

**SOUTH DAKOTA WELL AND TEST HOLE PLUGGING REPORT**

10-85

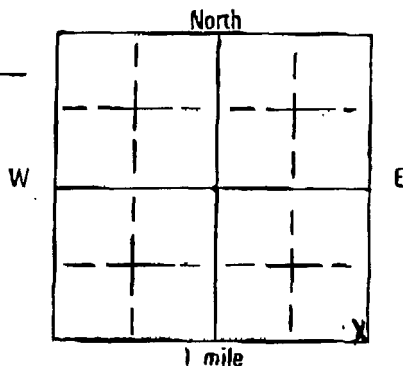
Location SE 1/4 SE 1/4 Sec 21 Twp 10N Rg 50W

County

Minnehaha

Please mark well  
location with  
an "X"

MW-2A



Well Owner:

Name ATO FNA Petrochemicals, INC.

Address PO Box 674411

Houston, TX 77267-4411

Plugging completion Date 01-15-01

**CHECK APPROPRIATE BOX**

EXISTING WELL



TEST HOLE



Well depth

26.5'

Casing material

Sch 40 PVC

Casing size(s)

2 in.

Casing condition

Good

Hole depth

Hole size

Describe plugging procedure: The PVC casing was pulled and the borehole was backfilled with a bentonite seal to plug the former well.

Describe grout or plugging material:

Bentonite

Type of non-slip plug:

This well or test hole was plugged under license #

661

And this report is true and accurate.

Drilling firm

Thiele Geotech, Inc.

Signature of Licensed Representative

[Signature]

Signature of Well Owner

[Signature]

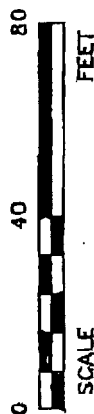
Date

2/12/01



### LEGEND

- ⊕ = MONITORING WELL
- ⊙ = SOIL BORING
- ⊖ = LOST MONITORING WELL



APPROXIMATE PROPERTY LINE

TEXACO  
 STATION

FORMER FUEL  
 OIL UST

MW-1A

MW-5

ENCLOSED  
 DUMPSTER  
 AREA

ANESTHESIOLOGIST

MW-7

MW-2A

MW-9

PUMP  
 ISLAND

PUMP  
 ISLAND

UST BASIN

MW-4

MW-3A

MW-6

BM

CLIFF STREET

26th STREET

SERVICE STATION

CEMETERY

## SITE MAP

DRAWING DATE:  
 12/31/96

FIGURE NO.:  
 1

CLIENT:  
 FORMER FINA #9538

PROJECT NO.:  
 052100271

DRAWN BY:  
 DJG

LOCATION:  
 SIOUX FALLS, SD

ACAD FILE:  
 0271-SM

SUBMITTED BY:  
 TS

**FLUOR DANIEL QTI**  
 2733 99th STREET  
 URBANDALE, IA 50322

GROUNDWATER  
TECHNOLOGY

## Drilling Log

Monitoring Well MW-2A

Project Fina #9538 Owner Fina Oil and Chemical  
 Location Sioux Falls, SD Project No. 01210-5044 Date drilled 10/19/93  
 Surface Elev. \_\_\_\_\_ Total Hole Depth 26.5 ft. Diameter 8 7/8 in.  
 Top of Casing 94.88 ft. Water Level Initial 12.5 ft. Static \_\_\_\_\_  
 Screen: Dia 2 in. Length 20 ft. Type/Size .010 in.  
 Casing: Dia 2 in. Length 5 ft. Type Sch 40 PVC  
 Filter Pack Material Sandpack Rig/Core Type Split spoon  
 Drilling Company SRM Inc Method Hollow Stem Auger Permit # \_\_\_\_\_  
 Driller Steve Log By Scott Stanley  
 Checked By \_\_\_\_\_ License No. 575

See Site Map  
For Boring Location

## COMMENTS:

S-1 and S-2 to lab

| Depth<br>(ft.) | Well<br>Completion | P10<br>(ppm) | Sample ID<br>Blow Count/<br>% Recovery | Graphic<br>Log | USCS Class. | Description<br>(Color, Texture, Structure)<br>Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|----------------|--------------------|--------------|----------------------------------------|----------------|-------------|---------------------------------------------------------------------------------------------------------------|
| -2             |                    |              |                                        |                |             |                                                                                                               |
| 0              |                    |              |                                        |                |             | Concrete                                                                                                      |
| 2              |                    |              |                                        |                | ML          | Light brown, crumbly, dry, clayey, SILT                                                                       |
| 4              |                    | 0.8          |                                        |                |             |                                                                                                               |
| 6              |                    | 1.0          |                                        |                | ML          | Light brown, crumbly, dry to damp, clayey, SILT                                                               |
| 8              |                    |              |                                        |                |             |                                                                                                               |
| 10             |                    | 6.7          |                                        |                | ML          | Light brown, crumbly, moist, clayey, SILT                                                                     |
| 12             |                    |              |                                        |                |             |                                                                                                               |
| 14             |                    |              |                                        |                |             |                                                                                                               |
| 16             |                    | 3.1          | S-1                                    |                | ML          | Light brown with light gray mottling, saturated, clayey, SILT                                                 |
| 18             |                    |              |                                        |                |             |                                                                                                               |
| 20             |                    | 2.8          |                                        |                |             |                                                                                                               |
| 22             |                    |              |                                        |                | CH          | Light brown with light gray mottling, high plastic, saturated, CLAY                                           |
| 24             |                    |              |                                        |                |             |                                                                                                               |
| 26             |                    | 2,223        | S-2                                    |                |             | Bottom of hole = 26.5'                                                                                        |
| 28             |                    |              |                                        |                |             |                                                                                                               |

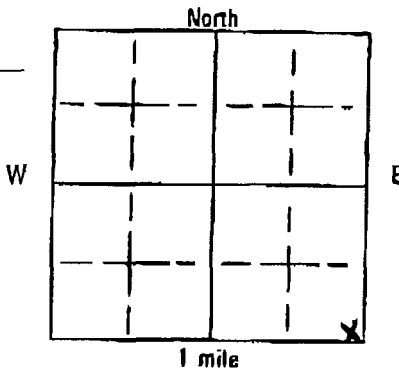
**SOUTH DAKOTA WELL AND TEST HOLE PLUGGING REPORT**

10-85

Location SE 1/4 SE 1/4 Sec 21 Twp 10N Rg 50W

County  
Minnehaha

Please mark well  
location with  
an "X"



MW-3A

Well Owner:

Name ATOFINA Petrochemicals, INC.

Address PO Box 674411

Houston, TX 77267-4411

Plugging completion Date 01-15-01

**CHECK APPROPRIATE BOX**

EXISTING WELL



TEST HOLE



Well depth 25.5'

Casing material sch 40 PVC

Casing size(s) 2" diameter

Casing condition Good

Hole depth \_\_\_\_\_

Hole size \_\_\_\_\_

Describe plugging procedure: The PVC casing was pulled and the borehole backfilled w/ bentonite seal to plug the former well

Describe grout or plugging material: Bentonite

Type of non-slip plug: \_\_\_\_\_

This well or test hole was plugged under license # 661 And this report is true and accurate.

Drilling firm Thiele Geotech, Inc.

Signature of Licensed Representative [Signature]

Signature of Well Owner [Signature]

Date 2/12/01

GROUNDWATER  
TECHNOLOGY

## Drilling Log

Monitoring Well MW-3A

Project Fina #9538 Owner Fina Oil and Chemical  
Location Sioux Falls, SD Project No. 01210-5044 Date drilled 10/19/93  
Surface Elev. 96.16 ft. Total Hole Depth 25.5 ft. Diameter 6 7/8 in.  
Top of Casing 96.16 ft. Water Level Initial 7 ft. Static             
Screen: Dia 2 in. Length 20 ft. Type/Size 010 in.  
Casing: Dia 2 in. Length 5 ft. Type Sch 40 PVC  
Filter Pack Material Sandpack Rig/Core Type Split spoon  
Drilling Company SRM Inc Method Hollow Stem Auger Permit #             
Driller Steve Log By Scott Stanley  
Checked By            License No. 575

See Site Map  
For Boring Location

## COMMENTS:

S-1 to 16P

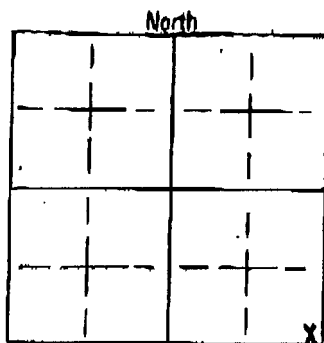
| Depth<br>(ft.) | Well<br>Completion | PID<br>(ppm) | Sample ID<br>Blow Count/<br>% Recovery | Graphic<br>Log | USCS<br>Class. | Description<br>(Color, Texture, Structure)<br>Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50% |
|----------------|--------------------|--------------|----------------------------------------|----------------|----------------|---------------------------------------------------------------------------------------------------------------|
| -2             |                    |              |                                        |                |                |                                                                                                               |
| 0              |                    |              |                                        |                |                | Concrete                                                                                                      |
| 2              |                    |              |                                        |                |                |                                                                                                               |
| 4              |                    | 1.5          |                                        |                | SC             | Light brown, low plastic, clayey, SAND                                                                        |
| 6              |                    |              |                                        |                | ML             | Light brown with light gray mottling, crumbly, moist, SILT with clay                                          |
| 8              |                    | 1.7          |                                        |                | ML             | Light brown with light gray mottling, crumbly, moist to wet, SILT with clay                                   |
| 10             |                    |              |                                        |                |                |                                                                                                               |
| 12             |                    | 1.9          |                                        |                | ML             | Light brown with light gray mottling, wet, clayey, SILT                                                       |
| 14             |                    |              |                                        |                |                |                                                                                                               |
| 16             |                    | 4.8          | S-1                                    |                | ML             | Light brown with light gray mottling, saturated, clayey, SILT                                                 |
| 18             |                    |              |                                        |                |                |                                                                                                               |
| 20             |                    |              |                                        |                | SW<br>ML       | Light brown, medium to coarse grained, well sorted, saturated, SAND<br>Light brown, saturated, clayey, SILT   |
| 22             |                    | 12.6         |                                        |                |                |                                                                                                               |
| 24             |                    |              |                                        |                | CH             | Light brown with light gray mottling, high plastic, saturated, CLAY with little sand                          |
| 26             |                    | 16.7         |                                        |                |                |                                                                                                               |
| 28             |                    |              |                                        |                |                | Bottom of hole = 25.5'                                                                                        |

Location SE 1/4 SE 1/4 Sec 21 Twp 10N Rg 50W

County

MinnehahaPlease mark well  
location with  
an "X"

W



1 mile

Well Owner:

Name ATO ENA Petrochemicals, Inc.Address P.O. Box 674411Houston, TX 77267-4411Plugging completion Date 01-15-01

MW-4

## CHECK APPROPRIATE BOX

EXISTING WELL



TEST HOLE



Well depth

39.5'

Casing material

Sch 40 PVC

Casing size(s)

2" diameter

Casing condition

Good

Hole depth

Hole size

Describe plugging procedure:

The PVC casing was pulled and the borehole  
was backfilled with a bentonite seal to plug the former well

Describe grout or plugging material:

bentonite

Type of non-slip plug:

This well or test hole was plugged under license #

661

And this report is true and accurate.

Drilling firm

Thiele Geotech, Inc.

Signature of Licensed Representative

[Signature]

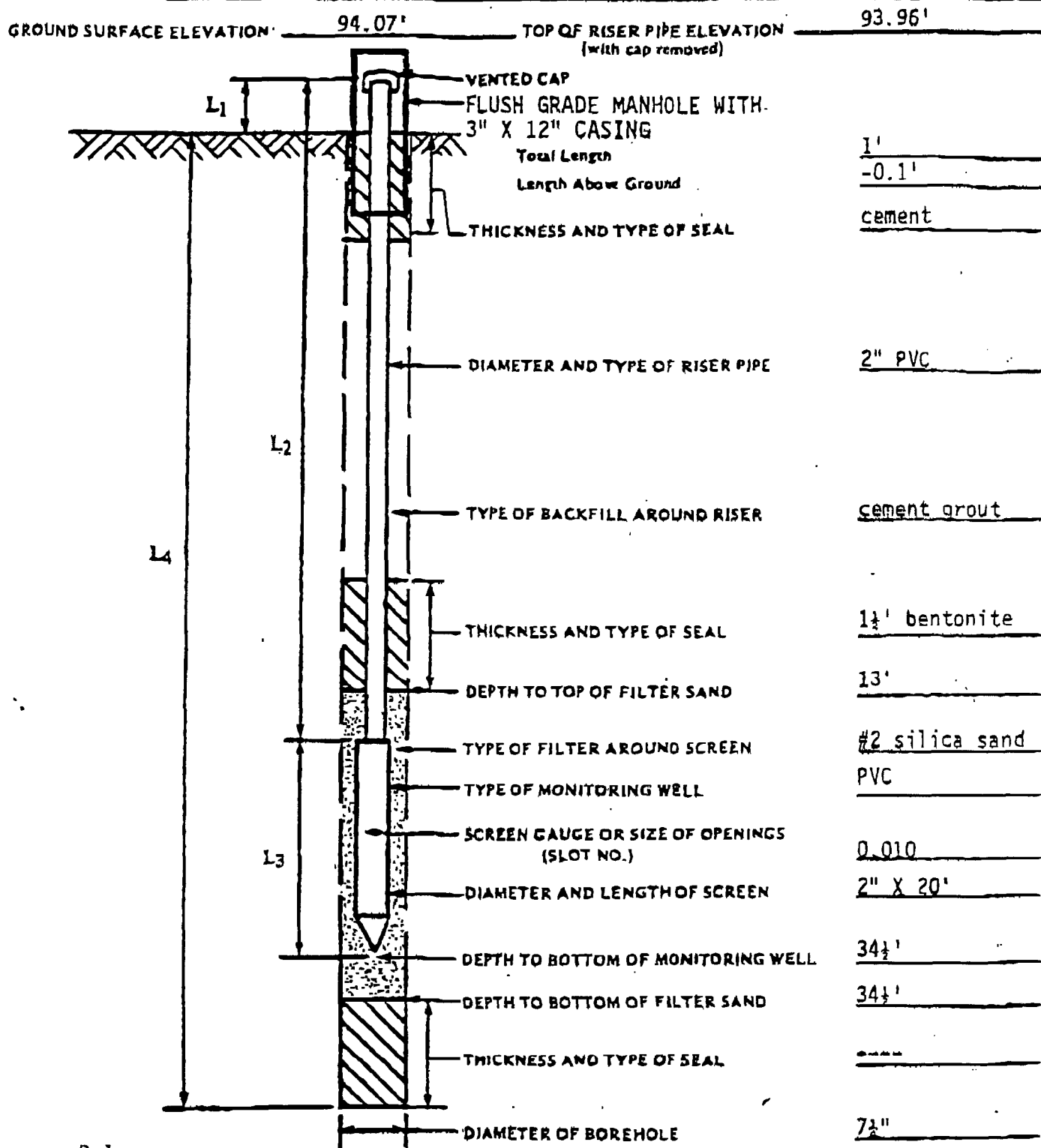
Signature of Well Owner

[Signature]

Date

2/12/01

CONTAMINATION ASSESSMENT, FINA STATION, 26TH & CLIFF, SIOUX FALLS, SD



L<sub>1</sub> = -0.1 FT  
 L<sub>2</sub> = 14 1/2 FT  
 L<sub>3</sub> = 20 FT  
 L<sub>4</sub> = 34 1/2 FT

INSTALLATION COMPLETED:  
 Date 5-16-89 Time 4:10

| MONITORING WELL WATER LEVEL MEASUREMENTS |       |               |               |
|------------------------------------------|-------|---------------|---------------|
| DATE                                     | TIME  | BAILED DEPTHS | WATER LEVEL * |
| 5-30-89                                  | 12:00 | ----          | 22.88'        |
|                                          |       |               |               |
|                                          |       |               |               |
|                                          |       |               |               |
|                                          |       |               |               |

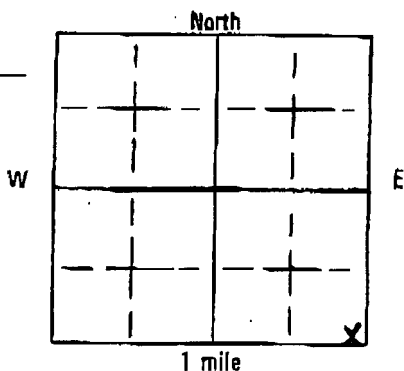
\* DEPTH BELOW TOP OF RISER PIPE

**SOUTH DAKOTA WELL AND TEST HOLE PLUGGING REPORT**

Location SE 1/4 SE 1/4 Sec 21 Twp 10N Rg 50W

County  
Minnehaha

Please mark well  
location with  
an "X"



MW-6

Well Owner:

Name ATOFINA Petrochemicals, INC.

Address PO BOX 674411

Houston, TX 77267-4411

Plugging completion Date 01-15-01

**CHECK APPROPRIATE BOX**

EXISTING WELL



TEST HOLE



Well depth

34.5'

Casing material

Sch 40 PVC

Casing size(s)

2" diameter

Casing condition

Good

Hole depth

Hole size

Describe plugging procedure: The PVC casing was pulled and the borehole was backfilled with a bentonite seal to plug the former well

Describe grout or plugging material: Bentonite

Type of non-slip plug:

This well or test hole was plugged under license # 661 And this report is true and accurate.

Drilling firm

Thiele Geotech, Inc.

Signature of Licensed Representative

[Signature]

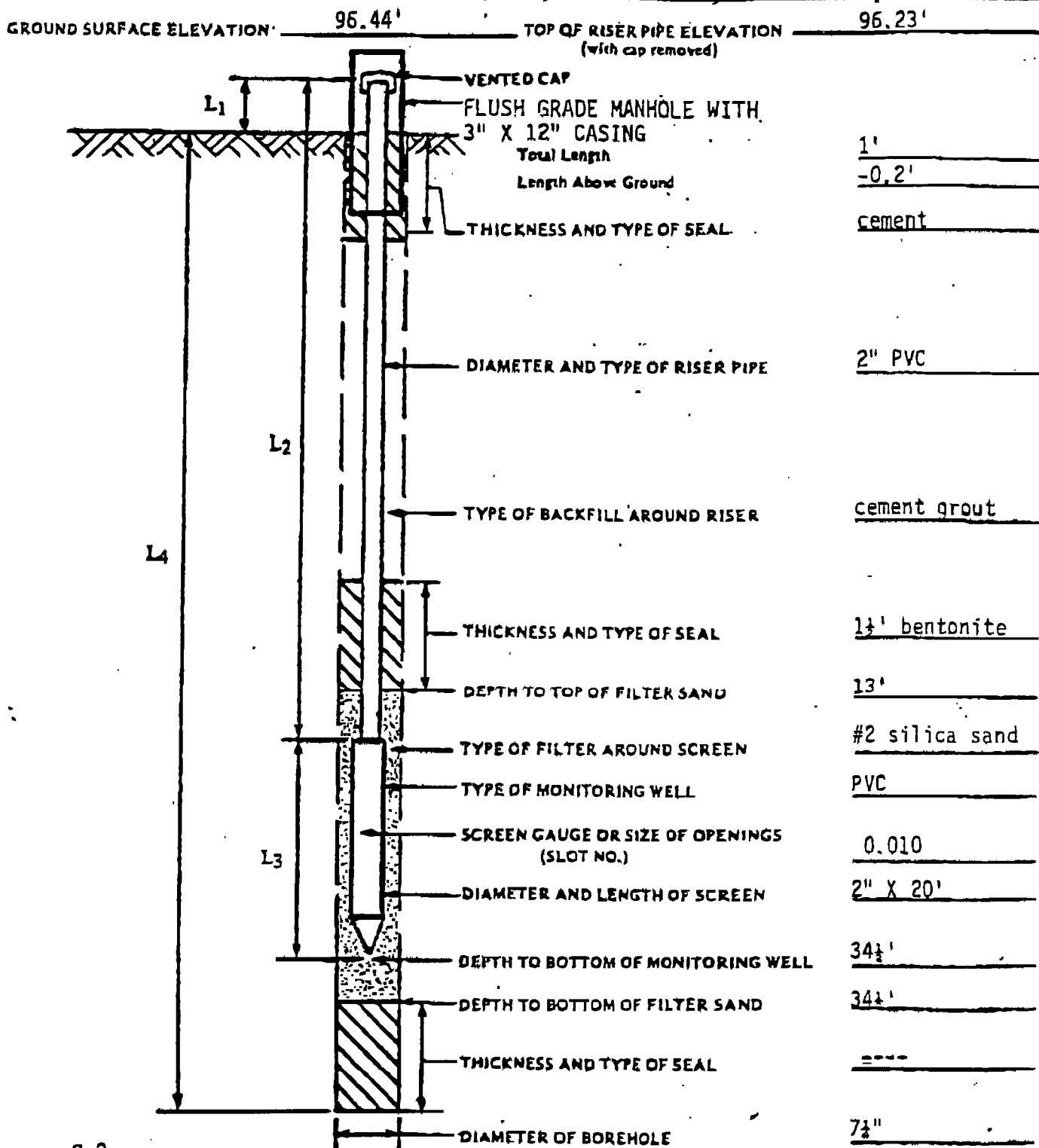
Signature of Well Owner

[Signature]

Date

2/12/01

## CONTAMINATION ASSESSMENT FINAL STATION, 26TH &amp; CLIFF, SIDNEY FALLS, SD



$L_1$  = -0.2 FT

$L_2$  = 14 1/2 FT

$L_3$  = 20 FT

$L_4$  = 34 1/2 FT

INSTALLATION COMPLETED:

Date 5-17-89 Time 11:50

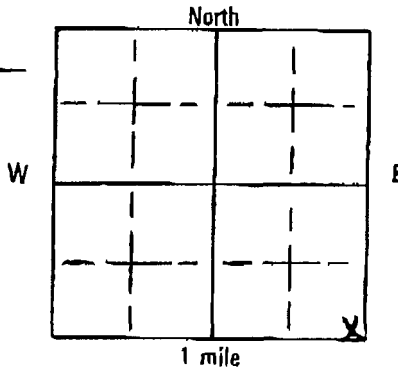
| MONITORING WELL WATER LEVEL MEASUREMENTS |       |               |               |
|------------------------------------------|-------|---------------|---------------|
| DATE                                     | TIME  | BAILED DEPTHS | WATER LEVEL * |
| 5-30-89                                  | 12:37 | ----          | 27.65'        |
|                                          |       |               |               |
|                                          |       |               |               |
|                                          |       |               |               |
|                                          |       |               |               |

\* DEPTH BELOW TOP OF RISER PIPE

Location SE 1/4 SE 1/4 Sec 21 Twp 10N Rg 50W

County Minnehaha

Please mark well location with an "X"



mw-9

Well Owner:

Name ATOFINA Petrochemicals, Inc.

Address PO Box 674411

Houston, TX 77267-4411

Plugging completion Date 01-15-01

CHECK APPROPRIATE BOX

EXISTING WELL ☒

TEST HOLE ☐

Well depth 25'

Casing material Sch 40 PVC

Casing size(s) 2" diameter

Casing condition Good

Hole depth \_\_\_\_\_

Hole size \_\_\_\_\_

Describe plugging procedure: The PVC casing was pulled and the borehole was backfilled with a bentonite seal to plug the former well.

Describe grout or plugging material: Bentonite

Type of non-slip plug: \_\_\_\_\_

This well or test hole was plugged under license # 661 And this report is true and accurate.

Drilling firm Thiele Geotech, Inc.

Signature of Licensed Representative [Signature]

Signature of Well Owner [Signature]

Date 2/12/01

GROUNDWATER  
TECHNOLOGY

## Drilling Log

Monitoring Well MW-9

Project Fina #9538 Owner Fina Oil and Chemical  
Location Sioux Falls, SD Project No. 01210-5044 Date drilled 10/20/93  
Surface Elev. \_\_\_\_\_ Total Hole Depth 25 ft. Diameter 6 7/8 in.  
Top of Casing 92.60 ft. Water Level Initial 17 ft. Static \_\_\_\_\_  
Screen: Dia 2 in. Length 20 ft. Type/Size .010 in.  
Casing: Dia 2 in. Length 5 ft. Type Sch 40 PVC  
Filter Pack Material Sandpack Rig/Core Type Split spoon  
Drilling Company SRM Inc Method Hollow Stem Auger Permit # \_\_\_\_\_  
Driller Steve Log By Scott Stanley  
Checked By \_\_\_\_\_ License No. 575

See Site Map  
For Boring Location

## COMMENTS:

S-1 to lab

| Depth<br>(ft.) | Well<br>Completion | PID<br>(ppm) | Sample ID<br>Blow Count/<br>% Recovery | Graphic<br>Log | USCS Class. | Description<br>(Color, Texture, Structure)                                  |
|----------------|--------------------|--------------|----------------------------------------|----------------|-------------|-----------------------------------------------------------------------------|
|                |                    |              |                                        |                |             | Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%             |
| -2             |                    |              |                                        |                |             |                                                                             |
| 0              |                    |              |                                        |                |             | Concrete                                                                    |
| 2              |                    |              |                                        |                |             |                                                                             |
| 4              |                    | 7.5          |                                        |                | CL          | Dark gray, crumbly, dry, SILTY CLAY with 75% coarse sand and pebbles        |
| 6              |                    | 8.8          |                                        |                | ML          | Light brown, crumbly, moist, clayey, SILT                                   |
| 8              |                    |              |                                        |                |             |                                                                             |
| 10             |                    | 6.4          |                                        |                | ML          | Light brown with light gray mottling, moist or wet, clayey, SILT            |
| 12             |                    |              |                                        |                |             |                                                                             |
| 14             |                    |              |                                        |                |             |                                                                             |
| 16             |                    | 9.7          | S-1                                    |                | ML          | Light brown with light gray mottling, wet, clayey, SILT                     |
| 18             |                    |              |                                        |                |             |                                                                             |
| 20             |                    | 5.7          |                                        |                | ML          | Light brown with light gray mottling, saturated, clayey, SILT               |
| 22             |                    |              |                                        |                |             |                                                                             |
| 24             |                    |              |                                        |                |             |                                                                             |
| 26             |                    | 6.8          |                                        |                | CL          | Light brown with light gray mottling, medium plastic, saturated, SILTY CLAY |
| 28             |                    |              |                                        |                |             | Bottom of hole = 25.0'                                                      |



2733 99th Street  
Urbandale, IA 50322-3888  
Tel. 515.252.0234  
Fax. 515.252.0206

A Member of The IT Group

January 30, 2001

Nayyar Syed  
South Dakota Department of  
Environment and Natural Resources  
Joe Foss Building  
523 East Capitol  
Pierre, South Dakota 57501

Certified Mail 7099 3400 0017 5155 4064

RE: South Dakota Well and Test Hole Plugging Report  
Fina #9538, 1737 South Cliff Avenue, Sioux Falls, South Dakota  
DENR File 87.115 PRCF File 120

Dear Mr. Syed:

In response to your November 14, 2000 correspondence approving "No Further Action" for the above referenced site, IT Corporation is pleased to present the attached monitoring well plugging reports.

Monitoring wells MW-2A, MW-3A, MW-4, MW-6, and MW-9 were plugged and abandoned on January 15, 2001 by a qualified well contracting firm (Thiele Geotech, Inc.) under the supervision of IT Corporation. The PVC casing on each of the monitoring wells was pulled and the borehole was backfilled with a bentonite seal to plug the former well. Monitoring wells MW-1A, MW-5, and MW-7 were destroyed during the previous building addition.

Should you have questions or comments regarding this matter, or if we can be of further assistance, please contact Tristan Grover or myself at (515) 252 - 0234.

Sincerely,  
IT Corporation

A handwritten signature in cursive script that reads 'Jeremy Soenen'.

Jeremy Soenen  
Field Environmental Scientist

QA/QC Review  
IT Corporation

A handwritten signature in cursive script that reads 'Tristan Grover'.

Tristan Grover  
Project Manager  
SD PRR R156

Attachment: South Dakota Well and Test Hole Plugging Reports (5)

cc: John WeHunt, ATOFINA Petrochemicals, Inc.  
Wade Dahl, South Dakota PRCF, Pierre, SD  
Tan Corporation, P.O. Box 1025, Sioux Falls, 57101-1025

**TG** THIELE GEOTECH, INC**FAX****Date** 2/22/02**Number of pages including cover sheet** 13**TO:** Ken Buhler  
South Dakota DENR**Phone** (605) 773-3352**Fax** (605) 773-4068**FROM:** Robert Miller  
Thiele Geotech, Inc.  
13478 Chandler Road  
Omaha, Nebraska 68138**internet** www.thielegeotech.com**Phone** 402/556-2171**Fax** 402/556-7831**ORIGINAL TO FOLLOW:** ☐ No ☐ Yes ☐ Mail ☐ Courier ☐ Overnight**REMARKS:** ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

Ken:

Per our conversation, the following is the well abandonment information previously submitted for the Fina gas station in Sioux Falls.

RM