

Barry R. McBee, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
John M. Baker, *Commissioner*  
Dan Pearson, *Executive Director*



## TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

*Protecting Texas by Reducing and Preventing Pollution*

June 14, 1996

Dr. Steven Beito  
774 Rosemary Drive  
New Braunfels, TX 78130

Re: EDWARDS AQUIFER, Comal County  
PROJECT: Beito Medical Office Building, Located at NW corner of N Walnut Avenue and Canyon Drive, New Braunfels, Texas  
TYPE: Request for Approval of Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) §313.4; Edwards Aquifer Protection Program

Dear Dr. Beito:

The Texas Natural Resource Conservation Commission (TNRCC) has completed their review of the WPAP application for the referenced project that was submitted on behalf of Dr. Steven Beito by The Schultz Group, Inc. and received by the San Antonio office on March 20, 1996. Final review was completed after additional material was received on March 25, 1996, April 29, 1996, May 2, 1996, and May 7, 1996.

### PROJECT DESCRIPTION

The proposed 0.419 acre Beito Medical Office Building is to be developed as a commercial project and will consist of a doctor's office and associated parking. The site is located within the City of New Braunfels, and will conform with applicable codes and requirements of the City of New Braunfels.

The normal population of the development is estimated to be 10 persons. 750 gallons per day of domestic wastewater is to be generated by this project. The proposed impervious cover for the development, approximately 0.283 acres (67%), includes roof tops, driveways, and parking lots.

### GEOLOGY ON SITE

According to the geologic assessment included with the submittal, two (2) potential recharge features were found on the project site. The site investigation performed by the San Antonio office on April 4, 1996, revealed no additional potential recharge features.

## GEOLOGY DOWNGRADIENT OF SITE

According to the geologic assessment included with the submittal, nine (9) potential recharge features were found downgradient of the project site. One (1) feature was assessed as having a none/low relative infiltration rate and eight (8) features were assessed as having a moderate relative infiltration rate.

## POLLUTION ABATEMENT

### I. During Construction:

The following measures will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site during construction:

- A. Stabilized construction entrances shall be installed at all sites of ingress and egress prior to initiation of any other regulated activity.
- B. Temporary erosion and sedimentation controls (silt fences and rock berms) shall be installed prior to initiation of any other regulated activity.

### II. After Construction:

The following measure will be taken to prevent pollution of stormwater originating on-site or up-gradient from the project site and potentially flowing across and off the site after construction:

A new type of pollution abatement measure has been proposed for use at this site. This innovative technology will be field tested at this site for evaluation of its effectiveness. The pollution control device to be installed at this site is a Stormceptor STC 900. As presented in the WPAP, it will have an 80% removal efficiency for Total Suspended Solids (TSS) and 90% of the annual flow will be treated.

### III. Recharge Features:

The following measure will be taken to prevent pollutants from entering recharge features while maintaining or enhancing the quantity of water entering the recharge features identified in the geologic assessment:

The two (2) potential recharge features will be filled with clean, compacted, clay material.

### APPROVAL

The plan for this project has been reviewed for compliance with 30 TAC §313.4 which sets forth pollution abatement criteria for any development on the recharge zone of the Edwards Aquifer. The proposed water pollution abatement plan is in general agreement with 30 TAC §313.4; therefore, approval of the plan is hereby granted subject to the specific conditions listed below.

Failure to comply with any of the following conditions, the deed recordation requirement, or any other specific conditions of approval is a violation of these rules. Pursuant to §26.136 of the Texas Water Code, any violations of the Edwards Aquifer Rules may result in administrative penalties of up to \$10,000 for each act of violation and for each day of violation.

### SPECIAL CONDITIONS OF APPROVAL

1. If any potential recharge features are encountered during excavation and construction, a geologist shall evaluate the significance of the features. The evaluation shall include representative photographs and a description of the feature forwarded to the San Antonio office. Construction in the vicinity of the features may only continue with written approval from the TNRCC.
2. The proposed pollution abatement measure for this site is a Stormceptor STC 900. Use of this technology at this site is approved on a conditional basis only. This site shall be used as a pilot project for testing the effectiveness of this new technology. Approval of Stormceptor for use at this site does not constitute a precedent for approval of this device at any other site. Final approval is contingent upon the results of a sampling program at the site, review of other field studies, and any other pertinent information.
3. The sampling program for this site shall consist of the following:
  - a. Sampling of the site will occur for at least two (2) years and must begin within thirty (30) days of occupancy of the building.
  - b. Samples shall be collected from the inflow and outflow portions of the Stormceptor unit. Samples will consist of a composite collected during the first flush of a rainfall event in order to measure the maximum pollutant load generated from the site.
  - c. All samples shall be tested for Total Suspended Solids (TSS) by EPA Method 160.2 and Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1.
  - d. Samples shall be collected at least five (5) times each year with at least four (4) weeks between each sampling event.

- e. Samples shall only be collected during rainfall events which result in a discharge from the Stormceptor unit.
  - f. A rain gauge shall be installed on site and a record shall be kept of all rainfall events during the two (2) year sampling period.
  - g. Monthly inspections of the Stormceptor unit shall be conducted using the enclosed Inspection Record. A copy of the monthly inspection report shall be submitted to the TNRCC within ten (10) days of the inspection.
  - h. A sampling plan shall be submitted to the TNRCC for approval at least thirty (30) days prior to the start of sampling. The sampling plan shall include at least the following: 1) sampling devices to be used, if applicable; 2) location of sampling points, 3) QA/QC to be used during sampling; and 4) a general description of the sampling, inspection, and maintenance procedures.
  - i. Standard maintenance procedures, as outlined in the WPAP, shall be followed during the first year of testing. Maintenance procedures shall be modified only with prior approval from the TNRCC.
  - j. An annual report shall be submitted to the TNRCC at the end of the first year of testing documenting the sample results, rainfall events, and monthly inspections.
  - k. The TNRCC may require modification of the sampling program during the second year of testing, based on the results of the first annual report.
  - l. At the end of the two (2) year sampling period a comprehensive report documenting the results of the entire sampling program shall be submitted to the TNRCC for review.
  - m. Sampling can only be terminated with the prior approval of the TNRCC. If ten (10) samples are not collected over the two (2) year period, then the TNRCC may extend the pilot project until ten (10) samples have been collected.
4. As presented, the Stormceptor STC 900 unit is designed to be cleaned annually with the use of a vacuum truck (similar to cleaning procedures used for septic systems) and will be checked every six (6) months to measure the amount of sediment build up and hydrocarbon storage to see if the annual cleaning schedule needs to be adjusted. During the pilot project more frequent inspections shall be conducted, as outlined above, and no changes in the yearly maintenance schedule shall be made without the prior approval of the TNRCC. All material removed from the Stormceptor unit shall be disposed of properly.

5. If the Stormceptor STC 900 does not remove at least 70% of the TSS and TPH or the sampling program is not completed, it will be the applicant's responsibility to upgrade the existing pollution abatement measures. Any changes to the current pollution abatement measures shall require prior approval from the TNRCC and may require submittal of a modification to this WPAP with appropriate fees.
6. All permanent pollution abatement measures shall be operational prior to completion of construction.
7. Any use of this commercial property, other than retail stores, restaurants, and office space, shall require prior approval from the regional office of the TNRCC and may require submittal of a modification to this WPAP with appropriate fees.
8. Placement of hydrocarbon or hazardous substance storage facilities regulated pursuant to 313.10 and 313.11, requires submittal of all appropriate applications with appropriate fees and must receive prior approval from the TNRCC.

#### STANDARD CONDITIONS OF APPROVAL

1. Please be reminded that 30 TAC §313.4(c) requires the owner/developer to: (1) record in the county deed records that this property is subject to the approved WPAP; and (2) submit to the Executive Director through the San Antonio office, within 30 days of receiving this written notice of approval of the water pollution abatement plan and prior to commencing construction, proof of application for recordation of notice in the county deed records. Enclosed is a suggested format you may use to deed record your approved WPAP.
2. Prior to commencing construction, the applicant/agent shall submit to the San Antonio office copies of any changes made to the plans and specifications for this project which have been required by the TNRCC review and/or all other permitting authorities.
3. Please note, following this approval of the regulated activities described in the referenced WPAP submittal, any amendment to these activities required by some other regulating authority or desired by the applicant will require the submittal of a WPAP application to amend this approval. And, as indicated in 30 TAC §313.4 and 30 TAC §313.27, an application to amend any approved regulated activity shall include payment of appropriate fees and all information necessary for its review and Executive Director approval.

4. Additionally, all contractors conducting regulated activities associated with this proposed regulated project shall be provided with copies of this approval letter and the entire contents of the submitted WPAP so as to convey to the contractors the specific conditions of this approval. During the course of these regulated activities, the contractors shall be required to keep on-site copies of the WPAP and this approval letter.
5. The temporary erosion and sedimentation (E&S) controls for the entire project shall be installed prior to beginning any other construction work on this project.
6. The appropriate E&S control(s) that shall be used during the construction of the project should be determined as follows: (1) Silt fences should be used when the drainage area is less than 2 acres and the slope is less than 10%. (2) Rock berms with filtration should be used when the drainage areas are greater than two acres or when the slopes are in excess of 10%. The bottom edge of the filter fabric must be buried a minimum of 6 inches below grade.
7. The TNRCC may monitor stormwater discharges from the site to evaluate the adequacy of the temporary and permanent erosion and sedimentation control measures. Additional protection may be necessary if excessive solids or other contaminants are being discharged from the site.
8. Also, 30 TAC §313.4(d)(2) requires that if any significant recharge features, such as solution openings or sinkholes, are discovered during construction, all regulated activities near the significant recharge feature must be suspended immediately and may not be resumed until the Executive Director has reviewed and approved the methods proposed to protect the aquifer from any potential adverse impacts. Upon discovery of the significant recharge features, the developer shall immediately notify the San Antonio office.
9. Upon completion of the project, the applicant shall reseed or sod all areas disturbed during construction.
10. If any abandoned wells exist on the site or are found during construction of the proposed development, they shall be plugged in accordance with the local underground water conservation district's plugging procedures, if applicable, or 30 TAC §287.50(a) of this title (relating to Standards for Plugging Wells that Penetrate Undesirable Water Zones), or an equivalent method, as approved by the Executive Director. Pursuant to 30 TAC §287.48(e), the person that plugs such a well shall, within 30 days after plugging is complete, submit a Water Well Completion and Plugging Report to the Executive Director, through the San Antonio office and to the Edwards Underground Water District.

Any drill holes resulting from core sampling on-site or down-gradient of the site shall be plugged with cement slurry, from the bottom of the hole to the top of the hole, so as to not allow water or contaminants to enter the subsurface environment.

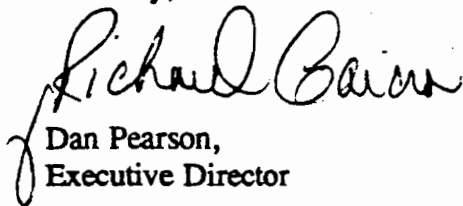
11. No waste-disposal wells, new confined animal feeding operations, land disposal of Class I wastes, or use of sewage holding tanks as parts of organized collection systems shall be allowed on the recharge zone of this regulated development.
12. During the course of the construction related to the referenced regulated project, the owner/developer shall comply with all applicable provisions of 30 TAC §313.4. Construction which is initiated and abandoned, or not completed, shall be returned to a permanent condition such that groundwater in the Edwards Aquifer is protected from potential contamination. Additionally, the applicant, Dr. Steven Beito, shall remain responsible for the provisions and special conditions of this approval until such responsibility is legally transferred to another person or entity, upon which that person or entity shall assume responsibility for all provisions and specific conditions of this approval.
13. Pursuant to 30 TAC §313.4(d)(1) and prior to commencing regulated activities, the applicant must provide the San Antonio office with the date on which the regulated activity will commence.
14. Please note that 30 TAC §313.4(g) states that this approval expires two years from this date unless, prior to the expiration date, construction has commenced on the regulated project.
15. Approval of the design of the sewage collection system for this proposed subdivision shall be obtained from the Texas Natural Resources Conservation Commission prior to the commencement of construction of any sewage collection system, the design of which shall be in accordance with 30 TAC §313.5 and 30 TAC §317.
16. The developer shall ensure that construction debris, such as but not limited to scrap wood, bricks, paint, adhesives, containers, paper, etc. is disposed of properly at an authorized landfill off of the Edwards Aquifer Recharge Zone.
17. If asphaltic materials such as "seal coat", emulsion or other asphaltic products used for paving, roofing, etc. wash off or leave the project site the developer shall notify the TNRCC immediately and commence clean-up.
18. Each purchaser or occupant of an individual lot within this development shall be informed in writing about best management practices of pesticide and fertilizer application. The

Dr. Steven Beito  
June 14, 1996  
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applicant may use Preventing Groundwater Pollution, A Practical Guide to Pest Control, available from the Edwards Underground Water District (210/222-2204), or equivalent information produced by recognized authorities such as the Soil Conservation Service, Texas Dept. of Agriculture, U.S. Dept. of Agriculture, etc. The applicant may develop their own educational information (with review by the TNRCC prior to use).

Should clarification of this letter be desired or if we may be of any other assistance, please contact Julie Rogers of our San Antonio office at 210/490-3096.

Sincerely,

  
Dan Pearson,  
Executive Director

DP/JPR\eg

Enclosure: Deed Recordation Form  
Inspection Record Form

cc: Steven Schultz, The Schultz Group, Inc.  
Mike Shands, City of New Braunfels  
Tom Hornseth, Comal County  
Rick Illgner, Edwards Underground Water District  
Dan Wittliff, Office of the Executive Director, TNRCC, Austin  
TNRCC Field Operations, Austin



Barry R. McBee, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
John M. Baker, *Commissioner*  
Dan Pearson, *Executive Director*



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FEB 06 1998

COUNTY ROAD DEPT.

## TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

*Protecting Texas by Reducing and Preventing Pollution*

February 3, 1998

Mr. Stephen E. Schultz  
The Schultz Group, Inc.  
P.O. Box 310483  
New Braunfels, TX 78131-0483

Re: EDWARDS AQUIFER, Comal County  
PROJECT: Stormceptor Sampling Plan, Project number 812, Located on NW corner of North Walnut Avenue & Canyon Drive, New Braunfels, Texas  
TYPE: Water Pollution Abatement Plan - Special Condition; 30 Texas Administrative Code (TAC) §213.5(b) [formerly 30 TAC 213.4]; Edwards Aquifer Protection Program

Dear Mr. Schultz:

The Texas Natural Resource Conservation Commission (TNRCC) received stormwater sampling plan for the Stormceptor unit located at the above referenced site. It was submitted on behalf of Dr. Steven Beito and Hydro Conduit by The Schultz Group, Inc. and received by the San Antonio office on December 22, 1997.

The proposed sampling plan attached to your letter dated December 8, 1997, is attached and hereby approved with the conditions listed below.

EPA Method 418.1 should not be used to determine total petroleum hydrocarbon (TPH). Please use EPA Method 1664. You may contact Mr. Jim Busceme, TNRCC Laboratory Manager (281/457-5229) if you have any technical questions about this method.

Mr. Stephen E. Schultz  
February 3, 1998  
Page 2

Should clarification of this letter be desired or if we may be of any other assistance, please contact John Mauser of our San Antonio office at 210/490-3096. Please reference project number 812.

Sincerely,



Bobby D. Caldwell,  
Water Section Manager

BDC/JKM/eg

Attachment Letter with sampling plan attached, dated December 8, 1997, from The Schultz Group, Inc. to the TNRCC

cc Harry Bennett, City of New Braunfels  
Tom Hornseth, Comal County  
Greg Ellis, Edwards Aquifer Authority  
Jim Busceme, TNRCC Laboratory  
TNRCC Field Operations, Austin

Barry R. McBee, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
John M. Baker, *Commissioner*  
Dan Pearson, *Executive Director*



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COUNTY ROAD DEPT.

## TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

*Protecting Texas by Reducing and Preventing Pollution*

October 29, 1997

Mr. Stephen E. Schultz  
The Schultz Group Inc.  
P.O. Box 310483  
New Braunfels, TX 78131-0483

Re: EDWARDS AQUIFER, Comal County  
PROJECT: Stormceptor Sampling Plan, Project #645, Located at NW corner of N. Walnut Avenue & Canyon Drive, New Braunfels, Texas  
TYPE: Water Pollution Abatement Plan; 30 Texas Administrative Code (TAC) §213.5(b) [formerly 30 TAC 313.4]; Edwards Aquifer Protection Program

Dear Mr. Schultz:

The Texas Natural Resource Conservation Commission (TNRCC) received the stormwater sampling plan for the Stormceptor unit located at the above referenced site. It was submitted on behalf of Dr. Steven Beito by The Schultz Group, Inc. and Hydro Conduit and received by the San Antonio office on July 21, 1997.

The TNRCC approval letter dated June 14, 1996 approving the Stormceptor unit at the referenced location and the sampling plan that was submitted on July 21, 1997 are attached. The conditions of approval for the sampling plan are listed below with responses to your plan.

3a. Requirement: Sampling of the site will occur for at least two (2) years and must begin within thirty (30) days of occupancy of the building.

Submitted plan: This item was not addressed by the plan.

Response/Observation: A site investigation was conducted on May 5, 1997. At that time the building appeared to be occupied.

3b. Requirement: Samples shall be collected from the inflow and outflow portions of the Stormceptor unit. Samples will consist of a composite collected during the first flush of a rainfall event in order to measure the maximum pollutant load generated from the site.

Submitted plan: The locations of the samples that will be collected are shown on the attached map.

A) INFLOW: The metal grate is removed and samples are collected as the runoff enters the inlet box.

REPLY TO: REGION 13 • 140 HEIMER RD., SUITE 360 • SAN ANTONIO, TEXAS 78232-5042 • AREA CODE 210/490-3096

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000

printed on recycled paper using soy-based ink

B) OUTFLOW: The manhole lid is removed from the Stormceptor unit and the outflow inspection port cover is removed. Samples will then be collected at the outflow of the unit.

Response/Observation: This meets the criteria for providing locations for the collection of inflow and outflow samples. During the May 5, 1997 site investigation, these inflow and outflow ports were observed. Removal of the metal inlet grate and the Stormceptor manhole during a rain event appears to be very cumbersome.

3c. Requirement: All samples shall be tested for Total Suspended Solids (TSS) by EPA Method 160.2 and Total Petroleum Hydrocarbons (TPH) by EPA Method 418.1.

Submitted plan: A) TSS Sample Collection: 200 ml plastic containers will be used to collect samples. One inflow sample and on[e] outflow sample will be collected during each sampling event.

B) TPH Sample Collection: 1 liter glass containers will be used to collect samples. One inflow sample and one outflow sample will be collected during each sampling event.

The collection techniques will adhere to EPA Methods 160.2 (for TSS) and 418.1 (for TPH) whenever possible. Any deviations from these methods will be submitted to the TNRCC for review. A copy of the methods are included with the plan. Nasco whirlpak bags (400 ml) will be tested to see if the TPH samples still meet testing standards (see attached letter from San Antonio Testing). The Nasco bags will be used because the 1 liter glass bottle will not fit into the outflow portion of the Stormceptor unit.

Response/Observation: Substitution of one 200 ml whirlpak bag does not meet the required one liter glass sample container, nor does it address the issue of a composite sample. Furthermore, EPA Method 418.1 is under consideration for replacement. For more information see the attached TNRCC Policy entitled "TPH Method 418.1".

3h. A sampling plan shall be submitted to the TNRCC for approval at least thirty (30) days prior to the start of sampling. The sampling plan shall include at least the following: 1) sampling devices to be used, if applicable, 2) location of sampling points, 3) QA/QC to be used during sampling; and 4) a general description of the sampling, inspection, and maintenance procedures.

Submitted Plan: See Item 3C above.

Response/Observation: The sampling plan does not include,

1. Procedure to collect composite inflow and outflow samples (manual or automatic).

Mr. Stephen Schultz  
October 29, 1997  
Page 3

2. Type of composite sample to be collected (time-weighted or flow-weighted), and compositing procedure.
3. Criteria for determining if each storm event is sufficient to collect sample.
4. Method to measure flow, and duration of storm event.
5. QA/QC blanks to be used during sampling
6. Sampling checklist to include sample identification, handling, preservation, holding times, transport, chain of custody, etc.
7. Program for training sampling personnel.
8. Certification of analysis.
9. Certification that all information supplied is accurate and complete.

Should clarification of this letter be desired or if we may be of any other assistance, please contact John Mauser of our San Antonio office at 210/490-3096. Reference project number 645.

Sincerely,



Bobby D. Caldwell,  
Water Program Manager

BDC/JKM/eg

Attachments: TNRCC approval letter dated June 14, 1997  
Stormceptor Sampling Plan plus attachments, received July 21, 1997  
TNRCC Policy entitled "TPH Method 418.1"

cc: Harry Bennett, City of New Braunfels  
Clarence Bolner, City of New Braunfels  
Mike Shands, City of New Braunfels  
Tom Hornseth, Comal County  
Greg Ellis, Edwards Aquifer Authority  
TNRCC Field Operations, Austin

JUL 21 1997 08:10A STEPHEN E. SCHULTZ

# THE Schultz Group INC.

P.O. BOX 310483 • NEW BRAUNFELS, TEXAS 78131-0483 • PHONE: (210) 606-3913 • FAX: (210) 825-2204

July 16, 1997

Mr. John Mauser  
TNRCC - Region 13  
140 Heimer Road, Suite 360  
San Antonio, Texas 78232-5042

RE: Sampling Plan for Stormceptor at Dr. Steven Beito's Medical Office Building,  
New Braunfels, Texas


Dear John:

Attached is a proposed Sampling Plan for collecting data from the installed Stormceptor unit located on Dr. Beito's property. This plan is designed to meet requirements stated in Dr. Beito's WPAP approval letter from TNRCC dated June 14, 1996. Please review the plan and let me know what you think. We are willing to work closely with the Commission to ensure the Sampling Plan meets these requirements.

As you are aware, The Schultz Group, Inc. will handle all of the sampling, inspections and cleaning of the unit. Reports for each of these tasks will be prepared by SGI and submitted to TNRCC.

SGI is looking forward to working with TNRCC on this project. If we can be of any assistance, please give us a call.

Sincerely,



Jeff D. Moeller, E.I.T.

JDM/spp

LOIS M. SCHULTZ  
PRESIDENT

STEPHEN E. SCHULTZ, R.P.L.S.  
VICE-PRESIDENT

BOBBIE L. HASERT, P.E., R.P.L.S.  
CHIEF ENGINEER

CONSULTING ENGINEERS & LAND SURVEYORS



JUL-21-97 08:11A Stephen E. Schmitt (410) 223-2207 P.03

## STORMCEPTOR SAMPLING PLAN

FOR

DR. STEVEN BEITO'S MEDICAL OFFICE BUILDING  
NEW BRAUNFELS, TEXAS

1. **DEVICES:**

- A) **TSS Sample Collection:**  
200 ml. plastic containers will be used to collect samples. One inflow sample and one outflow sample will be collected during each sampling event.
- B) **TPH Sample Collection:**  
1 liter glass containers will be used to collect samples. One inflow sample and one outflow sample will be collected during each sampling event.

The collection techniques will adhere to EPA Methods 160.2 (for TSS) and 418.1 (for TPH) whenever possible. Any deviations from these methods will be submitted to TNRCC for review. A copy of the methods are included with this plan. Nasco whirlpak bags (400 ml.) will be tested to see if the TPH samples still meet testing standards ( see attached letter from San Antonio Testing). The Nasco bags will be used because the 1 liter glass bottle will not fit into the outflow portion of the Stormceptor unit.

2. **LOCATION OF SAMPLING POINTS:**

\*The locations of samples that will be collected are shown on the attached map.

- A) **INFLOW:** The metal grate is removed and samples are collected as the runoff enters the inlet box.
- B) **OUTFLOW:** The manhole lid is removed from the Stormceptor unit and the outflow inspection port cover is removed. Samples will then be collected at the outflow of the unit.

3. **QA/QC DURING SAMPLING:**

- A) Samples will be collected and handled according to EPA Methods 160.2 and 418.1. The Schultz Group, Inc. (SGI) will be responsible for the collection and handling of all samples at the site. Samples will be sent to San Antonio Testing for actual analysis.

**4. GENERAL DESCRIPTION:**

A) Samples will be collected as previously stated by SGI. Jeff Moeller or Steve Schultz can be contacted at 830/606-3913 if questions arise. This is new technology for this area and the sampling procedure will improve as time progresses. If any deviations are made with regard to the collection or analysis of the samples, TNRCC will be notified in writing by SGI. Samples will be collected only during the first flush of a storm and while there is outflow from the Stormceptor unit. The first flush is defined as runoff that occurs during and up to the first half (1/2) inch of rainfall. The rainfall amounts will be monitored by a gauge located at the offices of SGI. The gauge is less than 0.1 mile from Dr. Beito's site. Documentation will be kept stating when the rain started, when samples were taken and when it stopped, along with accumulative amounts. After samples are collected, they will be properly packed and shipped to San Antonio Testing Laboratory, Inc. (attention Richard Hawk). SAT will be responsible for analyzing the samples. After the analysis is completed, results will be sent back to SGI. SGI will then package the data for presentation to TNRCC.

**B. INSPECTION:**

Monthly inspections will be conducted by SGI to satisfy item "g" of the Special Conditions of Approval. A "CorePRO" measuring device will be used to measure sediment and floatable oil thicknesses. The monthly inspection report, along with photographs, will be submitted to TNRCC within ten (10) days of the inspection. The inspections will occur at the beginning of each month.

**C. MAINTENANCE PROCEDURES:**

Due to the site and Stormceptor design, maintenance of the unit will be minimal. It is anticipated the unit will need to be cleaned annually, however, sediment and TPH depths will dictate actual cleaning time frames. All Pro Professional Rooting and Plumbing Repair will be performing the annual cleaning using a vacuum truck. There are no other maintenance procedures required. The cleaning will be documented in the annual and comprehensive reports required under items "j" and "l" of the Special Conditions of Approval. Service receipts stating work performed by All Pro will be included in these reports. An annual and a comprehensive report will be compiled by SGI and submitted to TNRCC after the first and second year of sampling respectfully.



05/06/1997 14:45 2102299921

SAN ANTONIO TESTING

PAGE 01

**SAN ANTONIO  
TESTING LABORATORY, INC.**

May 6, 1997

To: Jim Height  
Hydro Conduit

A water sample with a spike of 100 ppm oil was added to a Nasco-Pak plastic sample bag then analyzed for TPH. We got a 98% recovery.

A second Nasco Pak bag was filled with Freon and tested for TPH 24 hours later, we got a <2 ppm result.

The purpose for this experiment is to prove these Nasco Whirl-Pak bag do not interfere with the TPH testing. The client cannot get a glass bottle into the sampling point and wants to use these bags.

Conclusion: These bags do not adversely interfere with the TPH 418.1 testing.

Sincerely,

*Richard Hawk*  
Richard Hawk  
General Manager

# PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE

## Method 418.1 (Spectrophotometric, Infrared)

STORET NO. 45501

1. Scope and Application
  - 1.1 This method is for the measurement of fluorocarbon-113 extractable petroleum hydrocarbons from surface and saline waters, industrial and domestic wastes.
  - 1.2 The method is applicable to measurement of light fuels, although loss of about half of any gasoline present during the extraction manipulations can be expected.
  - 1.3 The method is sensitive to levels of 1 mg/l and less, and may be extended to ambient monitoring.
2. Summary of Method
  - 2.1 The sample is acidified to a low pH ( $< 2$ ) and serially extracted with fluorocarbon-113 in a separatory funnel. Interferences are removed with silica gel adsorbant. Infrared analysis of the extract is performed by direct comparison with standards.
3. Definitions
  - 3.1 As in the case of Oil and Grease, the parameter of Petroleum Hydrocarbons is defined by the method. The measurement may be subject to interferences and the results should be evaluated accordingly.
  - 3.2 Oil and Grease is a measure of biodegradable animal greases and vegetable oils along with the relative non-biodegradable mineral oils. Petroleum hydrocarbons is the measure of only the mineral oils. Maximum information may be obtained using both methods to measure and characterize oil and grease of all sources.
4. Sampling and Storage
  - 4.1 A representative sample of 1 liter volume should be collected in a glass bottle. Because losses of grease will occur on sampling equipment, the collection of a composite sample is impractical. The entire sample is consumed by this test; no other analyses may be performed using aliquots of the sample.
  - 4.2 A delay between sampling and analysis of greater than 4 hours requires sample preservation by the addition of 5 ml HCl (6.1). A delay of greater than 48 hours also requires refrigeration for sample preservation.
5. Apparatus
  - 5.1 Separatory funnel, 2000 ml, with Teflon stopcock.
  - 5.2 Filter paper, Whatman No. 40, 11 cm.
  - 5.3 Infrared spectrophotometer, scanning or fixed wavelength, for measurement around  $2950\text{ cm}^{-1}$ .
  - 5.4 Cells, 10 mm, 50 mm, and 100 mm pathlength, sodium chloride or infrared grade glass.
  - 5.5 Magnetic stirrer, with Teflon coated stirring bars.
6. Reagents
  - 6.1 Hydrochloric acid, 1:1. Mix equal volumes of conc HCl and distilled water.

Issued 1978

TSS

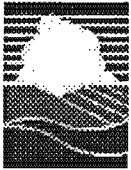
## RESIDUE, NON-FILTERABLE

### Method 160.2 (Gravimetric, Dried at 103-105°C)

STORET NO. 00530

1. Scope and Application
  - 1.1 This method is applicable to drinking, surface, and saline waters, domestic and industrial wastes.
  - 1.2 The practical range of the determination is 4 mg/l to 20,000 mg/l.
2. Summary of Method
  - 2.1 A well-mixed sample is filtered through a glass fiber filter, and the residue retained on the filter is dried to constant weight at 103-105°C.
  - 2.2 The filtrate from this method may be used for Residue, Filterable.
3. Definitions
  - 3.1 Residue, non-filterable, is defined as those solids which are retained by a glass fiber filter and dried to constant weight at 103-105°C.
4. Sample Handling and Preservation
  - 4.1 Non-representative particulates such as leaves, sticks, fish, and lumps of fecal matter should be excluded from the sample if it is determined that their inclusion is not desired in the final result.
  - 4.2 Preservation of the sample is not practical; analysis should begin as soon as possible. Refrigeration or icing to 4°C, to minimize microbiological decomposition of solids, is recommended.
5. Interferences
  - 5.1 Filtration apparatus, filter material, pre-washing, post-washing, and drying temperature are specified because these variables have been shown to affect the results.
  - 5.2 Samples high in Filterable Residue (dissolved solids), such as saline waters, brines and some wastes, may be subject to a positive interference. Care must be taken in selecting the filtering apparatus so that washing of the filter and any dissolved solids in the filter (7.5) minimizes this potential interference.
6. Apparatus
  - 6.1 Glass fiber filter discs, without organic binder, such as Millipore AP-40, Reeves Angel 934-AH, Gelman type A, B, or equivalent.  
NOTE: Because of the physical nature of glass fiber filters, the absolute pore size cannot be controlled or measured. Terms such as "pore size", collection efficiencies and effective retention are used to define this property in glass fiber filters. Values for these parameters vary for the filters listed above.
  - 6.2 Filter support: filtering apparatus with reservoir and a coarse (40-60 microns) fritted disc as a filter support.

Approved for NPDES  
Issued 1971



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## **TPH Method 418.1**

**September 19, 1997**

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### **Petroleum Storage Tank Division to Consider Replacement for EPA Method 418.1**

The Petroleum Storage Tank (PST) Division is awaiting a recommendation from a work group for a replacement method for total petroleum hydrocarbons (TPH) method 418.1. Method 418.1 relies on the use of freon which has been banned by federal regulation. Because of the freon ban, the PST Division has been forced to consider alternative methodologies for TPH analysis.

The work group is comprised of representatives from environmental laboratories and industry, and is working to meet performance requirements and objectives set forth by the PST Division. The PST Division in coordination with other representatives from the TNRCC, including the TNRCC Houston Laboratory, Pollution Cleanup Division, and Industrial and Hazardous Waste Divisions has provided comments on a draft of the replacement and has met with the work group to discuss the comments and related issues.

The draft recommendation used a rapid extraction of the sample using n-pentane followed by analysis of part of the extract by gas chromatography with a flame ionization detector. The method measures the distribution of hydrocarbons between C<sub>6</sub> and C<sub>28</sub>, reported as two different ranges of TPH, which roughly equate to gasoline range hydrocarbons and diesel range hydrocarbons. The equipment setup is similar to that of the 8015 method, however, the method is based in part on USEPA methods 8000, 8015, and 8100, and is similar to the Massachusetts Department of Environmental Protection Method for the Determination of Extractable Petroleum Hydrocarbons and the Washington State WTPH-HCID.

The work group is completing a multi-laboratory test of the recommended replacement method and is in the process of compiling and evaluating the test results, and making final adjustments to the recommendation. Sensitive to the concerns expressed by environmental laboratories in continuing the use of 418.1, the work group leader is working to provide the final recommendation as soon as possible. The PST Division anticipates receiving the final recommendation before the end of this calendar year and will coordinate the review of the final recommendation with appropriate areas of the agency. The PST Division is hopeful that a solution to the 418.1 dilemma is close at hand for the PST program. The TNRCC will place a notice on this web site when the recommendation is received. Questions and comments should be referred to Chet Clarke in the PST Division at (512) 239-2106.

If the PST Division does adopt the recommendation, then the PST Division will issue such a policy statement and implement the change in as timely a manner as possible. Persons who do not fall under the regulatory jurisdiction of the PST Division will need to verify acceptability in their TNRCC program area prior to using the replacement method.

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<http://www.tnrcc.state.tx.us/oprd/forum.html>

THE  
**Schultz Group**  
INC.

TNRCC  
Corves.

P.O. BOX 310483 • NEW BRAUNFELS, TEXAS 78131-0483 • PHONE: (210) 606-3913 • FAX: (210) 625-2204

RECEIVED

DEC 22 1997

COUNTY ROAD DEPT.

December 8, 1997

Mr. John Mauser  
TNRCC Region 13  
140 Heimer Rd., Suite 360  
San Antonio, Texas 78232-5042

RE: Revised Sampling Plan for Dr. Steven Beito's Medical Office Building in New Braunfels Texas, required by Special Condition item 3h of the Approval letter dated June 14, 1996.

Dear Mr. Mauser:

This letter will address a letter received from the Commission dated October 29, 1997 responding to the Sampling Plan submitted by The Schultz Group, Inc. to the Commission on July 21, 1997, and includes a revised Sampling Plan addressing the Commission's concerns.

The Sampling Plan submitted was intended to address Special Condition item 3h of the Approval letter dated June 14, 1996 for Dr. Steven Beito. There seems to be a misunderstanding of its intent. We want to clarify that we need to get item 3h, the Sampling Plan, approved by the Commission before we proceed with sampling at the site. It should be noted that all other requirements under item 3 of the Special Condition of Approval (Sampling Program) have been, and will continue to be followed. Samples were being collected and analyzed as soon as the facility was occupied according to the guidelines set forth under item 3 of the Approval letter. Sampling of the site was suspended per the Commission's request because item 3h, the Sampling Plan, had not been submitted to and approved by the Commission. Since that time we have been working closely with the Commission to get in compliance with item 3h so that the Sampling Program can resume. It is the intent of this letter, and the attached Sampling Plan, to address item 3h of the Special Conditions of Approval only. All other requirements under item 3 are non-negotiable and will be adhered to during the course of the Sampling Program.

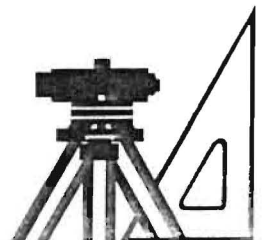
Item 3h specifically states, " A sampling plan shall be submitted to the TNRCC for approval at least thirty (30) days prior to the start of sampling. The sampling plan shall include at least the following: 1) sampling devices to be used if applicable; 2) location of sampling points, 3) QA/QC to be used during sampling, and 4) a general description of the sampling, inspection, and maintenance procedures." The submitted Sampling Plan addressed items 1 through 4 as stated above and included additional information not required. Items 3a, 3b and 3c listed in the response letter from TNRCC to Mr. Stephen Schultz dated October 29, 1997 do not pertain to the sampling plan (item 3h). Item 3h in the same letter had the following response:

LOIS M. SCHULTZ  
PRESIDENT

STEPHEN E. SCHULTZ, R.P.L.S.  
VICE-PRESIDENT

BOBBIE L. HASERT, P.E., R.P.L.S.  
CHIEF ENGINEER

CONSULTING ENGINEERS & LAND SURVEYORS



"Response/Observation: The Sampling Plan does not include..."and lists items 1 through 9.

The following addresses items 1 through 9:

1. Procedure to collect composite inflow and outflow samples (manual or automatic).  
  
This was not a requirement of Special Condition item 3h, but is clarified in the revised Sampling Plan attached.
2. Type of composite sample to be collected (time weighted or flow weighted) and compositing procedure.  
  
This was not a requirement of Special Condition item 3h, but is clarified in the revised Sampling Plan.
3. Criteria for determining if each storm event is sufficient to collect sample.  
  
This was not a requirement of Special Condition item 3h. As stated in the Sampling Plan, samples will only be collected during the first flush of a storm and while there is outflow from the Stormceptor Unit.
4. Method to measure flow and duration of storm event.  
  
This was not a requirement of Special Condition item 3h. As stated in the Sampling Plan, rainfall amounts, along with intensities and durations, will be documented by The Schultz Group, Inc. The rainfall will be measured per event using a rain guage located at the SGI office which is less than 0.1 mile from the subject property.
5. QA/QC blanks to be used.  
  
As stated in the Sampling Plan, QA/QC will adhere to the requirements of EPA Methods 160.2 and 418.1 or any revisions of these methods.
6. Sampling Checklist to include sample identification, handling, preservation, holding time, transport, chain of custody etc.  
  
This was not a requirement of Special Condition item 3h. As stated in the Sampling Plan, sampling will adhere to EPA methods 160.2 and 418.1 which state how samples will be handled, preserved and holding times. San Antonio Testing will be analyzing the samples and they are certified by TNRCC. A chain of custody form is filled out by The Schultz Group, Inc. and San Antonio Testing for each analysis. Copies will be forwarded to the Commission with the sample data.

7. Program for training sampling personnel.

This was not a requirement of Special Condition item 3h. The people collecting samples have Civil Engineering degrees and are very familiar with the technical implications of failing to collect good, consistent samples. They are familiar with TNRCC regulations and hydraulics and hydrology. As stated in the Sampling Plan, this is new technology for this area and we are all learning from this experience. However, between the experience of the Commission, San Antonio Testing, and The Schultz Group personnel, good composite samples can be collected, analyzed and reviewed.

8. Certification of Analysis.

This was not a requirement of Special Condition item 3h. As stated in the Sampling Plan, San Antonio Testing Laboratory, Inc. (SAT) will be analyzing all of the samples. SAT is certified by the TNRCC to do this type of analysis.

9. Certification that all information supplied is accurate and complete.

This was not a requirement of Special Condition item 3h. A certification statement will be included with results for each event sampled.

The Sampling Plan submitted to the Commission on July 21, 1997, along with the revised plan attached covers the four items listed under Special Condition of Approval item 3h in the Approval letter dated June 14, 1996 for Dr. Steven Beito from the TNRCC.

Please review the revised Sampling Plan and this letter, The Schultz Group, Inc. wants to work closely with the Commission to get the Sampling Plan approved so that the Sampling Program can resume. If you have any questions or if we can be of assistance, please do not hesitate to call.

Sincerely,

  
Stephen E. Schultz, R.P.L.S.

  
John J. Moy, Jr., E.I.T.

cc: Harry Bennett, City of New Braunfels  
Clarence Bolner, City of New Braunfels  
Mike Shands, City of New Braunfels  
Tom Hornsath, Comal County  
Greg Ellis, Edwards Aquifer Authority  
TNRCC Field Operations, Austin



## STORMCEPTOR SAMPLING PLAN

FOR

DR. STEVEN BEITO'S MEDICAL OFFICE BUILDING  
NEW BRAUNFELS, TEXAS

### 1. DEVICES:

- A) TSS Sample Collection:  
200 ml. plastic containers will be used to collect samples. One inflow sample and one outflow sample will be collected during each sampling event.
- B) TPH Sample Collection:  
1 liter glass containers will be used to collect samples. One inflow sample and one outflow sample will be collected during each sampling event. Four grab samples will be collected for each sampling event. One TSS inflow, one TSS outflow, one TPH inflow and 1 TPH outflow. There will be a composite of samples collected over the 2 year required sampling period. It is this composition of data that can be analyzed by the Commission to see if the Stormceptor Units are functioning properly.

The collection techniques will adhere to EPA Methods 160.2 (for TSS) and 418.1 (for TPH) whenever possible. Any deviations from these methods will be submitted to TNRCC for review. A copy of the methods are included with this plan. Nasco whirlpak bags (400 ml.) will be tested to see if the TPH samples still meet testing standards ( see attached letter from San Antonio Testing). The Nasco bags will be used because the 1 liter glass bottle will not fit into the outflow portion of the Stormceptor unit. (The total sample amount will still meet all EPA requirements)

### 2. LOCATION OF SAMPLING POINTS:

\*The locations of samples that will be collected are shown on the attached map.

- A) **INFLOW:** The metal grate is removed and samples are collected as the runoff enters the inlet box.
- B) **OUTFLOW:** The manhole lid is removed from the Stormceptor unit and the outflow inspection port cover is removed. Samples will then be collected at the outflow of the unit.

3. **QA/QC DURING SAMPLING:**

A) Samples will be collected and handled according to EPA Methods 160.2 and 418.1. The Schultz Group, Inc. (SGI) will be responsible for the collection and handling of all samples at the site. Samples will be sent to San Antonio Testing for actual analysis. A chain of custody letter will be filled out and copies will be forwarded along with the analyzed data to the Commission.

4. **GENERAL DESCRIPTION:**

A) Samples will be collected as previously stated by SGI. Jeff Moeller or Steve Schultz can be contacted at 830/606-3913 if questions arise. This is new technology for this area and the sampling procedure will improve as time progresses. If any deviations are made with regard to the collection or analysis of the samples, TNRCC will be notified in writing by SGI. Samples will be collected only during the first flush of a storm and while there is outflow from the Stormceptor unit. The first flush is defined as runoff that occurs during and up to the first half (1/2) inch of rainfall. The rainfall amounts will be monitored by a gauge located at the offices of SGI. The gauge is less than 0.1 mile from Dr. Beito's site. Documentation will be kept stating when the rain started, when samples were taken and when it stopped, along with accumulative amounts. After samples are collected, they will be properly packed and shipped to San Antonio Testing Laboratory, Inc. (attention Richard Hawk). SAT will be responsible for analyzing the samples. After the analysis is completed, results will be sent back to SGI. SGI will then package the data for presentation to TNRCC.

B. **INSPECTION:**

Monthly inspections will be conducted by SGI to satisfy item "g" of the Special Conditions of Approval. A "CorePRO" measuring device will be used to measure sediment and floatable oil thicknesses. The monthly inspection report, along with photographs, will be submitted to TNRCC within ten (10) days of the inspection. The inspections will occur at the beginning of each month.

C. **MAINTENANCE PROCEDURES:**

Due to the site and Stormceptor design, maintenance of the unit will be minimal. It is anticipated the unit will need to be cleaned annually, however, sediment and TPH depths will dictate actual cleaning time frames. All Pro Professional Rooting and Plumbing Repair will be performing the annual cleaning using a vacuum truck. There are no other maintenance procedures required. The cleaning will be documented in the annual and comprehensive reports required under items "j" and "l" of the Special Conditions of Approval. Service receipts stating work performed by All Pro will be included in these reports. An annual and a comprehensive report will be compiled by SGI and submitted to TNRCC after the first and second year of sampling respectfully.



May 6, 1997

To: Jim Height  
Hydro Conduit

A water sample with a spike of 100 ppm oil was added to a Nasco-Pak plastic sample bag then analyzed for TPH. We got a 98% recovery.

A second Nasco Pak bag was filled with Freon and tested for TPH 24 hours later, we got a <2 ppm result.

The purpose for this experiment is to prove these Nasco Whirl-Pak bag do not interfere with the TPH testing. The client cannot get a glass bottle into the sampling point and wants to use these bags

Conclusion: These bags do not adversely interfere with the TPH 418.1 testing.

Sincerely,

*Richard Hawk*  
Richard Hawk  
General Manager

**PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE****Method 418.1 (Spectrophotometric, Infrared)**

STORET NO. 45301

1. Scope and Application
  - 1.1 This method is for the measurement of fluorocarbon-113 extractable petroleum hydrocarbons from surface and saline waters, industrial and domestic wastes.
  - 1.2 The method is applicable to measurement of light fuels, although loss of about half of any gasoline present during the extraction manipulations can be expected.
  - 1.3 The method is sensitive to levels of 1 mg/l and less, and may be extended to ambient monitoring.
2. Summary of Method
  - 2.1 The sample is acidified to a low pH (< 2) and serially extracted with fluorocarbon-113 in a separatory funnel. Interferences are removed with silica gel adsorbant. Infrared analysis of the extract is performed by direct comparison with standards.
3. Definitions
  - 3.1 As in the case of Oil and Grease, the parameter of Petroleum Hydrocarbons is defined by the method. The measurement may be subject to interferences and the results should be evaluated accordingly.
  - 3.2 Oil and Grease is a measure of biodegradable animal greases and vegetable oils along with the relative non-biodegradable mineral oils. Petroleum hydrocarbons is the measure of only the mineral oils. Maximum information may be obtained using both methods to measure and characterize oil and grease of all sources.
4. Sampling and Storage
  - 4.1 A representative sample of 1 liter volume should be collected in a glass bottle. Because losses of grease will occur on sampling equipment, the collection of a composite sample is impractical. The entire sample is consumed by this test; no other analyses may be performed using aliquots of the sample.
  - 4.2 A delay between sampling and analysis of greater than 4 hours requires sample preservation by the addition of 5 ml HCl (6.1). A delay of greater than 48 hours also requires refrigeration for sample preservation.
5. Apparatus
  - 5.1 Separatory funnel, 2000 ml, with Teflon stopcock.
  - 5.2 Filter paper, Whatman No. 40, 11 cm.
  - 5.3 Infrared spectrophotometer, scanning or fixed wavelength, for measurement around 2950  $\text{cm}^{-1}$ .
  - 5.4 Cells, 10 mm, 50 mm, and 100 mm pathlength, sodium chloride or infrared grade glass.
  - 5.5 Magnetic stirrer, with Teflon coated stirring bars.
6. Reagents
  - 6.1 Hydrochloric acid, 1:1. Mix equal volumes of conc HCl and distilled water.

Issued 1978

418.1-1

**RESIDUE, NON-FILTERABLE****Method 160.2 (Gravimetric, Dried at 103-105°C)**

STORET NO. 00530

- TSS
1. Scope and Application
    - 1.1 This method is applicable to drinking, surface, and saline waters, domestic and industrial wastes.
    - 1.2 The practical range of the determination is 4 mg/l to 20,000 mg/l.
  2. Summary of Method
    - 2.1 A well-mixed sample is filtered through a glass fiber filter, and the residue retained on the filter is dried to constant weight at 103-105°C.
    - 2.2 The filtrate from this method may be used for Residue, Filterable.
  3. Definitions
    - 3.1 Residue, non-filterable, is defined as those solids which are retained by a glass fiber filter and dried to constant weight at 103-105°C.
  4. Sample Handling and Preservation
    - 4.1 Non-representative particulates such as leaves, sticks, fish, and lumps of fecal matter should be excluded from the sample if it is determined that their inclusion is not desired in the final result.
    - 4.2 Preservation of the sample is not practical; analysis should begin as soon as possible. Refrigeration or being to 4°C, to minimize microbiological decomposition of solids, is recommended.
  5. Interferences
    - 5.1 Filtration apparatus, filter material, pre-washing, post-washing, and drying temperature are specified because these variables have been shown to affect the results.
    - 5.2 Samples high in Filterable Residue (dissolved solids), such as saline waters, brines and some wastes, may be subject to a positive interference. Care must be taken in selecting the filtering apparatus so that washing of the filter and any dissolved solids in the filter (7.5) minimizes this potential interference.
  6. Apparatus
    - 6.1 Glass fiber filter discs, without organic binder, such as Millipore AP-40, Reeves Angel 934-AH, Gelman type A/E, or equivalent.  
NOTE: Because of the physical nature of glass fiber filters, the absolute pore size cannot be controlled or measured. Terms such as "pore size", collection efficiencies and effective retention are used to define this property in glass fiber filters. Values for these parameters vary for the filters listed above.
    - 6.2 Filter support: Filtering apparatus with reservoir and a coarse (40-60 microns) fritted disc as a filter support.

Approved for NPDES  
Issued 1971