Return to:
Oklahoma Department of
Environmental Quality

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Revised July 2019

Industrial Permits Section

Oklahoma DEQ

Application for Permit to Discharge and/or Treat or Dispose of Industrial Wastewater or Sludge

Form 616-2SI
Surface Impoundments and Underground Tank Systems

This form must be completed by all persons applying for a permit to treat or dispose of industrial wastewater in surface impoundments (pits, ponds, or lagoons) and/or underground tanks. This form must be completed in addition to Form 1 and any other applicable forms.

See Form 1, Attachment 1 for instructions for the submittal of applications and the public notice requirements.

INSTRUCTIONS - FORM 2SI
OPDES APPLICATION TO TREAT AND/OR DISPOSE OF INDUSTRIAL WASTEWATER OR SLUDGE
SURFACE IMPOUNDMENTS & UNDERGROUND TANK SYSTEMS

This form must be completed by all applicants who check "yes" to Item B-2 in Form 1.

Your application will not be considered complete unless you answer every question on this form and on any other required forms. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

Public Availability of Submitted Information

You may not claim as confidential any information required by this form or by any other required forms, whether the information is reported on the forms or in an attachment. This information will be made available to the public upon request.

Any information you submit to the Oklahoma Department of Environmental Quality (DEQ) which goes beyond that required by this or any other forms you may claim as confidential, but claims for information which is effluent data will be denied. If you do not assert a claim of confidentiality at the time of submitting the information, DEQ may make the information public without further notice to you. Claims of confidentiality will be handled in accordance with the Oklahoma Public Records Act.

Definitions

All significant terms used in these instructions and in Form 2SI are defined in the glossary found in the General Instructions to Form 1.

Item A

Enter the facility's official or legal name. Do not use a colloquial name.

Item B

Give the name, title, work telephone number, and email address of a person who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by reviewing offices if necessary.

Item C

All surface impoundments and/or tanks on your map should be identified by number (see Item F below for how to determine impoundment numbers).

Your map should meet the specifications outlined under Item J in the General Instructions to Form 1. Topographic maps may be obtained from the Oklahoma Geological Survey at the address also listed under that item.

You may use the same map to fulfill the requirements for Item J in Form 1, Item C in Form 2SI, provided it clearly shows **all** information required for each item.

Item D

List all chemical compounds and raw materials in containers of 55 gallons or more, used in plant operations. Describe the purpose for which each chemical is used. Uses may be described in general terms (for example, "cooling tower pretreatment," "process feed stock," "wastewater treatment," or "stored pending sale"). Chemicals may be identified by trade name, but in such case a Safety Data Sheet (SDS) for the product should be attached to the application.

Also describe the storage location, indicating whether it is indoors or outdoors, above or below ground. Storage locations may be keyed to locations on the facility map included for Item J of Form 1, provided all such locations are clearly labeled on the map. List the number and type of containers (for example, cylinders, bottles, sacks, barrels, or bulk tanks) used to store each chemical; if the number varies over time, give a daily average. Also list the average and maximum daily quantity of each chemical stored on site. For bulk storage tanks, maximum capacity may be reported in place of maximum quantity.

Item E

Impoundment numbers should consist of the letter F (for flow-through) or T (for total retention) followed by two digits. Number separately for flow-through and total retention impoundments. For example, if you have four (4) flow-through impoundments and two (2) total retention impoundments, they would be numbered F01, F02, F03, F04, and T01, T02.

Tank numbers should consist of the letter S (for tank system without lateral lines) or Z (for tanks with lateral lines) followed by two digits.

Use the same numbers throughout Form 2SI to identify the impoundments and/or tanks. If you have an existing permit, use the same numbering scheme in the application as that used in your current permit, where applicable.

List the impoundment numbers of any impoundments that lie within the 100-year floodplain. If you are not sure whether an impoundment lies within the 100-year floodplain, you can determine this by reviewing the Flood Insurance Rate Map (FIRM) for your community or county. FIRMs are prepared by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program (NFIP). If your community or county is a member of NFIP, copies of FIRMs should be on file in the offices of your community or county government, and are also available online at https://msc.fema.gov/portal/home, or at https://www.owrb.ok.gov/maps/index.php (see Floodplain Zoning & Community Participation map).

Item F-1

The line drawing should show generally the route taken by water in your facility from intake to discharge or final disposal. Show all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and stormwater runoff. You may group similar operations into a single unit, labeled to correspond to the more detailed listing in Item G-2. The water balance should show average flows. Show all significant losses of water to products, atmosphere, and discharge. Use actual measurements whenever available; otherwise use your best estimate.

You may use the same drawing to fulfill the requirements of Item D-1 in Form 2C or Item D-1 in Form 2D and Item G-1 in Form 2SI, provided the drawing shows **both** outfalls **and** surface impoundments.

Item F-2

List all sources of wastewater to each impoundment and/or tank. Operations may be described in general terms (for example, "dye-making reactor" or "distillation tower"). You may estimate the flow contributed by each source if no data are available. For stormwater runoff you may estimate the average flow, but you must indicate the rainfall event upon which the estimate is based and the method of estimation.

Report the highest and lowest daily values for flow rate in the "Maximum" and "Minimum" columns (columns c-(2) and c-(3)). Report the average of all daily values measured during days when discharge occurred within the last year in the "Average" column (column c-(1)).

Item F-3

List all wastes and/or pollutants which are or will otherwise be contained in each surface impoundment and/or tank (e.g., lubricants, additives, bactericides, detergents, softeners) and their sources. Be as specific as possible in identifying pollutants. Operations may be described in general terms (for example, "dye-making reactor" or "distillation tower"). Include all waste types which have the potential to be contained in the impoundments due to spills, bypasses, or unit failures (e.g., raw materials, oils and greases, solvents or product). Also indicate (with a "Y" or an "N") whether you possess analytical data on the wastes contained in each impoundment.

Item F-4

List the volume of sludge generated annually in each impoundment and/or tank. Use actual measurements if available; otherwise use your best estimate. Indicate whether the sludge will be periodically removed or will accumulate in the impoundment as a site of final disposal. If sludge is to be removed, give the frequency of removal (e.g., every six months, annually, every two years, etc.) Determine this frequency using historical data if available; otherwise use your best estimate. Indicate (with a "Y" or an "N") whether you possess analytical data on the sludge generated in each impoundment.

Item F-5

List the treatment purpose of each impoundment and/or tank (e.g., settling, aeration, evaporation, or final disposal). If an impoundment is made up of several cells (as defined in OAC 252:616-1-2) having different treatment purposes, list each cell on a separate line.

List any chemicals or equipment used for each treatment method. Also list the treatment operation parameters (inlet concentration, goal concentration, and detention time) for each impoundment. Use averages of actual measurements whenever possible; otherwise use design values or your best estimate of average values.

Item G-1

The plans and specifications should show all inlets to and outlets from each impoundment, as well as each impoundment's physical dimensions. The plans should be clearly labeled with the appropriate impoundment number(s). If the impoundment is made up of several cells, all cells should be clearly shown and labeled according to flow sequence.

Item G-2

You may use the plans and specifications from Item H-1 to determine each impoundment's holding capacity and dimensions. If an impoundment is made up of several cells, list the overall capacity and dimensions of the impoundment on the first line, followed by the capacity and dimensions of each cell (according to flow sequence) on a separate line.

Item G-3

List the type of liner material to be installed or currently in use for each impoundment. Use the classifications in OAC 252:616-7-3 thru 7-7 (e.g., native soil, compacted clay, flexible membrane, etc.) Within each classification, describe the material of construction as completely as possible (for example, flexible membrane - HDPE, or alternative - fiberglass tank in excavated-soil pit). Also list the liner thickness in inches. Hydraulic conductivity (permeability) in column d should be expressed in cm/sec for all liner types as proposed or as built, except that inches/hour may be used for native soil liners, if desired.

List the type(s) of soil (series name(s) and USDA texture(s)) underlying each impoundment. This information can be found in the appropriate Soil Survey for the county in which the facility is located. Soil Surveys are published by the United States Department of Agriculture Soil Conservation Service, and are available online at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Item G-4

In addition to describing the rationale used to select the liner system, indicate whether you possess any engineering reports or analytical data to support your rationale.

Item H

The plans and specifications should show the location and length of lateral lines as well as the distance from each tank and lateral line to potable water wells, water lines, buildings, property lines, streams, lakes, embankments, and cuts. The plans should be clearly labeled with the appropriate impoundment number(s). Note that you do not need to list subsurface tanks that are used solely for sanitary wastewater treatment/disposal.

For each tank, list the tank volume and construction material (e.g. concrete, steel, plastic, fiberglass). If lateral lines are used for disposal, list the length of lateral lines and the percolation rate of the soil. Briefly describe the rationale used to select the proposed or currently used lateral line system. If wastewater is disposed of other than by lateral lines (e.g. impoundment, discharge, recycle), list the other destination.

Item I

List the method and volume of sanitary wastewater disposal used by the facility.

Item J

Briefly describe any other methods of waste disposal used by your facility which have not been previously covered. Examples include disposal wells, tanks, aboveground and underground storage tanks, and waste hauling. Include information on the nature and volume of wastes disposed of by each method, and the legal description of the final disposal site. If the wastes are removed from the facility, provide the name, address, and phone number of the company hauling the waste, and (if appropriate), the name, address, and phone number of the final disposal site.

Item K

For each surface impoundment and/or tank, list the depth to groundwater, the hydrologic gradient or direction of groundwater flow, and the legal description of each well used to determine groundwater information. The hydrologic gradient or groundwater flow direction should be determined using a minimum of three wells spaced in a triangular pattern. Hydraulic connections to surface water bodies may also be used to estimate groundwater flow direction. Attach copies of any well logs or hydrologic atlas pages used to determine this information, if available.

You may list multiple impoundments and/or land application sites on the same line, provided the same well was used to determine the groundwater information for all impoundments and/or sites. If you cannot determine the direction of groundwater flow, enter "Unknown" in column C to show that you considered the question.

Well logs may be obtained from OWRB by utilizing the online tool at http://www.owrb.ok.gov/wd/search/search.php. You should consider well logs for all Sections (or quarter-sections) lying full or in part within a ½-mile radius of the surface impoundment(s) and/or outside boundary of the land application site(s).

Item L

For each surface impoundment and/or tank, list the total depth and depth of completion of each monitoring well or water well within ½ mile of the impoundment and/or tank. Also list the elevation of each well as surveyed, the depth to static water level, the date the static water level was measured, and the legal description of each monitoring well. Do not include monitoring wells that are used only to monitor USTs. If there are no water wells within one-half (½) mile of any impoundments and/or land application sites, enter "N/A" in column A.

Item M

State statutes provide for penalties for submitting false information on this application form.

27A O.S. §2-6-206(G)(4) provides that, "Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Oklahoma Pollutant Discharge Elimination System Act... shall upon conviction be punished by a fine of not more than Ten Thousand Dollars ($10,000.00), or by imprisonment for not more than two (2) years, or by both."

All applications must be certified as provided on the forms furnished by the Department, and must be signed by the applicant. Signatures must be original signatures; photostatic copies of signatures will not be accepted. Permit applications must be signed as follows:

A. If the applicant is a private corporation, the application must be signed by:

   1. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

   2. the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

B. If the applicant is a partnership, sole proprietorship or individual person, the application must be signed, respectively, by a general partner, the proprietor or the individual.

C. If the applicant is a municipality, political subdivision, the State or Federal government or other public agency or entity, the application must be signed by the principal executive officer of the entity or the ranking elected official.

FORM 2SI OPDES	OKLAHOMA DEQ	OPDES APPLICATION TO TREAT AND/OR DISPOSE OF INDUSTRIAL WASTEWATER OR SLUDGE SURFACE IMPOUNDMENTS & UNDERGROUND TANK SYSTEMS

A. NAME OF FACILITY

B. FACILITY CONTACT

1. Name & Title	2. Phone (area code & number)	3. Email Address

C. MAP

On the map used for Item K of Form 1, add the locations of any of the following items which are or will be present: surface impoundments, tank systems, storage facilities, containment devices, monitoring wells, and any water wells within one-half (½) mile of any surface impoundment or tank system.

D. INVENTORY OF CHEMICALS AND RAW MATERIALS

List all chemical compounds and raw materials in containers of 55 gallons or more, used in plant operations and stored outside a building (e.g., solvents, cleaning compounds, water treatment chemicals). Describe the storage location and the purpose for which each chemical is used. Continue on additional sheets if needed.

E. LOCATION

For each industrial surface impoundment and/or tank system, provide the ID number, legal description, and indicate if the impoundment or tank is located in the 100 year flood plain. If the impoundment(s) or tank(s) have previously been permitted, use the ID number(s) contained in the previous permit. If the impoundment(s) or tanks(s) have not previously been permitted, ID numbers should be assigned using the appropriate letter followed by two digits (e.g., if you have three flow-through impoundments, their ID numbers would be F01, F02, and F03). Each type of impoundment and/or tank system should be numbered separately (e.g., if you have one flow-through and one total retention impoundment, their ID numbers would be F01 and T01, rather than F01 and T02). Use the same numbers throughout this form. Continue on additional sheets if needed.

F = Flow-Through Surface Impoundment **S = Underground Tank System Without Lateral Lines**
T = Total Retention Surface Impoundment **Z = Underground Tank System With Lateral Lines**

1. ID No.	**2. Legal Description** (¼, ¼, ¼, Section, Township, Range)	**3. Flood Plain** (yes or no)

F. FLOWS, SOURCES OF WASTE, AND TREATMENT

1. Attach a line drawing showing the flow of wastes or wastewaters through the facility unit processes. Indicate sources of intake water, chemicals, raw materials, and other sources of wastes. Label all unit processes or operations that contribute wastes or wastewater, including production areas, waste treatment units, and sources of blowdown or backwash. Indicate disposal pathways of the wastes and wastewaters, including evaporation, recycle, discharge, solid waste storage, tanks, impoundments, land application, landfill, or other pathways. Provide a water balance (measured or estimated) on the line drawing that shows average flows between sources, unit processes, and disposal pathways. If you filled out Form 2C, you may use the same line drawing, provided it shows all required information.
2. For each impoundment and/or tank system, provide a description of: (1) All operations and other sources of pollution which contribute waste to the impoundment or tank, including but not limited to process wastes, sanitary wastes, cooling water, and stormwater; and (2) The average, maximum, and minimum flows contributed by each operation or other source of pollution. Continue on additional sheets if needed.

a. ID No.	**b. Operation(s)/Source(s)**	**c. Daily Flow** (specify units)		
		(1) Average	**(2) Maximum**	**(3) Minimum**

3. List all wastes which are or will be contained in the surface impoundment(s) and/or tank system(s) (e.g., lubricants, additives, bactericides, detergents, softeners) and their sources. Include all wastes which have the potential to be contained in the impoundment(s) or tank(s) due to spills, bypasses, or unit failures (e.g., raw materials, oils and greases, solvents, or product). Also indicate whether you possess any chemical analysis of the wastes. Continue on additional sheets if needed.

a. ID No.	b. Waste/Pollutant	c. Source	d. Data?

4. For each impoundment and/or tank, list the actual or engineering estimate of the volume of sludge generated annually. Indicate whether the sludge will be periodically removed from the impoundment or tank (give frequency of removal) or will accumulate in the impoundment or tank as a site of final disposal. Also indicate whether you possess analytical data on the sludge generated in each impoundment. Continue on separate sheets if necessary.

a. ID No.	b. Frequency Of Removal/Final Disposal Site	c. Sludge Analytical Data	d. Volume

5. Describe the treatment purpose of each cell, impoundment, or tank (e.g., settling, aeration, evaporation, or final disposal). List any chemicals and equipment used for each treatment method. Also list the treatment operation parameters (inlet concentration, goal concentration, and detention time) for each impoundment or tank. Continue on additional sheets if necessary.

a. ID No.	b. Treatment				
	(1) Description	(2) Chemicals/ Equipment	(3) Inlet Conc. (units)	(4) Goal Conc. (units)	(5) Detention Time (units)

G. IMPOUNDMENT INFORMATION

1. For each impoundment, attach plans sufficient to define the following design parameters: (1) Length and width at top and bottom; (2) Total depth; (3) Designed minimum and maximum freeboard; (4) Interior and exterior side-slopes (ratio of horizontal to vertical distances); and (5) Inlet and outlet structures.

2. For each impoundment, list the holding capacity in gallons (assuming a minimum freeboard) and the dimensions in feet. The following abbreviations are used in the table to indicate the various impoundment dimensions.

BW = Bottom Width BL= Bottom Length TW= Top Width TL = Top Length	D = Depth F = Minimum Freeboard MF = Maximum Freeboard	IS = Interior Side-Slope Ratio (Horiz:Vert) ES = Exterior Side-Slope Ratio (Horiz:Vert)

a. ID No.	**b. Holding Capacity** (gallons)	**c. Dimensions** (feet)								
		(1) BW	(2) BL	(3) TW	(4) TL	(5) D	(6) F	(7) MF	(8) IS (ratio)	(9) ES (ratio)

3. In the table below, list the type of liner material (e.g., native soil, compacted clay, flexible membrane, composite, soil/bentonite, concrete, or alternative) to be installed or currently in use. Definitive information and justification is required for alternative liner systems. List the thickness (in inches, feet, or miles, as appropriate) and permeability rate (in inches/hour) or hydraulic conductivity (in centimeters/second), as appropriate, of each liner as proposed or as built. Also list the type of soil (series name and USDA texture) underlying the impoundment. Continue on additional sheets if necessary.

a. ID No.	**b. Liner Type**	**c. Thickness** (inches)	**d. Hydraulic Conductivity (Permeability)** (cm/sec or in/hr, as appropriate)	**e. Soil Type**	
				(1) Series Name	**(2) USDA Texture**

4. Briefly describe the rationale used to select the proposed or currently used liner systems. Include the date of construction, along with a discussion of the physical and chemical properties of liner materials which are indicative of the waste/liner compatibility and the liner's effectiveness as a physical barrier between the waste and groundwater. References can be made to similar facilities, related research, or trade organization guidelines. Continue on additional sheets if necessary.

H. TANK INFORMATION

1. Attach plans that show the locations of lateral lines, water wells, water lines, buildings, property lines, streams, lakes, embankments, and cuts within 150 feet of tanks.
2. In the table below, list the tank volume (in gallons) and construction material (e.g. concrete, steel, plastic, fiberglass). If lateral lines are used for disposal, list the length of lateral lines and the percolation rate of the soil. If wastewater is disposed of other than by lateral lines (e.g. impoundment, discharge, recycle), list the other destination. Continue on additional sheets if necessary.

a. ID No.	b. Tank Volume (gallons)	c. Construction Material	d. Lateral Lines		e. Other Destination
			(1) Length (feet)	(2) Percolation Rate (minutes/inch fall)	

3. Briefly describe the rationale used to select the proposed or currently used lateral line system (if applicable).

I. SANITARY WASTEWATER DISPOSAL

In the table below, list the estimated volume of sanitary wastewater and the method of sanitary wastewater disposal.

1. Volume Of Sanitary Wastewater	2. Method Of Sanitary Wastewater Disposal

J. OTHER DISPOSAL METHODS

Briefly describe any other methods of waste disposal used by your facility which have not been previously covered. Examples include disposal wells, tanks (with or without leach fields), aboveground or underground storage tanks, and waste hauling. Include information on the nature and volume of wastes disposed of by each of these other methods. Continue on additional sheets if necessary.

K. GROUNDWATER INFORMATION

For each surface impoundment and/or land application site, list the depth to groundwater, the direction of groundwater flow, and the legal description of each well used to determine groundwater information. Continue on additional sheets if necessary.

1. ID No.	2. Depth to Water (feet)	3. Direction of Flow	4. Legal Description of Well

L. WELL INFORMATION

1. For each monitoring well or water well within ½ mile of any impoundment and/or tank system, list in the table below the total depth, depth of completion, elevation, static water level, and legal description of well. Continue on additional sheets if necessary.
2. For each well, attach the well log or drillers log, if available. If no water wells are found within ½ mile, attach a copy of the OWRB letter indicating no wells were found in their records search.

a. ID No.	b. Total Depth	c. Depth of Completion	d. Elevation	e. Static Water Level	f. Legal Description of Well

M. CERTIFICATION (see instructions)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and true belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

1. Name & Official Title (type or print)	2. Signature	3. Date Signed