

KANSAS UNDERGROUND INJECTION  
CONTROL AREA PERMIT  
CLASS V AQUIFER STORAGE AND RECOVERY

Pursuant to the provisions of Kansas Statutes Annotated (65-164, 65-165, 65-166, 65-170g and 65-171d) and Kansas Administrative Regulations (Chapter 28, Article 46),

Owner/Operator: City of Wichita, Public Works & Utilities  
Owner/Operator's Address: 455 N. Main St.  
Wichita, Kansas 67202  
Owner/Operator: City of Wichita, Water Department  
Owner/Operator's Telephone No.: 316-269-4760  
Facility Name: Equus Beds Aquifer Storage and Recovery  
(ASR) Phase I and Phase II  
Facility Location: Harvey and Sedgwick Counties, Kansas  
Injection Well/Basin Identifications: Wells: MR2, MR4, MR6, MR8, MR10,  
MR11, MR13, MR14, MR18, MR19, MR20,  
MR22, MR23, MR 26, MR42 through MR45,  
MR47, MR48, MR50, MR51, MR55, MR56  
through MR 61, RRW-1, RRW-2, RRW-3,  
RRW-5 and RW-4  
Recharge Basin: RB-1, RB-2, RB-36  
Well/Basin Locations: See Attachment II  
Receiving Formation: Quaternary Alluvium (Equus Beds Aquifer)


is authorized to both inject into wells and direct to recharge basins; treated surface water from the Little Arkansas River; for the purpose of storage and later recovery of groundwater and to form a hydraulic barrier to a known brine contamination plume in accordance with the construction, operation, monitoring and reporting requirements as set forth herein.

The permittee shall comply with all conditions in this permit, federal and state regulations governing Class V injection wells and the requirements of the Kansas Department of Health and Environment (KDHE).

This permit shall become effective **March 14, 2016** and will expire **March 30, 2020**.

FACILITY DESCRIPTION: The recharge facilities consist of thirty-three aquifer storage and recovery wells, one recharge well and three recharge basins located approximately 3 to 10 miles west of Halstead and Sedgwick Kansas in a generally northwest-southeast geographic alignment.

  
Secretary, Kansas Department of Health and Environment

  
Date

**I. INJECTION LIMITATIONS, MONITORING, REPORTING, AND TESTING REQUIREMENTS**

- A. The permittee is authorized to inject treated surface water from the Little Arkansas River during periods above base flow as permitted by the Kansas Division of Water Resources. National Primary Drinking Water Regulations for water quality are used to establish a treatment goal for the injected water. The permittee is also authorized to inject recovered groundwater from bank storage wells adjacent to the Little Arkansas River. The purpose of injection is to recharge the Equus Beds Aquifer and later recovery of groundwater and to form a hydraulic barrier to a known brine contamination plume. Additional wells may be added to this permit upon approval by KDHE without requiring public notice. A written request to add a well(s) shall be submitted to KDHE for review and consideration of approval; including well identification, well location and well design. A well approved by KDHE for addition to this permit by KDHE shall comply with all conditions of this permit, federal and state regulations governing Class V injection wells and the requirements of the KDHE.
- B. Such injection shall be controlled, limited and monitored by the permittee as specified in this permit. Monitoring data required to be submitted to KDHE on a monthly basis shall be submitted to KDHE no later than twenty-eight (28) days after the last day of the month for which the monitoring data is being reported. All Monitoring data shall be submitted on forms prescribed by KDHE. The monitoring reports shall be originally signed. Monitoring reports and other information required by this permit shall be directed to:

Bureau of Water - Geology & Well Technology Section  
Kansas Dept. of Health and Environment  
1000 SW Jackson St. Suite 420  
Topeka, Kansas 66612-1367

A copy of the monitoring report shall also be submitted to:

Chief Engineer  
Division of Water Resources (DWR)  
Kansas Department of Agriculture  
109 SW 9<sup>th</sup> St., Second Floor  
Topeka, Kansas 66612-1283

Manager  
Equus Beds Groundwater Management District #2 (GMD#2)  
313 Spruce St.  
Halstead, Kansas 67506-1925

C.

Injection and Operational Parameters	Injection or Parameter Limitation	Measurement or Analysis Frequency	Reporting Requirement	Sample or Measurement Type
Maximum Weekly Injection Volume for Each well and basin, (7 day week, gallons per week and Acre-Feet)	280,000,000 gallons 862.27 Acre Feet	Continuous	Monthly	Meter or Continuous Recording Device
pH (Standard units)	6.0 - 9.0	Continuous	Monthly	Continuous Recording Device
Specific Conductance ( $\mu\text{S}/\text{cm}$ )	Monitor	Continuous	Monthly	Continuous Recording Device
Turbidity (NTU)	Monitor	Continuous	Monthly	Continuous Recording Device
Temperature (degrees Celsius)	Monitor	Continuous	Monthly	Continuous Recording Device
Chloride (mg/l)	250 mg/l	Monthly	Monthly	Grab
Atrazine (mg/l)	0.003 mg/l	Monthly	Monthly	Grab
Arsenic (mg/l)	0.010 mg/l	Monthly	Monthly	Grab
Hardness (mg/l)	Monitor	Monthly	Monthly	Grab
Dissolved solids (mg/l)	Monitor	Monthly	Monthly	Grab
Potassium, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Sodium (mg/l)	Monitor	Monthly	Monthly	Grab
Sulfate (mg/l)	Monitor	Monthly	Monthly	Grab
Carbonate, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Total Phosphorus (mg/l)	Monitor	Monthly	Monthly	Grab
Manganese, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Total Coliform 3 (MPN)/100 ml	Non-Detect	Monthly	Monthly	Grab
Nitrate as (N) (mg/l)	10 mg/l	Monthly	Monthly	Grab
Suspended Solids (mg/l)	Monitor	Monthly	Monthly	Grab
Alkalinity as $\text{CaCO}_3$ (mg/l)	Monitor	Monthly	Monthly	Grab

Injection and Operational Parameters	Injection or Parameter Limitation	Measurement or Analysis Frequency	Reporting Requirement	Sample or Measurement Type
Calcium, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Bicarbonate, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Iron, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Triazine herbicide screen, dissolved (mg/l)	Monitor	Monthly	Monthly	Grab
Escherichia coli (E. coli) (MPN)/100 ml	Non-Detect	Monthly	Monthly	Grab

- D. The gauge, meter, and continuous recording device shall at all times be maintained operational and in a location to properly measure the activity being monitored.
- E. The grab and continuous monitoring samples of the injection fluid shall be collected at a location representative of the injection fluid.
- F. The injection fluid shall annually be sampled during an injection event and analyzed for the individual constituents listed in Tables 1 through 4 in Attachment III and the results submitted to KDHE, DWR and GMD#2 no later than ninety (90) days after the month the sampling was conducted.
- G. Inspection readings of injection flow volume and injection pressure shall be made weekly and reported in the monthly monitoring report submitted to KDHE. The date and time these readings are taken and the initials of the person taking the readings shall be included in the monthly monitoring report. The total volume injected for the month shall also be reported in the monthly monitoring report.
- H. The maximum and minimum values determined from the continuous monitoring data for pH, Specific Conductance, Turbidity and Temperature shall be reported in the monthly monitoring report.
- I. The following shall also be reported to KDHE by the permittee:
1. An injection well workover plan shall be submitted to KDHE for review and approval prior to commencing a workover that consists of altering the 18" casing or the well screens or adding a casing. The workover shall not commence until the permittee has obtained approval of the workover plan from KDHE.
  2. Notification of KDHE of all spills of injection fluid within forty-eight (48) hours of discovery.
  3. Notification of KDHE of any malfunction or failure of the ASR Phase II SWTP, which may result in noncompliance with the permit requirements, within twenty-four (24) hours of becoming aware of the circumstances.

4. The results and interpretation of any tests or logs of the injection wells or injection zone within ninety (90) days of completion.
5. A written description and explanation of any noncompliance with the operating limitations as specified by this permit for injection pressure, injection flow volume, or injection limits occurring during the month being reported and a detailed description of corrective action to prevent recurrence of the non-compliance shall be submitted with the monthly monitoring report.
6. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to KDHE, the permittee shall notify KDHE within five (5) days of becoming aware of the circumstances and shall submit such facts or corrected information in compliance with a schedule approved by KDHE.

J. All sample analyses required by this permit shall be conducted by a Kansas Certified Laboratory or the United States Geological Survey Laboratory.

**II. PLUGGING, CLOSURE, ABANDONMENT**

The well(s) shall be plugged and abandoned upon reaching the end of useful life or when determined necessary by KDHE to protect public health, or the fresh and/or usable water or the soils of the State. The permittee currently has a plugging and abandonment plan on file with KDHE. The permittee shall revise and update the plan when required by KDHE. The permittee shall notify KDHE and the Equus Beds Groundwater Management District #2 (GMD#2) at least sixty (60) days prior to plugging and abandonment of the well(s). With the notice, the permittee shall submit a revised and updated plugging and abandonment plan to KDHE for review and approval. The permittee shall conform to all plugging and abandonment requirements of state and federal regulations, KDHE, and K.A.R. 28-30-200 through K.A.R. 28-30-207 of GMD #2. Plugging and abandonment work shall not commence until approval of the plugging and abandonment plan has been obtained from KDHE. The report of plugging and abandonment and related information shall be submitted to KDHE within thirty (30) days after completion of the plugging operation on the form provided by KDHE.

**III. CONSTRUCTION REQUIREMENTS**

A. Borehole casing, tubing and cement specifications for typical injection well for this project:

Borehole Size	Casing Size	Casing Material	Casing Seat Depth	Type of Grout	Grouted Interval From-To
	48"	Carbon Steel	20'	Type A Portland with 4% bentonite	0' to 20'

Screen or perforation material: Stainless Steel (Wire Wrapped)

Type of screen or perforation openings: Screen interval and Wire Wrapped slot size determined by site hydrogeologic conditions. Screen intervals ranging from approximately 65' to 265' with intermittent blank casing at clay zones.

Recharge basins are lined with sand and gravel on the bottom for the purpose of recharging the groundwater.

B. Injection is into the Quaternary alluvial aquifer.

#### IV. CONVERSION

A notice of conversion of an injection well to a use other than aquifer storage and recovery (ASR) shall be submitted to KDHE at least sixty (60) days prior to conversion. A conversion plan shall be submitted with the notice to KDHE for review and approval. The injection well shall not be converted until approval of the conversion plan has been obtained from KDHE.

#### V. SCHEDULE OF COMPLIANCE

None.

#### VI. STANDARD CONDITIONS

In addition to the specified conditions stated herein, the permittee shall comply with the provisions of the groundwater monitoring plan.

#### VII. OTHER CONDITIONS

The groundwater monitoring plan approved by KDHE shall be implemented to evaluate the impact of the injection operation on the Equus Bed Aquifer. If the results of the monitoring indicate endangerment or potential endangerment of the public health, public safety, property or the environment, KDHE may require the permittee to submit a corrective action plan and schedule for implementation to KDHE for review and consideration for approval. Corrective action may include the requirement to cease the recharge operation. This plan may be modified upon request by the City of Wichita, including supportive information, and the approval of KDHE.

Effective February 9, 2011

## ATTACHMENT I

STANDARD CONDITIONS FOR  
UNDERGROUND INJECTION CONTROL PERMITSCLASS V  
INJECTION WELLS

## CONDITIONS APPLICABLE TO ALL PERMITS

- A. Duty to Comply: The permittee shall comply with all conditions of the permit, Federal and State laws and regulations. Any permit noncompliance constitutes a violation of the appropriate act or regulations and is grounds for enforcement action; for permit termination, revocation and reissuance, modification or denial of a permit renewal application.
- B. Duty to Reapply: If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. An application to renew this permit shall be filed with KDHE at least 180 days prior to its expiration date.
- C. Duty to Halt or Reduce Activity: It shall not be an acceptable defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- D. Duty to Mitigate: The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.
- E. Proper Operation and Maintenance: The permittee shall at all times properly operate and maintain all facilities and systems of monitoring, treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems when necessary to maintain compliance with the conditions of the permit.
- F. Property Rights: This permit does not convey any property rights of any sort, or any exclusive privilege.
- G. Duty to Provide Information: The permittee shall furnish to KDHE within a reasonable time, any information which KDHE may request to determine whether cause exists for modifying, revoking, reissuing or terminating the permit, or to determine compliance with

this permit. The permittee shall also furnish to KDHE, upon request, copies of reports and information required to be kept by this permit.

H. Inspection and Entry: The permittee shall allow the Secretary, or any authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor for the purpose of assuring permit compliance or as otherwise authorized by the appropriate Act, any substances or parameters at any location.

I. Samples, Measurements and Records:

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
2. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years for the date of sample, measurement, report or application. This period may be extended by request of KDHE at any time.
3. The permittee shall retain records concerning the nature and composition of all injected fluids until three (3) years after the completion of any plugging and abandonment procedures. KDHE may require the owner or operator to deliver the records to KDHE at the conclusion of the retention period.
4. Records of monitoring information shall include:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;



- e. The analytical sampling, and sample preservation techniques or methods used; and
  - f. The results of such analyses.
- J. Signatory Requirements: All permit applications, reports required by this permit, or other information requested by KDHE shall be signed and certified in accordance with the requirements of K.A.R. 28-46-22.
- K. Transfer of Permit: This permit is not transferable to any person except after notice and approval by KDHE. KDHE may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the appropriate Act. In some case, medication and reissuance is mandatory. The current owner shall notify KDHE at least thirty (30) days in advance of the proposed transfer date. J The notice shall include a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage and liability between them, and the notice demonstrates the financial requirements will be met by the new permittee. The new permittee shall submit to KDHE at least thirty (30) days prior to the proposed transfer date a new permit application including the financial assurance documents guaranteeing resources are available to properly plug and abandon the well.
- L. Emergency Reporting: The permittee shall within twenty-four (24) hours of becoming aware of the circumstances orally report to KDHE any noncompliance which may endanger human health or environment. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause the period of noncompliance, including exact dates and times, corrective action taken, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The permittee shall comply with any corrective or remedial action required by KDHE.
- M. Operational Requirements:
1. The permittee shall not allow the movement of fluid containing any contaminant into any formation or aquifer not permitted to receive fluid by this permit or into any uncontaminated part of the formation permitted to receive fluid by this permit. The permittee shall have the burden of showing the requirements of this paragraph are met.
  2. If any water quality monitoring of an aquifer indicates the movement of any contaminant into any formation or aquifer not permitted to receive fluids by this permit or into any uncontaminated part of the formation permitted to receive fluid by this permit, the permittee shall take such action as required by KDHE, including taking the well out of service, closure of the well or plugging and abandonment of the wall.

- N. Permit Modifications and Terminations: After notice and opportunity for a hearing, this permit may be modified, suspended or revoked, or terminated in whole or in part during its term for cause as provided, but not limited to those set forth in K.A.R. 28-46-15 and K.A.R. 28-46-16 or if the KDHE or Environmental Protection Agency standards or regulations on which the permit was based have been changed by promulgation of new or amended codes, statutes, regulations or standards or by judicial decision after the permit was issued. The permittee shall furnish to KDHE, within a reasonable amount of time, any information which KDHE may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish, upon request, copies of all records required to be kept by this permit.
- O. Severability: The provisions of this permit are severable and if any provision of this permit and any circumstance is held invalid, the application of such provision to other circumstances and the remainder of the permit shall not be affected thereby.
- P. Change in Injection Stream: Any facility changes or process modifications which may result in new, different or altered injection streams or an increase in injection volumes or an increase in concentration of pollutants shall be reported to KDHE at least one hundred eighty (180) days before such changes.
- Q. Anticipated Noncompliance: If for any reason, the permittee will be unable to comply with permit requirements, the permittee shall give advance notice to KDHE. The notice shall include the reason for the anticipated noncompliance and a description of steps taken to reduce, eliminate and prevent recurrence of the noncompliance. Upon receiving proper notice from the permittee KDHE may grant for a specified time a temporary waiver to a permit requirement for the purpose of testing or treating the well or for conducting a well workover or to protect human health or the environment.
- R. Permit Actions: The filing of a request by the permittee for a permit modification, a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

Attachment II							
City of Wichita ASR PWS Summary							
City ID	KDHE ID	Qualifier	S	T	R		
						'N	'W
R/R 01	RK01	SW SW SW	12	23	3W	69*	5212*
R/R 02	RK02	NE NE NE	23	23	3W	5232*	159*
R/R 03	RK03	SW SW SW	24	23	3W	105*	5195*
R/R 04	RK04	NW NW NW	36	23	3W	5170*	5170*
M/R 2	MK61	NW NW SW	29	23	2W	2,552	5,177
M/R 4	MK80	SE SE SW	29	23	2W	143	2,948
M/R 6	MK62	SW SW SW	32	23	2W	196	5,173
M/R 8	MK63	NW NW NW	8	24	2W	5,158	5,205
M/R 10	MK56	NE NE NW	8	24	2W	5,128	2,955
M/R 11	MK11	NW NW SE	8	24	2W	2,587	2,626
M/R 13	MK57	NW NW NE	17	24	2W	5,069	2,503
M/R 14	MK14	NW NW NW	16	24	2W	4,994	4,999
M/R 18	MK64	NE NE SE	16	24	2W	2,558	149
M/R 19	MK19	SE SE SW	22	24	2W	249	2,839
M/R 20	MK65	NE NE NE	27	24	2W	5,138	161
M/R 22	MK66	SW SW SE	26	24	2W	166	2,551
M/R 23	MK67	SE SE NE	35	24	2W	2,949	184
M/R 26	MK58	NW SW NW	22	24	2W	3,577	5,137
M/R 42	MK68	SE SE NE	11	24	3W	2,883	165
M/R 43	MK69	SE SE SE	11	24	3W	133	131
M/R 44	MK70	SW SW SE	11	24	3W	93	2,528
M/R 45	MK71	NE NE SE	23	24	3W	2,493	127
M/R 47	MK60	SW SW SE	24	24	3W	123	2,548

City ID	KDHE ID	Qualifier	S	T	R		
						'N	'W
M/R 48	MK59	NE NE SE	28	24	2W	2,537	126
M/R 50	MK50	SW SW SE	28	24	2W	107	2,399
M/R 51	MK51	NW NW NW	5	25	2W	5,406	5,075
M/R 55	MK73	SE SW SE	5	25	2W	140	1,443
M/R 56	MK74	SW SW SW	13	24	3W	130	5,182
M/R 57	MK75	SE SE SE	13	24	3W	134	140
M/R 58	MK76	NE NE NE	19	24	2W	5,128	135
M/R 59	MK77	SE SW SW	16	24	2W	150	4,047
M/R 60	MK78	NW NW SW	21	24	2W	2,486	5,140
M/R 61	MK79	NE NE NE	29	24	2W	4,101	139
R/R 05	RK05	NE NE NE	2	24	3W	5,137	197
RB1	RB1	NW NW NW	2	24	3W		
RB2	RB2	NW NW NW	11	24	3W		
RB36	RB36	SW SW NW	9	25	1W	2,883	5,031

\* From DWR Notice of Completion Forms - Not GIS measured

## Attachment III

### Injection Fluid Constituent Analysis

**Table 1**

**Key inorganic and microbiological constituents:**

Water temperature	pH
Lab Specific Conductance	Lab Turbidity
ORP (groundwater only)	Chlorine
<i>E. coli</i> bacteria	Fecal coliform bacteria
Total coliform (groundwater only)	BARTs
Hardness, mg/L	Suspended sediment (surface water only)
Alkalinity, dissolved	Bicarbonate, dissolved
Carbonate, dissolved	Triazine herbicide screen
Coliphage, <i>E. coli</i> F-specific	Coliphage, <i>E. coli</i> somatic
Total Coliform <sup>1</sup>	Total suspended solids
Acid neutralizing capacity	Boron, dissolved
Bromide, dissolved	Calcium, dissolved
Chloride, dissolved	Fluoride, dissolved
Iron, dissolved	Magnesium, dissolved
Potassium, dissolved	Silica, dissolved
Sodium, dissolved	Sulfate, dissolved
Total dissolved solids	Total organic carbon
Dissolved organic carbon <sup>5</sup>	Dissolved Oxygen

**Nutrients:**

Ammonia, dissolved	Ammonia + organic nitrogen, dissolved
Ammonia + organic nitrogen, total	Nitrite, dissolved
Nitrite + nitrate, dissolved	Nitrate, dissolved
Orthophosphate, dissolved	Phosphorus, total
Total dissolved nitrogen (surface water only)	Total particulate nitrogen (surface water)
UV absorbance, 254 nm and 280 nm (surface water)	
Total particulate carbon (surface water)	

**Metals:**

Aluminum, dissolved	Antimony, dissolved
Arsenic, dissolved	Barium, dissolved
Cadmium, dissolved	Lead, dissolved
Manganese, dissolved	Nickel, dissolved
Strontium, dissolved	Uranium, dissolved (not currently certified)
Zinc, dissolved	
Arsenite, dissolved	Arsenate, dissolved
Dimethylarsinate, dissolved	Monomethylarsonate, dissolved

**Table 2**

**Dissolved pesticides and herbicides:**

1-Naphthol	Fipronil sulfide	2,6-
Diethylaniline		
Fipronil sulfone	2-[(2-Ethyl-6-methylphenyl)amino]-1-propanol	Fonofos
2-Chloro-2,6-diethylacetanilide	2-Ethyl-6-methylaniline	3,4-Dichloroaniline
Malaoxon	Acetochlor	Malathion
Alachlor	Metalaxyl	Alpha-HCH-d6
Methidathion	Atrazine	Metolachlor
Azinphos-methyl	Metribuzin	Azinphos-methyl-
oxon		
Myclobutanil	Benfluralin	Paraoxon-methyl
Carbaryl	Parathion-methyl	Chlorpyrifos
Pendimethalin	Chlorpyrifos	Phorate
Cis-Permethrin	Phorate oxon	Cyfluthrin
Phosmet	Cypermethrin	Phosmet oxon
Dacthal	Prometon	Deethylatrazine
Prometryn	Desulfinylfipronil	Propyzamide
Desulfinylfipronil amide	Simazine	Diazinon
Tebuthiuron	Diazinon-d10	Terbufos
Dichlorvo	Terbufos-O-analogue sulfone	Dicrotophos
Terbutylazine	Dieldrin	Trifluralin
Dimethoate	Ethion	Ethion monoxon
Fenamiphos	Fenamiphos sulfone	Fenamiphos sulfoxide
Fipronil	Tribufos	Myclobutanil
Methidathion	Isofenphos	Iprodione
Hexazinone	AMPA	
Glyphosate		
2-Chloro-4-isopropylamino-6-amino-s-triazine {CIAT}		
4-Chloro-2-methylphenol		

**Table 3**  
**Total Recoverable Volatile Organic Compounds:**

Acrylonitrile	Benzene	1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene	1,4-Bromofluorobenzene	Bromobenzene
Chlorobenzene	Ethylbenzene	1,3-Dichlorobenzene
n-Butylbenzene	n-Propylbenzene	1,2-Dichlorobenzene
1,4-Dichlorobenzene	Sec-butylbenzene	Tert-butylbenzene
Bromoform	hexachlorobutadiene	Tetrachloroethane
Chloroform	Isopropylbenzene	1,1,1,2-Tetrachloroethane
1,1,1-trichloroethane	1,1,2-trichlorotrifluoroethane	1,2-Dibromoethane (EDB)
1,2-dichloroethane	1,1,2,2-tetrachloroethane	Chloroethane
Cis-1,2-dichloroethene	Tetrachloroethene	1,2-trans-dichloroethene
Trichloroethene	1,1-dichloroethane	1,3,5-Trimethylbenzene
1,2-dichloroethene	Bromochloromethane	Bromodichloromethane
Dibromochloromethane	Dichlorodifluoromethane	Trichlorofluoromethane
Bromomethane	Chloromethane	Tert-butyl methyl ether
Dibromomethane	Dichloromethane	Naphthalene
4-isopropyl-1-methylbenzene	1,2,3-Trichloropropane	1,3-dichloropropane
2,2-Dichloropropane	1,2-dibromo3-chloropropane	1,1-Dichloropropene
Cis-1,3-Dichloropropene	Trans-1,3-Dichloropropene	1,2-Dichloropropane
1,2-dichloropropane	1,2-chlorotoluene	1,3-Dichloropropane
1,2,4-Trimethylbenzene	1,4-chlorotoluene	Toluene
Styrene		
Vinyl Chloride	1,1,2-trichloroethane	1,1-dichloroethylrn
Xylenes(o,p,m)		

**Table 4**  
**Dissolved Radionuclides:**

Gross beta radiation

Gross alpha radiation