0.0	2.58	0.00	0.00	1.00	YES	
EPN3	0	0.12630E+00	535714.8	3283736.5	0.0	5.25	0.00	0.00	1.00	YES	
EPN4	0	0.12630E+00	535697.2	3283763.0	0.0	5.27	0.00	0.00	1.00	YES	
EPN5	0	0.12630E+00	535723.7	3283813.0	0.0	1.07	0.00	0.00	1.00	YES	

```
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Printed 09:32 08 Dec 95

*** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                    ***    12/05/95
                                  ***                                                     ***    10:30:07
                                                                                                 PAGE   3

**MODELOPTs: CONC                       RURAL  FLAT          DFAULT


                                   *** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID                                          SOURCE IDs


 GROUP2    EPN2    ,

 GROUP3    EPN3    ,

 GROUP4    EPN4    ,

 GROUP5    EPN5    ,
```

*** ISCST3 - VERSION 95250 *** *** CSSA Generic VOC *** *** 12/05/95 10:30:07 PAGE 4

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: EPN1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

SOURCE ID: EPN4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	5.2,	43.7,	0	18	5.2,	23.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	5.2,	43.7,	0	36	5.2,	23.4,	0

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 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                          ***        12/05/95
                                   ***                                                           ***        10:30:07
                                                                                                            PAGE   5
**MODELOPTs: CONC                        RURAL  FLAT          DFAULT

                                         *** DIRECTION SPECIFIC BUILDING DIMENSIONS ***
```

SOURCE ID: EPN5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	5.2,	47.9,	0	2	5.2,	72.8,	0	3	5.2,	95.4,	0	4	5.2,	115.2,	0	5	5.2,	131.4,	0	6	5.2,	143.7,	0
7	5.2,	151.6,	0	8	5.2,	154.8,	0	9	5.2,	154.0,	0	10	5.2,	154.6,	0	11	5.2,	150.6,	0	12	5.2,	141.9,	0
13	5.2,	129.0,	0	14	5.2,	112.2,	0	15	5.2,	91.9,	0	16	5.2,	68.8,	0	17	3.7,	12.6,	0	18	3.7,	10.4,	0
19	5.2,	47.9,	0	20	5.2,	72.8,	0	21	5.2,	95.4,	0	22	5.2,	115.2,	0	23	5.2,	131.4,	0	24	5.2,	143.7,	0
25	5.2,	151.6,	0	26	5.2,	154.8,	0	27	5.2,	154.0,	0	28	5.2,	154.6,	0	29	5.2,	150.6,	0	30	5.2,	141.9,	0
31	5.2,	129.0,	0	32	5.2,	112.2,	0	33	5.2,	91.9,	0	34	5.2,	68.8,	0	35	3.7,	12.6,	0	36	3.7,	10.4,	0

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 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                          ***      12/05/95
                                   ***                                                           ***      10:30:07
                                                                                                          PAGE 110
**MODELOPTs: CONC                        RURAL  FLAT          DFAULT

                                          *** THE SUMMARY OF MAXIMUM PERIOD (  8760 HRS) RESULTS ***


                                       ** CONC OF VOC      IN MICROGRAMS/M**3                      **

                                                                                                   NETWORK
GROUP ID                      AVERAGE CONC              RECEPTOR  (XR, YR, ZELEV, ZFLAG)   OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GROUP2   1ST HIGHEST VALUE IS      18.17658 AT (  535648.88,  3283800.00,      0.00,      0.00)  DC      NA
         2ND HIGHEST VALUE IS      16.66419 AT (  535649.19,  3283825.00,      0.00,      0.00)  DC      NA
         3RD HIGHEST VALUE IS      13.80735 AT (  535647.69,  3283725.00,      0.00,      0.00)  DC      NA
         4TH HIGHEST VALUE IS      13.50429 AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS      13.26797 AT (  535648.06,  3283750.00,      0.00,      0.00)  DC      NA
         6TH HIGHEST VALUE IS      13.06769 AT (  535649.63,  3283850.00,      0.00,      0.00)  DC      NA

GROUP3   1ST HIGHEST VALUE IS       9.98769 AT (  535649.19,  3283825.00,      0.00,      0.00)  DC      NA
         2ND HIGHEST VALUE IS       9.47445 AT (  535648.88,  3283800.00,      0.00,      0.00)  DC      NA
         3RD HIGHEST VALUE IS       8.99253 AT (  535649.63,  3283850.00,      0.00,      0.00)  DC      NA
         4TH HIGHEST VALUE IS       7.54235 AT (  535650.00,  3283875.00,      0.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS       7.28489 AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA
         6TH HIGHEST VALUE IS       7.02202 AT (  535647.31,  3283700.00,      0.00,      0.00)  DC      NA

GROUP4   1ST HIGHEST VALUE IS      14.88975 AT (  535649.19,  3283825.00,      0.00,      0.00)  DC      NA
         2ND HIGHEST VALUE IS      13.03064 AT (  535649.63,  3283850.00,      0.00,      0.00)  DC      NA
         3RD HIGHEST VALUE IS      11.81131 AT (  535648.88,  3283800.00,      0.00,      0.00)  DC      NA
         4TH HIGHEST VALUE IS      10.54679 AT (  535650.00,  3283875.00,      0.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS      10.21487 AT (  535648.06,  3283750.00,      0.00,      0.00)  DC      NA
         6TH HIGHEST VALUE IS       9.27701 AT (  535647.69,  3283725.00,      0.00,      0.00)  DC      NA

GROUP5   1ST HIGHEST VALUE IS      10.59388 AT (  535650.00,  3283900.00,      0.00,      0.00)  DC      NA
         2ND HIGHEST VALUE IS       9.90167 AT (  535650.00,  3283925.00,      0.00,      0.00)  DC      NA
         3RD HIGHEST VALUE IS       9.22966 AT (  535650.00,  3283875.00,      0.00,      0.00)  DC      NA
         4TH HIGHEST VALUE IS       8.30712 AT (  535650.00,  3283950.00,      0.00,      0.00)  DC      NA
         5TH HIGHEST VALUE IS       7.92288 AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA
         6TH HIGHEST VALUE IS       7.81957 AT (  535649.63,  3283850.00,      0.00,      0.00)  DC      NA


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                          ***       12/05/95
                                   ***                                                           ***       10:30:07
                                                                                                           PAGE 111
**MODELOPTs: CONC                        RURAL  FLAT         DFAULT

                                              *** THE SUMMARY OF HIGHEST  1-HR RESULTS ***

                                        ** CONC OF VOC      IN MICROGRAMS/M**3                      **

                                                   DATE                                                          NETWORK
GROUP ID                          AVERAGE CONC    (YYMMDDHH)            RECEPTOR  (XR, YR, ZELEV, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

GROUP2   HIGH  1ST HIGH VALUE IS    1476.73938  ON 88022420: AT (  535648.06,  3283750.00,      0.00,      0.00)  DC      NA

GROUP3   HIGH  1ST HIGH VALUE IS     868.71552  ON 88022421: AT (  535648.06,  3283750.00,      0.00,      0.00)  DC      NA

GROUP4   HIGH  1ST HIGH VALUE IS    1074.01294  ON 88052603: AT (  535648.44,  3283775.00,      0.00,      0.00)  DC      NA

GROUP5   HIGH  1ST HIGH VALUE IS    1116.65479  ON 88051221: AT (  535649.19,  3283825.00,      0.00,      0.00)  DC      NA

 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
                      BD = BOUNDARY
```

```
 *** ISCST3 - VERSION 95250 ***    *** CSSA Generic VOC                                    ***        12/05/95
                                   ***                                                     ***        10:30:07
                                                                                                      PAGE 112

**MODELOPTs: CONC                        RURAL  FLAT         DFAULT


*** Message Summary : ISCST3 Model Execution ***

 --------- Summary of Total Messages --------

A Total of           0 Fatal Error Message(s)
A Total of           0 Warning Message(s)
A Total of         865 Informational Message(s)

A Total of         865 Calm Hours Identified


   ******** FATAL ERROR MESSAGES ********
             ***  NONE  ***


   ********   WARNING MESSAGES   ********
             ***  NONE  ***


   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
```