STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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Dirk Kempthorne, Governor
C. Stephen Allred, Director

March 5, 2001

MEMORANDUM

TO: James Johnston, Regional Administrator
Idaho Falls Regional Office

FROM: Jorge Garcia
Air Quality Analyst, IFRO

SUBJECT: **PERMIT TO CONSTRUCT *TECHNICAL ANALYSIS***
P-000535, Simmons' True Value Hardware, Roberts
(Soil Vapor Treatment System)

PURPOSE

The purpose for this memorandum is to set out the legal and technical bases that satisfy the requirements of IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho)* for issuing Permits to Construct (PTC).

PROJECT DESCRIPTION

Rocky Mountain Environmental has submitted a PTC application for the construction of a soil vapor treatment System (SVE) to be used to treat petroleum contaminated soil. The SVE will be constructed at the former Simmons' True Value Hardware site, which is located in the city of Roberts, Idaho.

Rocky Mountain Environmental proposes the use of an electric catalytic oxidizer for the destruction of gaseous waste. The objective of a catalytic incinerator is to destroy organic components of a gas stream at temperatures lower than those required for direct combustion. The organic components to be destroyed are benzene, toluene, ethylbenzene and xylene (BTEX). DEQ has determined that the electric catalytic oxidizer represents reasonable available control technology for toxic air pollutants (T-RACT).

SUMMARY OF EVENTS

On January 31, 2001, DEQ received a PTC application from Rocky Mountain Environmental for the construction of a Soil Vapor treatment System. The application was determined complete on February 26, 2001.

DISCUSSION:

1. Equipment Description

1.1. Catalytic Oxidizer	
1.2. Stack Height (ft):	10.5
1.3. Stack Diameter (ft):	0.83
1.4. Stack Gas Flowrate (scfm):	400
1.5. Stack Temperature (°F):	300
1.6. BTEX Control Efficiency (%)	99

2. Area Classification

The proposed facility is located in Roberts, Idaho. The city of Roberts is located in Jefferson County, which is located in Jefferson County, Air Quality Control Region 61 and Zone 12. The area is designated as an attainment or unclassifiable area for all regulated criteria air pollutants.

3. Facility Classification

The Facility is not a major facility as in IDAPA 58.01.01.006.55 nor is it a designated facility as defined by IDAPA 58.01.01.006.27. The Facility is not subject to federal New source Performance Standards (NSPS) in accordance with 40 CFR Part 60, National Emission Standards for Hazardous Air Pollutants (NESHAP) in accordance with 40 CFR Part 61,or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACT Standards) in accordance with 40 CFR 63. The SIC code for this Facility is 5541 and it is classified as SM.

4. Emission Estimates

4.1. Uncontrolled Mass Emission Rate (E)

Where: E = Concentration x flowrate

Given:

Concentration (C) of benzene from lab results of sample taken during pilot study

C = 320 mg/m^3 at 20 (°C) and 760 torr

E= 320 mg/m^3 x 400 ft^3/min x 1g/1000mg x 1 m^3/35.31 ft^3 x 1min/60sec

E = 0.0604g/sec

Considering 99. % efficiency of the catalytic oxidizer the uncontrolled emission rate will be:

E = 0.0604 g/sec x (1- 0.99) = 0.01 X 0.0604 g/sec = 0.000604g/sec

4.2 Acceptable Ambient Concentration (AAC).

The acceptable ambient Concentration (AAC) for Benzene is: 0.12 µg/m^3 as an annual average. (IDAPA 58.01.01.586)

Actual Ambient Concentration

The actual ambient Concentration © was obtained by modeling the mass emission rate left uncontrolled by the catalytic oxidizer operation. (Appendix A). The hourly concentration obtained using the Screen3 model © is:

© = 1.118 µg/m³ x 0.125 (persistent factor) = 0.1398 µg/m³ which is greater than the acceptable ambient concentration. As a consequence; the regulatory model ISCT3. (Appendix A) was used by DEQ to determine the actual annual concentration.

The model run used real time meteorological data taken approximately at 50 km from the city of Roberts and the UTM coordinates of several receptors around the SVE location.

The highest annual ambient concentration according to ISCT3 is 0.007 µg/m³, lower than the acceptable ambient concentration limit for Benzene therefore:

The allowable emission rate E = 0.05 lb/hour.

5. Modeling Analysis

Please refer to the attached (appendix A) model results obtained by using EPA approved regulatory model Screen3 and ISCST3.

6. Regulatory Review

6.1 IDAPA 58.01.01.201 PTC Required

A PTC is required for this project because it does not meet the exemption requirements specified in IDAPA 58.01.01.220 through .223.

6.2 IDAPA 58.01.01.210 Demonstration of Preconstruction Compliance with Toxic Standards

Compliance with toxic standards has been demonstrated.

6.3 IDAPA 58.01.01.577 Ambient Air Quality Standards for Specific Air Pollutants

Compliance with the NAAQS has been demonstrated.

6.4 Prevention of Significant Deterioration

Not applicable.

6.5 New Source Performance Standards 40 CFR 60

Not applicable.

6.6 National Emission Standards for Hazardous Air Pollutants 40 CFR 61

Not applicable. The concentration of benzene in gasoline is less than 10% by weight; therefore 40 CFR 61, Subpart J - National Emission Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene - does not apply. There are no NESHAP requirements that apply to toluene, ethylbenzene, or xylene for this source type.

6.7 Maximum Achievable Control Technology Standards 40 CFR 63

Not applicable.

7. Permit Requirements

7.1. Catalytic Oxidation System

7.2.1 Benzene Emission Rate Limit

Benzene stack emissions are limited to 0.05 lb/hr to protect the ambient standard set for benzene (0.12 ug/m3). Protecting benzene's ambient standard inherently protects the ambient standards for toluene, ethylbenzene, and xylene.

7.2.2 Catalytic Bed Temperature and Flowrate

The Permittee is required to maintain the catalytic bed temperature above 600 (°F) and a pressure drop through the catalyst bed according to manufacturer's specifications to ensure a destruction and removal efficiency of 99.0%. Maintaining this temperature and pressure drop assures that benzene emissions will not exceed 0.05 lb/hr.

8. AIRS

The information required for the AIRS database is presented as Appendix B of this document.

9. FEES

This facility is a not a major facility as defined by IDAPA 58.01.01.008.10; therefore registration and registration fees in accordance with IDAPA 58.01.01.525 do not apply.

RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommends that Rocky Mountain Environmental be issued PTC # 051-00018 for the construction of the soil vapor treatment system identified in this technical analysis and in the permit application. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

JG/jg

Attachments

Cc: Idaho Falls Regional Office
DEQ State Office
EPA.

Appendix A

```
   03/02/01

   10:56:55
 ***  SCREEN3 MODEL RUN  ***
 *** VERSION DATED 96043 ***

SVE-RO


SIMPLE TERRAIN INPUTS:
   SOURCE TYPE              =          POINT
   EMISSION RATE (G/S)      =     0.600000E-03
   STACK HEIGHT (M)         =        3.2004
   STK INSIDE DIAM (M)      =        0.2539
   STK EXIT VELOCITY (M/S)  =        3.7286
   STK GAS EXIT TEMP (K)    =      422.0389
   AMBIENT AIR TEMP (K)     =      293.1500
   RECEPTOR HEIGHT (M)      =        0.0000
   URBAN/RURAL OPTION       =         RURAL
   BUILDING HEIGHT (M)      =        0.0000
   MIN HORIZ BLDG DIM (M)   =        0.0000
   MAX HORIZ BLDG DIM (M)   =        0.0000

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


BUOY. FLUX =     0.180 M**4/S**3;  MOM. FLUX =     0.156 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

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

  DIST      CONC              U10M    USTK   MIX HT    PLUME    SIGMA
SIGMA
   (M)    (UG/M**3)    STAB  (M/S)    (M/S)     (M)     HT (M)    Y (M)
```

Z (M)	DWASH							
1.	0.000	1	1.0	1.0	320.0	9.12	0.52	0.36 NO
100.	1.054	4	1.5	1.5	480.0	7.15	8.28	4.79 NO
200.	0.8091	4	1.0	1.0	320.0	9.12	15.65	8.67 NO
300.	0.5219	4	1.0	1.0	320.0	9.12	22.67	12.21 NO
400.	0.3533	4	1.0	1.0	320.0	9.12	29.50	15.36 NO
500.	0.2539	4	1.0	1.0	320.0	9.12	36.19	18.37 NO
600.	0.2215	6	1.0	1.0	10000.0	17.13	21.61	10.47 NO
700.	0.2241	6	1.0	1.0	10000.0	17.13	24.78	11.63 NO
800.	0.2158	6	1.0	1.0	10000.0	17.13	27.92	12.62 NO
900.	0.2046	6	1.0	1.0	10000.0	17.13	31.03	13.58 NO
1000.	0.1922	6	1.0	1.0	10000.0	17.13	34.12	14.51 NO
1100.	0.1796	6	1.0	1.0	10000.0	17.13	37.18	15.34 NO
1200.	0.1676	6	1.0	1.0	10000.0	17.13	40.21	16.16 NO
1300.	0.1564	6	1.0	1.0	10000.0	17.13	43.23	16.94 NO
1400.	0.1462	6	1.0	1.0	10000.0	17.13	46.22	17.71 NO
1500.	0.1368	6	1.0	1.0	10000.0	17.13	49.19	18.46 NO
1600.	0.1281	6	1.0	1.0	10000.0	17.13	52.15	19.20 NO
1700.	0.1203	6	1.0	1.0	10000.0	17.13	55.08	19.92 NO
1800.	0.1131	6	1.0	1.0	10000.0	17.13	58.00	20.62 NO
1900.	0.1065	6	1.0	1.0	10000.0	17.13	60.91	21.31 NO

2000.	0.1005	6	1.0	1.0	10000.0	17.13	63.80
21.99	NO						
2100.	0.9517E-01	6	1.0	1.0	10000.0	17.13	66.68
22.56	NO						
2200.	0.9028E-01	6	1.0	1.0	10000.0	17.13	69.54
23.13	NO						
2300.	0.8578E-01	6	1.0	1.0	10000.0	17.13	72.39
23.68	NO						
2400.	0.8164E-01	6	1.0	1.0	10000.0	17.13	75.22
24.22	NO						
2500.	0.7782E-01	6	1.0	1.0	10000.0	17.13	78.05
24.75	NO						
2600.	0.7429E-01	6	1.0	1.0	10000.0	17.13	80.86
25.27	NO						
2700.	0.7101E-01	6	1.0	1.0	10000.0	17.13	83.66
25.78	NO						
2800.	0.6797E-01	6	1.0	1.0	10000.0	17.13	86.46
26.28	NO						
2900.	0.6514E-01	6	1.0	1.0	10000.0	17.13	89.24
26.78	NO						
3000.	0.6249E-01	6	1.0	1.0	10000.0	17.13	92.01
27.27	NO						
3500.	0.5202E-01	6	1.0	1.0	10000.0	17.13	105.73
29.25	NO						
4000.	0.4426E-01	6	1.0	1.0	10000.0	17.13	119.24
31.09	NO						
4500.	0.3831E-01	6	1.0	1.0	10000.0	17.13	132.56
32.81	NO						
5000.	0.3363E-01	6	1.0	1.0	10000.0	17.13	145.72
34.44	NO						
5500.	0.2986E-01	6	1.0	1.0	10000.0	17.13	158.74
35.98	NO						
6000.	0.2677E-01	6	1.0	1.0	10000.0	17.13	171.62
37.45	NO						
6500.	0.2419E-01	6	1.0	1.0	10000.0	17.13	184.39
38.85	NO						
7000.	0.2202E-01	6	1.0	1.0	10000.0	17.13	197.03
40.20	NO						
7500.	0.2022E-01	6	1.0	1.0	10000.0	17.13	209.58
41.36	NO						
8000.	0.1867E-01	6	1.0	1.0	10000.0	17.13	222.02
42.47	NO						
8500.	0.1732E-01	6	1.0	1.0	10000.0	17.13	234.37

```
43.54    NO
  9000.  0.1613E-01    6     1.0    1.0 10000.0   17.13  246.64
44.58    NO
  9500.  0.1509E-01    6     1.0    1.0 10000.0   17.13  258.82
45.58    NO
 10000.  0.1415E-01    6     1.0    1.0 10000.0   17.13  270.93
46.55    NO
 15000.  0.8512E-02    6     1.0    1.0 10000.0   17.13  388.45
55.03    NO
 20000.  0.6061E-02    6     1.0    1.0 10000.0   17.13  500.96
60.43    NO
 25000.  0.4656E-02    6     1.0    1.0 10000.0   17.13  609.76
64.98    NO
 30000.  0.3753E-02    6     1.0    1.0 10000.0   17.13  715.60
68.95    NO
 40000.  0.2710E-02    6     1.0    1.0 10000.0   17.13  920.23
74.60    NO
 50000.  0.2106E-02    6     1.0    1.0 10000.0   17.13 1117.43
79.29    NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND     1. M:
    45.   1.118        3     3.0    3.0   960.0    5.04    6.10
 3.70    NO

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

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION         MAX CONC     DIST TO    TERRAIN
  PROCEDURE         (UG/M**3)     MAX (M)     HT (M)
--------------     -----------    -------    -------
SIMPLE TERRAIN       1.118           45.         0.
```

```
NO ECHO


 BEE-Line ISCST3 "BEEST" Version 8.10

 Input File - Q:\trapm10\BZNanual.DTA

Output File - Q:\trapm10\BZNanual.LST

   Met File - Q:\GR10_2YR.ASC


************************************
*** SETUP Finishes Successfully ***
************************************
```

*** 03/06/01
*** CATOX Benzene Emissions
*** 11:04:33

**MODELOPTs:

PAGE 1

CONC RURAL ELEV 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.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculatio
ns

**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 Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates ANNUAL Averages Only

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

**The Model Assumes A Pollutant Type of:  BENZENE

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

**Output Options Selected:
         Model Outputs Tables of ANNUAL Averages by Receptor
         Model Outputs External File(s) of High Values for Plottin
g (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) =    10.00 ;    Decay Coef. =    0
.000     ;    Rot. Angle =     0.0
                Emission Units = GRAMS/SEC
          ;  Emission Rate Unit Factor =   0.10000E+07
                Output Units    = MICROGRAMS/M**3


**Approximate Storage Requirements of Model =     1.2 MB of RAM.

**Input Runstream File:          Q:\trapm10\BZNanual.DTA

**Output Print File:             Q:\trapm10\BZNanual.LST
```

SION 00101 *** *** SVE Roberts
*** 03/06/01
*** CATOX Benzene Emissions
*** 11:04:33

**MODELOPTs:

CONC RURAL ELEV DFAULT

*** POINT SOURCE DATA ***

STACK SOURCE ID	NUMBER STACK PART. CATS.	EMISSION RATE STACK (GRAMS/SEC) DIAMETER	BUILDING EXISTS	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	X (METERS)	Y (METERS)	SCALAR VARY BY
GENALL	0	0.60000E-03		409150.0	4840840.0	1456.0	3.20	422.04	3.76	0.25	NO

VERSION 00101 *** *** SVE Roberts
*** 03/06/01
*** CATOX Benzene Emissions
*** 11:04:33

**MODELOPTs:

CONC RURAL ELEV DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDs

ALL GENALL ,

oberts **
* 03/06/01
*** CATOX Benzene Emissions
*** 11:04:33
**MODELOPTs:
PAGE 4
CONC RURAL ELEV DFAULT

*** DISCRETE CARTESIAN
RECEPTORS ***
(X-COORD, Y-COORD, Z
ELEV, ZFLAG)
(METERS)

(409300.0, 4840860.0, 1456.9, 0.0); (40892
0.0, 4841250.0, 1456.0, 0.0);
(409140.0, 4841010.0, 1456.9, 0.0); (40894
0.0, 4840850.0, 1456.9, 0.0);
(409320.0, 4840840.0, 1456.9, 0.0); (40896
0.0, 4841600.0, 1456.0, 0.0);
(409300.0, 4841560.0, 1456.0, 0.0);

```
                                                   ***          11:04:33
 **MODELOPTs:
                                                                PAGE   5
 CONC                           RURAL  ELEV              DFAULT



                                                    *** METEOROLOGICAL DAYS
  SELECTED FOR PROCESSING ***
                                                                      (1=Y
 ES; 0=NO)

           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
  1 1 1 1  1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
           1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1

                     METEOROLOGICAL DATA PROCESSED BETWEEN START
 DATE: 1997   1  1  0
                                                                 AND END
 DATE: 1998  12 31 24

                  NOTE:  METEOROLOGICAL DATA ACTUALLY PROCESSED WILL
 ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.



                                   *** UPPER BOUND OF FIRST THROUGH
 FIFTH WIND SPEED CATEGORIES ***
                                                                (METERS
 /SEC)
```

1.54, 3.09, 5.
14, 8.23, 10.80,

*** WIND PROFILE
EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00			

```
+00      .00000E+00      .00000E+00      .00000E+00
                   E           .20000E-01      .20000E-01      .20000E
-01      .20000E-01      .20000E-01      .20000E-01
                   F           .35000E-01      .35000E-01      .35000E
-01      .35000E-01      .35000E-01      .35000E-01
```

RSION 00101 *** *** SVE Roberts
*** 03/06/01
*** CATOX Benzene Emissions
*** 11:04:33
**MODELOPTs:
PAGE 6
CONC RURAL ELEV DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DAT
A ***

FILE: Q:\GR10_2YR.ASC

FORMAT: FREE

SURFACE STATION NO.: 0 UPPER AIR STAT
ION NO.: 0
NAME: UNKNOWN
NAME: UNKNOWN
YEAR: 1997
YEAR: 1997

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
97	01	01	01	34.0	4.00	276.9	4	800.0	800.0	0.0000	0.0	0.0000	0	0.00
97	01	01	02	17.0	4.90	278.2	4	800.0	800.0	0.0000	0.0	0.0000	0	0.00
97	01	01	03	24.0	4.40	277.7	5	800.0	800.0	0.0000	0.0	0.0000	0	0.00
97	01	01	04	18.0	6.00	278.8	4	800.0	800.0	0.0000				

```
     0.0  0.0000   0   0.00
97 01 01 05   34.0   5.60  277.9   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 06   44.0   5.00  276.8   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 07   32.0   5.50  276.5   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 08   29.0   5.60  276.6   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 09   30.0   6.00  276.9   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 10   25.0   4.30  277.0   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 11   10.0   4.90  277.3   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 12   28.0   4.00  277.8   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 13   26.0   4.60  277.8   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 14   41.0   7.40  278.2   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 15   21.0   8.30  278.9   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 16   23.0   9.40  279.2   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 17   27.0   9.20  279.2   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 18   11.0   6.80  278.6   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 19  348.0   5.60  277.9   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 20  356.0   4.10  277.6   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 21  138.0   1.00  277.3   6      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 22   92.0   1.20  276.9   5      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 23   34.0   3.80  277.1   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
97 01 01 24   13.0   5.80  277.6   4      800.0   800.0    0.0000
     0.0  0.0000   0   0.00
```

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

CONC RURAL ELEV DFAULT

*** THE ANNUAL (2 YRS) AVERAGE CON
CENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): GENALL
,

*** DISCRETE CARTESIAN
RECEPTOR POINTS ***

** CONC OF BENZENE IN MICR
OGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
409300.00	4840860.00	0.00561	408920.00	4841250.00	0.00086
409140.00	4841010.00	0.00731	408940.00	4840850.00	0.00204
409320.00	4840840.00	0.00348	408960.00	4841600.00	0.00071
409300.00	4841560.00	0.00157			

**MODELOPTs:

CONC RURAL ELEV DFAULT

*** THE SUMMARY OF MAXI
MUM ANNUAL (2 YRS) RESULTS ***

** CONC OF BENZENE IN MICR
OGRAMS/M**3 **

GROUP ID (XR, YR, ZELEV, ZFLAG)	OF	AVERAGE CONC TYPE	NETWORK GRID-ID	RECEPTOR
ALL 1ST HIGHEST VALUE IS		0.00731 AT (	409140.00,	4841
010.00, 1456.94, 0.00)		DC	NA	
2ND HIGHEST VALUE IS		0.00561 AT (	409300.00,	4840
860.00, 1456.94, 0.00)		DC	NA	
3RD HIGHEST VALUE IS		0.00348 AT (	409320.00,	4840
840.00, 1456.94, 0.00)		DC	NA	
4TH HIGHEST VALUE IS		0.00204 AT (	408940.00,	4840
850.00, 1456.94, 0.00)		DC	NA	
5TH HIGHEST VALUE IS		0.00157 AT (	409300.00,	4841
560.00, 1456.02, 0.00)		DC	NA	
6TH HIGHEST VALUE IS		0.00086 AT (	408920.00,	4841
250.00, 1456.02, 0.00)		DC	NA	
7TH HIGHEST VALUE IS		0.00071 AT (	408960.00,	4841
600.00, 1456.02, 0.00)		DC	NA	
8TH HIGHEST VALUE IS		0.00000 AT (	0.00,	
0.00, 0.00, 0.00)				
9TH HIGHEST VALUE IS		0.00000 AT (	0.00,	
0.00, 0.00, 0.00)				
10TH HIGHEST VALUE IS		0.00000 AT (	0.00,	
0.00, 0.00, 0.00)				

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

** *** SVE Roberts

```
             ***         03/06/01
                                    *** CATOX Benzene Emissions
                                           ***          11:04:33
**MODELOPTs:
                                                          PAGE    9
CONC                              RURAL  ELEV           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              0 Informational Message(s)


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


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


   ************************************
   *** ISCST3 Finishes Successfully ***
   ************************************
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Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.

February 26, 2001 RMEA 01-0016

Mr. Jim Johnston PE
Regional Administrator
Idaho Falls Regional Office DEQ
900 North Skyline, Suite B
Idaho Falls, ID 83402-1718

RE: CAT OX Operation, City of Roberts, Idaho
IDEQ Permit Number 777-00274

Dear Jim:

Sue and I wish to express our gratitude for all the guidance and support that Ms. Jewell and Messrs. Heaton and Garcia have provided to us, as we begin operation of the H2Oil Recovery Catalytic oxidizer in Roberts. During the last several weeks, their help has been invaluable.

Since issuance of your letter dated February 1, 2001, granting us permission to commence operations, several issues have arisen. This letter answers several questions posed by the IFRO staff and provides the information currently available to us:

1. Stack Height is 10.5 ft above ground.
2. Stack Diameter is 10 in.
3. At 1500 rpm, the roots blower is expected to produce 400 cfm. Refer to the attached blow specification chart.

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www.rockymountainenvironmental.com

4. The H2 Oil Recovery equipment is not configured to record flow rate in CFM. Rather, we propose to record the operating pressure [in inches] on the positive side of the blower. This measurement will allow us to use the blower specification chart to estimate the volume [CFM] discharged by the blower into the burner chamber.
5. The H2 Oil Recovery equipment is not configured to meet the requirement in §3.1 of IDEQ's February 1, 2001 draft *Permit to Construct*, i.e., measurement and recording the inlet and outlet temperatures. Our model has only one temperature measurement device, i.e., the *rustrack®* strip-chart recorder. This strip-chart recorder meets the requirement for an inlet temperature monitoring device, specified at §2.1 in IDEQ's February 1, 2001 draft *Permit to Construct*.
6. Finally, we plan to collect vapor samples from the positive side of the blower and analyze each for BTEX+MTBE. The vapor concentration, discharge in CFM, and the record of elapsed time will allow us to calculate a total mass [lbs or kg] of petroleum products removed and destroyed.

The cold weather in January and early February created frost that extended four [4] feet into the ground. The deep frost limited the ability to excavate for free product removal. Assuming spring arrives, this is our current schedule for remediation in Roberts:

a. March 12, 2001. Commence free product removal using Mr. Heaton's *scum sucker*.
   i. Free product will be collected in a 2.000 gal tank and held for recycling.
   ii. Petroleum contaminated soils will be land farmed in the IDEQ-approved application site.

b. March 26, 2001. Commence operation of the Cat Ox. To reduce electrical consumption, we plan to remove as much free product as possible. This will allow us to focus our efforts on removing petroleum products from soil beneath East Market Lake and destruction of vapors from that area in the H2 Oil Recovery catalytic oxidizer.

Sue and I hope that this information provides the information that Ms. Jewell and Messrs. Heaton and Garcia require. As additional questions will arise, please call me at Rocky Mountain Environmental℠.

Rocky Mountain ENVIRONMENTAL

Thank you for your assistance in this matter.

Sincerely,

James D. Rush, PG
Vice President
e-mail: jrush@rockymountainenvironmental.com

cc via fax

Mr. Ted Hendricks
East Central Idaho Planning & Development Association, Inc.
310 North 2nd East, #115
Rexburg, ID 83440-1604

Mr. Ben Poston, Mayor
City of Roberts, 2866 E 664 N
Roberts, ID 83444

Mr. David Simmons
1616 East 1600 North
Terreton, ID 83450

Ms. Barbara Jewell
Idaho DEQ
900 North Skyline, Suite B
Idaho Falls, ID 83402-1718

Mr. Steve Heaton, Idaho Regional Office
Idaho DEQ
900 North Skyline, Suite B
Idaho Falls, ID 83402-1718

Rocky Mountain ENVIRONMENTAL ASSOCIATES, INC.

Permit to Construct Handoff – Rocky Mountain Environmental
City, Idaho Falls
Date: 03-12-01

1/10/01

NAME	AFFILIATION	PHONE NUMBER
[signature]	Rocky Mtn Environmental	524-2353
[signature]	DEQ	
[signature]	DEQ	528-2650