KANSAS UNDERGROUND INJECTION CONTROL PERMIT CLASS I NONHAZARDOUS WASTE INJECTION WELL

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:	National Cooperative Refinery Association (NCRA)
Owner/Operator Mailing Address:	2000 South Main Street McPherson, KS 67460-1404
Telephone Number:	620.241.2340
Facility Name:	NCRA Refinery
Facility Location:	McPherson, Kansas
Well Identification:	#5
Well Location:	Lat: 38.349167 Long: -97.679722 Section 32, Township 19 South, Range 3 West, McPherson County, Kansas
Receiving Formation:	Arbuckle

is authorized to inject nonhazardous liquid wastes generated at this facility 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 I nonhazardous waste injection wells and the requirements of the Kansas Department of Health and Environment (KDHE).

This permit shall become effective _____ and will expire _____.

FACILITY DESCRIPTION: The facility is a Petroleum refinery.

_____
Secretary, Kansas Department of Health and Environment

_____
Date

I. INJECTION LIMITATIONS, MONITORING, REPORTING AND T ESTING REQUIREMENTS

A. The permittee is authorized to inject nonhazardous liquid waste consisting of sanitary waste water, boiler blow down, blow down from cooling towers, rinse water from zeolite regeneration, and effluent from the Sequencing Bach Reactors (SBR=s) which represent the final step in the treatment of oily water from the refinery.

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 no later than twenty-eight (28) days after the last day of the month for which the monitoring data are being reported. Monitoring data required to be submitted to KDHE on a quarterly basis shall be submitted no later than twenty-eight (28) days after the last day of the calendar quarter for which monitoring data are being reported. All monitoring data required for reports shall be submitted on forms prescribed by KDHE. The monitoring reports submitted to KDHE shall be originally signed. Monitoring reports and other information required by this permit shall be directed to:

Kansas Department of Health and Environment
Bureau of Water
1000 SW Jackson St., Suite 420
Topeka, KS 66612-1367

C.

Injection and Operational Parameters	Injection or Parameter Limitation	Measurement or Analysis Frequency	Reporting Requirement	Sample or Measurement Type
Injection Pressure (inches mercury or pounds per square inch gauge)	Gravity flow, no pump pressure allowed	Daily	Monthly	Gauge and Continuous Recording Device *
Maximum Daily Injection Volume (gallons per day)	1,440,000 gpd	Daily	Monthly	Meter or Continuous Recording Device *
Injection Rate (gallons per minute)	Monitor	Daily	Monthly	Meter or Continuous Recording Device *
Minimum Allowable Operating Annulus Pressure (pounds per square inch gauge)	60 psig	Daily	Monthly	Gauge and Continuous Recording Device *

Injection and Operational Parameters	Injection or Parameter Limitation	Measurement or Analysis Frequency	Reporting Requirement	Sample or Measurement Type
Seal Pot Liquid Level (inches)	Liquid level must be visible in sight glass	Daily	Monthly	Sight Glass *
pH (standard units)	5.0-10.0	Weekly	Monthly	Grab
Temperature (°F)	Monitor	Weekly	Monthly	Grab
Chloride (mg/l)	Monitor	Weekly	Monthly	Grab
Conductivity (Mmhos)	Monitor	Quarterly	Quarterly	Grab
Total Alkalinity as $CaCO_3$ (mg/l)	Monitor	Quarterly	Quarterly	Grab
Oil and Grease (mg/l)	Monitor	Quarterly	Quarterly	Grab
Ammonia (mg/l)	Monitor	Quarterly	Quarterly	Grab
Sodium (mg/l)	Monitor	Quarterly	Quarterly	Grab
Calcium (mg/l)	Monitor	Quarterly	Quarterly	Grab
Magnesium (mg/l)	Monitor	Quarterly	Quarterly	Grab
Sulfate (mg/l)	Monitor	Quarterly	Quarterly	Grab
Iron (mg/l)	Monitor	Quarterly	Quarterly	Grab
Total Dissolved Solids (mg/l)	Monitor	Quarterly	Quarterly	Grab
Total Suspended Solids (mg/l)	Monitor	Quarterly	Quarterly	Grab
Benzene (mg/l)	L.T. 0.5	Quarterly	Quarterly	Grab
Toluene (mg/l)	L.T. 100	Quarterly	Quarterly	Grab
Ethylbenzene (mg/l)	L.T. 70	Quarterly	Quarterly	Grab
Xylene (mg/l)	L.T. 1000	Quarterly	Quarterly	Grab

* The gauge, meter, continuous recording device or sight glass shall at all times be maintained operational and shall at all times be located to properly measure the activity being monitored.

Note: Quarterly analysis frequency and reporting is based upon calendar quarters.

D. Inspection readings of injection flow rate and volume, wellhead annulus pressure, wellhead injection pressure and seal pot liquid level shall be made daily and reported in the monthly monitoring report submitted to KDHE. The inspection readings for wellhead annulus pressure and injection pressure shall include readings of both the

gauge and the continuous recording device. 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.

E. The monthly average, maximum and minimum values for the daily inspection readings of injection flow rate and volume, wellhead annulus pressure and wellhead injection pressure for the month shall be reported in the monthly monitoring report submitted to KDHE. The monthly average for injection flow rate and volume shall be calculated using only the number of days for which injection occurred during the month. The total volume of liquid injected for the month shall also be reported in the monthly monitoring report submitted to KDHE.

F. The maximum and minimum values determined from the continuous recording data for the entire month for wellhead annulus pressure and wellhead injection pressure shall be reported in the monthly monitoring report submitted to KDHE.

G. The analytical results of representative wastewater samples required by this permit shall be reported in the monitoring reports submitted to KDHE. The wastewater samples shall be collected from the waste stream during a time that the well is being used for injection. The wastewater samples shall be collected at the sample tap on the line immediately downstream of the filters and upstream of the surge tank and injection well. The data reported shall include the date the sample was collected, the date the sample was analyzed, analytical results, the name of the laboratory conducting the analyses and the laboratory certification number. All analyses of wastewater required by this permit shall be conducted by a laboratory certified by KDHE to analyze for the constituents listed in this permit.

H. The following shall also be reported to KDHE by the permittee:

1. Any well treatment procedures used, including those associated with normal maintenance and malfunction correction, and all well workovers shall be reported to KDHE within thirty (30) days of completion. A well treatment plan or workover plan shall be submitted to KDHE for review and approval prior to commencing a well treatment or workover. No well treatment or workover shall commence until the permittee has obtained approval for the well treatment or workover plan from KDHE.

2. Immediate notification of KDHE of all spills associated with the operation of the injection well or well system.

3. Notification of KDHE of any well malfunction or failure within twenty-four (24) hours of becoming aware of the circumstances.

4. The results and interpretation of mechanical integrity tests and any other tests or logs of the injection well or injection zone within thirty (30) days of completion.

5. A written description and explanation of any noncompliance with the operating limitations as specified by this permit for wellhead injection pressure, injection flow volume or injection limits occurring during the month being reported shall be submitted with the monthly monitoring report.

6. Any addition of liquid to the annulus seal pot shall be reported in the monthly monitoring report. The date the liquid was added and the volume added shall be included in the monthly monitoring report.

7. 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 submit such facts or corrected information to KDHE within five (5) days of becoming aware of the circumstances.

I. The monitoring of the pressure buildup in the injection zone shall be conducted annually including, at a minimum, a shut down of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve. A plan for this test shall be submitted to KDHE for review and approval prior to conducting the test. The test shall not commence until approval of the test plan has been obtained from KDHE. The test results and interpretation of this test shall be submitted to KDHE within thirty (30) days of test completion.

J. The static fluid level of the injection interval shall be measured annually. The method used to measure the static fluid level shall have the prior approval of KDHE. The results of the measurements shall be submitted to KDHE within thirty (30) days of completion of the measurement.

II. MECHANICAL INTEGRITY TESTING

A two part mechanical integrity test (MIT) to check for internal and external mechanical integrity shall be conducted at least once every five (5) years. The internal MIT is to check for significant leakage in the casing, tubing and packer and the external MIT is to check for significant fluid movement through vertical channels adjacent to the wellbore. Whenever KDHE believes that because of a downhole problem the continued use of the well constitutes a threat to human health, or the fresh and/or usable waters or the soils of the State, or the release of injected fluid into an unauthorized zone is occurring, the permittee shall be required to immediately cease injection and conduct a MIT. If determined necessary by KDHE, a MIT shall be conducted when there has been a well workover. A MIT plan shall be submitted to KDHE for review and approval prior to conducting any MIT. No MIT work shall commence until approval of the MIT has been obtained from KDHE. The internal MIT shall be witnessed by KDHE. If the well fails a MIT, the requirements of Section III(B) of this permit shall be implemented by the permittee. The results and interpretation of a MIT

shall be submitted to KDHE within thirty (30) days of test completion.

III. ANNULUS PRESSURE DECLINE, ANNULUS LIQUID LOSS, ANOMALOUS OPERATIONAL DATA, LOSS OF MECHANICAL INTEGRITY

A. If the annulus pressure declines below sixty (60) psig, or loss of annulus liquid indicating a loss of mechanical integrity occurs, or anomalous operational data indicating a loss of mechanical integrity occurs, the permittee shall 1) immediately investigate and identify the cause of the annulus pressure decline, annulus liquid loss or anomalous operational data and 2) notify KDHE within twenty-four (24) hours of becoming aware of the circumstances. The results of this investigation shall be reported to KDHE within twenty-four (24) hours of completion. If the well appears to be lacking mechanical integrity, the permittee shall:

1. Immediately cease injection of waste fluids.

2. Take all steps required by KDHE to determine the presence or absence of mechanical integrity. If the well is determined to have mechanical integrity, injection may resume after the permittee has obtained authorization from KDHE.

B. If a loss of mechanical integrity is determined pursuant to Section III(A) of this permit or as the result of a MIT, the permittee shall:

1. Immediately cease injection of waste fluids.

2. Notify KDHE within twenty-four (24) hours of the determination.

3. Take all steps determined necessary by KDHE to determine whether there may have been a release of waste into any unauthorized zone. If there is evidence there may have been a release into an unauthorized zone, the permittee shall orally notify KDHE within twenty-four (24) hours of the determination. A written notice shall also be provided to KDHE within five (5) days of the determination including a description of the release.

4. Comply with any immediate corrective or remedial action specified by KDHE. If determined necessary by KDHE, the permittee shall submit to KDHE a remediation and corrective action plan and implementation schedule for review and approval. Work shall not commence until approval of the remediation and corrective action plan has been obtained from KDHE.

5. Restore and demonstrate mechanical integrity to the satisfaction of KDHE. A plan for any well workover or MIT shall be submitted to KDHE for review

and approval. Work shall not commence until the permittee has obtained approval of the workover or MIT plan from KDHE.

6. Injection shall resume only upon authorization from KDHE.

IV. PLUGGING, ABANDONMENT

The well shall be plugged and abandoned upon reaching the end of its useful life or when determined necessary by KDHE to protect human health or the fresh and/or usable waters 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 plugging and abandonment plan when required by KDHE. The permittee shall notify KDHE at least sixty (60) days prior to plugging and abandonment of the well. 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 and KDHE. The well shall be plugged in a manner which will not allow the movement of fluids into or between sources of fresh and/or usable water or allow the movement of injected fluids out of the injection zone. 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 forms provided by KDHE.

V. FINANCIAL RESPONSIBILITY FOR PLUGGING AND ABANDONMENT

The permittee shall maintain financial responsibility and financial resources to close, plug and abandon the underground injection well and appurtenances in a manner required by KDHE. The permittee shall show evidence of financial responsibility to KDHE by the submission of a surety bond or other adequate financial assurance such as financial statements or other materials acceptable to KDHE. Financial assurance documents shall be revised and updated when required by KDHE. The permittee currently demonstrates financial assurance by submission of a financial test.

VI. CONSTRUCTION REQUIREMENTS

A. The well shall be cased and cemented such that: 1) injected fluids and injection zone or other formation fluids do not cause deterioration of the water quality of fresh and/or usable water zones, 2) the loss of fresh and/or usable water due to downward migration is prevented, and 3) the release of injected fluids into an unauthorized zone is prevented.

Borehole, casing, tubing and cement specifications for disposal well:

B.

Borehole Size	Casing or Tubing Size & Material	Weight lbs/ft	Casing Seat Depth*	Type of Cement & Additives	Number of Sacks of Cement
26"	20" with Buttress threads	94.0	155'	60/40 Poxmix, 2% gel, 3% CaCl	390
17 2"	13 3/8" H-40	48.0	860'	Lead: 60/40 Pozmix, 4% gel, 3% CaCl,0.25 # flo-seal, and Tail: 60/40Pozmix,2% gel, 3% CaCl	600 175
12 1/4"	9 5/8 N-80	43.50	3870'	Top Stage: Lead: 65/35 Pozmix, 6% gel, flo-seal Tail: 60/40 Pozmix, 2% gel, 10% Salt Bottom Stage: Lead: 60/40 pozmix, 6% gel, 1/4# sx flo-seal, Tail: Thixotropic, (ASC) 10% salt, 1% gel	475 100 325 500 150
9 5/8”	7" J-55	23	3834'	NA	NA

NA= Not Applicable

A schematic illustrating the completion of the well is included as Attachment II.

Packer Type: 7” X 9 5/8@ D&L Liner Hanger
Packer Seating Depth: 3834'

B. Type of Annulus Fluid: Fresh water with Baker Petrolite CRW0037F corrosion inhibitor.

C. Injection is into the Arbuckle formation through openhole from 3805 to 4405 feet.

VII. SPILL PREVENTION AND CONTAINMENT

NCRA has a facility wide SPCC plan, SP3 plan, and an emergency response plan to address any releases that may occur.

VIII. CONVERSION

A notice of conversion of the well to a use other than disposal of industrial waste 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 well shall not be converted until approval of the conversion plan has been obtained from KDHE.

IX. SCHEDULE OF COMPLIANCE

1. This well shall not be operated until a pressure MIT witnessed by KDHE has been conducted and deemed satisfactory by KDHE.

2. This well shall not be operated until all drilling, casing and cementing records and all log and log interpretations have been submitted to and approved by KDHE.

X. STANDARD CONDITIONS - ATTACHMENT I

In addition to the specified conditions stated herein, the permittee shall comply with the provisions of Attachment I.

STANDARD CONDITIONS FOR
UNDERGROUND INJECTION CONTROL PERMITS

CLASS I NON-HAZARDOUS WASTE
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 regulation 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: T his 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: T he 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. Reporting Requirements:

1. Except for all new wells authorized by an area permit under K.A.R. 28-46-18, a new injection well may not commence injection until construction is complete, and:

   a. The permittee as submitted notice of completion of construction to KDHE; and

   b. 1) KDHE has inspected or otherwise reviewed the new injection well and finds it is in compliance with the conditions of the permit; or

      2) The permittee has not received notice from KDHE expressing the intent to inspect or otherwise review the new injection well within thirteen(13) days of the date of the receipt of the notice in paragraph a. of this section, in which case prior inspection or review is waived and the permittee may commence injection. KDHE shall allow for a reasonable time period in which the well shall be inspected.

L. 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, modification and reissuance is mandatory. The current owner shall notify KDHE at least thirty (30) days in advance of the proposed transfer date. The procedure for transferring ownership is provided at http://www.kdheks.gov/uic/download/Notice_of_Ownership-Operator_Change.pdf. 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.

M. 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.

N. Operational Requirements:

1. The operator shall not allow the movement of fluid containing any contaminant into any formation or aquifer not permitted to receive fluid by this permit. The operator 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 operator 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.

O. 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.

P. 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.

Q. Change in Waste 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.

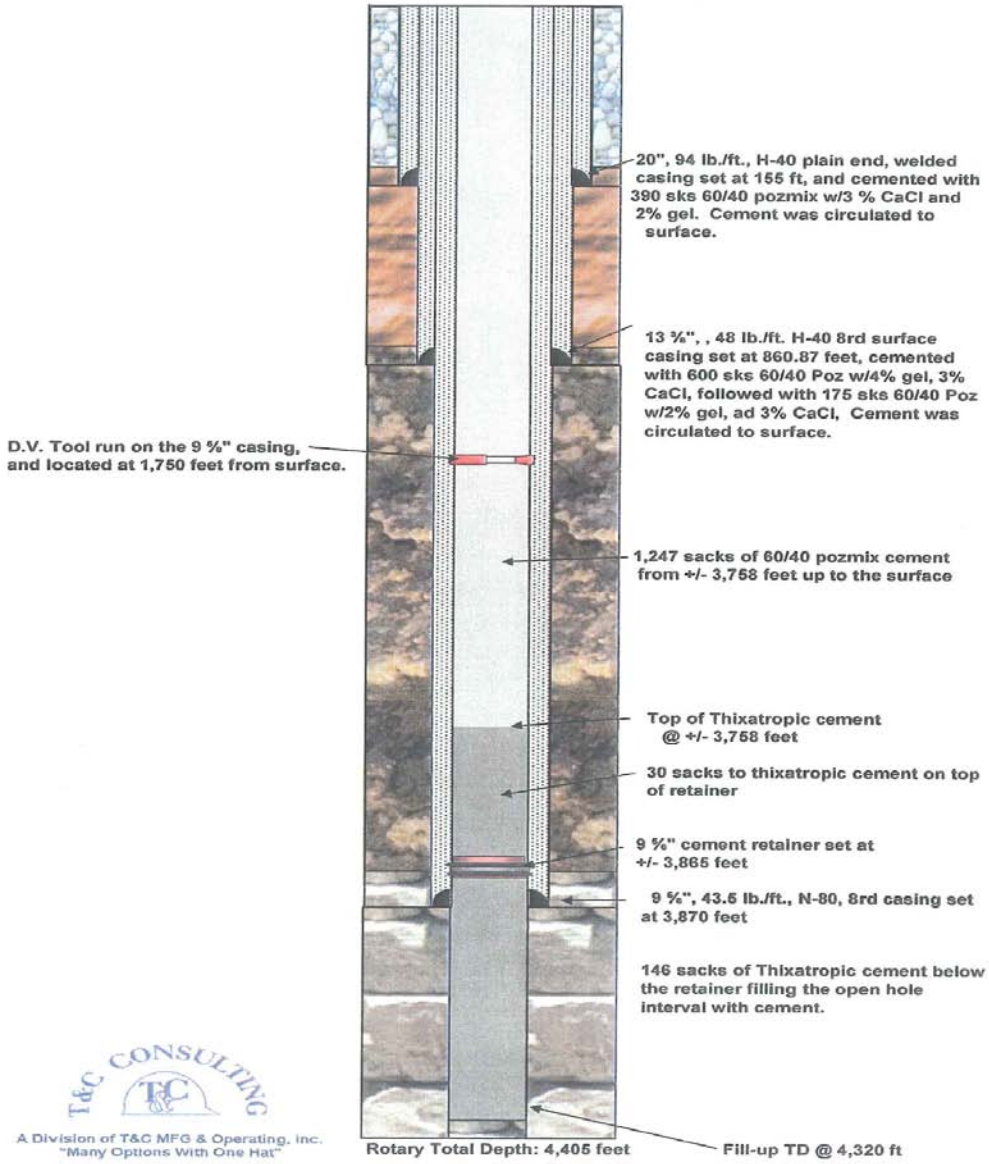
R. Anticipated Noncompliance: If for any reason, the permittee will be unable to comply with permit requirements, the permittee shall give advance notice to KDHE. The notice shall include the reason for the anticipated noncompliance and a description of steps taken to reduce, eliminate and prevent recurrence 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.

S. 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

Attachment 29.5

Waste Water Disposal Well's #4 and #5
Permit # KS-01-113-XXX
Sec. 32, T19S, R3W
McPherson County, Kansas



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