HAZEN AND SAWYER
Environmental Engineers & Scientists

Carma Johnson
Fac/Perm/Co ID: 42-04 | Date: ~~4/4/12~~ 4/4/12 | Doc ID# | DIN

Hazen and Sawyer, P.C.
4011 WestChase Blvd.
Raleigh, NC 27607
919 833-7152
Fax: 919 833-1828

January 21, 1994

SOLID WASTE SECTION
JAN 21 1994

James C. Coffey, Supervisor
Permitting Branch - Solid Waste Section
North Carolina Department of
Environment, Health, and Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687

Re: Construction Record Documentation Report
Halifax Coal Ash Monofill - Cell 1
H&S No. 3716

Dear Mr. Coffey:

Enclosed are five copies of the Construction Record Documentation Report for the above referenced facility. This report satisfies the conditions outlined in the "Amendment to Solid Waste Permit No. 42-04", dated May 12, 1993. With the submittal of this report, Halifax County requests issuance of an Operating Permit for the Coal Ash Monofill - Cell 1.

As you are aware, Halifax County is expecting that coal ash will soon be generated by the power plant for disposal. If Hazen and Sawyer can answer any questions or otherwise expedite approval, please contact us.

Very truly yours,

HAZEN AND SAWYER, P.C.

John A. Bove, P.E.
Senior Principal Engineer

JSB/wp
Enclosure
cc: Neal Phillips, Halifax County
Hazen Blodgett, Halifax County
Jerry Williams, Halifax County

Permit No. 42-04

Carver Johnson

Fac/Perm/Cc ID #	Date	Doc ID#
42-04	4/4/12	DIN

Halifax County Solid Waste Department
Cell 1 - Coal Ash Monofill
Construction Record
Documentation Report

Halifax County,
North Carolina
January 1994

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

HAZEN AND SAWYER
Environmental Engineers & Scientists

Hazen and Sawyer, P.C.
4011 WestChase Blvd.
Raleigh, NC 27607
919 833-7152
Fax: 919 833-1828

January 21, 1994

Mr. Neal Phillips
Halifax County
Historic Courthouse
P.O. Box 38
Halifax, NC 27839

Re: Construction Record Documentation Report
Halifax Coal Ash Monifill - Cell 1
H&S No. 3716

Dear Mr. Phillips:

Construction for the Halifax County Coal Ash Monofill - Cell 1 was essentially completed as of January 18, 1994. Hazen and Sawyer was responsible for Construction Management and Construction Quality Assurance (CQA) during facility construction. Our representatives observed critical elements of construction on a full time basis, reviewed contractor submittals and conducted testing.

Enclosed please find our Construction Record Documentation Report for Cell 1 of the Coal Ash Monofill. The report presents narrative descriptions of the following main elements of construction:

Section 1 - Introduction
Section 2 - Earthwork
Section 3 - Geomembrane
Section 4 - Internal Stormwater System
Section 5 - Operational Cover
Section 6 - Monitoring Wells
Section 7 - Record Drawings

Test data, monitoring results, etc. are provided in appendices at the end of each section. The Record Drawings reflect as-built conditions within the Cell and the main elements of construction. They are provided separately. The Water Quality Monitoring Plan and monitoring well installation was the responsibility of Armstrong Geological & Engineering Services, P.C.

On the basis of our observation and testing, and the documentation provided herein, Hazen and Sawyer, P.C. certifies that to the best of our knowledge and belief that construction was completed in general accordance with the Contract Plans and Specifications. Any known additions or modifications to construction are noted in this report.

We appreciate the opportunity to provide construction services to Halifax County during Cell 1 - Coal Ash Monofill construction. If you have any questions or require additional information, please contact us.

Very truly yours,

HAZEN AND SAWYER, P.C.

John A. Bove, P.E.
Senior Principal Engineer

Donald L. Cordell, P.E.
Vice President

JSB/DLC/wp
Enclosure
cc: Hazen Blodgett, Halifax County (w/o encl.)
Jerry Williams, Halifax County (w/o encl.)

Halifax County Solid Waste Department
Cell 1 - Coal Ash Monofill
Construction Record
Documentation Report

Halifax County,
North Carolina
January 1994

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH NORTH CAROLINA

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SECTION 6 MONITORING WELLS

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SECTION 1
OVERVIEW

1.0 INTRODUCTION

1.1 Projection Description

This report provides record documentation for construction of the Halifax County Coal Ash Monofill - Cell 1. This facility is located on the existing County Solid Waste Management Facility near Aurelian Springs in Halifax County, NC. The Ash Monofill will be operated by the Halifax County Solid Waste Department. The coal ash to be landfilled will originate at the Westmoreland Energy coal-fired power plant located in Weldon, NC. The residue from this plant is the only material to be placed in this facility.

Cell 1 was approved for construction under an amendment to Solid Waste Permit No. 42-04, part 1: Permit to Construct a Coal Ash Monofill, issued May 12, 1993 by the North Carolina Department of Environment, Health and Natural Resources (NCDEHNR).

Cell 1 of the Coal Ash Monofill is approximately 12 acres in size. It is located on the northeast quarter of the County landfill property as shown on Figure 1.1. This cell represents the initial phase in a planned 36 acre ash monofill. The design life for Cell 1 is approximately five years.

The ash monofill consists of a geomembrane installed over on-site compacted prepared subgrade soils. A layer of cohesive operational cover soil was placed over the geomembrane. An internal runoff collection system was installed along the south (intermediate) berm. The collection system conducts surface water runoff that potentially contacts the coal ash to the internal stormwater basin via a sump and a gravity line.

To monitor the surrounding groundwater, a total of seven monitoring wells were installed by Parratt Wolff, Inc., under contract with Halifax County.

Complete descriptions of construction of each main element of the monofill are provided in subsequent sections. Record Drawings are provided in Section 7 of this report. For convenience, a reference Cell 1 grading plan is presented on Figure 1.2.

1.2 Scope of Services

Hazen and Sawyer, P.C. was retained by Halifax County to provide Construction Management (CM) and Construction Quality Assurance (CQA) services during construction. Hazen and Sawyer is also the facility designer.

Barnhill Contracting Co. was awarded the construction project and was responsible for Construction Quality Control.

Hazen and Sawyer provided a Resident Engineer during critical portions of construction. The engineering staff reviewed all contractor submittals for materials and equipment to assure compliance with the specifications. Hazen and Sawyer contracted with Geotechnologies, Inc. to provide inspection and testing services for earthwork and geomembrane installation. Resident Engineer and Geotechnologies, Inc. daily field reports are presented in Appendices 1.1 and 1.2, respectively.

1.2.1 Project Criteria

The goal of the CQA effort is to assure that construction is completed in accordance with the permitted project plans and specifications as well as the criteria outlined in the facility design and construction permit. The following documents were incorporated into the project construction and CQA:

- Contract Documents "Cell 1 - Ash Monofill Halifax County Solid Waste Department", prepared by Hazen and Sawyer, June, 1993 (Contract Plans and Specifications)

- Construction Permit - "Amendment to Solid Waste Permit No. 42-04" dated May 12, 1993 prepared by NCDEHNR

- Construction Permit Application - Prepared by Hazen and Sawyer dated April 27, 1992, including:

    - Design Drawings
    - Specifications
    - Construction Quality Assurance (CQA) Plan
    - Operations Manual

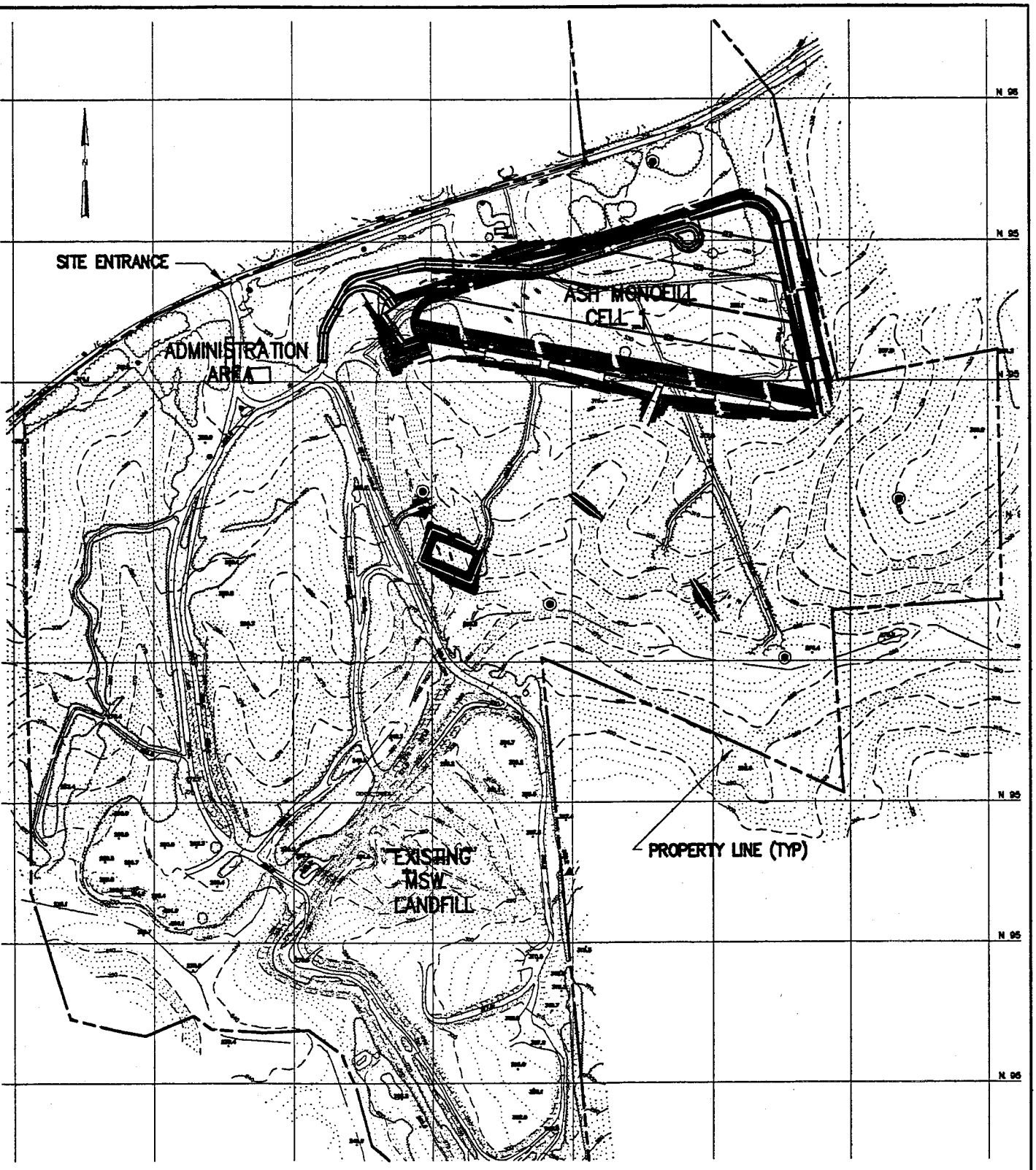
1.3 Project Schedule

The construction contract was awarded to Barnhill Contracting Company of Tarboro, NC on August 5, 1993. Notice to Proceed was issued on September 1, 1993. Clearing, grubbing and construction of erosion control structures was initiated in early September.

Excavation and construction of perimeter berms commenced soon after clearing and grubbing was completed. The Geomembrane was installed in late November and early December. The monofill construction was essentially completed on January 15, 1993. A summary of project milestones is presented on Table 1.1.

TABLE 1.1 HALIFAX COUNTY ASH MONOFILL CONSTRUCTION OVERVIEW

Project Bid	July 23, 1993
Project Award	August 5, 1993
Notice to Proceed	September 1, 1993
Clearing	September 3-September 10
Cell Excavation	September 3-November 15
Erosion & Sediment Control	September 10-January 15
Perimeter Berms	September 27-November 15
Access Road and Ramp	October 14-January 15
Piping and Sumps	November 14-November 20
Geomembrane Placement	November 21-December 2
Operational Cover	December 8-January 10
Monitoring Well Installation	January 5-January 11
Closeout	January 18, 1994



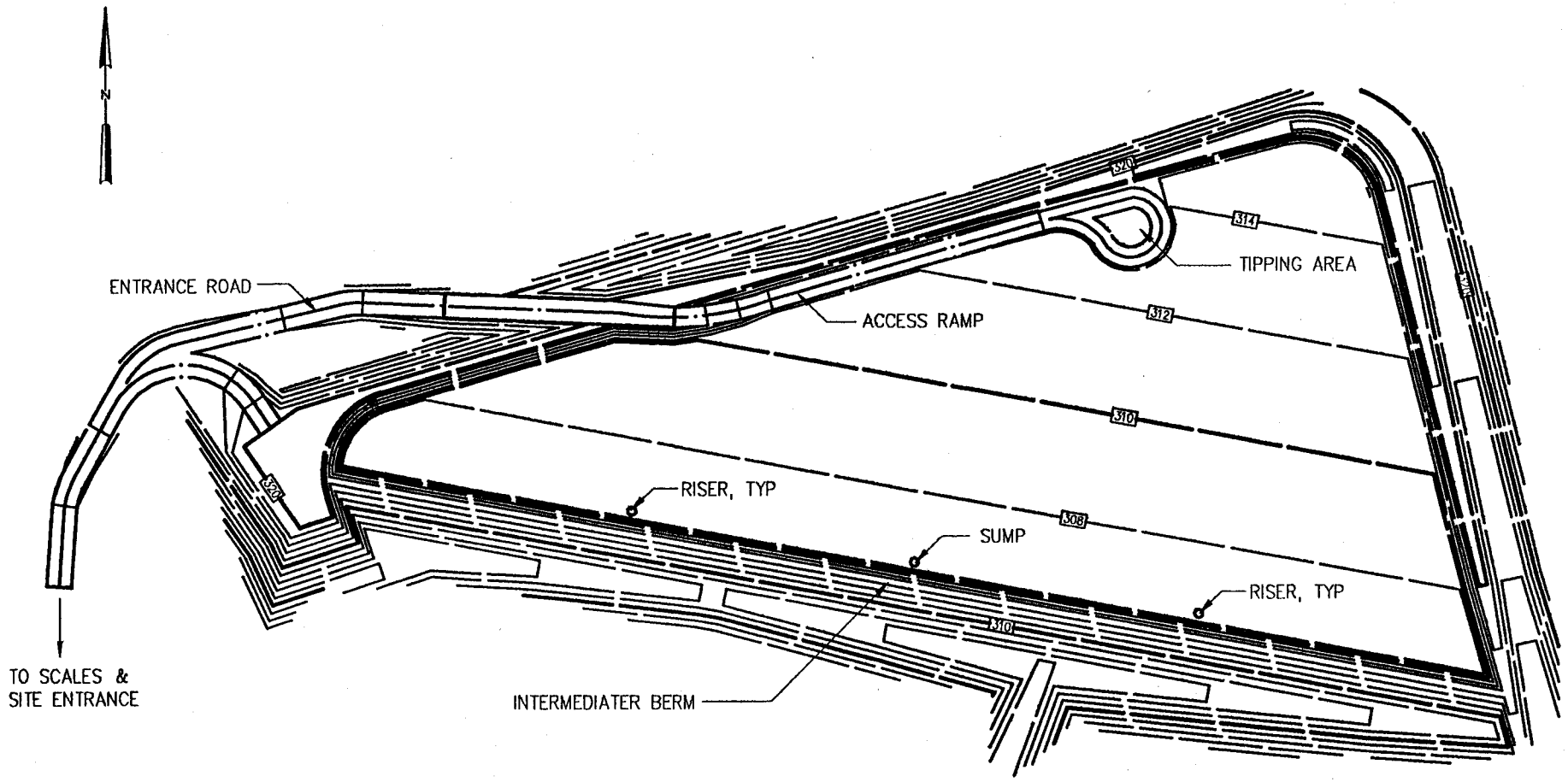
SITE PLAN

1"=500'

HALIFAX COUNTY
ASH MONOFILL

FIGURE 1.1
OVERALL
SITE PLAN

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA



PLAN

1"=200'-0"

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

ASH MONOFILL
HALIFAX COUNTY

FIGURE 1.2
CELL 1
GENERAL GRADING PLAN

FIGURE 1.2

APPENDIX 1.1
HAZEN AND SAWYER
FIELD REPORTS

Report No. 1

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 8-23-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAY COUNTY, NC	
CONTRACTOR BARHILL CONTR.	SUBCONTRACTORS
WEATHER WARM & CLEAR	
PRESENT AT SITE	
PETER SCHEER & STACEY SMITH	
HAZEN & SAWYER	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:30 AM CLEARED PATHS TO B-1, B-8, B-9, & B-11 WAITED UNTIL 2:00 NO ONE SHOWED WAS INFORMED THAT GEOTECHNOLOGIES RIG BROKE DOWN.

JOHN BARNARD SHOWED UP LOOKED OVER THE SITE THEN WENT HOME.

RESIDENT ENGINEER FIELD REPORT

SIGNED

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Report No. 2

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 8-24-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WARM & CLEAR	
PRESENT AT SITE GEOTECHNOLOGIES, H&S	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:15 AM

GEOTECHNOLOGIES

- DRILLED B-11 WENT DOWN 51' COULD ONLY FIND A 10' SECTION OF THE PIPE (APPARENTLY PIPE TWISTED OFF AT JOINT)
- GROUTED B-11 WENT TO B-9
- DRILLED B-9 WENT DOWN 51' COULD ONLY FIND A 20' SECTION
- GROUTED B-9
- COMING BACK TOMMORROW

LEFT SITE @ 6:00 PM

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Report No. 3

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 8/25/93	PROJECT NO. 3720-00.2
PROJECT Halifax Co. Ash Monofil	
LOCATION Halifax Co., NC	
CONTRACTOR	SUBCONTRACTORS Geotechnologies, Inc, Raleigh, NC
WEATHER Warm, Clear	
PRESENT AT SITE Pieter Scheer, Assist. Engineer	

TO

THE FOLLOWING WAS NOTED:

Boring B-8 (25' Deep) was drilled out and grouted to within 1.5 feet of the surface. 15 feet of piezometer (2"ϕ) was removed and the bottom 10' (screen interval) was believed to be ground up.

Boring B-1 (50' Deep) was drilled out and grouted to the surface with all of the piezometer being removed.

Boring B-11 was topped off with grout to the surface as the grout from 8/24/93 had settled a few feet.

RESIDENT ENGINEER

FIELD REPORT

SIGNED Pieter H. Scheer

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Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 8/30/93	PROJECT NO. 3720-02
PROJECT HALIFAX CO. ASH MONOFILL	
LOCATION HALIFAX CO., NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER HOT & CLEAR	
PRESENT AT SITE STACEY SMITH (HIS)	
DREW JOHNSON & CO. (BARNHILL)	

TO

THE FOLLOWING WAS NOTED:

ARRIVED AT 11:45 TALKED WITH DREW ABOUT CLEARING NOTED A FEW QUESTIONS IN MY LOG BOOK THEY WERE MOVING IN TRAILER & EQUIPMENT AND CLEARING PATCH OF TREES ON TOP OF RIDGE LEFT SITE AT 1:00 PM

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Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9/1/93	PROJECT NO. 3720-002
PROJECT Halifax Co, NC - Ash Mon Fill	
LOCATION Halifax Co., NC	
CONTRACTOR Barnhill	SUBCONTRACTORS Joyner Keeny
WEATHER	
PRESENT AT SITE Pieter Scheer, Asst. Eng.	

TO

THE FOLLOWING WAS NOTED:

The following was discussed w/ Kenneth Atkins (Barnhill), Drew Johnson (Barnhill) & Jake Keeny (Joyner Keeny - Surveyor):

- The baseline for the South end of Cell 1 is staked & 2 pans are currently working this area
- Stockpile B Coords. are off - need to recheck and adjust for MW-8 & B-3 so that these won't be knocked out
- Decided to shift clearing limits in 10' from Northeastern property line
- Contractor wants to set up a haul road across berm at Sed. Basin #2 & set up a small sump in the creek to pump water for his water truck (Sump o.k. if disturbance is repaired at end of project).
- Surveyor could not locate either MW11 or B-7; but the one he did locate is outside the clearing limits
- Surveyor gave the following Coords.: MW8: N 959780.35, E 2350290.61, B-3: N 959880.54, E 2350678.21, NE Property Corner (Iron Pin): N 960010.96, E 2350722.39

RESIDENT ENGINEER

FIELD REPORT

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Report No. 6

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9/3/93	PROJECT NO. 3720
PROJECT Halifax Co. - Ash Monofill	
LOCATION Halifax Co., NC	
CONTRACTOR Barnhill	SUBCONTRACTORS
WEATHER Clear, Warm	
PRESENT AT SITE Pieter Scheer, Asst. Eng.	
K. Atkins & D. Johnson - Barnhill	

TO

THE FOLLOWING WAS NOTED:

Barnhill has become concerned about the payment for clearing. Existing piles of debris are of particular concern in that the soil in the piles is making it difficult to burn these piles.

Observation of the areas around MW-9 & MW-11 indicate that these wells do not exist.

Dan with Joyner Keeney (Surveyor) was advised that all necessary points for surveying the site should be included on their disk.

Site activity included excavating (2 pans), clearing & grubbing (Bulldozer & Trackhoe) along line for leachate pipe, and burning of two piles of debris.

RESIDENT ENGINEER

FIELD REPORT

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Report No. 1

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-8-93	PROJECT NO. 3120-02
PROJECT HALIFAX CO. ASH MONOFILL - CELL 1	
LOCATION HALIFAX CO., NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WARM / OVERCAST	
PRESENT AT SITE JOHN BONE & STACEY SMITH (H&S)	
DREW JOHNSON (BARNHILL)	
JERRY WILLIAMS (COUNTY)	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE AT 9:45 MET WITH JERRY & DREW

DISCUSSED: — CLEARING

· SEDIMENT BASINS

STOCKPILES

POSSIBLE HAUL ROAD

NOTED: 1) CLEARING WILL BE AGREED ON AFTER CLEARING IS DONE

2) SEDIMENT BASIN POSSIBLY ALTERED TO ACCOMODATE A HAUL ROAD

3) STOCKPILES "B" & TEMPORARY TOPSOIL STOCKPILE WILL BE MAXIMIZED TO POSSIBLY BALANCE OUT WITH STOCK PILE "A" AND MINIMIZE STOCK PILE "C"

LEFT SITE AT 1:30

ALSO DECIDED STOCKPILE "A" WILL NOT BE IN CONTRACT QUANTITIES WILL BE HANDLED BETWEEN JERRY & BARNHILL

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Report No. 8

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 7-13-93	PROJECT NO. 5720-02
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WARM & CLEAR	
PRESENT AT SITE KENNETH ATKINS & DREW JOHNSON	
(BARNHILL) STACEY SMITH JOHN BOVE,	
JOHN BARNARD (H&S)	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 2:00 PM

DISCUSSED CLEARING QUANTITIES & SEDIMENT BASINS

NOTE: 1. BARNHILL TO GIVE H&S COORDINATES OF CLEARING (ACTUAL) TO OVERLAY ON OUR PLANS

2. SEDIMENT BASINS REVISIONS WERE GIVEN

3. DISCUSSED MORE STOCKPILE ALTERNATIVES

4. LOOKED @ SUMP AREA HAVE TO CLEAN UP

5. TALKED ABOUT INSTALLING STONE FILTERS IN FRONT OF SILT FENCE

6. ADD TWO SED TRAPS

LEFT SITE @ 4:20 PM

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Report No. 9

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-15-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & WARM	
PRESENT AT SITE KENNETH ATKINS (BARNHILL)	
STACEY SMITH (H&S)	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE AT 1:00 PM

TALKED ABOUT A LOW AREA BETWEEN STOCKPILE B AND NORTH BERM DECIDED TO LET IT POND UP

I CHECKED ALL E & SC MEASURES THEY SEEMED OKAY

FOR STONE FILTER NEAR SUMP AREA WAS APPROXIMATED TO USE 16-18 TONS OF CLASS B & 18-20 TONS OF 57 STONE

WAITING ON PIPE FOR SEDIMENT BASIN 2

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Report No. 10

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-17-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & COOL	
PRESENT AT SITE MIKE S. & STACEY G. (H&S)	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE AT 11:00

EXAMINED E & SC MEASURES AFTER RAIN FROM NIGHT BEFORE.

NOTED:

1. SED TRAPS WERE MISSING FILTER GEOTEXTILE
2. SILT FENCE NEEDED REPAIR IN SEVERAL PLACES
3. SED BASIN NEEDS TO BE PUT IN IMMEDIATELY
4. AREA NEAR SUMP NEEDS REPAIR
5. COUNTY HAS A FEW AREAS THAT NEED REPAIR AS WELL

LEFT SITE AT 12:30

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Report No. 11

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-20-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & WET	
PRESENT AT SITE H&S, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:30 AM

BARNHILL

- ROCK BOULDERS BEING EXCAVATED YESTERDAY SNAPPED HOE BUCKET WAITING FOR ANOTHER
- PLACED RIP RAP & FILTER FABRIC WHEN NEW BUCKET ARRIVED AROUND 2:00 PM

I SPENT MOST OF THE DAY WAITING FOR LAND QUALITY TO SHOW UP - HE NEVER DID

LEFT SITE @ 4:00 PM

RESIDENT ENGINEER

FIELD REPORT

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Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-20-93	PROJECT NO.
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WARM & CLOUDY	
PRESENT AT SITE CH2S) STALEY SMITH & BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:15

DISCUSSED E & SC MEASURES WITH KENNETH ATKINS

DECIDED TO INSTALL ~ 250 LF OF ADDITIONAL SILT FENCE

NEAR SED BASIN # 1

DISCUSSED POSSIBILITY OF MOVING 1SS BASIN DUE TO ROCK

WAS DECIDED TO TRY & MOVE ROCK

MODIFIED SED TRAPS ALLOWING CONTRACTOR TO HOLD OFF ON PUTTING

FILTER FABRIC BENEATH RIP-RAP BUT WILL DO IN FUTURE

ADDED OUTLET PROTECTION FOR EXISTING SEDIMENT BASIN

REPAIR OF SILT FENCE WAS ALSO DONE IN SEVERAL AREAS

LEFT SITE @ 4:15 PM

160 MILES

11.5 HRS.

RESIDENT ENGINEER

FIELD REPORT

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Report No. 13

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-22-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY & CLEAR	
PRESENT AT SITE H&S BARNHILL, JOYNER KEENEY	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

BARNHILL

- SOIL BEING HAULED TO STOCKPILE "A" & LANDFILL AREA
- PUT IN CMP FOR SEDIMENT BASINS
- FINISHED MOST OF SEDIMENT #2 (WIDENED BASIN 20' FOR ACCESS OVER)
- PLACED ABOUT 100' OF CMP UNDER INTERNAL STORMWATER SETTLING BASIN
- @ 5:30 PM STOPPED HAULING TO STOCKPILE "A" DUE TO THE FACT BASINS WERE NOT DONE AND SITE IS SHUT DOWN FOR E&SC REASONS

LEFT SITE @ 6:00 PM

RESIDENT ENGINEER

FIELD REPORT

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Page ____ of ____

Report No. 14

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 9-23-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER WARM & CLOUDY	
PRESENT AT SITE BARNHILL, H&S, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 6:30 AM

BARNHILL

- WORK ON INTERNAL STORMWATER SETTLING BASIN & BASIN #2
- FINISHED BASIN #2
- BERM NEAREST BASIN #2 ON L.S.S. BASIN FINISHED

LAND QUALITY

- AHMAD ARRIVED ON SITE @ 11:00 AM
- GENERALLY PLEASED ON EFFORTS
- A FEW ITEMS NOTED IN LETTER FROM MIKE SANTOWASSO, H&S (DISTRIBUTED TO ALL PERTINENT PARTIES)

LEFT SITE @ 6:00 PM

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DATE 9-24-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER CLOUDY & WARM	
PRESENT AT SITE BARNHILL, H&S, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

BARNHILL

- SPENT THE DAY ON STORMWATER SETTLING BASIN
- FINISHED ALL OF BASIN EXCEPT BERM CLOSEST TO SUMP

LEFT SITE @ 6:00 PM

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DATE 9-27-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER WET & CLOUDY	
PRESENT AT SITE H & S, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

BARNHILL WAS FINISHING L.S.S. BASIN AND HAULING TO TEMPORARY STOCKPILE.

BEGAN LAYING OUT SED BASIN 1 TOPO WAS OFF ANY WHERE FROM 2' TO 13' THEREFORE, HAD SURVEYORS CROSS-SECTION AREA AND THE BASIN WAS CHANGED TO A DIKE TYPE BASIN.

LEFT SITE UNDER IMPRESSION THAT WILL BE INSTALLED WEDNESDAY.

LEFT SITE @ 2:30 PM

160 MILES

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DATE 9-29-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER WARM & SUNNY	
PRESENT AT SITE GEOTECHNOLOGIES, H&S, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 12:00 PM

BARNHILL WAS HAULING TO STOCKPILES

WENT TO CHECK OUT SED BASIN 1 WITH JOHN ADAMS (GEOTECH)

BARNHILL HAD PLACED ALL OF 1 PIPE BUT JOHN SAID SUBGRADE WAS NOT ADEQUATE VERY MUCKY & PUMPING DOWN TO 3'

THEREFORE HAD BARNHILL TAKE OUT PIPE AND DIG OUT BAD SOIL.

BARNHILL (KENNETH) WAS VERY INTERESTED IN AMOUNTS

I ESTIMATE 100 - 150 CUBIC YARDS OF UNDERCUT THE REMAINING SHOULD BE CLASSIFIED AS GRUBBING DUE TO ROOTMAT

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DATE 9-30-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE H&S, GEOTECHNOLOGIES, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:00 AM

BARNHILL

- FINISHED LAYING PIPE FOR SED BASIN #1
- BACKFILLED TO ~ 2' ABOVE PIPE
- ~ 3/4 ACRE OF ADDITIONAL CLEARING WILL HAVE TO BE DONE

LEFT SITE @ 2:00 PM

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DATE 10-5-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX CO., NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE BARNHILL, H&S, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:15 AM

BARNHILL

- DISCUSSED SED BASIN #1
- DECIDED TOP ELEV. TO BE 278.5 AND 4.5' NEEDED TO BE ADDED TO THE RISER.
- LANDSCAPERS WILL ARRIVE TOMORROW 10-6-93

LEFT SITE @ 10:45 AM

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DATE 10-7-93	PROJECT NO. 3720-02
PROJECT HALIFAX CO. ASH MONOFILL - CELL 1	
LOCATION HALIFAX CO, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS HOLLAND LANDSCAPING, GEOTECHNOLOGIES, JOYNER KEENEY
WEATHER WARM & CLOUDY	
PRESENT AT SITE HC's, BARNHILL, GEOTECH-1, JOYNER KEENEY, HOLLAND LANDSCAPING	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 1:00 PM

CELL 1S STARTING TO TAKE SHAPE

- THE LANDSCAPERS (HOLLAND) WAS PUT OUT SEED

- KENNETH ATKINS WAS NOTIFIED THAT SEED HAS NOT YET BEEN SUBMITTED & WILL NOT BE PAID

- CONTECH CONSTRUCTION PRODUCTS PICKED UP EXTRA PIPE FROM SEDIMENT BASINS

- @ SED BASIN 1 ADDITIONAL CLEARING HAS BEEN DONE WAS BEING BURNED. DIKE WAS NOT COMPLETELY FINISHED AS OF YET

- MET WITH ERIC ALSMYER OF ARMY COE. AND WALKED GOOD SITE - NO WETLANDS (NOT NECESSARY FOR ASH)

LEFT SITE @ 5:00 PM

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DATE 10-11-97	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY/RAINY, COLD	
PRESENT AT SITE HIS, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:00 AM

- SITE SEEMED IN ORDER

BARNHILL

- SUBMIT SEED TAGS FOR GRASS
- PUT ON EXTENSION TO RISER FOR SED BASIN A1
- CONTINUED EXCAVATION OF CELL

LEFT SITE @ 12:00 PM

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DATE 10-14-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER OVERCAST	
PRESENT AT SITE BARNHILL, H.S. HALIFAX CO., WESTMORELAND, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 2:30

BARNHILL

- EXCAVATION OF THE CELL
- CONSTRUCTION OF THE ACCESS ROAD
- FINISHED SED BASIN #1

CONSTRUCTION MEETING @ 3:30 PM (SEE MINUTES)

LEFT SITE @ 6:30 PM

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DATE 10-19-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WARM; CLOUDY	
PRESENT AT SITE HFS, HOLLAND, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:30 AM

EXCAVATION OF THIS CELL WAS CONTINUING

BARNHILL WAS HAULING DIRT TO DIKES FOR MSW VERTICAL EXPANSION

HOLLAND LANDSCAPING WAS SEEDING BASIN 1 & STOCKPILE "B"

LEFT SITE @ 1:00 PM

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DATE 10-21-93	PROJECT NO. 3720-02
PROJECT HALIFAX COUNTY ASH MONOFILL - CELL 1	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES, BARNHILL, HIS
WEATHER CLOUDY & WARM	
PRESENT AT SITE SAME	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 1:00 PM

DROVE AROUND WITH JOHN BOVE AND LOOKED OVER SITE

HAD CONSTRUCTION MEETING @ 2:00 PM

(SEE MEETING MINUTES)

LEFT SITE @ 3:00 PM

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DATE 10-22-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER CLOUDY & COOL	
PRESENT AT SITE JOYNER KEENEY, H & S, BARNHILL GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 11:06 PM

BARNHILL

- CONTINUED EXCAVATION OF CELL
- VERTICAL EXPANSION BERM FOR MSW DONE (NOT NECESSARY FOR ASH)
- AREA BETWEEN N. BERM & STOCKPILE "B" SURVEYED DECIDED TO FLATTEN OUT TO DISTRIBUTE WATER.
- INSTRUCTED KENNETH TO PUT IN OUTLET PROTECTION NEAR SUMP AREA FOR BASINS

LEFT SITE @ 8:30 P.M.

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DATE 11-1-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & WET	
PRESENT AT SITE BARNHILL, H&S	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:00 AM

SITE RAINED OUT

LEFT SITE @ 1:00 PM

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DATE 11-9-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER OVERCAST & COOL	
PRESENT AT SITE BARNHILL H&S, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:30 A.M.

BARNHILL

- FINISHING BERM CONSTRUCTION
- INSTRUCTED DIVERSION DITCH & PIPE CULVERT UNDER ACCESS ROAD

LEFT SITE @ 2:00 PM

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DATE 11-15-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & CLEAR	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 9:00 AM

BARNHILL

- FINE GRADING CELL
- UNLOADED PIPE IN CELL AND DOWN LINE TO I.S.S. BASIN
- FINISHED SUBGRADE FOR ACCESS ROAD
- FINISHED RCP PIPE UNDER ACCESS ROAD AND DIVERSION DITCH ALONG NORTH SIDE OF ROAD
- PIPE CREW WAITING ON PART FOR HOE & PIPE FUSER TO SHOW UP
- HDPE RISERS & SUMPS WERE DELIVERED EXCEPT FOR SUMP #3
- MARK VALBOM OF FIFE PIPE ARRIVED @ 3:00 PM AND BEGAN FUSING PIPE
- AHMAD SHAIRAWNCH (DEHNR - LAND QUALITY) CAME - E & SC OK

LEFT SITE @ 5:00 PM

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DATE 11-18-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES, ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:30 AM

BARNHILL

- FINE GRADING OF CELL
- FUSION OF PIPES & SUMPS
- FINE GRADING OF SLOPES & EXTERIOR

ENVIRONMENTAL DESIGN SHOWED UP READY TO GO W/O PRIOR NOTICE

TOLD THEM NO START BEFORE SUNDAY

- CELL NEEDED WORK
- SIDESLOPES NEEDED TO BE BACKDRAGGED
- ANCHOR TRENCH NEEDED TO BE PUT IN
- TOE OF SLOPE NEEDS SMOOTH TRANSITION ∴ GOING TO SMOOTH DRUM ROLL BOTTOM

HYDROTESTED PIPE @ 5:00 PM - WAS VERY DARK

BOVE & MYSELF INSPECTED SEAMS APPROVED EVEN TEMPORARY CAPS LEAKED

LEFT SITE @ 7:00 PM

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DATE 11-19-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES	
ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 11:30 PM

BARNHILL

- FINE GRADING OF CELLS & SLOPES
- SMOOTH ROLLING OF CELL
- GROUTED SUMPS & BACKFILLED ½ OF PIPE

FOUND AREA IN CELL THAT WAS WEAK - MAY HAVE TO COME OUT

LEFT SITE @ 5:00 PM

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DATE 11-20-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & 52°	
PRESENT AT SITE BARNHILL, GEOTECHNOLOGIES, H&S ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 1:00 PM

BARNHILL

- DRESSING UP BOTTOM & SIDESLOPES
- TALKED WITH DREW JOHNSON

LEFT SITE @ 3:30 PM

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DATE 11-21-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY ; 60°	
PRESENT AT SITE H; S, BARNHILL, ENVIRONMENTAL DESIGN, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:45 AM

BARNHILL

- DRESSING UP SLOPES FOR ENVIRONMENTAL DESIGN

ENVIRONMENTAL DESIGN

- LINED ½ OF S. BERM & E. BERM ONLY

- CAUGHT AIR TESTING GUY NOT WRITING CORRECT AIR PRESSURES

- DISCUSSED WITH CHARLIE (ENV. DES.) & CORRECTED PROBLEM

LEFT SITE @ 6:00 PM

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DATE 11-21-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFIL	
LOCATION HALIFAY COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS ①ENVIRONMENTAL DESIGN
WEATHER LOW 25°F WINDY HIGH 57°F	
PRESENT AT SITE STACEY SMITH, SCOTT COLLINS, JOHN BOVE	

TO

THE FOLLOWING WAS NOTED:

THE TRIAL SEAM TESTS WERE OBSERVED & RECORDED BEFORE ANY WELDING BEGAN IN MORNING, AFTERNOON, & ANY TIME WELDER LEFT MACHINE (SEE TRIAL SEAM REPORT 11/21/93). EACH WELDER WAS SUPERVISED & EACH SEAM WAS INSPECTED. APPROXIMATELY 58 PANELS WERE PLACED & 57 SEAMS WERE WELDED. IF ANY FLAWS IN THE PANEL OR SEAM WERE DETECTED, THE INFORMATION WAS RECORDED ON A ① CQA SEAM INSPECTION FORM OR A ② PANEL INSPECTION FORM, AND A NOTATION WAS MADE ON THE HDPE LINER WITH A WHITE GREASE PEN. AIR PRESSURE CHECKS WERE CONDUCTED ON EACH SEAM & RECORDED ON CQA SEAM INSPECTION FORM.

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DATE 11-22-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY ; 70°	
PRESENT AT SITE BARNHILL, ENVIRONMENTAL DESIGN	
HTS, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 6:45 AM

ENVIRONMENTAL DESIGN

- PROCEEDED WITH 1/2 OF N. BERM SLOPE AND 3/4 OF CELL

OF E. END OF CELL

BARNHILL

- FINISHING UP WEST SIDE OF CELL

TOLD ENVIRONMENTAL DESIGN THAT NIGHT WELDING NOT PREFERED

LEFT SITE @ 5:30 PM

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DATE 11-22-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFIL	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS ENVIRONMENTAL DESIGN
WEATHER SUNNY 30° LOW 65° HIGH	
PRESENT AT SITE STACEY SMITH, SCOTT COLLINS, JOHN BOVE	

TO

THE FOLLOWING WAS NOTED:

The trial seams were performed & recorded before any welding started in the morning, afternoon, and for any change of welders. (see entries on TRIAL SEAM REPORT 11/22/93). SIDE PANELS 59-84 WERE PLACED, SEAMED, INSPECTED AND TEST FOR AIR PRESSURE (SEE CQA SEAM INSPECTION FORMS), FLOOR PANELS 85-99 WERE PLACED, SEAMED, INSPECTED, & TESTED. HOWEVER 2 OF THE SEAMS WERE COMPLETED AFTER DARK & NOT VISUALLY INSPECTED (WILL TEST & INSPECT 11/23/93).

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DATE 11-23-94	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY 70°	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES	
ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

ENVIRONMENTAL DESIGN

- LINER PLACED IN NE CORNER OF CELL & 1/2 WAY ACROSS BOTTOM OF SOUTH BERM

BARNHILL

- DRESSING UP BOTTOM
- PLACED EISC MEASURES BELOW BASINS
- DRESSED UP SITE IN PREPARATION FOR SEEDING

LEFT SITE @ 5:30 PM

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DATE NOV. 23, 1993	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS ENVIRONMENTAL DESIGN
WEATHER SUNNY HIGH 70° LOW 40°	
PRESENT AT SITE STACEY SMITH, SCOTT COLLINS	

TO

THE FOLLOWING WAS NOTED:

THE LINER INSTALLER CONTINUED TO PLACE AND WELD THE LINER PANELS. EACH SEAM WAS INSPECTED FOR DEFECTS AND THE AIR PRESSURE TEST RESULTS WERE RECORDED. EACH WELDER HAD TO COMPLETE A TRIAL SEAM IN THE MORNING, IN THE AFTERNOON, AND WITH ANY CHANGE OF WELDERS. THESE TRIALS WERE MONITORED AND RECORDED. THE WELDING TECHNICIANS COMPLETED 2 SEAMS IN THE DARK, AGAINST OUR ADVISEMENT.

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DATE 11-24-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER FOGGY ; 40°	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES, ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

- VERY FOGGY

ENVIRONMENTAL DESIGN

- LINER WAS FUSED @ TOE OF SLOPE IN E SIDE OF CELL
- THREE DEER REMOVED FROM CELL
- FILLED IN LINER ANOTHER 400' ACROSS BOTTOM
- POSSIBLE DEPLOYMENT FINISH TOMMORROW

BARNHILL

- PLACING ROCK FOR EROSION CONTROL

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4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE NOV 24, 1993	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS ENVIRONMENTAL DESIGN
WEATHER SUNNY HIGH 70° LOW 40°	
PRESENT AT SITE STACEY SMITH, SCOTT COLLINS	

TO

THE FOLLOWING WAS NOTED:

THE LINER INSTALLER CONTINUED TO PLACE AND WELD THE LINER PANELS. THE INSTALLER ALSO BEGAN TO WELD THE TIE-IN SEAM BETWEEN THE TOE OF SLOPE AND THE FLOOR. ALL OF SEAMS WERE INSPECTED AND THE AIR PRESSURE TESTS WERE RECORDED FOR ALL OF THE SEAMS EXCEPT THE TIE-IN SEAMS. THESE SEAMS WILL BE VACUUM TESTED LATER THIS WEEK OR NEXT WEEK. EACH WELDER HAD TO COMPLETE AND TEST TRIAL SEAMS IN THE MORNING, IN THE AFTERNOON, AND WITH ANY CHANGE OF WELDERS.

RESIDENT ENGINEER

FIELD REPORT

COPIES TO

SIGNED Scott C. Collins

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Report No. 40

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-25-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER WINDY ± 50°	
PRESENT AT SITE H+S, BARNHILL, GEOTECH, ENV. DES.	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

VERY WINDY DAY 20-25 MPH

BLACKED IN CELL IN ORDER TO AVOID POSSIBLE RAIN

THEY WERE TWO (2) ROLLS SHORT - DARYL BRINKMAN (ENV. DESIGN)

WENT TO RICHMOND TO GET TWO (2) ROLLS FROM ANOTHER

JOBSITE. HE DID NOT HAVE QC CERTIFICATES ∴ I REJECTED ROLLS

CONTRACTOR ELECTED TO PUT THEM IN AT HIS OWN RISK. PENDING

CONFORMANCE - TOLD K. ATKINS (BARNHILL) THIS AS WELL.

LEFT SITE @ 5:00 PM

12.5 HRS 209 MI

NOTE:

HAD A WONDERFUL THANKSGIVING

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Report No. 41

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE Nov. 25, 1993	PROJECT NO.
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL	SUBCONTRACTORS ENVIRONMENTAL DESIGN
WEATHER HIGH 55° LOW 30°	
PRESENT AT SITE STACEY SMITH, SCOTT COLLINS	

TO

THE FOLLOWING WAS NOTED:

THE LINER INSTALLER DEPLOYED THE PANELS UNTIL THEY RAN OUT OF LINER IN THE MORNING. THESE PANELS WERE SEAMED AND TESTED, WHILE EXTRUSION PATCHES WERE BEGUN IN SOME AREAS. AFTER LUNCH, THE REMAINING LINER MATERIAL ARRIVED AND WAS DEPLOYED. THERE WERE SEVERAL INSTANCES WHERE THE WIND CAUGHT THE LINER - WHICH CAUSED WRINKLES & CREASES IN THE LINER. THE WIND BLEW THE SEAMED PANELS ON THE SIDE SLOPES - WHICH INTERUPTED WELDING AND CAUSED SEVERAL DEFECTS AND CREASES. THE CELL WAS COMPLETELY "BLACKED IN" BY 4:30 PM AND WELDING CONTINUED AFTER DARK & W/O OUR SUPERVISION AFTER 5:15 PM. EACH WELDER AND EXTRUSION WELDER WAS TESTED IN THE MORNING, IN THE AFTERNOON, AND WITH ANY CHANGE OF WELDERS.

RESIDENT ENGINEER

FIELD REPORT

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Report No. 42

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-26-97	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY, 55°	
PRESENT AT SITE M&S, BARNHILL, GEOTECHNOLOGIES	
ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

ENVIRONMENTAL DESIGN

- FINISHED TYING IN BOTTOM
- BEGAN PATCHING
- TOLD THEM TO PATCH SUMPS 2 & 3 BEFORE RAIN IMPENDING (THIS DID NOT GET DONE)

WALKED SITE WITH BOYD

LEFT SITE @ 5:30 PM

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Report No. 43

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE Nov. 26, 1993	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY	
CONTRACTOR BARNHILL CONTRACTING	SUBCONTRACTORS ENVIRONMENTAL DESIGN
WEATHER WINDY LOW 40° HIGH 55°	
PRESENT AT SITE SCOTT COLLINS, STACEY SMITH	

TO

THE FOLLOWING WAS NOTED:

THE WIND DAMAGED PANELS AND DEFECTIVE SEAMS WERE MARKED AND REPAIRED FROM NOV. 25. THE REMAINING TIE-IN SEAMS WERE COMPLETED AND BY NOON THE ENTIRE CELL WAS SEAMED AND ENCLOSED. AIR PRESSURE TESTING WAS COMPLETED FOR THE SEAMS AND RECORDED. EXTRUSION WELDING CONTINUED FOR THE REMAINDER OF THE DAY. ALL OF THE MAJOR HOLES AND BURN THRUS WERE PATCHED AND EXTRUSION WELDED. THE WELDERS AND EXTRUSION WELDERS WERE TESTED AND THE TRIAL SEAMS WERE RECORDED FOR THE MORNING AND AFTERNOON.

RESIDENT ENGINEER

FIELD REPORT

SIGNED Scott C. Collins

COPIES TO

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Report No. 41

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-27-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY ; WET	
PRESENT AT SITE ENVIRONMENTAL DESIGN, H&S	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

SITE RAINED OUT

LEFT JOB SITE @ 8:30 AM

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Report No. 45

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-23-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & WET	
PRESENT AT SITE ENVIRONMENTAL DESIGN, H&S	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

- SITE RAINED OUT
- CELL HAD 18" OF WATER AT TOE
- LOOKED OVER E&SC

LEFT SITE @ 8:30 AM

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Report No. 46

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-29-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY & COOL	
PRESENT AT SITE BARNHILL, HHS, ENVIRONMENTAL	
DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 9:00 AM

ENVIRONMENTAL DESIGN

- PATCHING SEAMS AND PANELS
- PUMPING WATER OUT OF CELL

BARNHILL

- DRESSING UP STOCKPILE "D"

LEFT SITE @ 5:30 PM

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Report No. 47

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 11-30-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY ; COOL	
PRESENT AT SITE BARNHILL, HS, GEOTECHNOLOGIES, ENVIRONMENTAL DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

ENV. DES PATCHED REMAINING HOLES & BEGAN VACUUM TESTING

STILL PUMPING WATER OUT OF TOE DEAR SUMP

LEFT SITE @ 5:00 PM

160 miles

14 HRS.

RESIDENT ENGINEER

FIELD REPORT

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Report No. 48

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-1-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY & COOL	
PRESENT AT SITE BARNHILL, H & S, ENVIRONMENTAL	
DESIGN	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

ENVIRONMENTAL DESIGN

- PATCHING & VACUUM TESTING

I WALKED THRU SEAMS & PANELS AND FOUND IN AREAS THAT HAD TO BE RE DONE DUE TO CREASES WERE NOT CUT OUT BELOW PATCH

LEFT SITE @ 6:00 PM

RESIDENT ENGINEER

FIELD REPORT

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Report No. 49

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-2-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER SUNNY & CLEAR	
PRESENT AT SITE H&S, BARNHILL, ENVIRONMENTAL	
DESIGN, BURR & ASSOCIATES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

ENVIRONMENTAL DESIGN

- FINISHED PATCHING & VACUUM TESTING
- CLEANED UP TRASH
- LAID OUT GEONET & GEOTEXTILE

I SIGNED OFF LINER INSTALLATION PENDING LAB RESULTS

BARNHILL

- PUT GRAVEL & GEOTEXTILE ON ACCESS ROAD

BURR & ASSOCIATES

- AS BUILT SURVEYS

LEFT SITE @ 12:00 PM

RESIDENT ENGINEER
FIELD REPORT

SIGNED

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Report No. 50

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-8-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE H & S, GEOTECHNOLOGIES, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 A.M.

BARNHILL

- PUTTING IN OPERATIONAL COVER AT ACCESS ROAD
- LOOKED @ TOE OF PERIMETER KNOB FOR E&SC

LEFT JOB SITE @ 4:45 PM

- RECEIVED CONFORMANCE TESTS ON REJECTED ROLLS AND WAS OK

RESIDENT ENGINEER

FIELD REPORT

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Report No. 51

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-9-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER SUNNY & COOL	
PRESENT AT SITE H&J, GEOTECHNOLOGIES, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:00 AM

BARNHILL

- PLACING OPERATIONAL COVER

(HAD TO STOP THEM 3 TIMES TO STRAIGHTEN WRINKLES)

ENVIRONMENTAL DESIGN

- CAME TO PATCH FAILED SEAM 105-106 (DS # 21)

- TEST WELD OK, VACUUM TEST OK (CHARLIE, EDISON REPRESENTIVE)

LEFT SITE @ 5:45 PM

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SIGNED

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Report No. 52

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-10-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER CLOUDY & DRIZZLE	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 6:45 AM

BARNHILL

- PLACING OPERATIONAL COVER
- RAINED OUT @ 2:30 PM

I CHECKED WELLS AROUND ASH MONOFILL

THE FOLLOWING RESULTS WERE OBTAINED

B-3	22.5'	B-6	- DESTROYED
MW-8	7.3'	H-11	- DESTROYED
H-15	20.0'		
H-12	16.2'		
B-5	23.3'		
B-7	3.7'		
MW-1	32.0'		

LEFT SITE @ 2:30 PM

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FIELD REPORT

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Report No. 53

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-13-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER CLOUDY; COOL	
PRESENT AT SITE HGS, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 7:30 AM

BARNHILL

- PLACING OPERATIONAL COVER

LEFT SITE @ 5:00 PM

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Report No. 54

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-17-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER CLOUDY & COOL	
PRESENT AT SITE H & S, GEOTECH, BARNHILL	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:00 AM

DISCUSSED WITH WILLIE OF GEOTECHNOLOGIES HOW LINER WRINKLES SHOULD BE WORKED OUT DURING PLACEMENT OF OPERATIONAL COVER

BARNHILL

- PLACING OPERATIONAL COVER
- MAKING DOZER PATHS TO MW AREAS
- PUMPING WATER OUT OF CELL

LEFT SITE @ 3:30 PM

RESIDENT ENGINEER FIELD REPORT

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Report No. 55

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 12-21-93	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES
WEATHER COOL & WINDY	
PRESENT AT SITE H&S, BARNHILL, GEOTECHNOLOGIES	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 10:00 AM

BARNHILL

- PLACING OPERATIONAL COVER

ITEMS LEFT TO DO:

1. SEEDING
2. TRASH CLEANUP
3. OPERATIONAL COVER
4. PLACEMENT OF RISERS, PIPING TO SUMP, GRAVEL, FABRIC
5. SMOOTH OUT WET AREA & MAKE ACCESS ROAD OVER STOCKPILE "B" TO EAST SIDE OF CELL
6. LAST 6" OF ABC

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Report No. 56

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 1-3-94	PROJECT NO. 3716
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS GEOTECHNOLOGIES ENVIROS
WEATHER SUNNY & COOL	
PRESENT AT SITE H&S, GEOTECHNOLOGIES, ENVIROS	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 9:00 AM

BARNHILL

- SPREADING OPERATIONAL COVER
- DISCUSSED POSSIBILITY ABOUT GRAVEL ON CELL INTERIOR ACCESS ROAD
- DISCUSSED REMAINING ITEMS OF JOB TO BE DONE
  - SEEDING
  - ACCESS ROAD
  - FINE GRADING
  - PATCHING LINER RIPPED BY DOZER P-233

ENVIROS

- MET WITH MACK ARMSTRONG ABOUT MONITORING WELLS

LEFT SITE @ 3:30 PM

COPIES TO

RESIDENT ENGINEER

FIELD REPORT

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Report No. E7

Hazen and Sawyer, P.C.
4011 WestChase Boulevard
Suite 500
Raleigh, North Carolina 27607
(919) 833-7152
Fax (919) 833-1828

DATE 1-11-94	PROJECT NO. 3760
PROJECT HALIFAX COUNTY ASH MONOFILL	
LOCATION HALIFAX COUNTY, NC	
CONTRACTOR BARNHILL	SUBCONTRACTORS
WEATHER CLOUDY ; DRIZZLE	
PRESENT AT SITE LANDSAVERS, BARNHILL, H&S, PARAT WOLF, ENVIROS, HOLLAND	

TO

THE FOLLOWING WAS NOTED:

ARRIVED ON SITE @ 8:45 AM

BARNHILL

- OPERATIONAL COVER FINISHED
- ROCK PLACED AROUND RISERS

PARAT WOLF

- INSTALLING CASINGS AROUND MW-9, 10, 11, 12
- FINISHED MW 13, 14

LANDSAVERS

- KEITH JOHNSON & HELPER ARRIVED AT 11:45 AM
- PATCHED RIP IN P-233

LEFT SITE @ 3:00 PM

RESIDENT ENGINEER
FIELD REPORT

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APPENDIX 1.2
GEOTECHNOLOGIES
FIELD REPORTS

GeoTechnologies, Inc.

3200 Wellington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax Co. landfill	
LOCATION: Roanoke Rapids, N.C.	
DATE: 9/23/93	JOB NO: 1-92-367-CB
CONTRACTOR: Hazen & Sawyer	OWNER: Halifax County
WEATHER: Pt'ly cloudy/warm	TEMP: ° at AM / ° at PM
PRESENT AT SITE: John Adams - GeoTech.	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12.5

MILEAGE: ~~130~~ 130.0 Arrived on site at 8:30 A.M. to observe and perform density tests on placement of fill. The Contractor was placing fill for the internal stormwater basin. Performed seven tests, all tsts but one were 95% or better. Test # 4 was recompacted and achieved 100% compaction. The Contractor was informed of these results and given a copy along with this field report. Returned to Raleigh.

COPIES TO File, Contractor

FIELD REPORT

SIGNED John A. Adams, Jr.

GeoTechnologies, Inc.

3200 Wellington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax County Landfill	
LOCATION: Roanoke Rapids, N.C.	
DATE: 9/24/93	JOB NO: 1-92-327-C
CONTRACTOR: Hazen & Sawyer	OWNER: Halifax County
WEATHER: Pthy Cloudy/warm	TEMP: ° at AM / ° at PM
PRESENT AT SITE: John Adams - GeoTech	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 11.5 Arrived on site at 8:30 to perform field density
MILEAGE: 130.0 tests. Four tests were performed, ~~One~~ on the NE corner of the ~~Sediment Retention Basin~~ Internal Stormwater settling basin and three on pipe backfill for riser and barrel and stormwater collection pipe. All tests were 95% or better. The contractor was informed of the results and given a copy along with this field report. Returned to ~~Office~~ Raleigh.

COPIES TO File, Contractor

FIELD REPORT

SIGNED John R. Adams, Jr

GeoTechnologies, Inc.

3200 Welllington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT	Halifax County Landfill
LOCATION	Roanoke Rapids N.C.
DATE	9/25/93
JOB NO	1-92-367-CB
CONTRACTOR	Hazen & Sawyer
OWNER	Halifax County
WEATHER	Cloudy / cool
TEMP	° at AM / ° at PM
PRESENT AT SITE	John Adams - GeoTech

TO _____

THE FOLLOWING WAS NOTED:

TIME: 7.0

MILEAGE: 130.0 Arrived on site at 8:30 A.M. Contractor was placing fill for Internal storm water Sediminetation Basin, southwest corner Two tests were performed both tests were 95% or better. Due to mechanical problems work was stopped at 12:30. Technician returned to Raleigh.

COPIES TO Fit, Contractor

FIELD REPORT

SIGNED John A. Adams J

GeoTechnologies, Inc.
3200 Welllington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT	Halifax Co. Landfill
LOCATION	Roanoke Rapids, N.C.
DATE	9/27/93
JOB NO	1-92-367-C
CONTRACTOR	Hazen & Sawyer
OWNER	Halifax Co
WEATHER	Rainy/warm
TEMP	°at AM / °at PM
PRESENT AT SITE	John Adams - Geotech

TO _____

THE FOLLOWING WAS NOTED:

TIME: 9:0 Arrived on site at 8:30. Contractor was

MILEAGE: 130.0 hauling fill to stock pile. Rain kept contractor from placing fill until after lunch. At that time, contractor began placing fill for Cell C on the Northern Berm. Began to Rain and work ceased. Returned to office.

COPIES TO Fike, Contractor

FIELD REPORT

SIGNED John A. Adams

GeoTechnologies, Inc.

3200 Wellington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT	Halifax Co. landfill
LOCATION	Roanoke Rapids, N.C.
DATE	9/28/93
JOB NO	1-92-367-CB
CONTRACTOR	Hazen & Sawyer
OWNER	Halifax Co.
WEATHER	Sunny / cool
TEMP	° at AM / ° at PM
PRESENT AT SITE	John Adams - GeoTech

TO _____

THE FOLLOWING WAS NOTED:

TIME: 5.0

MILEAGE: 120.0

Arrived on site at 2:30 to perform density tests on fill placed yesterday. Two tests were run and the first test passed with 95% or better and was within Moisture Range. The second test did not meet compaction and ~~but~~ Moisture content was more than 6% over optimum. Contractor was informed and stated he would stay off of it until tomorrow.

Returned to Raleigh

COPIES TO File, Contractor.

FIELD REPORT

SIGNED John W. Adams Jr

GeoTechnologies, Inc.

3200 Wellington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax County landfill	
LOCATION: Roanoke Rapids, N.C.	
DATE: 9/29/93	JOB NO: 1-92-367-CB
CONTRACTOR: Hazen & Sawyer	OWNER: Halifax County
WEATHER: Sunny/ Warm	TEMP: ° at AM / ° at PM
PRESENT AT SITE: John Adams - GeoTech.	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12:25 Technician arrived on site at 7:45 A.M.

MILEAGE: 130.0 Contractor was hauling fill to stock pile and allowing scarified lift to dry. Lift was re-rolled and compacted. Retest was taken and test met 95% Compaction and was within moisture content range. Contractor began placing berm and riser for Sedimentation Basin # 1. Area under berm and berm was probed and shown to be soft to depths ranging from 3' to 7'. Technician believed area needed to be undercut before fill was placed. Ed Hearn was called and ~~agreed~~ agreed to same. Area was under cut and 17 3/4 full ~~15~~ 621B caterpillar pans ~~were~~ of overexcavated material was removed. Area will be filled tomorrow in the morning. Technician returned to Raleigh.

COPIES TO File, Contractor

FIELD REPORT

SIGNED John A. Adams Jr.

GeoTechnologies, Inc.

3200 Welllington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax Co. Landfill	
LOCATION: Roanoke Rapids, N.C.	
DATE: 9/30/93	JOB NO: 1-92-367-CB
CONTRACTOR: Hazen & Sawyer	OWNER: Halifax County
WEATHER: Sunny/Cool	TEMP: °at AM / °at PM
PRESENT AT SITE: John Adams	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12.0

MILEAGE: 120.0 Arrived at sit at 7:00 A.M. Contractor was removing topsoil to prepare subgrade for Fill at Sedimintation Basin #1. 8 3/4 full 621 B caterpiller pass were removed. Contractor then placed a 3' to 4' bridge lift over area undercut previous day. One more lift was placed and and compaction was 92.5%. Since 8' feet of fill will be placed over this lift compact. Should be adequate.

COPIES TO Fike, Contractor

FIELD REPORT

SIGNED John H. Adams

GeoTechnologies, Inc.

3200 Welllington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax County Landfill	
LOCATION: Roanoke Rapids, N.C.	
DATE: 10/1/93	JOB NO: 1-92-367-CF
CONTRACTOR: Haren & Sawyer	OWNER: Halifax County
WEATHER: Sunny/Warm	TEMP: °at AM, °at PM
PRESENT AT SITE: John Adams - Geotech	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 13.5 Arrived on site at 7:30 A.M.

MILEAGE: 130.0 Contractor was placing fill for the Northern Berm of Cell One. Eleven densities were performed over the course of the day. All tests met specified compaction and was within moisture content range. Water was added to the soil prior to Compaction.

COPIES TO Fik, Contractor

FIELD REPORT

SIGNED John A. Adams Jr.

GeoTechnologies, Inc.

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Raleigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-2-93	JOB NO: L-92-367-EB
CONTRACTOR:	OWNER:
WEATHER:	TEMP: ° at AM ° at PM
PRESENT AT SITE:	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 8.0 hrs.

MILEAGE: 140 miles

Arrived on site @ 7:15 AM. Upon arrival Barnhill had started hauling fill on North side of berm. Conducted soil density tests. All tests passed with required compaction. Also moisture content was 1% below or 6% over opt. Informed contractor of moisture results. See density sheet for locations, elevations, etc.

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-4-93	JOB NO: 1-92-367CB
CONTRACTOR: Barnhill	OWNER:
WEATHER: Sunny, Cool	TEMP: ° at AM ° at PM
PRESENT AT SITE: M. Morton - Geotech.	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 12.0 hrs.

MILEAGE: 82 miles

Arrived on site @ 6:45 AM. Upon Arrival Barnhill started placing fill @ Sediment Basin #1. Started conducting soil density tests. Tests passed with required compaction. See density sheet for information.

Contractor moved to Cell #1 hauling fill. Conducted soil density tests. Informed contractor that moisture was ± more than 1% below opt. moisture. Contractor quit hauling fill to Cell #1 because water truck was broke down. Contractor began hauling fill to stockpile location.

Contractor said he start± hauling fill in Cell #1 when water truck is fixed.

Contractor did not get water truck fixed, today. Will haul fill again on 10-5-93.

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX CO.	
DATE: 10-5-93	JOB NO: 1-92-367 CB
CONTRACTOR: BARNHILL	OWNER:
WEATHER: SUNNY	TEMP: ° at AM / ° at PM
PRESENT AT SITE: M. MORTON - GEOTECH.	
S. SMITH - HAZEN & SAWYER	

TO HAZEN & SAWYER

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs.

MILEAGE: 25

ARRIVED ON SITE @ 7:00 AM. UPON ARRIVAL BARNHILL CONTINUED TO PLACE FILL @ SOUTH BERM IN CELL #1. CONDUCTED SOIL DENSITY TESTS. DENSITY WAS ABOUT 95% COMPACTION. SOME TESTS CONDUCTED, THE MOISTURE WAS MORE THAN 1% BELOW OPT. MOISTURE. CONTRACTOR PLACED WATER TRUCK ON FILL SEVERAL TIMES TO OBTAIN DESIRED MOISTURE. SEE DENSITY SHEET FOR ELEVATIONS, LOCATIONS, ETC.

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12

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-6-93	JOB NO: 1-92-367 CB
CONTRACTOR: Barnhill	OWNER:
WEATHER: Sunny	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Mike Morton - Geotech.	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs.

MILEAGE: 25

Arrived on site @ 7:00 AM. Upon arrival, Barnhill continued to fill on Cell #1. Conducted soil density tests. Test passed with required compaction. A few tests did not have desired moisture. Contractor placed water truck on material. Conducted retests on all tests that did not have desired moisture. See density sheet for elevations, locations, etc.

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-7-93	JOB NO: 192-367CB
CONTRACTOR: Barnhill	OWNER:
WEATHER: Cloudy	TEMP: ° at AM ° at PM
PRESENT AT SITE: M. Morton - Geotech	
S. Smith - Hazen & Sawyer	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs.

MILEAGE: 25 miles

Arrived on site @ 6:50am. Upon arrival contractor continued to place fill on berms on Cell #1. Conducted soil density tests. All tests passed with required compaction & was in moisture range. See density sheet for elevations, locations, etc. Contractor wet material with water truck, before compacting.

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PROJECT: Halifax Co Landfill	
LOCATION: Halifax Co.	
DATE: 10-8-93	JOB NO: 1-92-367C
CONTRACTOR:	OWNER:
WEATHER:	TEMP: °at AM °at PM
PRESENT AT SITE:	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 2.5

MILEAGE: 82

Arrived on site @ 6:50 AM. Upon arrival contractor could not make decision on working because of rain. Contractor chose to not work. Return to Raliegh.

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-11-93	JOB NO: 1-92-367 CB
CONTRACTOR: Barnhill	OWNER:
WEATHER: Rainy	TEMP: ° at AM / ° at PM
PRESENT AT SITE: M. Morton - Geotech.	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 2.0 hrs.

MILEAGE: 82

Arrived in Halifax Co. to continue work on 10-12-93.

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16

PROJECT	Halifax Co. LANDFILL
LOCATION	Halifax Co.
DATE	10-12-93
JOB NO	1-92-367 CB
CONTRACTOR	Barnhill
OWNER	
WEATHER	Cloudy, Cool
TEMP	° at AM / ° at PM
PRESENT AT SITE	M. Morton - Geotech.

TO _____

THE FOLLOWING WAS NOTED:

TIME: 11.0 hrs.

MILEAGE: 25 miles

Arrived on site @ 6:45 AM. Upon arrival Barnhill informed me that there was a little fill placed @ sediment basin #1 @ the West berm. Conducted three soil density tests on berm @ diffent elevations. Tests passed with required compaction. See density tests for elevations, locations, etc.

Also contractor started placing fill on the NE corner of Cell #1. Conducted soil density tests. Tests passed with Required Compa Also moisture was @ opt. moisture, but not ouer 6%. See density sheet for elevations, locations, etc.

Also contractor continued to haul to the stockpiles.

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Phone (919)-954-1514

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax Co.	
DATE: 10-13-93	JOB NO: 1-92-367 CB
CONTRACTOR: Barnhill	OWNER:
WEATHER:	TEMP: ° at AM / ° at PM
PRESENT AT SITE: M. Morton - Geotech.	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs.

MILEAGE: 25 miles

Arrived on site @ 6:50 AM. Upon arrival contractor started hauling fill @ stockpiles. Conducted Sub-grade tests on berms at Cell #1. Tests passed with required compaction. See density sheet for moisture, location, etc.

Also contractor stripped new access road. Contract remoded [redacted] topsoil & organics. Proofrolled access road with loaded pan. Few areas was moving. Contractor removed material with a pan. Will start hauling fill on 10-14-93.

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PROJECT	Halifax Co. LANDFILL
LOCATION	Halifax Co.
DATE	10-14-93
JOB NO	I-92-367CB
CONTRACTOR	BARNHILL
OWNER	
WEATHER	Cloudy
TEMP	° at AM / ° at PM
PRESENT AT SITE	M. MORTON - GEOTECH.

TO HAZEN & SAWYER

THE FOLLOWING WAS NOTED:

TIME: 11.0 hrs.

MILEAGE: 25

ARRIVED ON SITE @ 6:40AM. UPON ARRIVAL CONTRACTOR STARTED HAULING FILL @ ACCESS ROAD. CONTRACTOR PLACED two lifts. TESTED both lifts. Test PASSED with REQUIRED COMPACTION, but MOISTURE WAS 5 to 6 PERCENT OVER opt. INFORMED CONTRACTOR. CONTRACTOR CHOOSE to stop HAULING fill to ROAD & TRY to DRY MATERIAL. CHECKED MATERIAL SEVERAL TIMES FOR MOISTURE. MOISTURE WAS NOT DRING OU ANY. CONTRACTOR chose to HAUL fill to ACCESS Rd. INFOR CONTRACTOR that MATERIAL would PROBLY MOVE UNDER TRAFFI & that HE would BE RESPONIBLE FOR ANY REPAIRS NEEDE BECAUSE of WET MATERIAL. AT END OF DAY ACCESS ROAD WAS MOVING UNDER a PAN.

Also INFORMED STACEY SMITH, with HAZEN & SAWYER, ABOU ACCESS ROAD.

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PROJECT	Halifax Co. LANDFILL
LOCATION	Halifax Co.
DATE	10-15-93
JOB NO	1-92-367 CB
CONTRACTOR	
OWNER	
WEATHER	
TEMP	° at AM ° at PM
PRESENT AT SITE	

TO

THE FOLLOWING WAS NOTED:

TIME: 12.5 hrs.

MILEAGE: 82

Arrived on site @ 6:40am. Upon arrival contractor continued to haul to the access Rd. Informed contractor that moisture was still 4 to 6 over opt. moisture. Contractor continued to haul fill. Conducted soil density tests. Tests passed with required compaction. See density sheet for elevations, locations, etc.
Entrance Rd. still was moving under pan at end of day.

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20

PROJECT	HALIFAX CO. LANDFILL
LOCATION	HALIFAX CO. ROANOKE RAPIDS N.C.
DATE	11-2-93
JOB NO	1-92-3671CB
CONTRACTOR	HAZEN & SAWYER
OWNER	
WEATHER	COOL & CLEAR
TEMP	° at AM / ° at PM
PRESENT AT SITE	KENNETH - BARNHILL
	JOHN CREMEANS - GEOTECH.

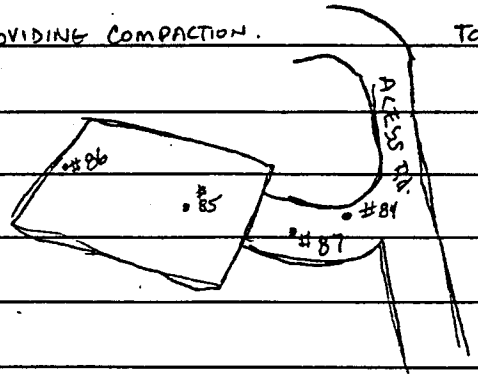
TO _____

THE FOLLOWING WAS NOTED:

TIME: ~~8 HRS~~ 6.5

MILEAGE: ~~180 m.~~ 1 TRIP (ROUND)

ARRIVED ON SITE BY 10 AM. LOCATED KENNETH AND TEST AREA. AREA IS OUTSIDE CELL AND PART OF ACCESS RD., SO NO MOISTURE CONTROL IS REQ.D. (ONLY COMPACTION). FIRST TEST CAME OUT WITH 100% COMPACTION, BUT MOIST. WAS HIGH. WHEN BACKFILLING BERM, CHECK MOISTURE ON FIRST LIFT BECAUSE ALL FILL SOIL IS WET. SECOND AND THIRD TESTS PROVED TO BE JUST AS WET. FOURTH TEST ON MIDDLE OF ROADWAY PROVED WET ALSO. COMPACTION PASSED ON ALL TESTS WITH FULL PANS PASSING OVER ENTIRE AREA PROVIDING COMPACTION. TOOK SOME TIME TO SPREAD LIFTS AROUND, SO IT WAS A SLOW DAY. THANKS. TECH WILL RETURN TOM. 8 AM - 830A



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21

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-3-93	JOB NO: 1-92-367-CB
CONTRACTOR: BARNHILL	OWNER:
WEATHER: CLEAR & COOL	TEMP: ° at AM / ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs.

MILEAGE: 180 1 TRIP DAY

ARRIVED ON SITE BY 8AM AND SET UP EQUIPMENT. TOOK FIRST TEST AFTER SHEEPS FOOT MADE A FEW PASSES. TEST SITE STILL OUTSIDE BERM ON ACCESS ROAD. FIRST TEST WAS SO WET, TECH HAD TO DRY BACK SAMPLES BEFORE BEATING OUT CHECK PLUGS FOR MOIS. AFTER 10 MIN. DRY BACK, SAMPLES STILL HAD MOISTURE CONTENT OF 11.9% AND CHECK PLUG WAS CONSIDERABLY LIGHTER. COMPACTION IS THERE, BUT MOIS. IS STILL TOO WET. BUT TESTS PASSED BECAUSE THERE IS NO MOIS. CONTROL ON THIS AREA (ACCESS ROAD). ALL TESTS ARE DRY BACK FOR THIS AREA. TECH. NOTICED FULL PANS MAKE AREA PUMP EASILY. DRIED BACK ALL TESTS. MOISTURES STAYED BETWEEN 11 - 15% WITH 10 MIN DRY BACK TIME. LAST TEST, DRIED MOIST. AS IS. CAME OUT AT 24.3%, SO HOPEFULLY, THE DEEPER WE CUT FOR FILL, THE BRIER.

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SIGNED JC

GeoTechnologies, Inc.
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22

PROJECT	HALIFAX CO. LANDFILL
LOCATION	ROANOKE RAPIDS, N.C.
DATE	11-4-93
JOB NO	1-92-367 CB
CONTRACTOR	BARNHILL
OWNER	
WEATHER	CLEAR & SUNNY
TEMP	60 °at 10 AM / °at PM
PRESENT AT SITE	KENNETH ADKINS - BARNHILL
	JOHN CREMEANS - GEO TECH

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 10.5

MILEAGE: 140 mi

UPON ARRIVAL TECH SET UP EQUIPMENT AND MADE FIRST TEST. MOISTURE LEVEL HAS GONE DOWN ENOUGH TO USE FILL ON BERM, BUT STILL ADDING ONTO ACCESS ROAD & UNLOADING AREA. HAD TO SWITCH LOCATIONS FILL WAS COMING FROM, SO A SLIGHT DELAY BECAUSE TECH WOULD NOT ALLOW TOPSOIL FROM NEW CUT TO BE PLACED ON AS FILL SOIL. WHEN CLEAN FILL IS FOUND, OPERATIONS CAN RESUME. BOTH FIRST TWO TESTS ARE DUETTER THAN OPTIMUM, SO DRY BACK PROCEDURE WILL BE UTILIZED. KENNETH HAS INFORMED TECH THAT UNSUITABLE FILL IS BEING STRIPPED OFF & UNTIL SUITABLE MATERIALS CAN BE FOUND COMPACTION TESTS WILL ALSO BE TAKEN ON STORM DRAIN DITCH AFTER COMPACTION. STORM DRAIN WILL RUN UNDER ACCESS RD. SO 95% OR BETTER MUST BE ACHIEVED. AROUND 1 PM, MORE FILL MATERIAL WAS DUMPED BY PAN ON ACCESS ROAD AREA, HOWEVER, IT TOO, WAS FULL OF ROOT SYSTEMS AND DEBRIS. TECH HAD CONTRACTOR SCRAPE IT OFF AND FILL MATERIAL INSPECTED FROM THAT POINT ON. GOOD FILL WAS LOCATED AND OPERATIONS BACK TO NORMAL. TOOK FIRST TEST ON DITCH, PASSED EASILY. LAST TEST ON LOT PASSED AND MOISTURE WAS DOWN TO 23.3% WHICH IS PASSABLE FOR ALL AREAS.

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23

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: ROANOKE RAPIDS, N.C.	
DATE: 11-5-93	JOB NO: 1-92-367 CB
CONTRACTOR: HALEN & SAWYER	OWNER:
WEATHER: RAIN	TEMP: °at AM / °at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 4 hrs

MILEAGE: 140

AFTER CALLING KENNETH A. AT 6:30 AM, HE INFORMED TECH TO PROCEED TO JOB SITE, AS RAIN WAS NOT HARD. UPON ARRIVAL, HOWEVER, RAIN WAS HEAVY AND WORK HAD BEEN CANCELLED. RETURNED TO RALEIGH

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24

PROJECT	[redacted] HALIFAX CO. LANDFILL
LOCATION	~~JEFFERSON~~ HALIFAX, N.C.
DATE	JOB NO
11-9-83	1-92-367 CA
CONTRACTOR	OWNER
BARNHILL	
WEATHER	TEMP
CLEAR & COOL	° at AM / ° at PM
PRESENT AT SITE	
KENNETH ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH.	

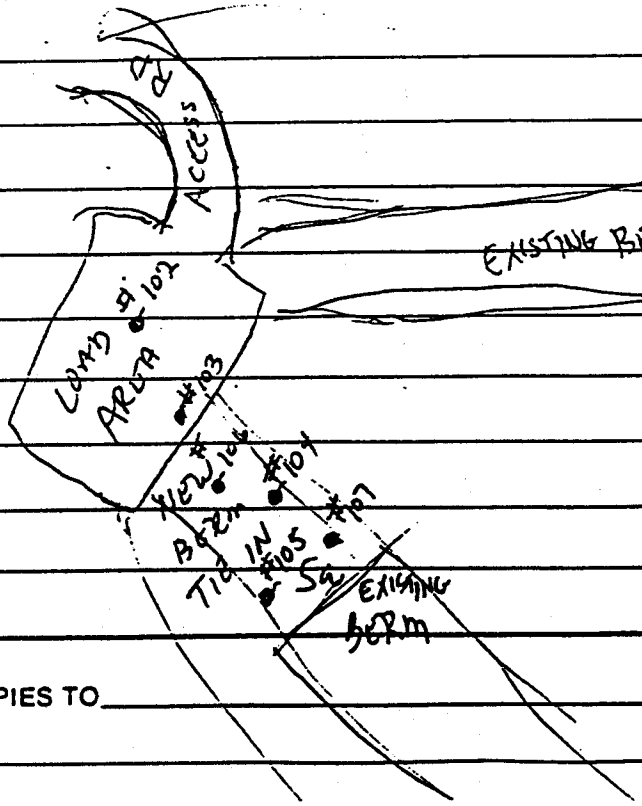
TO

THE FOLLOWING WAS NOTED:

TIME: 10:5 hrs

MILEAGE: 140 m.

UPON ARRIVAL, TECH CHECKED MOISTURE LEVELS OF BACKFILL MATERIAL. MOISTURE WAS WITHIN SPEC.S' (25%). TECH SUGGESTS STARTING ON BERM TO CLOSE IN CELL WHILE MOISTURE LEVELS ARE ALLOWABLE, IF MOIST. LEVEL GOES UP, WE CAN ALWAYS GO BACK TO ACCESS ROAD AND PAD. TOOK FIRST TESTS ON PAD & ACCESS ROAD, BOTH PASSED. REST OF TESTS ARE ON ACTUAL SW BERM THAT TIES-IN LOAD AREA TO CELL #1. ALL TESTS PASSED W/ 100+ COMPACTION. AS LONG AS MOIST. STAYS LOW, SHOULD BE EASY GOING. ALL NAT. MOIST. HAVE BEEN BETWEEN 23-25. DRY BACK (mix 11 lbs dry - 4 lbs wet) AVERAGE 15-19



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25

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-10-93	JOB NO: 1-92-367 CA
CONTRACTOR: HALEN & SAWYER	OWNER:
WEATHER: COOL & CLEAR	TEMP: ° at AM, ° at PM
PRESENT AT SITE: KENNY ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH	

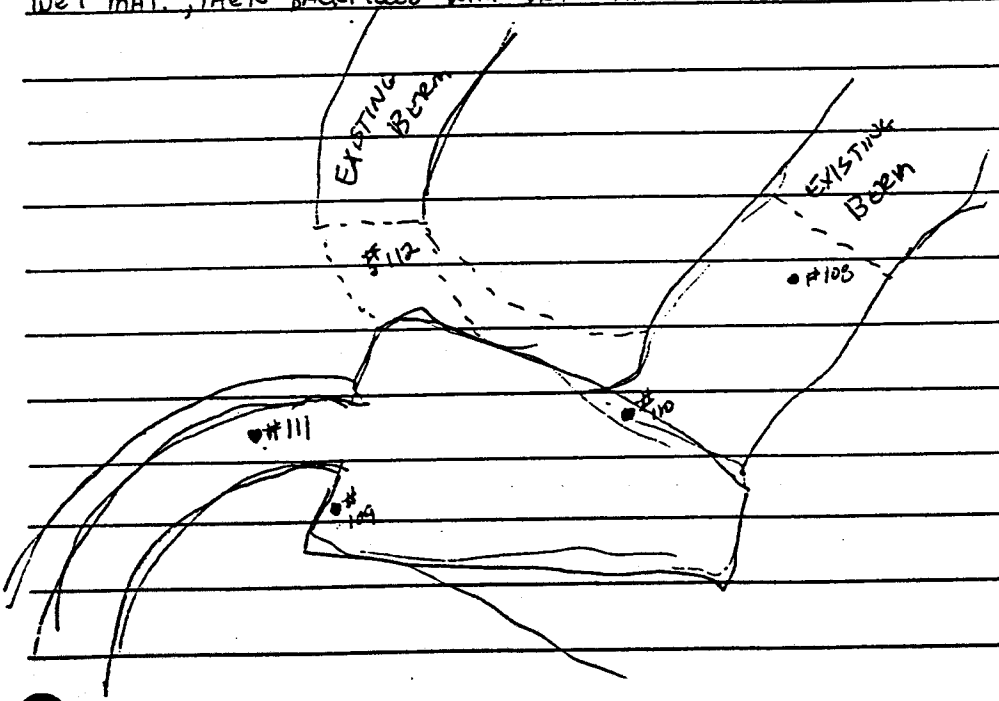
TO _____

THE FOLLOWING WAS NOTED:

TIME: 10.5

MILEAGE: 140

ARRIVED ON SITE AND SET UP EQUIPMENT. TOOK FIRST TEST ON SW BERM ON GRADE ON CENTER LINE OF PEAK OF BERM. IT PASSED WITH 22.1 MOIST. (UNTIL DRYBACK) AND 100+ COMPACTION. EDGE OF LOAD PAD (TEST #109) ONLY HAD 97.8% COMPACTION (PASSABLE) BECAUSE SHEEPS FOOT ROLLER COULDNT GET TOO CLOSE (NEW OPERATOR). KENNETH A. DECIDED TO WORK ON ACCESS ROAD TO DRY IT OUT (HOPEFULLY) THEN FINISH OTHER BERM TIE-IN, WE ENDED UP WORKING IN BERM TIE-IN, THEN STARTING ACCESS RD. ACCESS ROAD MUST BE UNDERCUT TO REMOVE EXCESSIVELY WET MAT., THEN BACKFILLED WITH DRY MATERIAL. R



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26

PROJECT: HALIFAX CO LANDFILL	
LOCATION: HALIFAX CO. N.C.	
DATE: 11-11-93	JOB NO: 1-92-367-CA
CONTRACTOR: HAYNES & SAWYER	OWNER:
WEATHER: SUNNY	TEMP: ° at AM, ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEENS - GEOTECH	

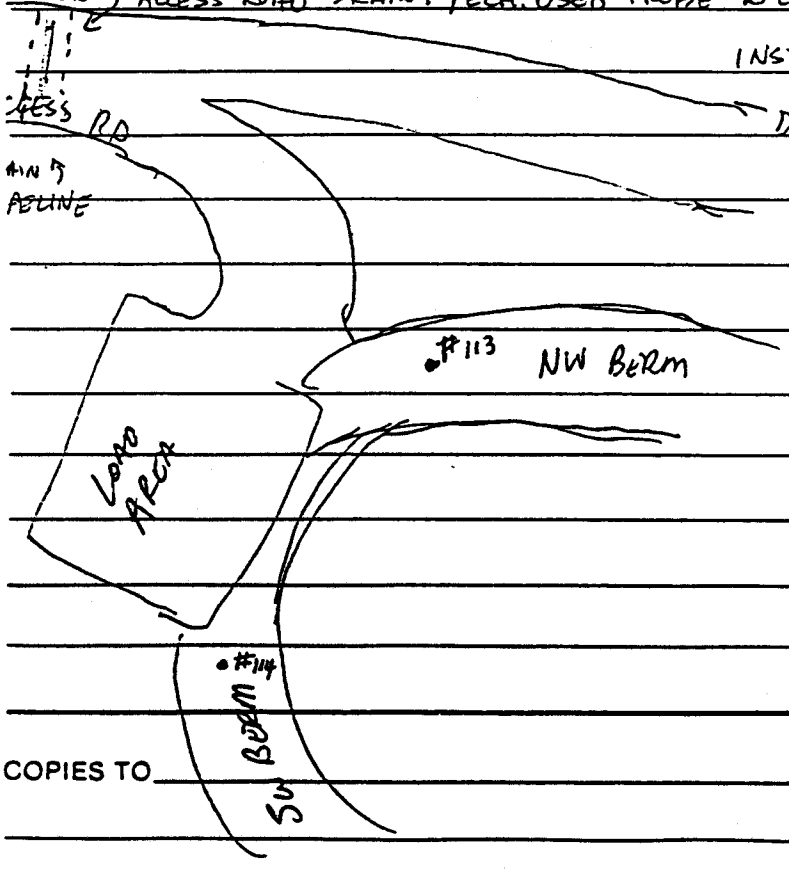
TO _____

THE FOLLOWING WAS NOTED:

TIME: 10.5

MILEAGE: 10.

UPON ARRIVAL TECH TESTED TOP OF BERM (NW SIDE) FOR COMPACTION. CONTRACTOR STILL STRIPPING ACCESS ROAD TO CREATE DRAINS AND GET WET MATERIAL OFF. TECH. WILL TEST LIFTS ON ACCESS ROAD FOR COMPACTION. (NO MOIST. CONTROL). KEN. A. TOLD TECH OF POSSIBILITY THAT PIPE CREW MAY ARRIVE TODAY TO BEGIN PUTING IN STORM DRAIN (CONCRETE) AND CELL 1 DRAIN LINES (PLASTIC) WHICH NEED TESTS ON BACKFILL. PIPE CREW DID[illegible] SHOW. FILL FOR ACCESS ROAD IN STOCKPILE HAD BE RE-ARRANGED SO CLEAN FILL COULD BE FOUND. THIS PROCESS TOOK SOME TIME. PIPE CREW GOT A START ON 2 ACCESS ROAD DRAIN. TECH. USED PROBE TO CHECK BOTTOM OF DRAIN LINE BEFORE PIPE WAS INSTALLED, AND FELT TIGHT. NO TESTS ON ROAD OR DRAIN UNTIL FILL STARTS. (TOMORROW)



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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-12-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER: SUNNY & COOL	TEMP: ° at AM / ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEENS - GEO TECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 2.5

MILEAGE: 70mi

UPON ARRIVAL, TECH TESTED STORM DRAIN LINE IN ACCESS ROAD, MOIST. WAS 23.5 SO DRY BACK WAS REQUIRED. PIPE CREW INFORMED TECH, THAT NO COUPLINGS WERE DELIVERED WITH PIPE (PLASTIC) SO A HOLD UP ON SETTING PIPE IN EXISTING LANDFILL. COUPLINGS WERE FOUND, WORK RESUMES. WENT TO EXISTING LANDFILL TO TEST. TESTED 2 TESTS ON ABOUT 3" OF FILL IN NW BERM DRAIN. PROBED EVERY OTHER LIFT. TESTED MOST OF SW END. NEEDS ONE OR TWO ON GRADE FOR COMPACTION. THEN WATCH PIPE CREW DO SCREENINGS.

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28

PROJECT: Halifax Land Fill	
LOCATION: Halifax NC	
DATE: 13 Nov 93	JOB NO: 192-367-[redacted]
CONTRACTOR:	OWNER:
WEATHER:	TEMP: °F / °F AM PM
PRESENT AT SITE: Willie V Washington	

TO HAZEN & SAWER

THE FOLLOWING WAS NOTED:

TIME: ~~3~~ HR TRAVEL 4 HRS On Site=

MILEAGE: 150 mil Tech ARRIVED on site 815. Tech comunicated w/ KENNETH (Contractor) KENNETH showed tech AREA described by last tech (JOHN) to be tested. All tests PASSED Test on berm was 96% Access Rd tests were 3EA All 100+% CHARLES (contractor Formen of pipe LAYERS) SAid will not be digging pipe trench today only stringing pipe will beg[redacted] Monday. Tech LEAVES SITE FOR DAY

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FIELD REPORT

SIGNED [signature]

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Phone (919)-954-1514

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 9-15-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER: HOT & WINDY	TEMP: 70 at 10 AM, ? at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
STACEY SMITH - HAZEN & SAWYER	
JOHN CREMEENS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 10 hrs

MILEAGE: 120 mi

TECH ARRIVED ON SITE AND LOCATED DRAIN PIPE LINE (12" PLASTIC) FOR CELL #1. TECH PROBED GROUND THAT WAS UNDERCUT FOR PIPE TRENCH. FELT REAL TIGHT. SCREENINGS ARE THEN PLACED ON TOP OF GROUND TO PROVIDE BEDD FOR PIPE. BREAKDOWN OF BACKHOE SLOWED PROGRESS CONSIDERABLY, SINCE TWO OF PIPE CREW HAD TO GO TO RALEIGH TO GET PART. AFTER RETURN OF PIPE CREW, TECH WAS INFORMED THAT TECH WAS NOT NEEDED UNTIL BACKFILLING BEGAN. RIGHT NOW, THE DITCH IS BEING DUG AND LINED WITH SCREENINGS. WHAT TECH DOES NOT UNDERSTAND IS THIS: IF GROUND UNDERNEATH SCREENINGS IS TOO SOFT AND DURING BACKFILL PIPES SINK BECAUSE OF SOFT SPOTS WHO GETS BLAMED? TECH HAS NOW DOCUMENTED CONCERNS WITH THIS MATTER AND HAS BEEN INFORMED THIS JOB WILL CALL BACK BEFORE ACTUAL BACKFILLING WILL TAKE PLACE, SO TECH CAN OBSERVE BACKFILLING AND MAKE REQ'D. DENSITY TESTS. TECH BELIEVES SOMEONE (FROM GEOTECH) SHOULD BE HERE FOR DITCH DIGGING IN CASE GROUND UNDER SCREENINGS IS NOT SUITABLE. OBJECTION IS NOW NOTED

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SIGNED John Cremeens

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Phone (919)-954-1514

30

PROJECT	HALIFAX CO. LANDFILL
LOCATION	HALIFAX CO. N.C.
DATE	11-18-93
JOB NO	1-92-367 CA
CONTRACTOR	HAZEN & SAWYER
OWNER	
WEATHER	CLEAR & COOL
TEMP	° at AM / ° at PM
PRESENT AT SITE	KENNETH ATKINS - BARNHILL
	STACY SMITH - HAZEN & SAWYER
	JOHN CREMEANS - GEOTECH

TO _____

THE FOLLOWING WAS NOTED:

TIME: 4.25 hrs

MILEAGE: 140 m.

UPON ARRIVAL TECH WAS INFORMED THERE WOULD BE NO TESTING TODAY AS PIPE WAS STILL BEING FUSED TOGETHER. THEN IT WOULD HAVE TO BE TESTED, TAKING MOST OF THE DAY. TECH WAS INSTRUCTED TO RETURN TOMORROW 8AM FOR COMPACTION TESTS OF BACKFILL. STACEY SMITH WILL CALL WITH LONG TERM OUT LOOK ON REST OF PROJECT. (HOW MUCH GEOTECH HAS TO BE HERE FOR). TECH RETURNED TO RALEIGH

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PROJECT: HALIFAX CO LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-21-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER: SUNNY & COOL	TEMP: ° at AM ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH	
STACEY SMITH - HAZEN & SAWYER	

TO

THE FOLLOWING WAS NOTED:

TIME: 9 hrs (SUNDAY) 6.5 ¶ COMMUTE / PER DIEM

MILEAGE: 140 m.

UPON ARRIVAL TECH OBSERVED SEAM WELDING OF LINER; 24 IN ALL. MADE INSPECTION AND DOCUMENTED SUCH.

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32

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-22-93	JOB NO: 1-92-367 CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP: ' at AM / ' at PM
PRESENT AT SITE: STACY SMITH - HAZENE SAWYER	
JOHN CREMEANS - GEOTECH	
KENNETH ATKINS - BARNHILL	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 13hrs 10 PER DEM

MILEAGE: 140 mi

TECH ARRIVED ON SITE AND INSPECTED LINER FUSION WELDING SEAMS

TURNED IN PAPERWORK TO STACY SMITH.

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_____

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[illegible]eigh, North Carolina 27615
Phone (919)-954-1514

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 11-23-93	JOB NO: 1-92-367 CA
CONTRACTOR: Hazen & Sawyer	OWNER:
WEATHER:	TEMP: [illegible] AM / [illegible] PM
PRESENT AT SITE: Stacey Smith - Hazen & Sawyer	
John Creneans - GeoTech	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 13.5 hrs 10.5 Per Diem

MILEAGE: 140

Tech inspected seam welders and air tests.

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-24-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER:	TEMP: AM / PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
STACEY SMITH - HAZEN & SAWYER	
JOHN CREMEANS - GEOTECH	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 13.5 10.5 PER DIEM

MILEAGE: 140 mi

TECH ARRIVED ON SITE AND OBSERVED FUSION WELDING OF LINER SEAMS

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_____

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 11-25-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER: COLD	TEMP: [illegible] at AM / [illegible] at PM
PRESENT AT SITE: STACY SMITH - HAZEN & SAWYER	
JOHN CREMEANS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 11.5 hrs HOLIDAY 8.5 PER DIEM

MILEAGE: 140.

UPON ARRIVAL, TECH INSPECTED SEAM WELDING AND PATCHING.

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 11-26-93	JOB NO: 1-92-367 CA
CONTRACTOR: Hazen & Sawyer	OWNER:
WEATHER:	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
John Cremeens - Geotech	
Stacy Smith - Hazen & Sawyer	

TO

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs 7.5 PER DIEM

MILEAGE: 140 mi

TECH INSPECTED LINER SEAM WELDS WITH HOT WEDGE. ALSO REPORTED AIR TESTS.

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Phone (919)-954-1514

37

PROJECT	HALIFAX CO. LANDFILL
LOCATION	HALIFAX
DATE	11-29-93
JOB NO	j-92-367 CA
CONTRACTOR	
OWNER	
WEATHER	
TEMP	at AM at PM
PRESENT AT SITE	

TO

THE FOLLOWING WAS NOTED:

TIME: 10.25

MILEAGE: 140

TECH OBSERVED EXT. WELDS AND RECORDED AIR TESTS.

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38

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax NC.	
DATE: 11-30-93	JOB NO: 1-92-367 CA
CONTRACTOR: Hazen & Sawyer	OWNER:
WEATHER: Cold	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
Stacy Smith - Hazen & Sawyer	
John Cremeans - GeoTech	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs

MILEAGE: 140 mi

Tech inspected patches on seams and started inspecting panels

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_____

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39

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-1-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER:	TEMP: ° at AM ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL STACY SMITH - HAZEN & SAWYER JOHN CLEMENTS - GEO TECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: ~~[illegible]~~ 11.75 hrs

MILEAGE: 140 mi.

INSPECTED PATCHES AND DOCUMENTED REPAIRS

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PROJECT: HALIFAX Co. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-8-93	JOB NO: ~~[illegible]~~ 1-9[illegible]
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER:	TEMP: ° at ° at
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
STACY SMITH - HAZEN & SAWYER	
JOHN CREMEANS - GEOTECH	

TO

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs

MILEAGE: 140 mi

TECH OBSERVED OPERATIONAL COVER IN THE FIRST STAGES

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-9-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER:	TEMP: at AM / at PM

TO _____

_____

_____

PRESENT AT SITE
KENNETH ATKINS - BARNHILL
STACY SMITH - ~~FGO~~ HAZEN & SAWYER
JOHN CREMEANS - GEO TECH

THE FOLLOWING WAS NOTED:

TIME: 12.5 hrs

MILEAGE: 140 mi

OBSERVED CAP STRIP AND PATCHING PROCEDURES ON LINER AND KEPT GOING WITH OPERATIONAL COVER

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42

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 12-10-93	JOB NO: 1-92-362-CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP:
PRESENT AT SITE: Stacy Smith - Hazen & Sawyer John Clemeans - GeoTech	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 9.5 hrs

MILEAGE: 140.m'

Observed operational cover and ironing procedures

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43

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-13-93	JOB NO: 1-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER:
WEATHER:	TEMP: ° at AM ° at PM
PRESENT AT SITE: STACEY SMITH - HAZEN & SAWYER	
KENNETH ATKINS - BARNHILL	
John CREMEANS - GEO TECHNOLOGIES Inc	

TO

THE FOLLOWING WAS NOTED:

TIME: 10.5 hrs

MILEAGE: 140

OBSERVED OPERATIONAL COVERAGE PROCEDURES AND ACTUAL COVER

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-14-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER:	TEMP: ___ at ___ AM / ___ at ___ PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CLEMENTS - GEO TECH.	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12.5 hrs

MILEAGE: 140 mi.

INSPECTED OPERATIONAL COVER

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PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-15-93	JOB NO: 7-92-367 CA
CONTRACTOR: HAZEN & SAWYER	OWNER
WEATHER: RAIN	TEMP: °at AM / °at PM
PRESENT AT SITE: KENNIETH ATKINS - BARNHILL	
John CREEMEANS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 6.5 hrs

MILEAGE: 110 mi.

TECH ARRIVED ON SITE TO FIND LIGHT RAIN. CONT. DECIDED NOT TO TRY ANY OPERATIONAL COVER. TECH PLOTTED DENSITY TEST LOCATIONS ON SOIL TESTING GRID LAYOUT MAP AS REQUESTED BY STACEY SMITH (HAZEN & SAWYER)

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PROJECT	HALIFAX CO. LANDFILL
LOCATION	HALIFAX, N.C.
DATE	12-16-93
JOB NO	1-92-367 CA
CONTRACTOR	BARNHILL
OWNER	
WEATHER	
TEMP	at AM / at PM
PRESENT AT SITE	KENNETH ATKINS - BARNHILL JOHN CREMEANS GEOTECH

TO _____

THE FOLLOWING WAS NOTED:

TIME: 13 hrs

MILEAGE: 140 mi

UPON ARRIVAL TECH OBSERVED SCRAPING OF WET MATERIAL OFF THE TOP OF OPERATIONAL COVER, AS WELL AS, STOCKPILE OF FILL MATERIAL. CONTRACTOR WILL TRY TO HAUL SOME FILL IF CONDITIONS PERMIT. CONTINUED HAULING ALL DAY, STARTED SPREADING FINGERS AS WELL AS PUSHING OUT 3FT FINGERS. TECH INFORMED HAZEN'S SAWYER THAT HE COULD NOT WATCH BOTH DOZERS AT ONCE AND WOULD NOT BE HELD RESPONSIBLE IF WRINKLES WERE COVERED BEFORE THEY COULD BE CORRECTED. STACEY SMITH ASSURED TECH EVERYTHING WOULD BE ALRIGHT

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 12-17-93	JOB NO: 1-92-367 CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP: AM / PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
John Cremeans - Geotech	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 6.5 hrs

MILEAGE: 140.

Arrived on site and began inspecting operational cover. Tech Washington replaces Tech Cremeans. So Tech returned to Raleigh

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SIGNED John Cremeans

48

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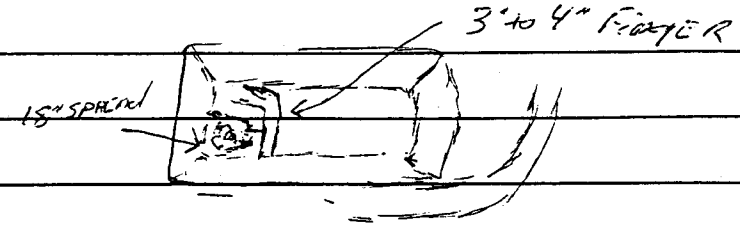
PROJECT: Hali Fax 2nd Fill	
LOCATION: Hali Fax NC	
DATE: 17 Dec 93	JOB NO: 1-93-367-CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Willie V Washington, Stacy (Hazen Sawyer), Kenney (Barnhill)	

TO: HAZEN + SAWER

THE FOLLOWING WAS NOTED:

TIME: 3hrs travel 7½ hrs on site

MILEAGE: 140 miles Tech arrived on site at 918 Tech briefed of status on work to be done by John (Geo Technologies Tech) John said to insure that Fingers that Pan + D-6 Bulldozer run on or at least 3'+4' Lift Fingers being spread out By D-4 should be at least 18" Objective of inspection was to insure wringles were being stomped out Bar worker and Stone + Roots were not in lifts Tech told that since they are working on to different areas and he can only watch one at a time to focus on 3'-4' Finger for trapped wringles and to check Bags and Fourth Between 18" spread and Fingers (3'-4'). Tech inspected area described below Tech Lift site for the day



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SIGNED: [signature]

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[illegible]eigh, North Carolina 27615
Phone (919)-954-1514

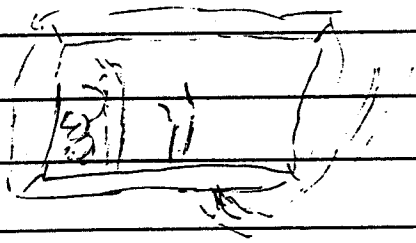
PROJECT: Halifax Co Landfill	
LOCATION: Halifax NC	
DATE: 18 Dec 93	JOB NO: 192367 CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP: ° at AM ° at PM
PRESENT AT SITE: Willie V Washington Kenney (Carnhill Rep)	

TO Hazen + Sawyer

THE FOLLOWING WAS NOTED:

TIME: 3hrs travel 8hrs on Site

MILEAGE: 146 Tech arrived on site at 763 Tech continued Exp. of 3' to 4' finger and 18" spreads Refer to drawing below. Tech Left Site For the day.



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SIGNED Willie V Washington

GeoTechnologies, Inc.

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Phone (919)-954-1514

50

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-20-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER:	TEMP: ° at AM ° at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CLEMENTS - GEOTECH	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 12.5 hrs

MILEAGE: 140

TECH ARRIVED ON SITE TO OBSERVE OPERATIONAL COVER.

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51

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-21-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER:	TEMP: at AM / at PM
PRESENT AT SITE: KENNETH ATKINS - BARNHILL	
JOHN CREMEANS - GEOTECH	

D _____

_____

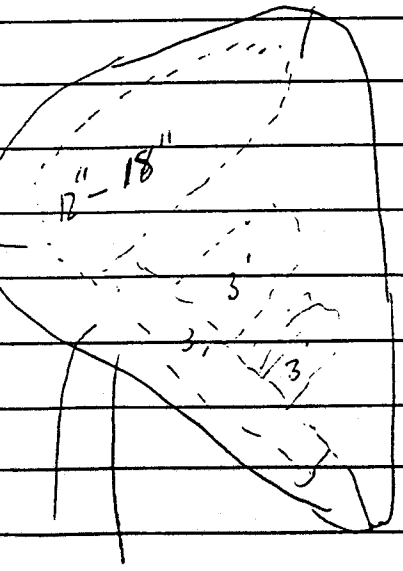
_____

IE FOLLOWING WAS NOTED:

ME: 13.5

ILEAGE: 40 mi

UPON ARRIVAL, TECH OBSERVED REMOVAL OF WET MATERIAL FROM OPERATIONAL COVER. THEN OBSERVED AND INSPECTED OPERATIONAL COVER, WEST CORNER NEEDS TO EXTEND TO CORNER W/ 3' COVER AND POSSIBLY ONE MORE SMALL FINGER TO HELP COVER CORNER AREA. THEN SPREADING TO 18" WILL BE ALL THAT IS LEFT (WHICH SHOULD TAKE 1 TO 2 WEEKS), FINGERS COMPLETED TO INCLUDE WEST CORNER. WORKING ROADWAY LEADING INTO CELL, THEN ONLY PROCEDURE LEFT IS THINNING OUT FINGERS TO 18".



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FIELD REPORT

SIGNED John Cremeans

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52

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 12-22-93	JOB NO: 1-92-367 CA
CONTRACTOR:	OWNER:
WEATHER:	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
John Creamens - Geotech	

TO _____

_____

_____

THE FOLLOWING WAS NOTED:

TIME: 1205 hrs

MILEAGE: 140

Upon arrival tech observed spreading of operational cover as well as completion of access ramp.

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53

PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 12-27-93	JOB NO: 1-92-367 CA
CONTRACTOR: Barnhill	OWNER:
WEATHER:	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
John Creamens - Geotech	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12.5

MILEAGE: 140 mi

Tech observed operational cover. Seems to be enough material inside cell. Just spreading remainder around and possibly work on risers and drains today. Cut holes for drain pipe in risers, but that was all.

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PROJECT: Halifax Co. Landfill	
LOCATION: Halifax, N.C.	
DATE: 12-28-93	JOB NO: 1-93-367 CA
CONTRACTOR: Barnhill	OWNER:
WEATHER: Cloudy	TEMP: 38 ° at 8 AM / PM
PRESENT AT SITE: Kenneth Atkins - Barnhill	
John Creneens - GeoTechnologies Inc.	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12.5

MILEAGE: 140 m.

Jeff observed operational cover and installation of risers and drain's. But no stone cover. Just placed risers & piping.

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55

PROJECT: HALIFAX CO. LANDFILL	
LOCATION: HALIFAX, N.C.	
DATE: 12-30-93	JOB NO: 1-92-367 CA
CONTRACTOR: BARNHILL	OWNER:
WEATHER: CLEAR & COLD	TEMP: 33 [illegible]
PRESENT AT SITE: KENNETH AKINS - BARNHILL JOHN CREMEANS - GEOTECH	

TO _____

THE FOLLOWING WAS NOTED:

TIME: 12 hrs

MILEAGE: 140 m.

OBSERVED OPERATIONAL COVER AND CAPPING OF SUMPS #2 & 3

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56

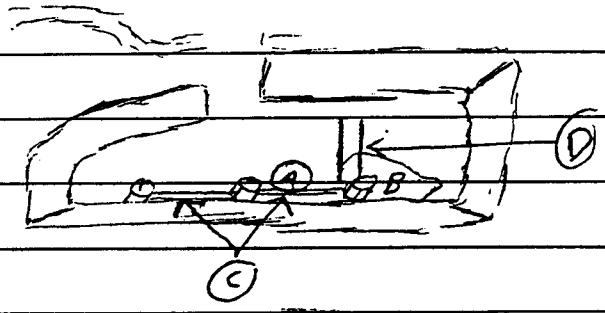
PROJECT: Halifax 2and Fil	
LOCATION: Halifax Co N.C.	
DATE: 3 Jan 94	JOB NO: 1-93-367-[redacted]
CONTRACTOR: Barn Hill	OWNER:
WEATHER: Cold	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Willie V Washington (Geo Tech)	
Kenneth (Barn Hill Rep)	
Stacy (Hazen & Sawyer Rep)	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 3 hr Travel 9½ hrs on site

MILEAGE: 140mi Tech arrived on site at 0658 Tech comunicated w/ Kenneth. Tech alerted of air pocket E. of center drain vent on N. side of Land fill. Tech monitored spreading of soil over N.E. conner of 2and Fill Tech alerted by Stacy that vent Horizontal pipe will not have soil spread on the N. side. Reffer to Fig. below for above described areas. Tech Exit site area for work day. * Tech monitored 5 Ft finger lay out for Heavy Traffic



A = Air Pocket 20 Ft x 5 Ft

B = Area covered w/ soil on work day

C = Horizontial vent pipe side not to be covered w/ soil

D = Extended finger (road) for Rock Truck passage

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SIGNED Willie V Washington

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[illegible]igh, North Carolina 27615
Phone (919)-954-1514

54

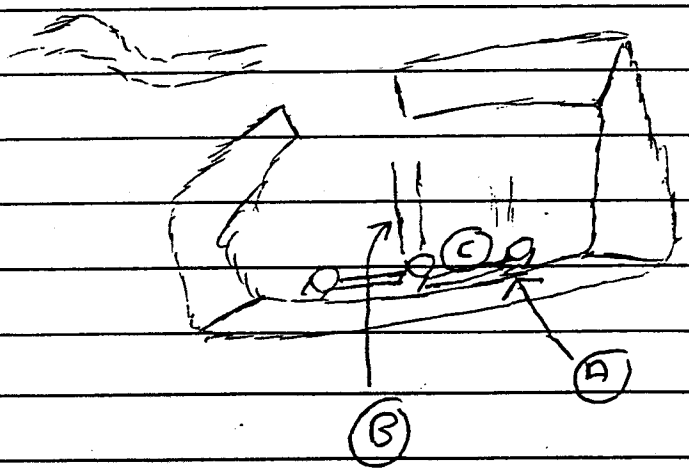
PROJECT: Halifax 2 and 911	
LOCATION: Halifax Co N.C.	
DATE: 4 Jan 94	JOB NO: 1-93-367-CA
CONTRACTOR: Barn Hill	OWNER:
WEATHER: morning Rain/cold	TEMP: ° at AM ° at PM
PRESENT AT SITE: Willie V Washington (Geo Tech) Kenneth (Barn Hill Rep)	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 3hr travel 9 hrs on site

MILEAGE: 140 miles Tech arrived on site at 0727. Tech comonicated w/ Kenneth Tech alerted that Rock Truck will be delivering wash stone For N. E vent pipe (vertical). Tech moitored covering of deflated Air pocet area placement of wash stone Around Vent pipe and Extended finger to center N. Vent pipe. Reffer to fig below for above described areas



A = Placement of wash stone

B = Extended finger to Vent Pipe

C = Deflated Air pocket covered w/ soil

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FIELD REPORT

SIGNED [signature]

GeoTechnologies, Inc.
3200 Welllington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

58

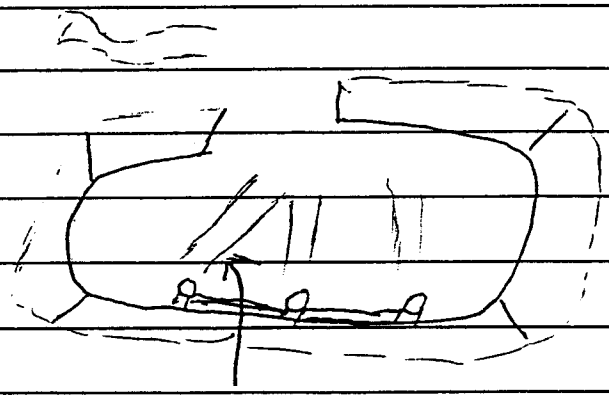
PROJECT: Halifax Co Landfill	
LOCATION: Halifax Co N.C	
DATE: 5 Jan 94	JOB NO: 1-93-367-CA
CONTRACTOR: Barn Hill	OWNER:
WEATHER: Sunny/Cool	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Willie V Washington (Geo Tech) Kenneth (Barn Hill Rep)	

TO HAZEN & SAWYER

THE FOLLOWING WAS NOTED:

TIME: 3 hrs Travel 8½ hrs on site

MILEAGE: 140 Tech arrived on site 7:58 AM Tech communicated w/ Kenneth Tech alerted that PAN was down but will be operative workers will be extending Finger to N.W. Vent pipe (Vertical) Tech monitored spreading of Finger Refer to Fig Below For Describe Above Location. Tech Exit work area for the day.



Extended Finger to Vent Pipe

A

COPIES TO ~~Hall V~~ Contractor
File

FIELD REPORT

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GeoTechnologies, Inc.
3200 Wellington Court, Suite G
[illegible]igh, North Carolina 27615
Phone (919)-954-1514

59

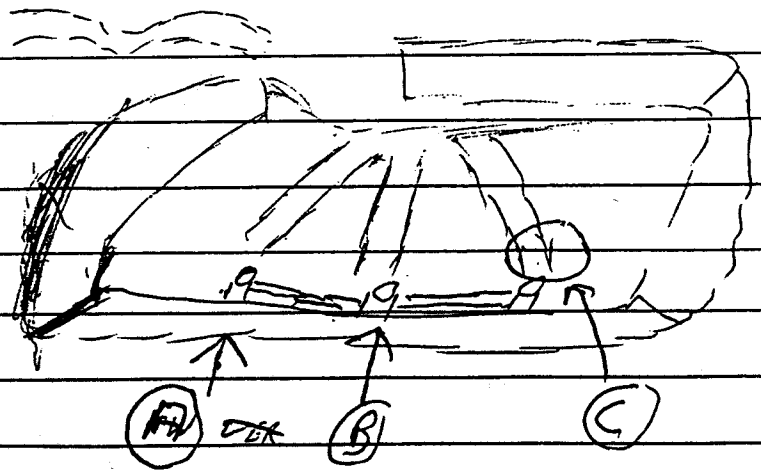
PROJECT	Halifax Co Landfill
LOCATION	Halifax Co NC
DATE	6 JAN 94
JOB NO	1-93-367-CA
CONTRACTOR	Barn Hill
OWNER	
WEATHER	Partly Cloudy / cool
TEMP	° at AM ° at PM
PRESENT AT SITE	Willie V Washington (Geo Tech) Kenneth (Barn Hill Rep)

TO HAZEN & SAWYER

THE FOLLOWING WAS NOTED:

TIME: ~~3~~ TRAVEL 8½ hrs on site

MILEAGE: 140 Tech arrived on site at 0759 AM Tech communicated w/Kenneth Tech alerted that Rock Trk on the way. Tech monitored placement of wash stone around both Center and NW Vertical Vent Pipe Tech monitored grading down of ~~EAST~~ Extended Finger ¼ of the Finger was leveled. Refer to Fig. Below for above Discribed AREAS. Tech Exit work AREA for the ~~DAY~~ DAY



A - NW Vertical Vent Pipe

B - Center vertical Vent Pipe

C - ~~East~~ extended Finger AREA GRD. Down

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FIELD REPORT

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60

GeoTechnologies, Inc.
3200 Wellington Court, Suite G
Raleigh, North Carolina 27615
Phone (919)-954-1514

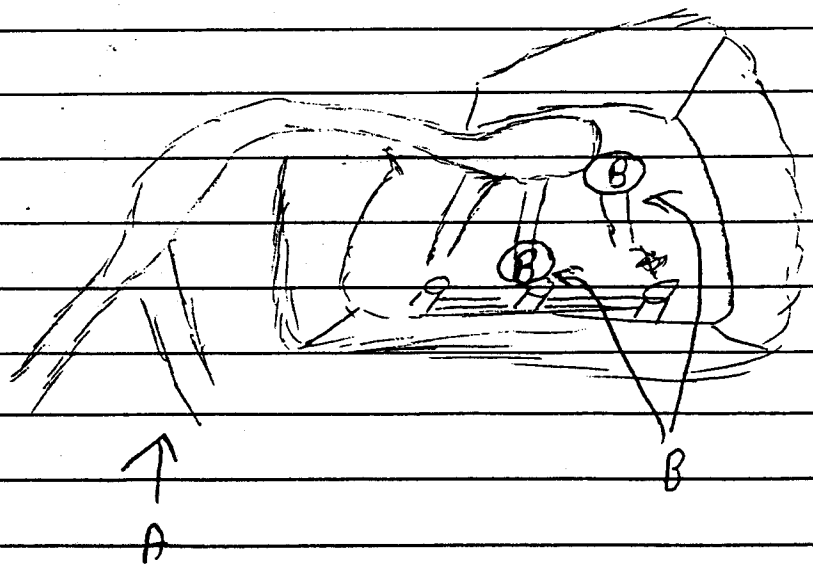
PROJECT: I-Alt Fax Co Landfill	
LOCATION: Halifax Co NC	
DATE: 7 Jan 93	JOB NO.: r-93-367-CA
CONTRACTOR: Barn Hill	OWNER:
WEATHER: Sunny / cool	TEMP: ° at AM / ° at PM
PRESENT AT SITE: Willie V Washington (Geo Tech)	
Kenneth (Barn Hill Rep)	

TO Hazen & Sawyer

THE FOLLOWING WAS NOTED:

TIME: 3 hrs travel 8½ hrs on site

MILEAGE: 140 miles Tech arrived on site at 801 am Tech communicating w/ Kenneth. Tech alerted that workers will start spreading fingers out after placement of Road stone on road way west of Land fill Tech monitored spreading of fingers Both E. & Center. Reffer to fig below for above described area. Tech Exit work area for the day. Tech alerted that only one worker will be working over weekend



A - Road way Stone laid on

B - Area of fingers spread out

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FIELD REPORT

SIGNED

SECTION 2
EARTHWORK

2.0 EARTHWORK

For this project, earthwork includes cut and fill operations, fine grading and testing related to soil excavation and Compacted Embankment. A brief discussion of Erosion and Sediment Control structures is also included in this section.

The Contractor was responsible for layout during earthwork operations. The layout grid was established and maintained by survey methods. Hazen and Sawyer contracted with an independent surveyor to confirm the Contractor's Construction Baseline layout.

2.1 Cell Excavation

As the first step in excavation, the Contractor established the grid layout on the basis of the construction baseline provided on the Contract Drawings. Excavation for Cell 1 began on a ridge in the eastern area of the cell footprint.

During excavation, the subgrade condition was evaluated visually by a Hazen and Sawyer representative. Any topsoil, organic materials, debris or otherwise unsuitable materials that were encountered were removed and not used for cell construction. Any such materials encountered at proposed subgrade elevations were removed and replaced with Compacted Embankment (see Section 2.2).

The soils encountered consisted of cohesive sandy to clayey silts. No groundwater was encountered during excavation of Cell 1, sediment basins or the gravity line and sumps. Large rock "floaters" were locally encountered during excavation of Sediment Basin No. 2 and the southern limits of the Internal Stormwater System header pipe.

These floaters were removed with earth moving equipment. No blasting or excavation with rock tools was necessary. Areas where removal of boulders resulted in over-excavation were brought back to grade with Compacted Embankment. The on-site soils were otherwise generally free of large rock fragments or cobbles.

Excavated soil was used directly for berm construction, or placed in one of three on-site stockpiles. The stockpile locations are provided on Drawing G3, Section 7. Stockpile A, located to the south of the active MSW landfill area, was used to store daily cover material for that facility. Stockpile B is adjacent to the northern perimeter berm. This stockpile was used to store soil for Operational Cover during cell construction and will be used during Ash Monofill operations. Stockpile C was designated as a contingency stockpile and was not used. Stockpile D is located to the south of Cell 1 and will be used to provide cover for the County as required. Exposed areas on Stockpiles B and D were seeded by the Contractor.

Excavation for Cell 1 was completed using scrapers and dozers. Fine grading was accomplished with motor-graders and hydraulic excavators. In areas where the design subgrade was in cut, the subgrade was left 6-12 inches above design elevations in order to protect the subgrade from erosion or excessive moisture.

Portions of the northern perimeter berm and the Intermediate berm were undercut in accordance with the Contract Drawings in order to provide proper interlocking with the structural fill. These areas were cut to design subgrade elevations and benched or scarified.

2.2 Compacted Embankment

The controlled compacted structural fill used for construction of perimeter berms, geomembrane subgrade, pipe backfill, access roads and portions of sedimentation basins is referred to as Compacted Embankment. The Compacted Embankment consisted of on-site cohesive soils free from topsoil, debris and other unsuitable materials. Compacted Embankment consisted solely of soils excavated for cell header pipe or sedimentation basin construction. Areas where Compacted Embankment was placed are shown on the Record Drawings, Section 7.

The compaction criteria for the Compacted Embankment for this project are as follows:

- Density: Minimum 95% Standard Dry Density (ASTM D698)
- Moisture Content: Minimum 1% below to 6% above optimum moisture content (ASTM D698) <u>for geomembrane subgrade only</u>
- Lift Thickness: 10-inch max (loose measure)

Prior to placement of Compacted Embankment over excavated areas, the areas were proofrolled using loaded scrapers. No evidence of unsuitable subgrade (e.g. pumping, etc) was observed in the Cell 1 area. Portions of the entrance roadway subgrade west of Cell 1 were soft due to accumulation of surface water runoff. These areas were undercut to depths ranging from 1 to 3 feet and replaced with

Compacted Embankment. Subgrade for the Internal Stormwater System pipe was firm and free from unsuitable materials.

Construction of the northern perimeter berm began on September 27. Representatives of Geotechnologies, Inc., the soils testing firm under Contract to Hazen and Sawyer, monitored fill placement on a full time basis. The technicians visually classified the soils and monitored loose lift thickness during placement. Any areas where lift thickness was excessive were graded out or removed by the Contractor prior to compaction. The lifts were placed evenly, essentially parallel to the subgrade surface. Soil was placed by scrapers and leveled using dozers.

Each lift Compacted Embankment was compacted using a REX 340 penetrating foot compactor. At the end of each work day, or whenever inclement weather was expected, the exposed subgrade was "seal rolled" using a SAKAI SV91-TF smooth drum roller. Prior to placement of overlying lifts in these areas, the smooth surface was scarified.

Any areas that exhibited evidence of excessive moisture or other damage were repaired by the Contractor.

In order to confirm that the Compacted Embankment met compaction criteria; Geotechnologies, Inc. conducted a total of 128 in-place density tests. The location of each test conducted on the Cell was plotted on a testing grid and the results recorded. The testing grid is presented on the "Soil Testing Grid Layout", Drawing CQA-1, Appendix 2.2.

If the results of any in-place density test indicated a non-conforming area, the Contractor employed the required remedial measures. A summary of Compacted Embankment in-place density tests conducted by Geotechnologies, Inc. is presented in Appendix 2.1.

As the Compacted Soil Liner in Cell 1 reached final grades, additional soil was placed to protect the surface from desiccation or erosion. Prior to geomembrane deployment, these areas were fine graded to design subgrade elevations using a motor grader.

Upon completion of earthwork operations, Hazen and Sawyer retained Burr & Associates to record as-built grades. Burr & Associates as-built data for the geomembrane subgrade elevations are provided on Drawing No. B&A 5-142 dated December 11, 1993 and presented in Appendix 2.4. As-built data confirm that the lines and grades for Cell 1 construction very closely match those in the Contract Drawings. The Burr & Associates survey form the basis for the record drawings presented in Section 7 of this report.

2.3 Erosion & Sediment Control

Erosion and sediment control measures were constructed in accordance with the NC Sedimentation Control Act (15 NCAC, Chapter 4) and the approved Erosion and Sedimentation Control Permit. Sedimentation Basins No. 1 and 2 (see Drawing G3, Section 7) were redesigned in the field by Hazen and Sawyer engineers to conform to existing site topography. These basins have capacities equal to or greater than the original design. Additional temporary erosion control structures, such as silt fence and temporary sediment traps were constructed as required. The Contractor was responsible for maintenance of these structures throughout the construction period.

The Internal Stormwater Basin, which retains and treats runoff from within Cell 1, was constructed as shown on Drawing G6, Section 7.

A site plan presenting both temporary and permanent erosion and sediment control structures is shown on "Cell 1 - Erosion and Sediment Control Plan", Drawing G13, Section 7.

2.4 Access Road

Construction of the 24 foot wide access road to the ash monofill began on October 14, 1993 at the intersection with the existing landfill access road. A small portion of undercut was needed due to soft organic soils and appropriate structural fill was placed. Approximately four (4) feet of fill was required to bring the road up to design subgrade elevations.

Once proper subgrade lines and grades were obtained, a Separator Geotextile was installed and a 6-inch lift of aggregate base course (ABC) was placed. The Separator Geotextile was pretensioned by construction traffic. During closeout, the remaining 6-inch lift of ABC was placed. A typical roadway section is shown on Drawing G10, Section 7.

APPENDIX 2.1
GEOTECHNOLOGIES
FIELD DENSITY TESTING RESULTS

GeoTechnologies, Inc.

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer DATE: 12/6/93
PROJECT: Halifax County Landfill PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
9/23/93	1	16.5	121.3	104.1	104.0	19.9	100.1	95	250' W 20' N of River Internal Storm Water Basin	SG
9/23/93	2	18.9	122.2	102.8	102.0	20.7	100.8	95	60' E 5' S of Riser on Sedm. Basin #2	-2.0
9/23/93	3	20.1	118.9	99.0	99.0	21.9	100.0	95	115' N 50' W of Riser Sedm. Basin #1	-4.0
9/23/93	4	17.4	103.2	87.9	103.5	19.2	84.9	95	60' W 50' N of Riser Basin #1	-2.0
9/23/93	5	18.3	114.7	97.0	100.6	21.0	96.4	95	27' S 10' W of Riser on Sedm. Basin #2	SG
9/23/93	6	20.4	121.0	100.5	100.7	20.9	99.8	95	145' W 90' N of Riser on Sem. Basin #1	-3.0
9/23/93	4A	21.1	123.1	101.7	98.1	22.0	103.6	95	Retest of #4	-1.5
9/24/93	7	18.6	114.1	96.2	101.9	20.0	95.0	95	32' E 60' S of Riser of Sedm. Basin #2	SG
9/24/93	8	15.6	128.8	111.4	107.7	16.0	103.5	95	80' N 160' W of Riser Sedm. Basin #1	-1.0
9/24/93	9	17.8	124.0	105.3	101.9	19.8	103.3	95	20' S 20' W of Riser Sedm. #1	SG
9/24/93	10	18.6	121.0	102.0	101.9	20.0	100.1	95	70' S 20' W of Riser Sedm. #1 - Trench Backfill	-6.0
9/25/93	11	19.8	116.4	97.2	99.5	21.5	97.7	95	21' S 44' W of Riser on 155-B	-3.0
9/25/93	12	19.7	125.8	105.1	101.0	21.5	104.1	95	10' N 110' W of Riser of 155-B	SG
9/28/93	13	23.7	121.0	97.8	99.0	21.9	98.8	95	Cell C STA 8+09 on C.L.	-14.0
9/28/93	14	29.3	119.5	92.4	99.0	21.9	93.4	95	Cell C STA 5+25 on C.L.	-14.0
9/29/93	14A	23.8	119.8	96.8	97.1	23.0	99.7	95	Retest of 14	-14.0
9/30/93	15	25.6	115.0	91.6	99.0	21.9	92.5	95	Berm Sedm. Basin #1 C.L. (Bridge Lift)	-8.0

GeoTechnologies, Inc.

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer DATE: 12/6/93
PROJECT: Halifax County Landfill PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
10/1/93	16	22.1	120.4	98.6	100.7	20.9	97.9	95	STA 1+90 100' Lt Cell #1	SG
10/1/93	17	16.7	125.2	107.3	107.5	16.7	99.8	95	Cell #1 STA 4+50 C.L. Berm	-13.0
10/1/93	18	21.9	117.7	96.6	99.7	21.9	96.8	95	Cell #1 STA 2+75 C.L. of Berm	-11.0
10/1/93	19	25.7	117.7	93.6	99.0	21.9	95.0	95	Cell #1 STA 1+00 C.L. of Berm	-11.0
10/1/93	20	17.5	115.0	97.9	103.0	18.5	95.0	95	CEll #1 STA 2+50 C.L. Berm	-9.0
10/1/93	21	20.0	122.8	102.3	103.0	18.5	99.4	95	Cell #1 STA 4+00 C.L. Berm	-9.0
10/1/93	22	18.7	125.2	105.5	106.7	18.7	98.9	95	Cell #1 STA 10+00 C.L. of Berm	-8.0
10/1/93	23	18.6	126.3	106.5	106.7	18.7	99.8	95	STA 1+50 Cell #1 C.L. of Berm	-7.0
10/1/93	24	23.1	117.7	95.6	100.7	20.9	95.0	95	Cell #1 STA 5+00 C.L. of Berm	-7.0
10/1/93	25	20.6	122.8	101.8	103.9	19.0	98.0	95	Cell #1 STA 10+50 C.L. of Berm	-5.0
10/1/93	26	19.6	123.0	102.8	103.0	18.5	99.8	95	Cell #1 STA 5+50 C.L. of Berm	-5.0
10/2/93	27	21.1	123.6	102.1	99.0	21.9	103.1	95	N Side of Cell #1 NW Cnr 50' E	-4.0
10/2/93	28	21.7	120.0	98.6	99.0	21.9	99.6	95	N Side of CEll #1 NW Cnr 100' E	-4.0
10/2/93	29	21.8	122.4	100.5	99.0	21.9	101.5	95	N Side of Cell #1 NW Cnr 25'E	-3.0
10/2/93	30	21.2	121.2	100.0	99.0	21.9	101.0	95	N Side of Cell #1 NW Cnr 15' E	-3.0
10/2/93	31	22.6	119.4	97.4	99.0	21.9	98.4	95	N Side of Cell #1 NW Cnr 50' E	-2.0
10/2/93	32	21.7	122.1	100.3	99.0	21.9	101.3	95	N Side of Cell NW Cnr 100' E	-2.0
10/2/93	33	22.3	122.9	100.5	99.0	21.9	101.5	95	N Side of CEll #1 NW Cnr 75' E	-1.0
10/4/93	34	23.2	120.4	97.7	99.0	21.9	98.7	95	Sedm Basin #1 West Berm	-8.0

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer
PROJECT: Halifax County Landfill

DATE: 12/6/93
PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
10/4/93	35	21.9	121.9	100.0	99.0	21.9	101.0	95	Sedm Basin #1 West Berm	-7.0
10/4/93	36	17.3	123.1	104.9	99.0	21.9	106.0	95	Sedm Basin #1 West Berm	-6.0
10/4/93	37	19.1	121.9	102.4	105.0	19.5	97.5	95	Cell #1 South Berm Grid 34	-6.0
10/4/93	38	20.6	120.9	100.2	102.0	21.9	98.3	95	Cell #1 South Berm Grid 34 (Moisture Failed)	-4.0
10/4/93	39	21.8	123.1	101.1	100.0	21.9	101.1	95	Retest of #38	-4.0
10/4/93	40	16.8	120.1	102.8	105.0	19.5	97.9	95	Grid 33 Center of Berm Cell #1	-8.0
10/5/93	41	19.8	123.1	102.8	108.0	18.5	95.1	95	Retest of #40	-8.0
10/5/93	42	18.7	124.3	104.7	108.0	18.5	97.0	95	Grid 23 S Berm Center of Berm	-6.0
10/5/93	43	18.8	123.7	104.1	108.0	18.5	96.4	95	Grid 33 S Berm Center of Berm	-4.0
10/5/93	44	21.8	124.6	102.3	99.0	21.9	103.3	95	Grid 23 S Berm Center of Berm	-2.0
10/5/93	45	19.3	123.4	103.4	108.0	18.5	95.8	95	Grid 34 Center of Berm	-3.0
10/5/93	46	21.7	124.0	101.9	99.0	21.9	102.9	95	Grid 34 Center of Berm	-2.0
10/5/93	47	21.7	117.7	96.7	99.0	21.0	97.7	95	Grid 23 S Berm Center of Berm	-1.0
10/6/93	48	19.9	124.3	103.7	105.0	20.9	98.7	95	Grid #19 Center of Berm	-3.0
10/6/93	49	23.5	121.9	98.7	99.0	21.9	99.7	95	Grid 17 Center of Berm	-4.0
10/6/93	50	23.7	123.1	99.5	99.0	21.9	100.5	95	Grid 18 Center of Berm	-3.0
10/6/93	51	26.7	124.3	98.1	99.0	21.9	99.1	95	Grid 17 Center of Berm	-2.0
10/6/93	52	19.4	127.2	106.5	105.0	20.9	101.5	95	Grid 18 Center of Berm (Moisture Failed)	-1.0
10/6/93	53	22.6	124.8	101.8	105.0	20.9	96.9	95	Grid 19 Center of Berm	-2.0
10/6/93	54	19.5	125.7	105.2	105.0	20.9	100.2	95	Grid 19 Center of Berm	-1.0
10/6/93	55	21.6	128.0	105.3	105.0	20.9	100.3	95	Retest of #52	-1.0

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer DATE: 12/6/93
PROJECT: Halifax County Landfill PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
10/7/93	56	20.9	123.7	102.3	100.0	21.9	102.3	95	Grid 16 Center of Berm	-5.0
10/7/93	57	24.2	122.5	98.6	100.0	21.9	98.6	95	Grid 17 Center of Berm	-4.0
10/7/93	58	22.2	127.3	104.2	105.0	20.9	99.2	95	Grid 16 Center of Berm	-3.0
10/7/93	59	21.0	125.8	104.0	105.0	20.9	99.0	95	Grid 17 Center of Berm	-2.0
10/7/93	60	23.1	124.9	101.5	105.0	20.9	96.6	95	Grid 16 Center of Berm	-1.0
10/12/93	61	21.5	126.6	104.2	105.0	20.9	99.2	95	W Berm at Sediment Basin #1	4.0
10/12/93	62	24.6	125.4	100.6	105.0	20.9	95.8	95	W Berm at Sediment Basin #2	2.0
10/12/93	63	22.6	127.8	104.2	105.0	20.9	99.3	95	W Berm at Sediment Basin #3	-1.0
10/12/93	64	22.6	127.2	103.8	105.0	20.9	98.8	95	Cell #1 Grid #9 S of CL of Berm	-6.0
10/12/93	65	20.8	121.8	100.8	101.0	21.0	99.8	95	Cell #1 Grid #9 S of CL of Berm	-4.0
10/12/93	66	20.2	120.9	100.6	101.0	21.0	99.6	95	Cell #1 Grid #9 S of CL of Berm	-3.0
10/13/93	67	23.4	125.0	101.3	105.0	19.9	96.5	95	Cell #1 Grid #24 CL of Berm	SG
10/13/93	68	22.4	124.0	101.3	105.0	19.9	96.5	95	Cell #1 Grid #16 CL of Berm	SG
10/13/93	69	23.6	122.4	99.0	103.0	21.0	96.1	95	Cell #1 Grid #9 CL of Berm	SG
10/13/93	70	20.4	126.4	105.0	106.0	20.0	99.0	95	Cell #1 Grid #34 CL of Berm	SG
10/14/93	71	26.3	117.0	92.6	97.0	21.0	95.5	95	Cell #1 Grid #22 CL of Rd	-4.0
10/14/93	72	27.5	117.6	92.2	97.0	21.0	95.1	95	Cell #1 Grid 21 CL of Rd	-4.0
10/14/93	73	26.4	122.4	96.8	97.0	21.0	99.8	95	Cell #1 Grid #13 CL of Rd	-3.0
10/14/93	74	23.8	122.4	98.9	99.0	21.9	99.9	95	Cell #1 Grid #21 CL of Rd	-3.0

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer DATE: 12/6/93
PROJECT: Halifax County Landfill PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
10/14/93	75	28.9	120.0	93.1	99.0	21.9	94.0	95	Cell #1 Grid #21 CL of Rd	-2.0
10/14/93	76	24.3	123.0	99.0	99.0	21.9	100.0	95	Retest of #75	-2.0
10/14/93	77	28.5	118.8	92.5	99.0	21.9	93.4	95	Cell #1 Grid #21 Lt of CL	SG
10/14/93	78	25.5	118.8	94.7	99.0	21.9	95.6	95	Retest of #77	SG
10/15/93	79	28.1	123.0	96.0	99.0	21.9	97.0	95	Access Rd Grid #31 CL of Rd	-1.0
10/16/93	80	27.9	121.8	95.2	99.0	21.9	96.2	95	Access Rd Grid #22 CL of Rd	-8.0
10/17/93	81	24.4	123.6	99.4	99.0	21.9	100.4	95	Access Rd Grid #22 CL of Rd	-7.0
10/18/93	82	27.3	122.1	95.9	99.0	21.9	96.9	95	Access Rd Grid #22 CL of Rd	-6.0
10/19/93	83	27.1	122.4	96.3	99.0	21.9	97.3	95	Access Rd Grid #22 CL of Rd	-5.0
11/2/93	84	29.1	129.3	100.2	99.0	21.9	101.2	95	Grid #22 Access Rd to Back-In Area	-2.5
11/2/93	85	29.1	127.0	98.4	99.0	21.9	99.4	95	Grid #33 Middle of Proposed Slab or Lot	-1.5
11/2/93	86	29.2	128.5	99.5	99.0	21.9	100.5	95	Grid #3 End of Lot Center	-1.5
11/2/93	87	29.2	129.1	99.9	99.0	21.9	100.9	95	Grid #22 Center of Proposed Road Way and Back-in Area	-1.0
11/3/93	88								Invalid Test Omitted	
11/3/93	89	23.5	119.1	96.4	99.0	21.9	97.4	95	Grid #32 Cnr of Back-in Lot	-1.0
11/3/93	90	23.8	118.4	95.6	100.2	21.0	95.4	95	Grid #23 Edge of Lot, End of Access Rd	1.0
11/3/93	91	23.7	118.2	95.6	100.2	21.0	95.4	95	Grid #22 Beginning of Back-in Lot CL of Access Rd	1.0

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer
PROJECT: Halifax County Landfill

DATE: 12/6/93
PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
11/3/93	92	24.0	132.2	96.2	99.8	21.1	96.4	95	Grid #23 Edge Closest to Proposed Berm	3.0
11/3/93	93	23.0	123.0	100.0	100.2	21.0	99.8	95	Grid #22 4' into Lot From Access Rd	3.0
11/3/93	94	23.5	120.2	97.3	100.2	21.0	97.1	95	Grid #22 Outside Cnr Closest to Access Rd	3.0
11/3/93	95	24.3	134.8	108.4	98.5 Bad Test	24.5	110.1	95	Grid #22 Access Rd 6' from Back-in Lot	7.0
11/4/93	96	25.2	123.4	98.6	99.5	21.5	99.1	95	Grid #23 Berm Side of Uploading Area	8.0
11/4/93	97	23.0	120.7	98.1	97.3	23.0	100.8	95	Grid #33 Berm Side NE Cnr	9.0
11/4/93	98	22.5	122.7	100.2	99.0	21.9	101.2	95	Grid #32 Middle Edge Access Rd Side	10.0
11/4/93	99	23.5	124.9	101.1	97.2	22.9	104.0	95	Grid #22 CL Access Rd 10' from Unloading Area	12.0
11/4/93	100	24.0	119.8	96.6	99.0	21.9	97.6	95	Grid #22 Storm Drain Ditch	-3.0
11/4/93	101	15.5	136.1	117.8	98.8	24.3	119.3	95	Grid #33 Berm Side of Loading Lot	14.0
11/9/93	102	27.3	125.6	98.7	100.8	20.5	97.9	95	CL of Lot Grid #22	-1.0
11/9/93	103	25.1	124.4	99.4	104.1	18.3	95.5	95	Edge of Berm SW Side Grid #23	-5.0
11/9/93	104	23.7	129.1	104.4	99.0	21.9	105.4	95	SW Berm Tie-In to Load Pad Grid #33	-7.0
11/9/93	105	24.7	122.9	98.6	98.2	22.2	100.4	95	SW Berm Tie-In to Load Pad Grid #33	-5.0

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer DATE: 12/6/93
PROJECT: Halifax County Landfill PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
11/9/93	106	24.4	125.7	100.8	99.9	21.0	100.9	95	SW Berm Tie-In to Load Pad Grid #33	-3.0
11/9/93	107	25.2	124.0	99.0	102.0	19.8	97.1	95	SW Berm Tie-In to Load Pad Grid #33	-1.0
11/10/93	108	22.1	125.9	103.1	103.3	19.0	99.8	95	SW Berm Grid #33 Tie-In to Load Ramp	SG
11/10/93	109	23.3	120.8	98.0	104.2	18.4	94.0	95	Edge of Load Pad Access Rd Side Grid #22	-1.0
11/10/93	110	22.5	125.0	102.0	99.0	21.9	103.1	95	SW Berm Side of Load Ramp Grid #23	-1.0
11/10/93	111	22.4	122.7	100.2	102.5	19.5	97.8	95	Access Rd Ramp to Load Pad Grid #22	-1.0
11/10/93	112	22.1	120.3	98.5	107.2	16.8	91.9	95	NW Berm Tie-In to Load Pad Grid #23	-3.0
11/11/93	113	21.5	137.3	113.0	102.9	23.8	109.8	95	NW Berm Tie-In to Load Area Grid #23	SG
11/11/93	114	21.0	135.6	112.1	103.2	23.2	108.6	95	SW Berm Tie-In to Load Area Grid #33	SG
11/12/93	115	23.3	134.8	109.3	102.0	19.8	107.2	95	Storm Drain Under Access Rd Grid #31	-1.0
11/13/93	116	30.7	113.9	87.1	89.9	31.0	96.9	95	Berm Drain Pipe in SW Cnr Landfill	SG
11/13/93	117	24.6	128.5	103.1	100.5	25.0	102.6	95	STA 15+50 on Access Road	SG
11/13/93	118	24.1	125.2	100.9	100.5	25.0	100.4	95	STA 12+50 on Access Rd	SG
11/13/93	119	25.4	127.3	101.5	100.5	25.0	101.0	95	STA 10+50 on Access Rd	SG
11/19/93	120	33.8	120.5	90.1					Berm Drain Pipe Under Berm	-12.0

GeoTechnologies, Inc.

SOIL DENSITY TEST REPORT

CLIENT: Hazen & Sawyer
PROJECT: Halifax County Landfill

DATE: 12/6/93
PROJ. NO: 1-92-367-CB

TEST DATE	TEST NO.	WATER CONTENT (%)	WET WEIGHT (PCF)	DRY DENSITY (PCF)	MAX DRY DENSITY (PCF)	OPTIMUM MOISTURE (%)	ACTUAL COMPACT. (%)	SPECIFIED COMPACT. (%)	LOCATION	DEPTH (ft)
11/19/93	121	22.0	120.4	98.7	103.8	18.5	95.1	95	Retest of #120 - Dry Back Moisture at 22.0% Passing	-12.0
11/19/93	122	25.2	120.4	96.2	102.3	19.7	94.0	95	Halfway Between Sump 2 and 3	-2.0
11/20/93	123	22.4	123.5	100.9	100.1	21.0	100.8	95	Drain Under NE Berm	-10.0
11/20/93	124	22.1	120.7	98.9	103.3	19.0	95.7	95	NE Berm Drain Line	-8.0
11/20/93	125	24.3	128.4	103.3	100.2	21.1	103.1	95	NE Berm Drain Line Through Berm Under	-6.0
11/20/93	126	23.1	121.0	98.3	101.2	20.2	97.1	95	NE Berm Drain Line Cut	-4.0
11/20/93	127	23.3	120.3	97.6	102.0	19.8	95.7	95	NE Berm Drain Line Cut	-2.0
11/20/93	128	29.4	132.2	102.2	106.2	17.2	96.2	95	Halfway Down from Sump #3 to Leeching Pond	SG

APPENDIX 2.2
SOIL TESTING GRID LAYOUT DRAWING

Under Seperate Cover

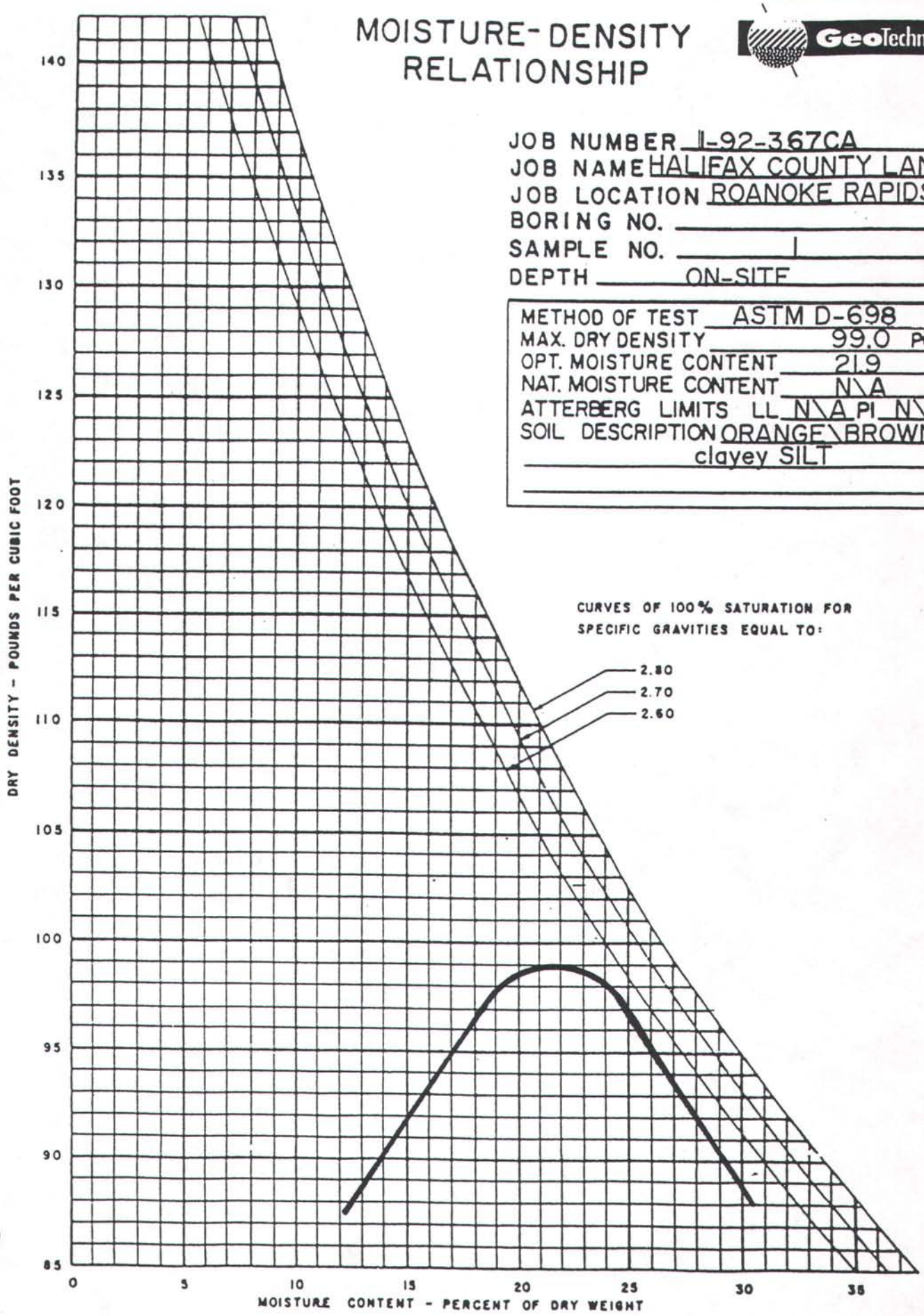
APPENDIX 2.3
GEOTECHNOLOGIES
LAB TESTING DATA

MOISTURE-DENSITY RELATIONSHIP

GeoTechnologies, Inc.

JOB NUMBER I-92-367CA
JOB NAME HALIFAX COUNTY LANDFILL
JOB LOCATION ROANOKE RAPIDS, N.C.
BORING NO. _____
SAMPLE NO. 1
DEPTH ON-SITE

METHOD OF TEST	ASTM D-698
MAX. DRY DENSITY	99.0 PCF
OPT. MOISTURE CONTENT	21.9 %
NAT. MOISTURE CONTENT	N\A %
ATTERBERG LIMITS	LL N\A PI N\A
SOIL DESCRIPTION	ORANGE\BROWN clayey SILT



APPENDIX 2.4
BURR & ASSOCIATES
RECORD SURVEY

Under Seperate Cover

SECTION 3
GEOMEMBRANE

3.0 GEOMEMBRANE

3.1 Overview

The geomembrane used for construction was 60-mil thick High Density Polyethylene (HDPE) manufactured by Polyflex, Inc. The material properties were submitted by the Contractor and reviewed for conformance with the project specifications by Hazen and Sawyer.

The geomembrane was installed by Environmental Design and Construction, Inc. of Huntsville, Alabama under Contract to Barnhill Contracting Co., the General Contractor.

Hazen and Sawyer conducted conformance testing on representative samples of the geomembrane delivered to the site to assure conformance with project criteria. The Geomembrane Producer was responsible for providing Quality Control Certificates for each roll as well as installation guidelines.

The installer was responsible for Construction Quality Control and non-destructive testing (NDT) of all geomembrane seams and repairs. Hazen and Sawyer provided full time Construction Quality Assurance (CQA) monitoring during installing and destructive testing of geomembrane seams.

3.2 Contractor Submittals

As required in the project specifications, Barnhill Contracting Co. submitted material specifications and qualifications of Polyflex, Inc., the geomembrane producer. As shown in Appendix 3.1, the submittals indicate that the 60 mil HDPE meets project criteria.

Additional geomembrane producer submittals, including a list of completed projects and the Quality Control manual have been retained in the Hazen and Sawyer file.

Barnhill also provided the resume of the installation superintendent as well as a list of completed projects for the installer. These have also been retained in the Hazen and Sawyer file.

On November 18, 1993, a pre-installation meeting was held at the project site. The meeting included representatives of Hazen and Sawyer, Halifax County, the General Contractor, the geomembrane installer and Westmoreland Energy. Project phasing as well as subgrade preparation and maintenance, geomembrane repair and testing requirements were discussed.

3.3 Geomembrane Inventory and Conformance Testing

A total of 71 rolls (624,375 square feet) of 60 mil HDPE geomembrane were delivered for Cell 1 construction. Polyflex provided Quality Control (QC) Certificates for each roll prior to shipment. Hazen and Sawyer reviewed each certificate for conformance with the geomembrane and resin properties outlined in the project specifications. On the basis of this review, each roll was approved for shipment. QC certificates for each roll are presented in Appendix 3.2.

Prior to shipment to the project site, representatives of AGP Labs removed samples from five rolls of geomembrane, randomly selected by Hazen and Sawyer. AGP then conducted conformance testing under contract with Hazen and Sawyer to assure that the geomembrane met project specifications. One sample was removed

for testing for each 200,000 square feet of geomembrane delivered with at least one test for each resin.

Results of the Conformance Testing program, which are provided in Appendix 3.3, indicate that each of the 5 samples tested meet or exceed project criteria for geomembrane.

The geomembrane was delivered to the site on November 17, 1993. At this time, a Hazen and Sawyer engineer inventoried each roll and checked the roll number against the roll numbers on the manufacturer's QC Certificates. Each roll of geomembrane delivered had an approved QC Certificate. The Geomembrane Inventory forms are provided in Appendix 3.4.

The geomembrane was delivered in 22.5 foot wide rolls and stored in the staging area north of Cell 1. The rolls were kept dry and stored away from areas where potential damage could occur.

3.4 Geomembrane Subgrade and Panel Deployment

Prior to geomembrane installation, the subgrade surface was prepared by Barnhill. The subgrade was graded to design elevations and rolled with a smooth drum vibratory roller. Any rocks or debris were removed from the subgrade surface and replaced with suitable soil. Sideslopes were prepared by blading with a dozer and raking by hand to a relatively smooth condition as required by the Specifications.

A Hazen and Sawyer engineer visually inspected the subgrade for rutted, uneven or otherwise unsuitable areas. Any such areas were repaired by the Contractor. No excess moisture was observed. When all required repairs were completed, the subgrade was approved.

Immediately prior to geomembrane placement, the Hazen and Sawyer Resident Engineer delineated the limits of approved subgrade and prepared a Subgrade Approval Form. This form was also signed by representatives of the Installer and General Contractor. Copies of these Subgrade Approval Forms are presented in Appendix 3.5.

Environmental Design and Construction deployed panels on sideslopes by manually pulling the sheet from the roll located on the top of the berm. The rolls were suspended from a hydraulic excavator with a sling. A loader was used to support and deploy the geomembrane on the base of the cell.

As each panel was placed, a Hazen and Sawyer representative confirmed that the subgrade was suitable, recorded the panel identification number, source roll number and panel dimensions. The panel number was also written on the geomembrane. Each panel was visually examined by Hazen and Sawyer soon after deployment for evidence of material damage or defects. Any such defects were marked on the panel for repair. Overlaps with adjacent panels were checked, and all exceeded the 3-inch minimum.

A total of 234 panels were placed between November 21 and December 1, 1993 by Environmental Design & Construction, Inc. Geomembrane was installed only over previously approved subgrade. Roll dimensions and documentation of any observed defects, etc. were recorded on a "CQA Panel Inspection Form".

Panels placed on the 2H:1V sideslopes extended a minimum of 10 feet past the toe. Geomembrane was then installed on the base of the cell in a generally east-west direction. Up-gradient geomembrane panels were placed over down gradient panels to promote runoff.

Panel Inspection forms prepared by Hazen and Sawyer for each of the 234 panels are presented in Appendix 3.6.

3.5 Geomembrane Seaming

Production seaming for the 60 mil HDPE was completed using double hot wedge fusion equipment. Patches, connection to the sump flange, and "T-joints" at adjacent panels were completed using extrusion welding methods.

3.5.1 Trial Seams

Test welds, or pre-welds, were completed by welding personnel before each shift began or whenever cold starts of welding equipment were required. Seaming temperature and rate were recorded. No production seaming was performed until test welds were completed by the installer and approved by Hazen and Sawyer. Test weld samples were tested in peel on site by representatives of the installer. Qualification criteria for pre-welds was that all peel specimens exhibit Film Tearing Bond (FTB) type failures. Any pre-weld sample that did not meet this criteria resulted in disqualification of the pre-weld. The installer then repaired or adjusted equipment and/or seaming procedures and prepared a new test seam, or the seaming equipment was marked as "out of service" and repaired.

Trial seam data were recorded by a Hazen and Sawyer representatives on "Trial Seam Report" forms. Completed forms are presented in Appendix 3.7.

3.5.2 Production Seaming

Each field seam was given a unique identification number by Hazen and Sawyer representatives. The seam number represented the two panels incorporated in the seam. For instance, Field Seam 1/2 identifies the field seam formed by Panels 1 and 2.

Panels were seamed on the day they were placed. Hazen and Sawyer representatives observed each seam and marked areas where "burn throughs" or other defects were observed. These areas were later repaired by the installer with a minimum 12-inch by 12-inch patch. The seam number, machine number, welder and seaming parameters were recorded for each seam. The CQA Seam Inspection Forms prepared by Hazen and Sawyer are presented in Appendix 3.8.

Prior to fusion seaming, Environmental Design and Construction, Inc. technicians inspected the overlap area and cleaned the seam area with dry cloths. Extrusion seam areas were prepared by beveling the edges of the 60-mil HDPE patch and grinding the seam area to remove texturing, surface oxidation and accumulated wax, dirt, etc. Patches were first bonded using hot air "Liester" equipment, then the extrusion seam was completed.

Hazen and Sawyer personnel observed preparation and seaming procedures and recorded any areas that were overheated or showed signs of excessive grinding outside of the extrusion seam area. Any such areas were cut out and repaired by the installer.

3.5.3 Nondestructive Seam Testing

Environmental Design & Construction, Inc. conducted nondestructive testing of all field seams. Fusion seams were tested using air pressure tests of the air channel between the inner and outer seams. Extrusion welds were nondestructively tested using a vacuum box.

For each double hot wedge fusion seam, the beginning air pressure, test duration and final air pressure were recorded. The length of the segment tested was also recorded.

The air channel pressure was monitored for at least five (5) minutes. A beginning air pressure of approximately 30 psi was used for testing. The maximum allowable pressure drop during the five (5) minute monitoring period was 4 psi.

Nondestructive testing information was recorded by Hazen and Sawyer on the CQA Seam Inspection Forms, Appendix 3.8 and by the installer. Installer testing summaries were submitted by the Contractor and retained in the Hazen and Sawyer file.

If the air channel did not hold pressure for the required period of time, the segment of seam tested was shortened in order to identify the defect area. Once the defect was located, it was repaired and the remaining portions of the field seam were again air tested. Fusion seams that did not pass the air test were cap stripped.

3.5.6 Destructive Seam Testing

Destructive seam evaluation was performed on production seams as required in the Specifications. The installer removed samples at locations selected by Hazen and Sawyer. The geomembrane seams were tested on the basis of at least one destructive sample per 500 linear feet of seam length. For the approximate total of 29,900 linear feet of seaming completed, a total of 60 destructive seam samples were removed for an average of one sample per 490 linear feet of seam length.

The destructive samples removed by Environmental Design & Construction were approximately 48 inches long. Each sample was divided into three nominally equal segments; one for laboratory evaluation, one for installer testing and one for archive. Archive samples will be retained by the County.

Destructive seam testing was conducted by AGP Labs under contract with Hazen and Sawyer. Both seams of the double hot wedge fusion seams and extrusion welds were tested in peel in accordance with ASTM D413 (as modified in NSF Standard 54). Both fusion and extrusion seams were also tested for Bonded Shear Strength in accordance with ASTM D3083 (as modified in NSF 54).

The qualifying criteria for destructive seam evaluations are listed below:

- Peel Adhesion
    1. Film Tearing Bond (FTB)-type Failures on 4 of the 5 specimens, and

2. A minimum load at yield of 72 lb/in width.

- Bonded Shear Strength
  1. FTB-type failures on all specimens, and
  2. A minimum load at yield of 108 lb/in. width.

Of the 60 samples tested, a total of one sample (DS 21) was disqualified on the basis of the criteria listed above. The affected seams were cap stripped by Environmental Design and Construction. Cap strips were then nondestructively tested by the installer.

All destructive seam samples passed the testing criteria or were cap stripped prior to approval of the installation.

A summary of the destructive seam evaluation program, along with Destructive Seam Sample Reports, and laboratory test data are provided in Appendix 3.9.

APPENDIX 3.1
POLYFLEX
MATERIAL DATA SHEETS

POLY-FLEX

An Engineering Approach to Groundwater Protection.

REFERENCE MANUAL

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

POLY-FLEX HDPE SPECIFICATIONS

Nominal Properties: Metric Units

Property	Test Method	Nominal Value* 20 mil (0.5mm)	30 mil (0.75mm)	40 mil (1.0mm)	60 mil (1.5mm)	80 mil (2.0mm)	100 mil (2.5mm)
Thickness, mils, minimum	ASTM D 1593	18	27	36	54	72	90
Density (g/cc), minimum	ASTM D 1505	0.94	0.94	0.94	0.94	0.94	0.94
Melt Index (g/10 min., maximum)	ASTM D 1238	0.4	0.4	0.4	0.4	0.4	0.4
Carbon Black content (%)	ASTM D 1603	2 -3	2 -3	2 -3	2 -3	2 -3	2 -3
Carbon Black Dispersion	ASTM D 3015	A-1, A-2, B-1	A-1, A-2, B-1	A-1, A-2, B-1	A-1, A-2, B-1	A-1, A-2, B-1	A-1, A-2, B-1
Tensile Properties	ASTM D 638						
1. Tensile Strength at Yield (pounds/inch width)	Type IV specimen at 2 inches/minute	50	75	100	150	200	250
2. Tensile Strength at Break (pounds/inch width)		85	125	165	250	330	400
3. Elongation at Yield (%)		13	13	13	13	13	13
4. Elongation at Break (%)		750	750	750	750	750	750
5. Modulus of Elasticity (1% secant; pounds/square inch)		90,000	90,000	90,000	90,000	90,000	90,000
Tear Strength (lbs.)	ASTM D 1004 Die C	15	23	31	47	63	79
Puncture Resistance (lbs.)	**FTMS 101 C 2031	100	140	180	260	340	420
	**FTMS 101 C 2065	40	53	65	90	120	155
Hydrostatic Resistance (lbs./square inch)	ASTM D 751	165	245	330	495	660	800
Low Temperature Brittleness	ASTM D 746	<-94° F	<-94° F	<-94° F	<-94° F	<-94° F	<-94° F
Dimensional Stability (% change max.)	ASTM D 1204 212° F, 15 min.	± 1	± 1	± 1	± 1	± 1	± 1
Volatile Loss (%)	ASTM D 1203	0.1	0.1	0.1	0.1	0.1	0.1
Ozone Resistance	ASTM D 1149 7 days, 100 pphm 104° F, bent loop	no cracks	no cracks	no cracks	no cracks	no cracks	no cracks
Environmental Stress Crack (hours)	ASTM D 1693 Condition B (modified NSF 54)	>2000	>2000	>2000	>2000	>2000	>2000
Water Absorption (% change max in original weight)	ASTM D 570	0.1	0.1	0.1	0.1	0.1	0.1
Coefficient of Linear Thermal Expansion (cm/cm · °c) x 10^{-4}	ASTM D 696	1.2	1.2	1.2	1.2	1.2	1.2
Moisture Vapor Transmission Rate (g/100 in^2 · day)	ASTM E 96 100° F, 100% relative humidity	0.040	0.030	0.025	0.020	0.018	0.017
Roll Dimensions							
1. Width (feet):22.5		22.5	22.5	22.5	22.5	22.5	
2. Length (feet):		1000	800	600	400	300	250
3. Area (square feet):		22,500	18,000	13,500	9000	6750	5625
4. Weight (pounds, approx.):		2250	2700	2700	2700	2700	2800

* All values, except when specified as minimum or maximum, represent average lot property values.
** Federal Test Method Standards.

PRODUCT QUALITY REPORT

FAX NO. 214-647-8061
POLY AMERICA, INC.
2000 WEST MARSHALL
GRAND PRAIRIE, TX 75051-2795
ATTN: A. BERTRAND

UNION CARBIDE CHEMICALS
AND PLASTICS COMPANY INC.
POLYOLEFINS DIVISION
P.O. BOX 186
PORT LAVACA, TEXAS 77979

AUGUST 6, 1993

PRODUCT NAME	DHDB-1525 NT
BLEND NUMBER	160968
QUANTITY, LBS.	191,670
CONTAINER	ACFX38556
CUSTOMER ORDER NO.	6039
UCC ORDER NO.	177975
SHIPPING DATE	07/29

SHIPPED TO: POLY AMERICA, INC.
GRAND PRAIRIE, TX

THE FOLLOWING TEST DATA WAS OBTAINED:

MELT INDEX	GTM	0.18
DENSITY ASTM	GCC	0.9384

ANALYSIS NO. 600806

QUALITY CONTROL DEPARTMENT
SEADRIFT PLANT LABORATORY

PRODUCT QUALITY REPORT

FAX NO. 214-647-8061
POLY AMERICA, INC.
2000 WEST MARSHALL
GRAND PRAIRIE, TX 75051-2795
ATTN: DEE AVERITTE

UNION CARBIDE CHEMICALS
AND PLASTICS COMPANY INC
POLYOLEFINS DIVISION
P.O. BOX 186
PORT LAVACA, TEXAS 77979

JULY 14, 1993

PRODUCT NAME	DHDB-1525 NT
BLEND NUMBER	537307
QUANTITY, LBS.	193,200
CONTAINER	UCFX57254
CUSTOMER ORDER NO.	5810-4
UCC ORDER NO.	174253
SHIPPING DATE	07/14

SHIPPED TO: POLY AMERICA, INC.
GRAND PRAIRIE, TX

THE FOLLOWING TEST DATA WAS OBTAINED:

MELT INDEX	GTM	0.15
DENSITY ASTM	GCC	0.9398
ANALYSIS NO.		60524
DATE OF MANUFACTURE		05/24/93

QUALITY CONTROL DEPARTMENT
SEADRIFT PLANT LABORATORY

AGP Laboratories, Inc.
2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

January 10, 1994

Ms. Dianne Harris
Environmental Design & Construction
104 Wholesale Ave.
Huntsville, AL 35811

RE: Client Job - P.O. #93084, Halifax, NC Project
AGP Project No. EDC1530.003

Dear Ms. Harris:

Three (3) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	AGP COMMENTS
N9-6-93-1238-4	GMS
N9-6-93-1253-4	GMS
N9-6-93-1274-4	GMS

The samples were tested in accordance with the test methods listed below:

1) GRI GM5 (b), "Single Point Notched Constant Tensile Load (SP-NCTL) Test for Polyolefin Resin or Geomembranes"

RESULTS:

SINGLE POINT NOTCHED CONSTANT LOAD TEST
GRI GM5 (b)

SAMPLE I.D.	PASS/FAIL[1]
N9-6-93-1238-4	
Spec. 1	PASS
Spec. 2	PASS
Spec. 3	PASS
Spec. 4	PASS
Spec. 5	PASS
N9-6-93-1253-4	
Spec. 1	PASS
Spec. 2	PASS
Spec. 3	PASS
Spec. 4	PASS
Spec. 5	PASS
N9-6-93-1274-4	
Spec. 1	PASS
Spec. 2	PASS
Spec. 3	PASS
Spec. 4	PASS
Spec. 5	PASS

[1]Testing conditions were 35% of yield stress for 100 hours

This sample was submitted by POLY AMERICA. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, sampling procedure, special use of material, or purpose of material. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

APPENDIX 3.2
POLYFLEX
GEOMEMBRANE QUALITY CONTROL CERTIFICATES

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number: N9-6-93-1539-4 / Blend Number: 160968	Roll Number: N9-6-93-1540-4 / Blend Number: 160968	Roll Number: N9-6-93-1541-4 / Blend Number: 160968
sheet thickness, mil	ASTM D 1593	64.0	66.0	65.0
melt index, g/10 min	ASTM D 1238	0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	181.0	175.0	174.0
strength at break, lbs/in	"	334.0	317.0	320.0
elongation at yield, %	"	20.0	20.0	17.0
elongation at break, %	"	910.0	907.0	925.0
secant modulus, (0.75%), psi	"	87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004	55.0	53.0	53.0
puncture resistance, lbs	FTMS 101C 2065	96.0	101.0	104.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.4	2.4	2.4
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC/HALIFAX COUNTY

project number: PF 930666

report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min

blend number: 160968

trip #:

Certified By:

Property	Test Method	Roll Number	N9-6-93-1542-4	N9-6-93-15643-4	N9-6-93-1544-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		65.0	64.0	63.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.948	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		173.0	179.0	172.0
strength at break, lbs/in	"		339.0	327.0	317.0
elongation at yield, %	"		15.0	17.0	19.0
elongation at break, %	"		935.0	922.0	930.0
secant modulus, (0.75%), psi	"		87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004		54.0	52.0	53.0
puncture resistance, lbs	FTMS 101C 2065		109.0	101.0	102.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.4	2.4	2.5
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number / Blend Number	N9-6-93-1545-4 / 160968	N9-6-93-1546-4 / 160968	N9-6-93-1547-4 / 160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.948	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		164.0	170.0	173.0
strength at break, lbs/in	"		328.0	312.0	317.0
elongation at yield, %	"		20.0	19.0	18.0
elongation at break, %	"		946.0	925.0	931.0
secant modulus, (0.75%), psi	"		87,000.0	84,000.0	84,000.0
tear strength, lbs	ASTM D 1004		54.0	54.0	55.0
puncture resistance, lbs	FTMS 101C 2065		104.0	109.0	108.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.6	2.5	2.6
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC/HALIFAX COUNTY

project number: PF 930666

report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min

blend number: 160968

trip #:

Certified By:

Property	Test Method	Roll Number	N9-6-93-1548-4	N9-6-93-1549-4	N9-6-93-1550-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.949	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		175.0	173.0	178.0
strength at break, lbs/in	"		314.0	295.0	327.0
elongation at yield, %	"		18.0	18.0	20.0
elongation at break, %	"		947.0	950.0	952.0
secant modulus, (0.75%), psi	"		84,000.0	84,000.0	84,000.0
tear strength, lbs	ASTM D 1004		57.0	55.0	54.0
puncture resistance, lbs	FTMS 101C 2065		108.0	101.0	104.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.5	2.3
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1551-4	N9-6-93-1552-4	N9-6-93-1553-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.949	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		173.0	199.0	181.0
strength at break, lbs/in	"		339.0	341.0	345.0
elongation at yield, %	"		22.0	21.0	17.0
elongation at break, %	"		953.0	949.0	922.0
secant modulus, (0.75%), psi	"		84,000.0	84,000.0	84,000.0
tear strength, lbs	ASTM D 1004		56.0	54.0	52.0
puncture resistance, lbs	FTMS 101C 2065		110.0	107.0	104.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.4	2.3
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1554-4	N9-6-93-1555-4	N9-6-93-1556-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.949	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		182.0	179.0	171.0
strength at break, lbs/in	"		341.0	337.0	319.0
elongation at yield, %	"		18.0	17.0	16.0
elongation at break, %	"		981.0	942.0	917.0
secant modulus, (0.75%), psi	"		84,000.0	85,000.0	85,000.0
tear strength, lbs	ASTM D 1004		54.0	55.0	52.0
puncture resistance, lbs	FTMS 101C 2065		107.0	104.0	101.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.3	2.3
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1557-4	N9-6-93-1558-4	N9-6-93-1559-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	63.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.949	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		173.0	175.0	169.0
strength at break, lbs/in	"		347.0	351.0	327.0
elongation at yield, %	"		20.0	20.0	16.0
elongation at break, %	"		960.0	963.0	935.0
secant modulus, (0.75%), psi	"		85,000.0	85,000.0	88,000.0
tear strength, lbs	ASTM D 1004		56.0	55.0	52.0
puncture resistance, lbs	FTMS 101C 2065		100.0	107.0	102.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.6	2.5
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC/HALIFAX COUNTY

project number: PF 930666

report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min

blend number: 160968

trip #:

Certified By:

Property	Test Method	Roll Number	N9-6-93-1560-4	N9-6-93-1562-4	N9-6-93-1564-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		63.0	63.0	65.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505		0.949	0.949	0.949
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		163.0	165.0	166.0
strength at break, lbs/in	"		300.0	301.0	322.0
elongation at yield, %	"		14.0	20.0	17.0
elongation at break, %	"		930.0	885.0	891.0
secant modulus, (0.75%), psi	"		88,000.0	88,000.0	88,000.0
tear strength, lbs	ASTM D 1004		55.0	55.0	54.0
puncture resistance, lbs	FTMS 101C 2065		105.0	102.0	106.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.7	2.8	2.9
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number / Blend Number		
		N9-6-93-1565-4 / 160968	N9-6-93-1566-4 / 160968	N9-6-93-1567-4 / 160968
sheet thickness, mil	ASTM D 1593	65.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505	0.949	0.949	0.949
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	171.0	168.0	166.0
strength at break, lbs/in	"	372.0	346.0	338.0
elongation at yield, %	"	19.0	14.0	16.0
elongation at break, %	"	957.0	1,030.0	950.0
secant modulus, (0.75%), psi	"	88,000.0	88,000.0	88,000.0
tear strength, lbs	ASTM D 1004	56.0	52.0	54.0
puncture resistance, lbs	FTMS 101C 2065	109.0	96.0	100.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.7	2.7	2.6
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number: N9-6-93-1568-4 / Blend Number: 160968	N9-6-93-1569-4 / 160968	N9-6-93-1570-4 / 160968
sheet thickness, mil	ASTM D 1593	64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505	0.949	0.949	0.949
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	165.0	163.0	167.0
strength at break, lbs/in	"	317.0	320.0	331.0
elongation at yield, %	"	19.0	21.0	19.0
elongation at break, %	"	932.0	940.0	972.0
secant modulus, (0.75%), psi	"	88,000.0	88,000.0	88,000.0
tear strength, lbs	ASTM D 1004	52.0	54.0	52.0
puncture resistance, lbs	FTMS 101C 2065	101.0	98.0	103.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.5	2.7	2.7
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number / Blend Number		
		N9-6-93-1571-4 / 160968	N9-6-93-1572-4 / 160968	N9-6-93-1574-4 / 160968
sheet thickness, mil	ASTM D 1593	65.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505	0.949	0.949	0.949
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	172.0	171.0	169.0
strength at break, lbs/in	"	342.0	331.0	317.0
elongation at yield, %	"	21.0	22.0	18.0
elongation at break, %	"	947.0	953.0	925.0
secant modulus, (0.75%), psi	"	89,000.0	88,000.0	88,000.0
tear strength, lbs	ASTM D 1004	55.0	53.0	52.0
puncture resistance, lbs	FTMS 101C 2065	109.0	94.0	99.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.6	2.7	2.5
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Certified By:

Property	Test Method	Roll Number	N9-6-93-1575-4	N9-6-93-1576-4	N9-6-93-1577-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		60.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.19	0.19	0.16
sheet density, g/cc	ASTM D 1505		0.949	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		162.0	165.0	169.0
strength at break, lbs/in	"		326.0	319.0	337.0
elongation at yield, %	"		15.0	17.0	19.0
elongation at break, %	"		952.0	955.0	942.0
secant modulus, (0.75%), psi	"		88,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004		53.0	55.0	56.0
puncture resistance, lbs	FTMS 101C 2065		94.0	104.0	107.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.9	2.7	2.7
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1578-4	N9-6-93-1579-4	N9-6-93-1580-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		63.0	64.0	64.0
melt index, g/10 min	ASTM D 1238		0.16	0.16	0.11
sheet density, g/cc	ASTM D 1505		0.948	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		167.0	171.0	170.0
strength at break, lbs/in	"		312.0	333.0	342.0
elongation at yield, %	"		21.0	20.0	19.0
elongation at break, %	"		901.0	927.0	922.0
secant modulus, (0.75%), psi	"		87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004		53.0	54.0	53.0
puncture resistance, lbs	FTMS 101C 2065		95.0	101.0	106.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.3	2.5	2.5
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Roll Number	N9-6-93-1581-4	N9-6-93-1582-4	N9-6-93-1583-4
Blend Number	160968	160968	160968

Property	Test Method			
sheet thickness, mil	ASTM D 1593	64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.16	0.16	0.16
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	169.0	166.0	169.0
strength at break, lbs/in	"	319.0	302.0	297.0
elongation at yield, %	"	21.0	20.0	18.0
elongation at break, %	"	955.0	913.0	905.0
secant modulus, (0.75%), psi	"	87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004	54.0	53.0	52.0
puncture resistance, lbs	FTMS 101C 2065	102.0	100.0	101.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.3	2.3	2.4
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 1610968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

	Roll Number	N9-6-93-1584-4	N9-6-93-1585-4	N9-6-93-1586-4
	Blend Number	160968	160968	160968
Property	Test Method			
sheet thickness, mil	ASTM D 1593	64.0	64.0	63.0
melt index, g/10 min	ASTM D 1238	0.16	0.16	0.16
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	163.0	165.0	169.0
strength at break, lbs/in	"	286.0	292.0	307.0
elongation at yield, %	"	20.0	19.0	18.0
elongation at break, %	"	846.0	877.0	914.0
secant modulus, (0.75%), psi	"	87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004	53.0	52.0	55.0
puncture resistance, lbs	FTMS 101C 2065	97.0	100.0	107.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.4	2.5	2.4
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 1610968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1587-4	N9-6-93-1588-4	N9-6-93-1589-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	64.0	65.0
melt index, g/10 min	ASTM D 1238		0.16	0.16	0.16
sheet density, g/cc	ASTM D 1505		0.948	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		170.0	172.0	175.0
strength at break, lbs/in	"		327.0	334.0	325.0
elongation at yield, %	"		17.0	19.0	19.0
elongation at break, %	"		969.0	950.0	927.0
secant modulus, (0.75%), psi	"		87,000.0	87,000.0	87,000.0
tear strength, lbs	ASTM D 1004		52.0	53.0	52.0
puncture resistance, lbs	FTMS 101C 2065		104.0	104.0	99.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.5	2.4
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 1650968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1590-4	N9-6-93-1591-4	N9-6-93-1592-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	65.0	64.0
melt index, g/10 min	ASTM D 1238		0.16	0.16	0.16
sheet density, g/cc	ASTM D 1505		0.948	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		170.0	173.0	170.0
strength at break, lbs/in	"		300.0	321.0	326.0
elongation at yield, %	"		21.0	19.0	18.0
elongation at break, %	"		846.0	910.0	899.0
secant modulus, (0.75%), psi	"		87,000.0	88,000.0	88,000.0
tear strength, lbs	ASTM D 1004		51.0	54.0	52.0
puncture resistance, lbs	FTMS 101C 2065		106.0	109.0	102.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.6	2.5	2.5
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 1650968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

	Roll Number	N9-6-93-1593-4	N9-6-93-1594-4	N9-6-93-1595-4
	Blend Number	160968	160968	160968
Property	Test Method			
sheet thickness, mil	ASTM D 1593	65.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.16	0.16	0.18
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	166.0	169.0	172.0
strength at break, lbs/in	"	340.0	322.0	297.0
elongation at yield, %	"	15.0	17.0	19.0
elongation at break, %	"	952.0	920.0	917.0
secant modulus, (0.75%), psi	"	88,000.0	88,000.0	80,000.0
tear strength, lbs	ASTM D 1004	52.0	51.0	56.0
puncture resistance, lbs	FTMS 101C 2065	99.0	100.0	110.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.6	2.5	2.5
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number / Blend Number		
		N9-6-93-1596-4 / 160968	N9-6-93-1597-4 / 160968	N9-6-93-1600-4 / 160968
sheet thickness, mil	ASTM D 1593	63.0	63.0	64.0
melt index, g/10 min	ASTM D 1238	0.18	0.18	0.18
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	178.0	183.0	190.0
strength at break, lbs/in	"	307.0	337.0	340.0
elongation at yield, %	"	20.0	19.0	18.0
elongation at break, %	"	858.0	930.0	944.0
secant modulus, (0.75%), psi	"	80,000.0	80,000.0	80,000.0
tear strength, lbs	ASTM D 1004	52.0	52.0	55.0
puncture resistance, lbs	FTMS 101C 2065	98.0	103.0	106.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.7	2.6	2.7
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number / Blend Number		
		N9-6-93-1601-4 / 160968	N9-6-93-1603-4 / 160968	N9-6-93-1604-4 / 160968
sheet thickness, mil	ASTM D 1593	63.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.18	0.18	0.18
sheet density, g/cc	ASTM D 1505	0.948	0.948	0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	177.0	175.0	174.0
strength at break, lbs/in	"	320.0	310.0	309.0
elongation at yield, %	"	19.0	18.0	17.0
elongation at break, %	"	907.0	912.0	915.0
secant modulus, (0.75%), psi	"	80,000.0	80,000.0	80,000.0
tear strength, lbs	ASTM D 1004	53.0	52.0	53.0
puncture resistance, lbs	FTMS 101C 2065	99.0	101.0	100.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.5	2.4	2.4
carbon black dispersion	ASTM D 3015	A-1	A-1	A-1
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number	N9-6-93-1605-4	N9-6-93-1606-4	N9-6-93-1607-4
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		64.0	60.0	64.0
melt index, g/10 min	ASTM D 1238		0.18	0.18	0.18
sheet density, g/cc	ASTM D 1505		0.948	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		170.0	175.0	170.0
strength at break, lbs/in	"		318.0	324.0	310.0
elongation at yield, %	"		16.0	19.0	18.0
elongation at break, %	"		923.0	916.0	920.0
secant modulus, (0.75%), psi	"		80,000.0	80,000.0	82,000.0
tear strength, lbs	ASTM D 1004		53.0	52.0	50.0
puncture resistance, lbs	FTMS 101C 2065		98.0	101.0	103.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.5	2.6	2.6
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/02/93

geomembrane: 60 mil Poly-Flex 5% min
blend number: 160968
trip #:

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

	Roll Number	N9-6-93-1608-4		N9-6-93-1609-4
	Blend Number	160968		160968
Property	**Test Method**			
sheet thickness, mil	ASTM D 1593	64.0		64.0
melt index, g/10 min	ASTM D 1238	0.18		0.18
sheet density, g/cc	ASTM D 1505	0.948		0.948
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	163.0		169.0
strength at break, lbs/in	"	293.0		302.0
elongation at yield, %	"	21.0		20.0
elongation at break, %	"	832.0		907.0
secant modulus, (0.75%), psi	"	82,000.0		82,000.0
tear strength, lbs	ASTM D 1004	50.0		52.0
puncture resistance, lbs	FTMS 101C 2065	95.0		102.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.4		2.3
carbon black dispersion	ASTM D 3015	A-1		A-1
dimensional stability, %	ASTM D 1204	0.0		0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

project name: EDC / HALIFAX COUNTY
project number: PF# 930666
report date: 11/24/93

geomembrane: 60 mil Poly-Flex
blend number: 160968
trip #: 1122-140C

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

Certified By:

Property	Test Method	Roll Number: N9-6-93-1539-4 / Blend Number: 160968	Roll Number: N9-6-93-1551-4 / Blend Number: 160968	Roll Number: N9-6-93-1561-0 / Blend Number: 160968
sheet thickness, mil	ASTM D 1593	64.0	64.0	64.0
melt index, g/10 min	ASTM D 1238	0.19	0.19	0.19
sheet density, g/cc	ASTM D 1505	0.948	0.949	0.949
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	181.0	173.0	163.0
strength at break, lbs/in	"	334.0	339.0	300.0
elongation at yield, %	"	20.0	22.0	14.0
elongation at break, %	"	910.0	953.0	930.0
secant modulus, (0.75%), psi	"	87,000.0	84,000.0	84,000.0
tear strength, lbs	ASTM D 1004	55.0	56.0	55.0
puncture resistance, lbs	FTMS 101C 2065	96.0	110.0	105.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.8	2.5	2.7
carbon black dispersion	ASTM D 3015	A-1	A-2	A-2
dimensional stability, %	ASTM D 1204	0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC / HALIFAX COUNTY
project number: PF# 930666
report date: 11/24/93
geomembrane: 60 mil Poly-Flex
blend number: 160968
trip #: 1122-140C

Certified By:

Property	Test Method	Roll Number	N9-6-93-1573-0	N9-6-93-1598-0	N9-6-93-1610-0
		Blend Number	160968	160968	160968
sheet thickness, mil	ASTM D 1593		66.0	65.0	67.0
melt index, g/10 min	ASTM D 1238		0.19	0.18	0.18
sheet density, g/cc	ASTM D 1505		0.949	0.948	0.948
Tensile Properties	ASTM D 638				
strength at yield, lbs/in	"		171.0	178.0	163.0
strength at break, lbs/in	"		331.0	307.0	293.0
elongation at yield, %	"		20.0	20.0	21.0
elongation at break, %	"		953.0	858.0	832.0
secant modulus, (0.75%), psi	"		88,000.0	80,000.0	80,000.0
tear strength, lbs	ASTM D 1004		53.0	52.0	50.0
puncture resistance, lbs	FTMS 101C 2065		94.0	98.0	95.0
	FTMS 101C 2031				
carbon black content, %	ASTM D 1603		2.7	2.7	2.5
carbon black dispersion	ASTM D 3015		A-1	A-1	A-1
dimensional stability, %	ASTM D 1204		0.0	0.0	0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

Quality Control Report

POLY-FLEX
POLYETHYLENE GEOMEMBRANES

Poly-Flex, Inc.
2000 West Marshall Drive
Grand Prairie, Texas 75051
(214) 647-4374

project name: EDC/HALIFAX COUNTY
project number: PF 930666
report date: 11/29/93

geomembrane: 60 mil Poly-Flex
blend number: 160974/537307
trip #:

Certified By:

Roll Number	N9-6-93-1238-4		N9-6-93-1249-4
Blend Number	537307		160974

Property	Test Method			
sheet thickness, mil	ASTM D 1593	61.0		61.0
melt index, g/10 min	ASTM D 1238	0.19		0.19
sheet density, g/cc	ASTM D 1505	0.953		0.953
Tensile Properties	ASTM D 638			
strength at yield, lbs/in	"	138.0		145.0
strength at break, lbs/in	"	257.0		261.0
elongation at yield, %	"	19.0		21.0
elongation at break, %	"	880.0		843.0
secant modulus, (0.75%), psi	"	86,000.0		86,000.0
tear strength, lbs	ASTM D 1004	44.0		48.0
puncture resistance, lbs	FTMS 101C 2065	89.0		87.0
	FTMS 101C 2031			
carbon black content, %	ASTM D 1603	2.7		2.6
carbon black dispersion	ASTM D 3015	A-1		A-1
dimensional stability, %	ASTM D 1204	0.0		0.0

The specified test results for Tensile Properties, tear strength, and dimensional stability are based on machine direction

APPENDIX 3.3
CONFORMANCE TEST RESULTS

Halifax County Coal Ash Monofill - Cell 1
January, 1994
Summary of Geomembrane Conformance Test Results

Roll Number	Thickness (mils)	Average Carbon Black Content (%)	Density (g/cm3)	Average Tensile Load @ Yield (lb/in)	Average Tensile Strain @ Yield (%)	Average Tensile Load @ Break (lb/in)	Average Tensile Strain @ Break (%)	Average Tear Resistance (lbs)
1249 (MD)	NT	2.6	0.951	163	20	211	644	53
(TD)				173	18	246	764	56
1238 (MD)	NT	2.7	0.951	167	19	280	782	53
(TD)				170	17	259	801	55
N9-6-93-1547-4 (MD)	63.8	2.9	0.950	175	18	289	647	54
(TD)				165	16	272	663	56
N9-6-93-1580-4 (MD)	62.6	2.4	0.949	173	18	305	690	55
(TD)				178	18	301	720	53
N9-6-93-1600-4 (MD)	63.6	2.4	0.949	163	18	283	664	56
(TD)				173	18	283	696	53
Spec. Requirements	57 - 66	2 - 3	> 0.940	> 120	> 10	> 180	> 600	> 40

MD = Roll Direction
TD = Cross Roll Direction
NT = Not Tested

AGP Laboratories, Inc.
2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

December 7, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC; No. 3716
AGP Project No. HS1530.005

Dear Mr. Smith:

Two (2) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	AGP COMMENTS
Roll No. 1249	60 MIL GMS
Roll No. 1238	60 MIL GMS

The samples were tested in accordance with the test methods listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of those methods:

1) ASTM D 1505, "Test Method for Density Of Plastics By The Density-Gradient Technique"

2) ASTM D 1603, "Test Method for Carbon Black in Olefin Plastics"

3) ASTM D 638 (As modified by NSF 54, Appendix A), "Test Method for Tensile Properties Of Plastics"

4) ASTM D 1004, "Test Method for Initial Tear Resistance Of Plastic Film And Sheeting"

RESULTS:

TENSILE /ELONGATION
ASTM D 638 NSF MODIFIED

Testing Speed (ipm) = 2

Grip Separation (in) = 2.5
Gauge Length (in) = 2.0

	TENSILE (PPI)				ELONGATION (%)			
	Yield		Break		Yield		Break	
SAMPLE I.D.	MD	TD	MD	TD	MD	TD	MD	TD
Roll No. 1249	174	186	218	240	20	21	614	746
	172	158	192	198	22	19	600	623
	143	179	193	243	20	15	613	740
	166	172	270	266	18	15	795	813
	162	168	184	282	18	18	600	897
Averages	163	173	211	246	20	18	644	764
S.D.	12.4	10.7	35.2	31.8	1.7	2.6	84.4	101.1
Roll No. 1238	188	174	316	229	18	16	836	706
	172	172	290	298	20	18	787	863
	173	172	266	273	18	18	727	836
	154	169	255	249	20	16	727	840
	150	164	274	247	18	16	832	759
Averages	167	170	280	259	19	17	782	801
S.D.	15.5	3.9	23.7	26.7	1.1	1.1	53.6	65.9

CARBON BLACK CONTENT (%)
ASTM D 1603

SAMPLE I.D.		VALUE
Roll No. 1249		2.6
		2.6
	Average	2.6
Roll No. 1238		2.7
		2.7
	Average	2.7

TEAR RESISTANCE (LBS)
ASTM D 1004C

SAMPLE ID	MD	TD
Roll No. 1249	55	57
	52	54
	49	55
	55	55
	54	57
Average	53	56
S.D.	2.9	1.3
Roll No. 1238	54	55
	52	55
	54	53
	51	56
	53	56
Average	53	55
S.D.	1.3	1.2

DENSITY (GM/CC)
ASTM D 1505

SAMPLE I.D.	VALUE
Roll No. 1249	.951
Roll No. 1238	.951

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

AGP Laboratories, Inc.
2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

November 15, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC
AGP Project No. HS1530.001

Dear Mr. Smith:

Three (3) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	AGP COMMENTS
N9-6-93-1547-4	GMS
N9-6-93-1580-4	GMS
N9-6-93-1600-4	GMS

The samples were tested in accordance with the test methods listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of those methods:

1) ASTM D 751, "Test Method for Coated Fabrics"

2) ASTM D 1505, "Test Method for Density Of Plastics By The Density-Gradient Technique"

3) ASTM D 1603, "Test Method for Carbon Black in Olefin Plastics"

4) ASTM D 638 (As modified by NSF 54, Appendix A), "Test Method for Tensile Properties Of Plastics"

5) ASTM D 1004, "Test Method for Initial Tear Resistance Of Plastic Film And Sheeting"

RESULTS:

TENSILE /ELONGATION
ASTM D 638 NSF MODIFIED

Testing Speed (ipm) = 2 **Grip Separation (in) = 2.5**
Gauge Length (in) = 2.0

	TENSILE (PPI)				ELONGATION (%)			
	Yield		Break		Yield		Break	
SAMPLE I.D.	MD	TD	MD	TD	MD	TD	MD	TD
N9-6-93-1547-4	182	160	309	256	18	17	661	650
	184	162	291	262	18	16	638	665
	162	163	274	262	18	17	656	650
	173	164	304	297	18	17	672	674
	173	175	268	282	20	15	607	676
Averages	175	165	289	272	18	16	647	663
S.D.	8.8	5.9	18.0	17.2	0.9	0.9	25.4	12.6
N9-6-93-1580-4	170	159	292	291	18	18	664	744
	178	175	304	284	18	18	688	696
	165	189	293	302	17	18	672	712
	172	179	308	298	18	18	680	712
	179	189	326	331	18	19	696	736
Averages	173	178	305	301	18	18	680	720
S.D.	5.8	12.4	13.8	18.0	0.4	0.4	12.6	19.6
N9-6-93-1600-4	170	179	272	285	18	16	658	680
	156	187	284	304	18	19	690	712
	154	173	296	282	18	18	699	704
	162	162	276	268	18	19	633	680
	174	163	289	278	20	17	642	704
Averages	163	173	283	283	18	18	664	696
S.D.	8.7	10.6	9.7	13.2	0.9	1.3	29.1	15.0

THICKNESS (MILS)
ASTM D 751

SAMPLE I.D.	VALUE	VALUE
N9-6-93-1547-4	58.7	65.8
	58.6	64.7
	64.1	67.0
	63.1	70.5
	62.8	67.2
	57.9	66.8
	62.0	69.8
	58.6	68.0
	61.1	62.2
	67.0	60.5
	68.5	60.2
		62.7
	Average	63.8
	S.D.	3.82
	Range:	57.9 - 70.5
N9-6-93-1580-4	57.7	64.1
	59.0	60.3
	65.2	65.6
	67.6	66.3
	64.1	64.8
	59.2	66.2
	57.8	68.8
	57.3	67.2
	59.6	62.0
	60.8	59.8
	64.8	60.7
		61.3
	Average	62.6
	S.D.	3.52
	Range:	57.3 - 68.8

THICKNESS (MILS)
ASTM D 751

SAMPLE I.D.	VALUE	VALUE
N9-6-93-1600-4	67.5	64.4
	63.7	63.8
	65.0	63.0
	64.4	63.4
	63.6	62.2
	64.6	63.6
	63.8	63.1
	64.2	64.3
	64.3	61.4
	65.7	59.9
	66.4	59.9
		61.3
	Average	63.6
	S.D.	1.82
	Range:	59.9 - 67.5

CARBON BLACK CONTENT (%)
ASTM D 1603

SAMPLE I.D.		VALUE
N9-6-93-1547-4		2.8
		2.9
	Average	2.9
N9-6-93-1580-4		2.5
		2.3
	Average	2.4
N9-6-93-1600-4		2.5
		2.3
	Average	2.4

TEAR RESISTANCE (LBS)
ASTM D 1004C

SAMPLE ID	MD	TD
N9-6-93-1547-4	54	54
	51	57
	58	56
	54	60
	51	54
Average	54	56
S.D.	2.9	2.5
N9-6-93-1580-4	53	53
	53	56
	57	50
	55	50
	57	54
Average	55	53
S.D.	2.0	2.6
N9-6-93-1600-4	58	55
	55	55
	56	53
	57	49
	54	51
Average	56	53
S.D.	1.6	2.6

DENSITY (GM/CC)
ASTM D 1505

SAMPLE I.D.	VALUE
N9-6-93-1547-4	.950
N9-6-93-1580-4	.949
N9-6-93-1600-4	.949

Samples were obtained by AGP LABORATORIES. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

APPENDIX 3.4
GEOMEMBRANE INVENTORY FORMS

Field Inventory Record
for Cell 1 of the
Halifax County Ash Monofill
(Polyflex 60 mil)

Material		Roll Dimensions		Conformance
Roll Number	Batch/Lot Number	Width (ft)	Length (ft)	Sample
1548	160968	22.5	400	
1555	160968	22.5	400	
1552	160968	22.5	400	
1556	160968	22.5	400	
1544	160968	22.5	400	
1546	160968	22.5	400	
1550	160968	22.5	400	
1545	160968	22.5	400	
1542	160968	22.5	400	
1597	160968	22.5	400	
1592	160968	22.5	400	
1547	160968	22.5	400	X
1588	160968	22.5	400	
1591	160968	22.5	400	
1608	160968	22.5	400	
1600	160968	22.5	400	X
1585	160968	22.5	400	
1604	160968	22.5	400	
1609	160968	22.5	400	
1584	160968	22.5	400	
1607	160968	22.5	400	
1579	160968	22.5	400	
1603	160968	22.5	400	
1577	160968	22.5	400	
1587	160968	22.5	400	
1570	160968	22.5	400	
1581	160968	22.5	400	
1576	160968	22.5	400	
1589	160968	22.5	400	
1590	160968	22.5	400	
1606	160968	22.5	400	
1594	160968	22.5	400	
1605	160968	22.5	400	
1565	160968	22.5	400	
1554	160968	22.5	400	
1560	160968	22.5	400	

Material		Roll Dimensions		Conformance
Roll Number	Batch/Lot Number	Width (ft)	Length (ft)	Sample
1575	160968	22.5	400	
1559	160968	22.5	400	
1571	160968	22.5	400	
1567	160968	22.5	400	
1569	160968	22.5	400	
1566	160968	22.5	400	
1568	160968	22.5	400	
1562	160968	22.5	400	
1583	160968	22.5	400	
1572	160968	22.5	400	
1574	160968	22.5	400	
1549	160968	22.5	400	
1558	160968	22.5	400	
1586	160968	22.5	400	
1593	160968	22.5	400	
1595	160968	22.5	400	
1596	160968	22.5	400	
1601	160968	22.5	400	
1539	160968	22.5	400	
1540	160968	22.5	400	
1541	160968	22.5	400	
1543	160968	22.5	400	
1551	160968	22.5	400	
1553	160968	22.5	400	
1557	160968	22.5	400	
1564	160968	22.5	400	
1578	160968	22.5	400	
1580	160968	22.5	400	X
1582	160968	22.5	400	
1610	160968	22.5	170	
1573	160968	22.5	342	
1561	160968	22.5	260	
1598	160968	22.5	178	
1238	537307	22.5	400	X
1249	160974	22.5	400	X

FIELD INVENTORY RECORD
GEOSYNTHETICS

Sheet 1 of 6

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME CELL 1
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN NORTH BERM & STOCKPILE "B"

INVENTORY DATE 11-22-93
TECHNICIAN JOHN CREMANS
WEATHER CONDITIONS SUNNY & COOL

GEOSYNTHETIC PRODUCT DESIGNATION POLYFLEX 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-18-93

GENERAL COMMENTS ON ROLL CONDITION: OK

GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1548	160963	22.5'	400'		
1555					
1552					
1551					
1544					
1541					
1550					
1545					
1542					
1597					
1592					
1547				X	
1588	↓	↓	↓		

HAZEN AND SAWYER
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FIELD INVENTORY RECORD
GEOSYNTHETICS

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME CELL 1
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN NORTH BERM & STOCKPILE "B"

INVENTORY DATE 11-22-93
TECHNICIAN JOHN CREMANS
WEATHER CONDITIONS SUNNY & COOL

GEOSYNTHETIC PRODUCT DESIGNATION POLYFLEX 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-18-93

GENERAL COMMENTS ON ROLL CONDITION: OK

GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1591	160962	22.5'	400'		
1603	"	"	"		
1600	"	"	"	X	
1585	"	"	"		
1604	"	"	"		
1609	"	"	"		
1584	"	"	"		
1607	"	"	"		
1579	"	"	"		
1603	"	"	"		
1577	"	"	"		
1587	"	"	"		
1570	"	"	"		

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FIELD INVENTORY RECORD
GEOSYNTHETICS

Sheet 3 of 6

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME CELL 1
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN NORTH BERM & STOCKPILE "E"

INVENTORY DATE 11-22-93
TECHNICIAN JOHN CREMANS
WEATHER CONDITIONS SUNNY & COOL

GEOSYNTHETIC PRODUCT DESIGNATION POLYFLEX 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-18-93

GENERAL COMMENTS ON ROLL CONDITION: OK

GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1501	160969	22.5'	400'		
1576	"	"	"		
1589	"	"	"		
1590	"	"	"		
1606	"	"	"		
1594	"	"	"		
1605	"	"	"		
1565	"	"	"		
1554	"	"	"		
1560	"	"	"		
1575	"	"	"		
1559	"	"	"		
1571	↓	↓	↓		

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FIELD INVENTORY RECORD
GEOSYNTHETICS

Sheet 4 of 6

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME CELL 1
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN NORTH BERM & STOCKPILE "B"

INVENTORY DATE 11-22-93
TECHNICIAN JOHN CREMANS / STACEY SMITH
WEATHER CONDITIONS SUNNY & COOL

GEOSYNTHETIC PRODUCT DESIGNATION POLYFLEX 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-18-93
GENERAL COMMENTS ON ROLL CONDITION: OK
GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1567	160963	22.5'	400'		
1569					
1566					
1562					
1562					
1583					
1572					
1574					
1549					
1553					
1586					
1593					
1595	↓	↓	↓		

HAZEN AND SAWYER
Environmental Engineers & Scientists

FIELD INVENTORY RECORD
GEOSYNTHETICS

Sheet 5 of 6

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME 3716
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN N. BERM & STOCKPILE "B"

INVENTORY DATE 11-22-93
TECHNICIAN STACEY SMITH
WEATHER CONDITIONS SUNNY / COOL

GEOSYNTHETIC PRODUCT DESIGNATION POLYFELT 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-13-93

GENERAL COMMENTS ON ROLL CONDITION: OK

GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1596	160963	22.5	400		
1601					
1539					
1540					
1541					
1543					
1551					
1553					
1557					
1564					
1578					
1580				X	
1582	↓	↓	↓		

HAZEN AND SAWYER
Environmental Engineers & Scientists

FIELD INVENTORY RECORD
GEOSYNTHETICS

Sheet 6 of 6

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NAME CELL 1
OWNER HALIFAX COUNTY
STORAGE AREA BETWEEN L. BERM & STOCKPILE "E"

INVENTORY DATE 11-26-93
TECHNICIAN STACEY SMITH
WEATHER CONDITIONS SUNNY & COLD

GEOSYNTHETIC PRODUCT DESIGNATION POLYFLEX 60 MIL
GEOSYNTHETIC MATERIAL TYPE HDPE
SHIPMENT NUMBER
DELIVERY DATE 11-25-93

GENERAL COMMENTS ON ROLL CONDITION: OK

GENERAL COMMENTS ON STORAGE CONDITIONS: OK

MATERIAL		ROLL DIMENSIONS			
ROLL NUMBER	BATCH/LOT NUMBER	WIDTH (Ft)	LENGTH (Ft)	CONFORMANCE SAMPLE NO.	REMARKS
1610	160963	225'	170		
1573	"	"	342		
1561	"	"	260		
1593	↓	"	178		
1233	537307	"	400	X	
1249	537307	↓	400	X	

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APPENDIX 3.5
SUBGRADE APPROVAL FORMS

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-2-93 **Time:** 10:30 a.m.

Reference Sketch: # 1

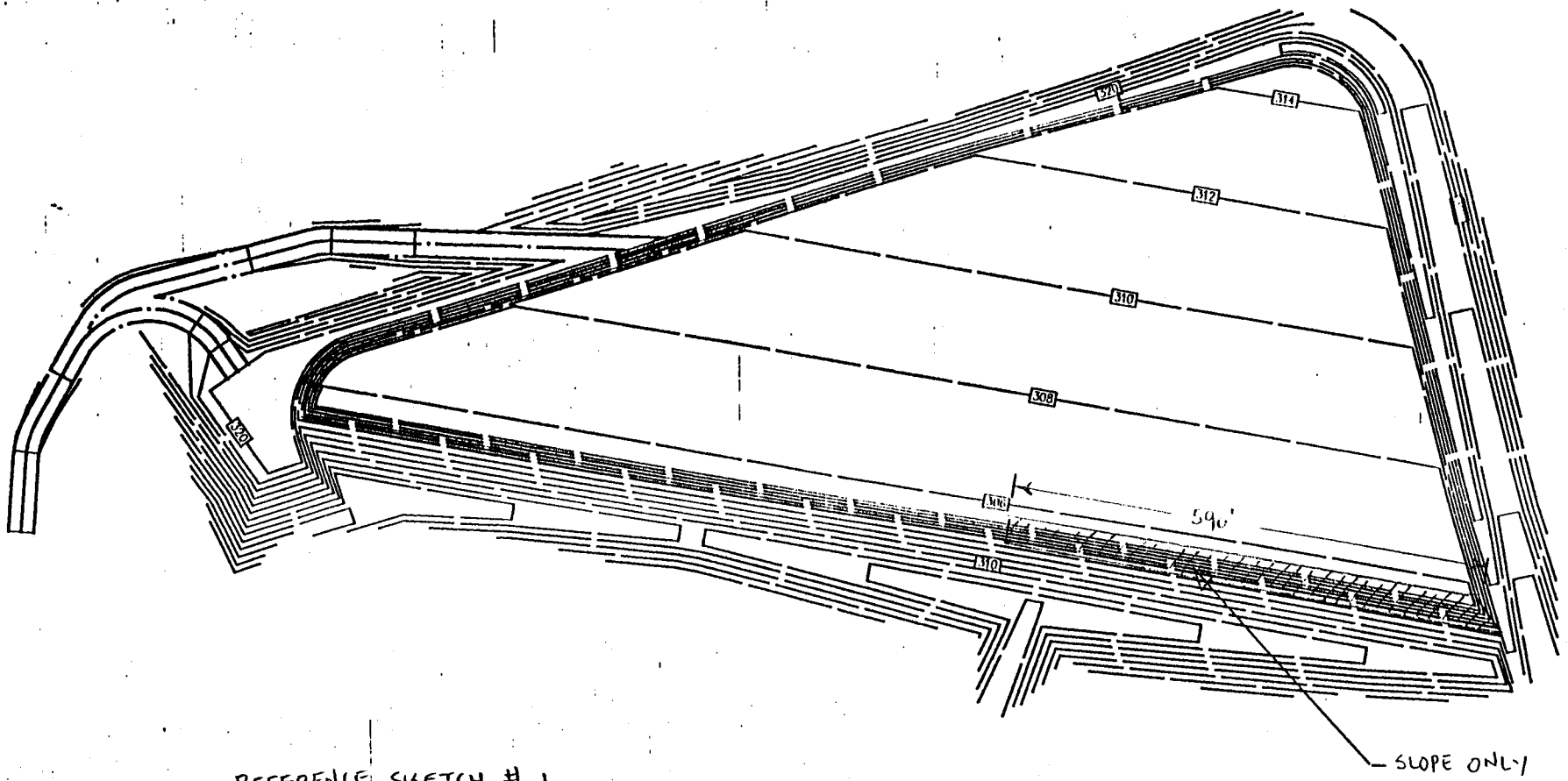
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	[illegible]	Proj. Supt.
General Contractor	[illegible]	Project Manager
Engineer	[illegible]	RESIDENT ENGINEER



REFERENCE SKETCH # 1
11-21-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11/21/93 **Time:** 1:30 pm

Reference Sketch: #2

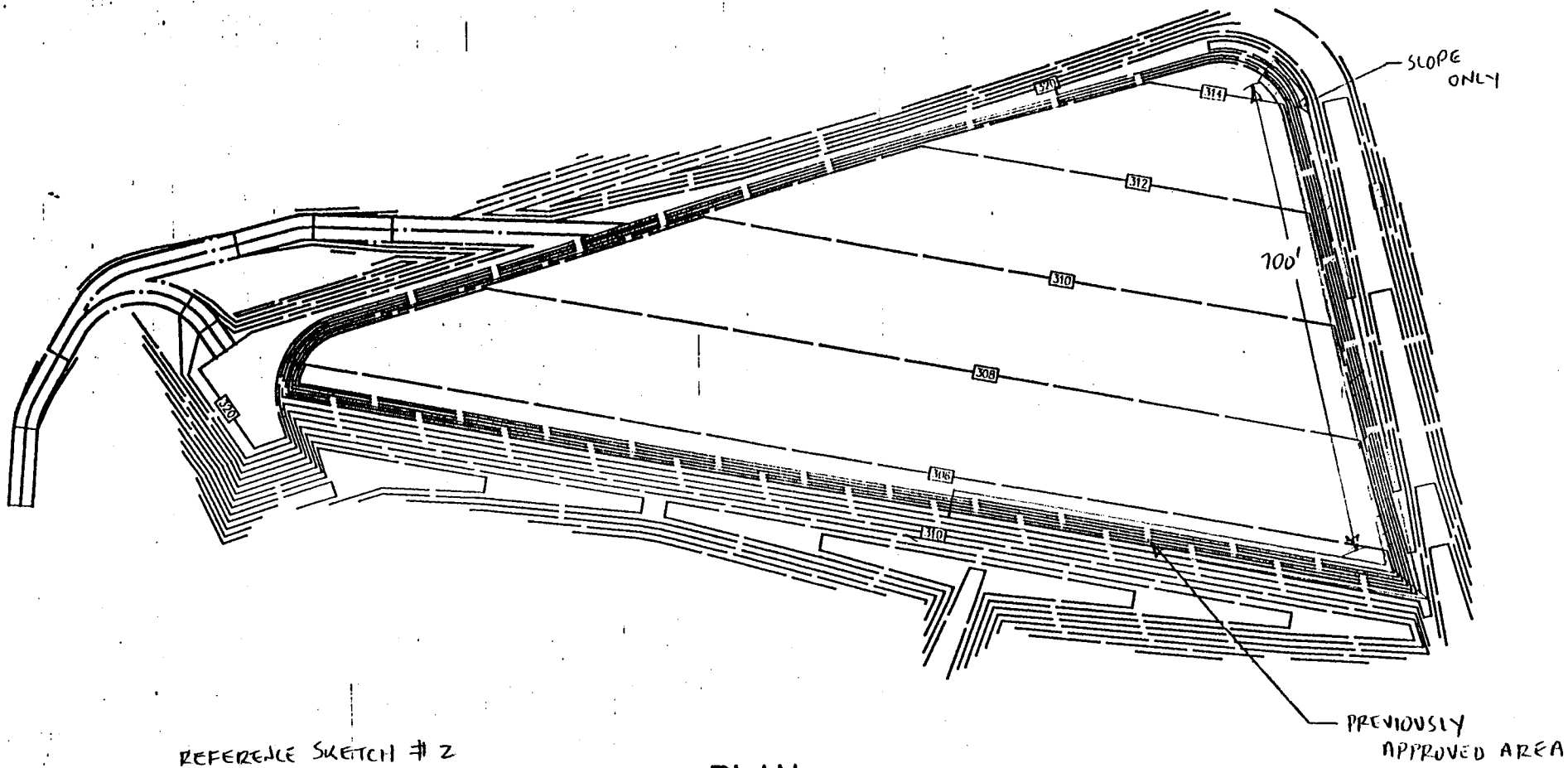
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	[signature]	Proj. Supt
General Contractor	[signature]	PROJ. SUPER.
Engineer	[signature]	PROJ. ENGINEER



REFERENCE SKETCH # 2
11-21-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-22-93 **Time:** 7:30 AM

Reference Sketch: # 3

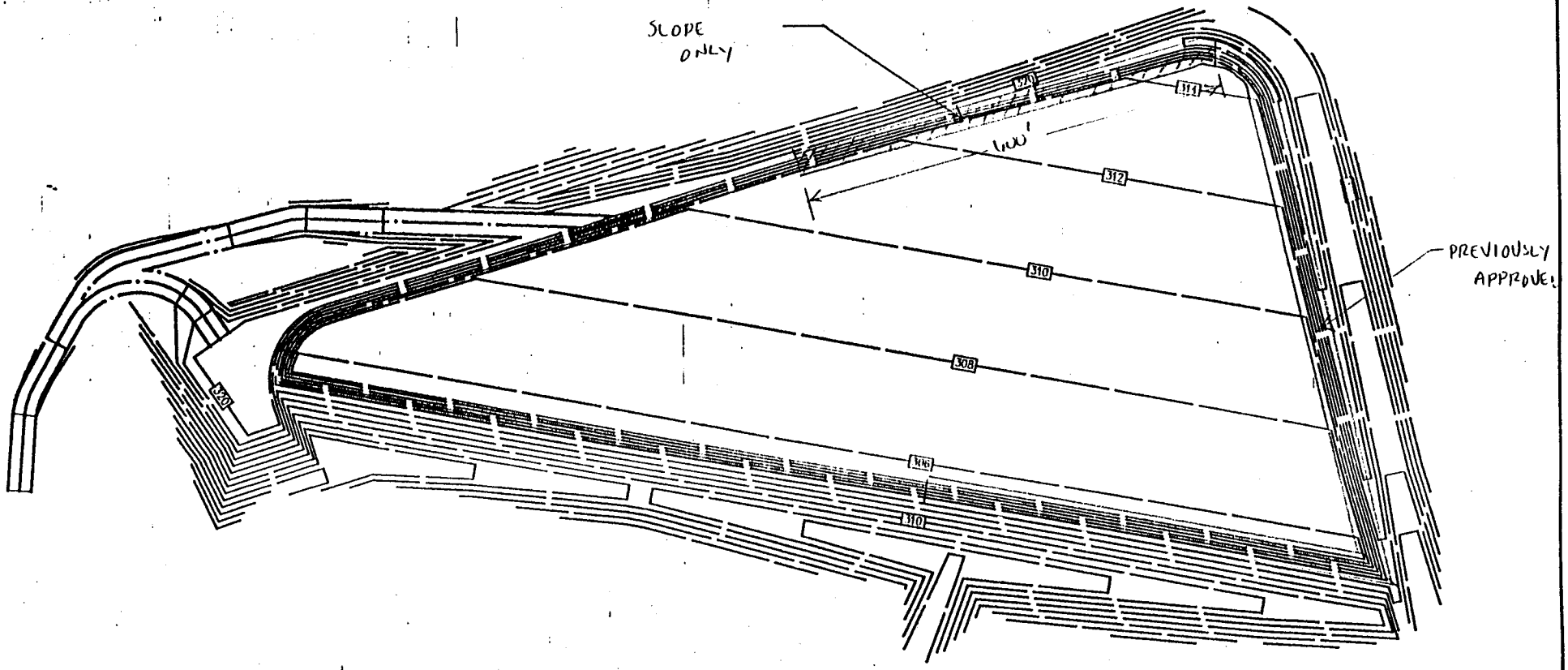
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	Ed West	Proj. Supt
General Contractor		
Engineer		PROJ. ENGINEER



REFERENCE SKETCH #1 3
11-22-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-22-93 **Time:** 9:00 AM

Reference Sketch: #4

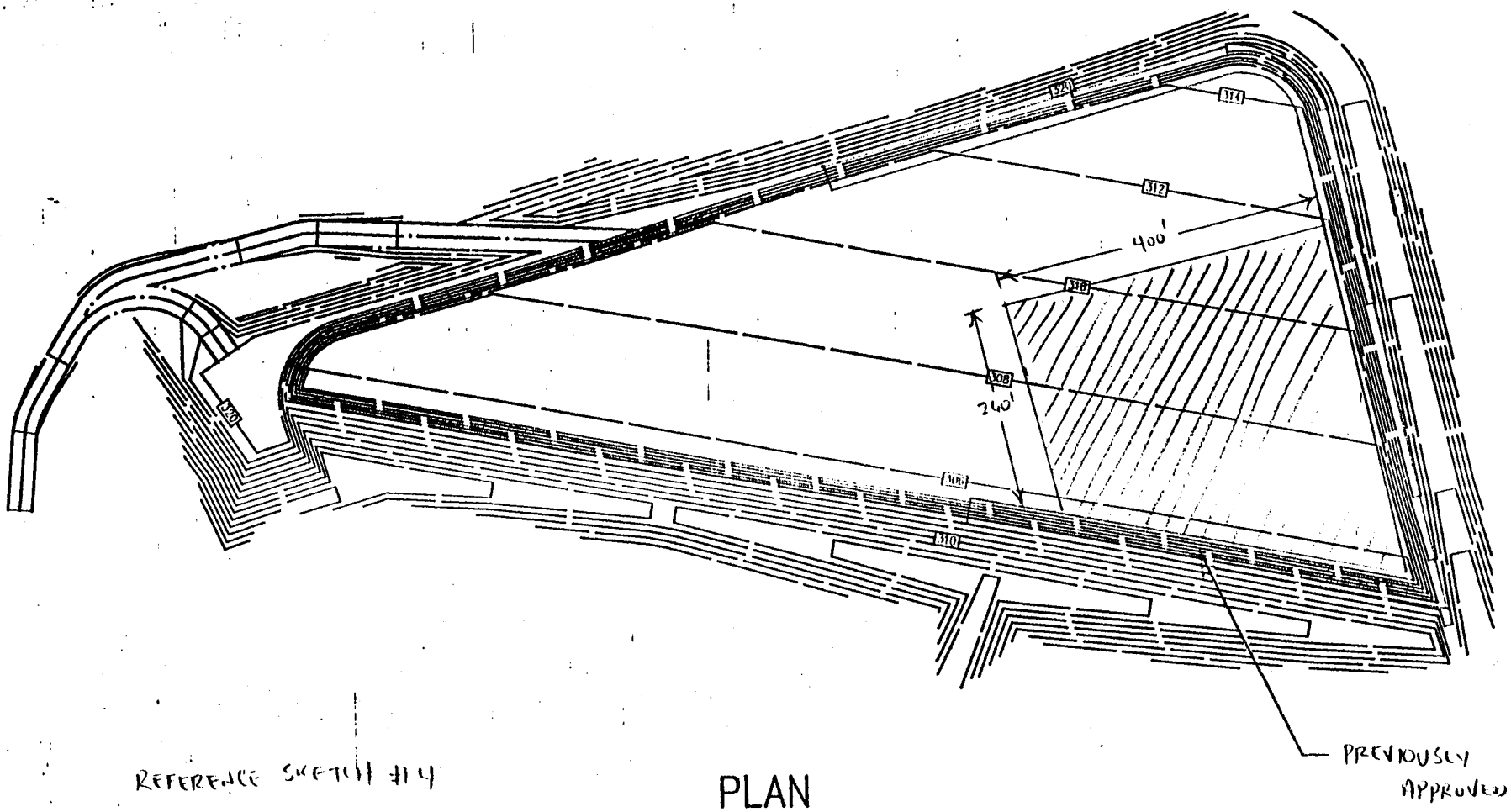
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	[illegible]	Proj. Supt
General Contractor	[illegible]	PROJ. SUPER
Engineer	[illegible]	PROJ. ENGINEER



REFERENCE SKETCH #14

11-22-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-23-93 **Time:** 8:15 AM

Reference Sketch: #5

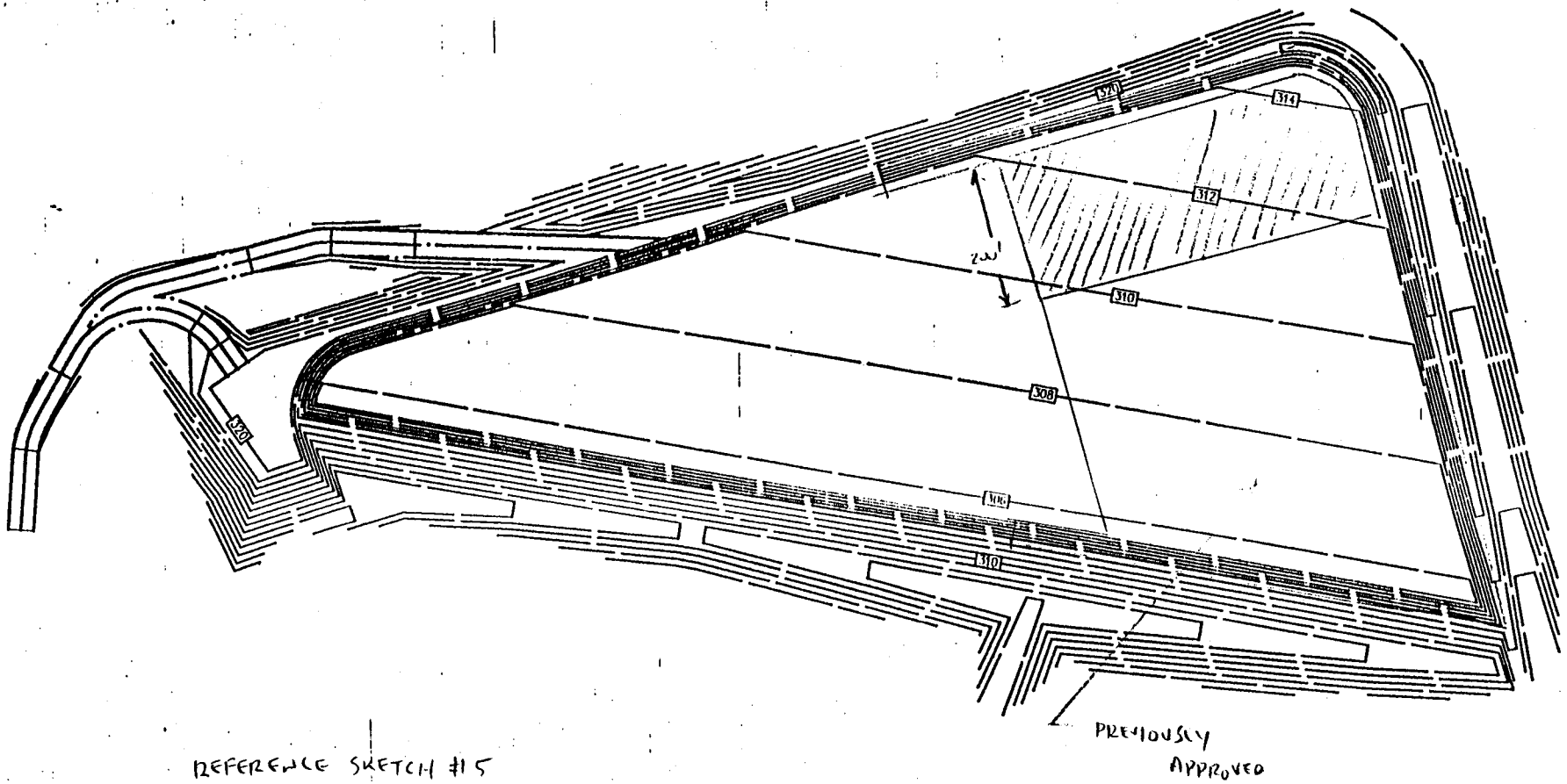
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor		Proj. Supt.
General Contractor		PROJ SUPER.
Engineer		PROJ. ENGINEER



REFERENCE SKETCH #15
11-23-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-23-93 **Time:** 4:00 PM

Reference Sketch: # 6

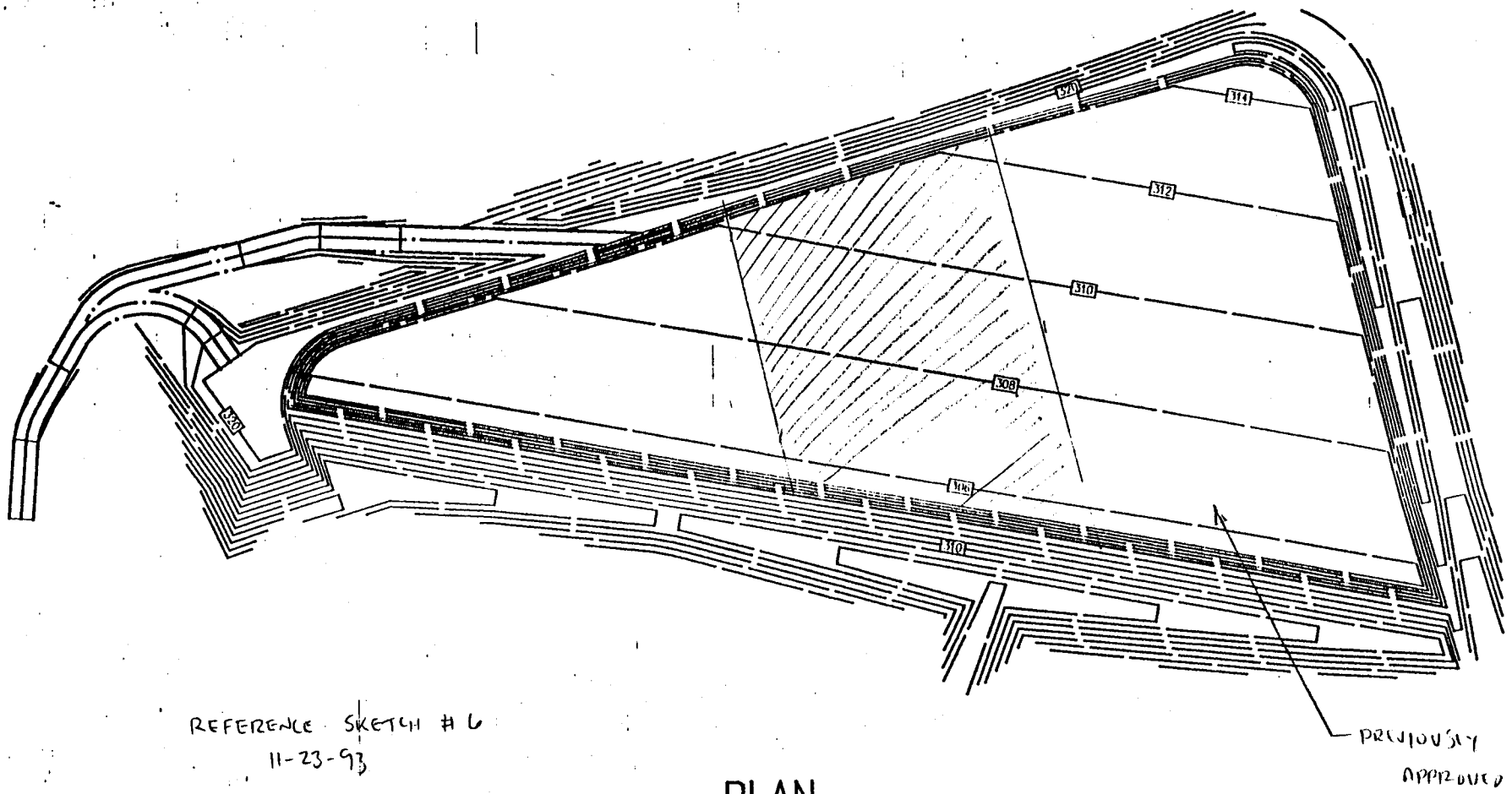
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	[illegible]	Proj Supt
General Contractor		
Engineer		PROJ. ENGINEER



REFERENCE SKETCH # 6
11-23-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

GEOMEMBRANE INSTALLATION
SUBGRADE CERTIFICATION

Project: HALIFAX CO. COAL ASH MONOFILL - CELL 1

Location: HALIFAX COUNTY, NORTH CAROLINA

Date: 11-24-93 **Time:** 2:00 PM

Reference Sketch: #7

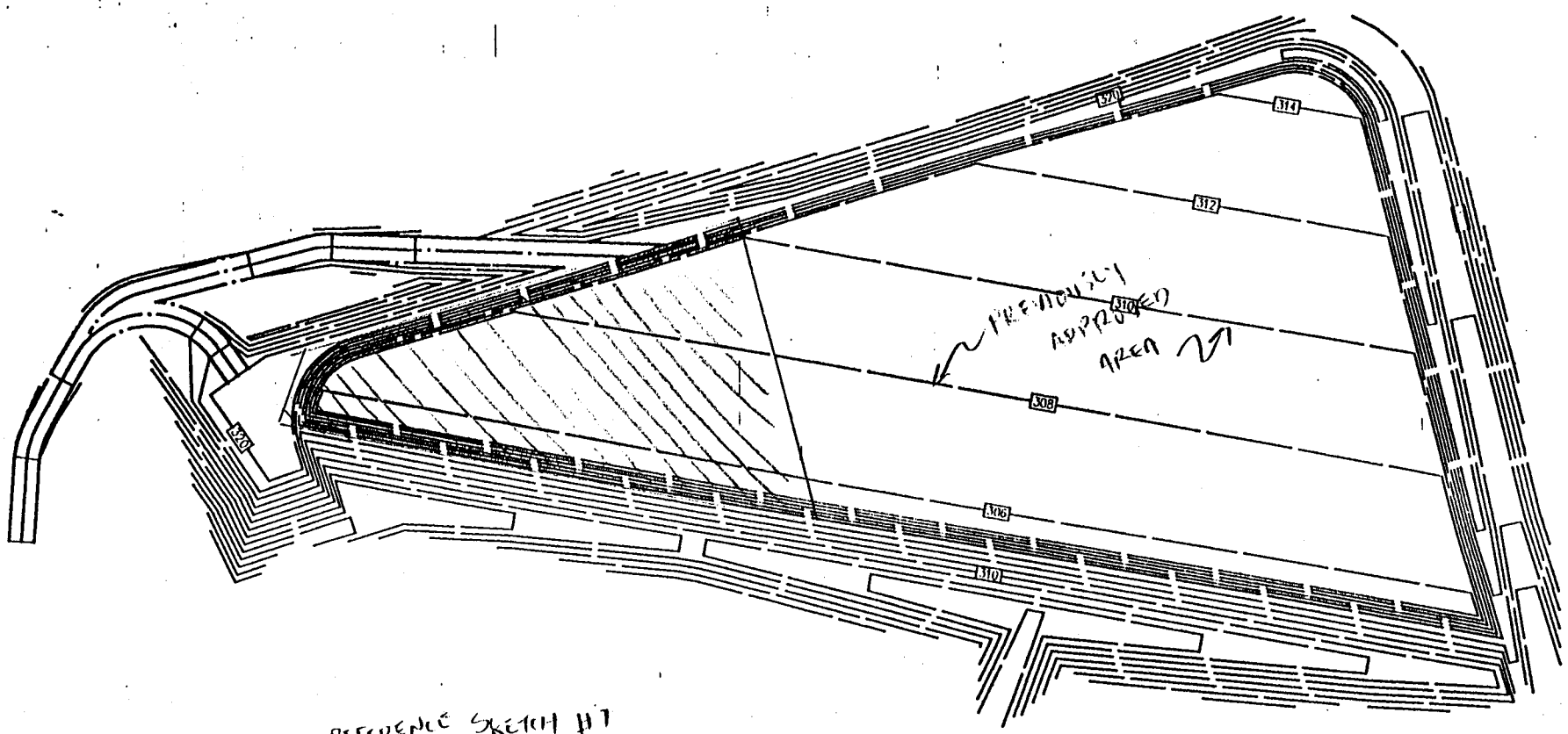
This document certifies that the subgrade as described above is acceptable for geomembrane installation.

The surface is smooth and free of all potentially damaging rocks, stones, sticks, roots, sharp objects or debris. The surface provides a firm foundation for the geomembrane as outlined in the Project Specifications. No standing water or excessive moisture exists on the subgrade.

The parties below approve the subgrade for geomembrane installation on the aforementioned date.

Any changes in subgrade condition caused by weather conditions, vehicle traffic, etc., will require re-approval of affected areas.

	Name	Position
Geomembrane Contractor	[signature]	Proj. Supt.
General Contractor	[signature]	PROJ. SUPER
Engineer	[signature]	PROJ. ENGINEER



REFERENCE SKETCH #1

11-24-93

PLAN

1"=200'-0"

CELL 1 – ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

CELL 1
GEOMEMBRANE
GRADING PLAN

FIGURE 1

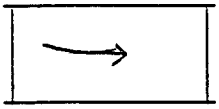
HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

APPENDIX 3.6
PANEL DEPLOYMENT FORMS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY LF MONOFILL
PANEL NO. 1
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY · 60's
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



PANEL THICKNESS 60 (mils)

SHOW ALL DIMENSIONS

Panel No: 1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11/21	1				

PANEL LENGTH 40
PANEL WIDTH 22'-6"
PANEL AREA 900 ft²
ROLL NUMBER 1548

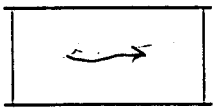
TECHNICIAN COMMENTS CK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 2
PROJECT NO. 7116
GEOMEMBRANE TYPE HDPE
CONTRACTOR CAPPHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65'
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 2

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

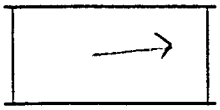
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1548

TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PANEL NO. 3
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY : 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 3

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1548

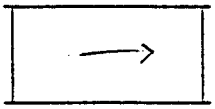
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PANEL NO. 4
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-95
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 4

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1543

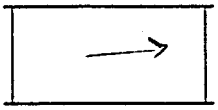
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 5
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-3-92
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 5

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 900 FT²
ROLL NUMBER 1548

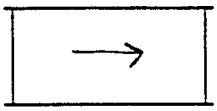
TECHNICIAN COMMENTS OK

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 6
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11.21.97
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 6

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11/21	1	FLAW - SURFACE	12-1-97 SCPSD	PATCH	SAS

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1548

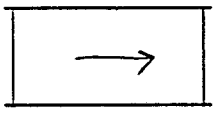
TECHNICIAN COMMENTS Repair SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 7
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 7

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1548

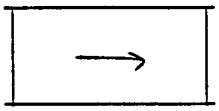
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 8
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-95
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 8

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11/21	1	Fish	OK		JAS

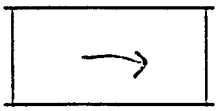
PANEL LENGTH 401'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 154B

TECHNICIAN COMMENTS Repair SN

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 9
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-2-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 9

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 900 FT²
ROLL NUMBER 1548

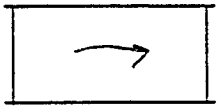
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 10
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11 21 95
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY, 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 10

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

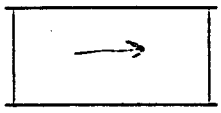
PANEL LENGTH 401'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1548

TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 11
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED [illegible]
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 11

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

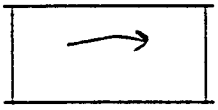
PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 900 m²
ROLL NUMBER 1555

TECHNICIAN COMMENTS OK
CA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 12
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY : 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 12

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

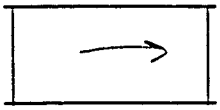
PANEL LENGTH 401'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1555

TECHNICIAN COMMENTS OK
SOS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 13
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 13

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11/21~~	1	~~TEAR~~	~~3~~		

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1555

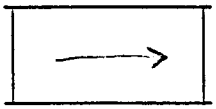
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 14
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 14

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

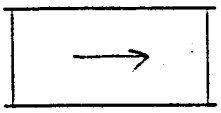
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1555

TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 15
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



PANEL THICKNESS 60 (mils)

SHOW ALL DIMENSIONS

Panel No: 15

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11/21	1	FLAW	OK		

PANEL LENGTH 45'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1555

TECHNICIAN COMMENTS Repair
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL

PANEL NO. 16

PROJECT NO. 3216

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-21-95

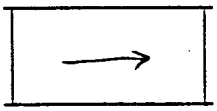
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 16

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40

PANEL WIDTH 22.5'

PANEL AREA 900 ft²

ROLL NUMBER 1555

TECHNICIAN COMMENTS OK

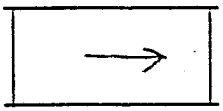
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 17
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-96
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 17

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1555

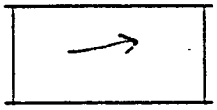
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 18
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 18

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

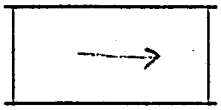
PANEL LENGTH 40
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1555

TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 19
PROJECT NO. 3711
GEOMEMBRANE TYPE HDPE
CONTRACTOR RAGSDALE CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21 93
SUBGRADE CONDITION SUBGRADE GOOSE
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 19

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1555

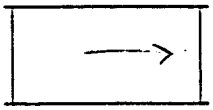
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 20
PROJECT NO. 311
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 20

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1555

TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 21
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-97
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 21

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 416
PANEL WIDTH 225'
PANEL AREA 900 ft²
ROLL NUMBER 1552

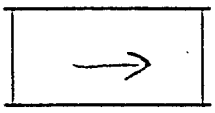
TECHNICIAN COMMENTS OK
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 22
PROJECT NO. 316
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 22

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 225'
PANEL AREA 900 FT²
ROLL NUMBER 1552

TECHNICIAN COMMENTS
SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 23

PROJECT NO. 3716 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

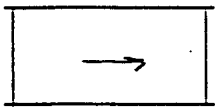
DATE PLACED 11.21.93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 23

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 410

PANEL WIDTH 225'

PANEL AREA 900 FT²

ROLL NUMBER 1552

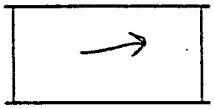
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 24
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 24

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

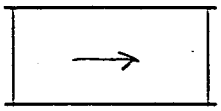
PANEL LENGTH 410'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1552

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 25
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-2 93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 0°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 25

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 M²
ROLL NUMBER 1952

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 26

PROJECT NO. 3716 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-21-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 65°

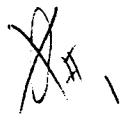
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 26



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-21-93	#1	CREASE	11-30-93 (PT)	PATCH	SAS

PANEL LENGTH 33'

PANEL WIDTH 225'

PANEL AREA 855 FT²

OLL NUMBER 1552

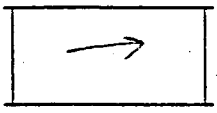
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

27

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. _____
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY : 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 27

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 20'
PANEL WIDTH 22.5'
PANEL AREA 450 FT²
ROLL NUMBER 1452

TECHNICIAN COMMENTS 235

CQA PANEL INSPECTION FORM

28

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. _____

PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN

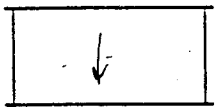
DATE PLACED 11-4-93
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 60°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

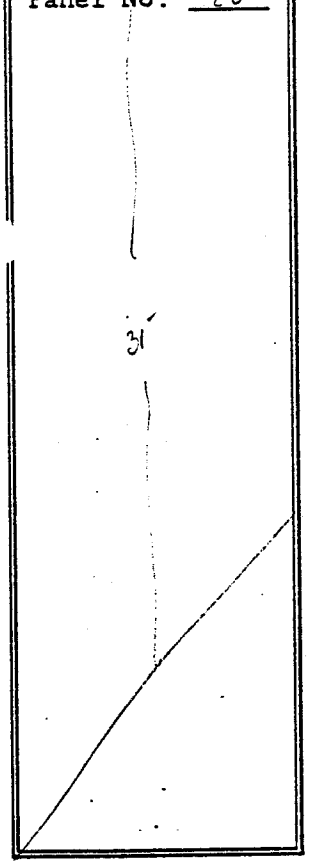
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 23



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

1" = 20'

PANEL LENGTH 31'
PANEL WIDTH 22.5'
PANEL AREA 693 FT²
ROLL NUMBER 1562

TECHNICIAN COMMENTS SAS

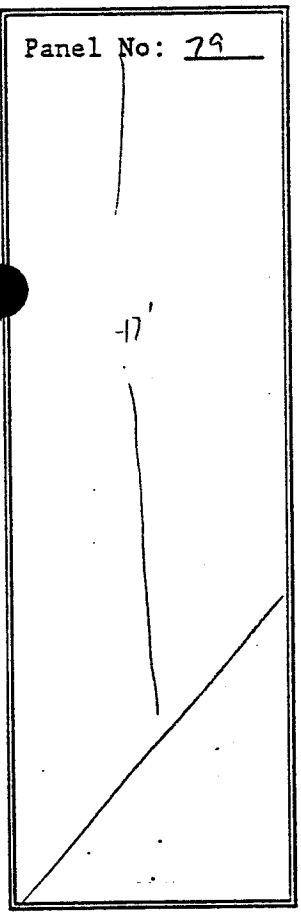
CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 29
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 47
PANEL WIDTH 22.5'
PANEL AREA 1058 FT²
ROLL NUMBER 1552

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 30

PROJECT NO. 3710

GEOMEMBRANE TYPE HDPE

CONTRACTOR BRENNICK CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

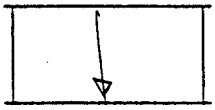
DATE PLACED 11-21-93

SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & COOL

DEPLOYMENT METHOD PULLED FROM TOP OF BERM

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 30

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 521'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 154#

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 31

PROJECT NO. 3710 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

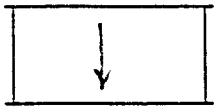
DATE PLACED 11-2-92 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 31

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1544

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL — PANEL NO. 32

PROJECT NO. 5716 — GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING — INSTALLER ENVIRONMENTAL DESIGN

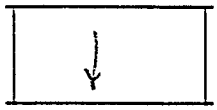
DATE PLACED 11-21-95 — SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 32

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

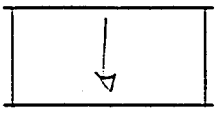
ROLL NUMBER 1544

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 33
PROJECT NO. 3711
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENV. SYSTEMS
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 33

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH ~~46~~ 150'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1544

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 34

PROJECT NO. 3716 GEOMEMBRANE TYPE HDPE

CONTRACTOR DARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

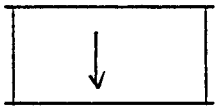
DATE PLACED 11-21-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 34

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

OLL NUMBER 1541

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 35
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DEVEN
DATE PLACED 11/1/95
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 35

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 60
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1544

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 36

PROJECT NO. 5716 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

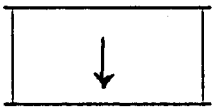
DATE PLACED 11-4-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 36

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1541

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 37
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11 [illegible]
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 37

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 501
PANEL WIDTH 22.5'
PANEL AREA 11275 FT²
ROLL NUMBER 1541

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

38

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. _____

PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE

CONTRACTOR FARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11 [illegible] 93
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 38

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1544

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 39

PROJECT NO. 3710 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

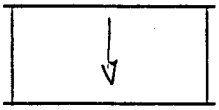
DATE PLACED 11-4-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 39

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50

PANEL WIDTH 225'

PANEL AREA 1125 FT²

ROLL NUMBER 1646

TECHNICIAN COMMENTS GAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL — PANEL NO. 40

PROJECT NO. 3716 — GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING — INSTALLER ENVIRONMETAL DESIGN

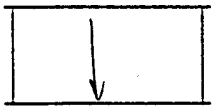
DATE PLACED 11-21-93 — SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY : 61°

DEPLOYMENT METHOD ROLLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 40

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1596

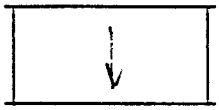
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 41
PROJECT NO. 8716
GEOMEMBRANE TYPE HDPE
CONTRACTOR FARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-96
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY : 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 41

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1546

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 42

PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN

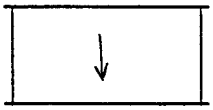
DATE PLACED 11-21-96
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 42

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1544

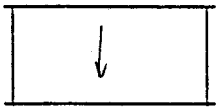
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 43
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARTH
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-21-95
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 43

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

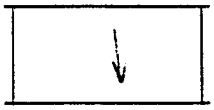
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1546

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 44
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11 21 12
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 44

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 601'
PANEL WIDTH 225'
PANEL AREA 1125 FT²
ROLL NUMBER 1546

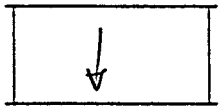
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 45
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL
INSTALLER ENV. DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD POLLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 45

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1916

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 46

PROJECT NO. 3714

GEOMEMBRANE TYPE HDPE

CONTRACTOR BAC-HILL

INSTALLER ENV. DESIGN

DATE PLACED 11-21-93

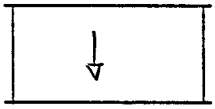
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 46

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1546

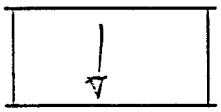
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 47
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL
INSTALLER ENV. DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 47

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-21-93	#1	CREASE	11-30-93	PATCH	SAS

PANEL LENGTH 501
PANEL WIDTH 225'
PANEL AREA 1125 ft²
ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 48

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENV. DESIGN

DATE PLACED 11-21-93

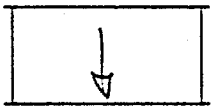
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

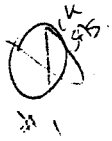
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 48



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11-21-93~~	#1	~~TRIPOD~~	OK		

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT^2

JLL NUMBER 1597

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 49

PROJECT NO. 3710

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENV. DESIGN

DATE PLACED 11-21-93

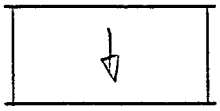
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 49

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 Ft²

ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 50

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENVI DESIGN

DATE PLACED 11-21-93

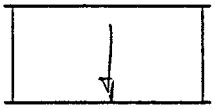
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: C6

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-21-93	#1	RELEASE	11-26-93	PATCH	
~~11-21-93~~	~~#2~~	~~SURFACE DEFECT~~		~~OK~~	~~SAS~~

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 SF

ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 51

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENVI. DESIGN

DATE PLACED 11-21-93

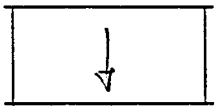
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 51

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1567

TECHNICIAN COMMENTS JAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 52

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENV. DESIGN

DATE PLACED 11-21-93

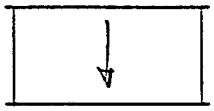
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 52

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

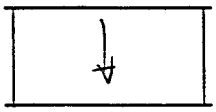
ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX MSW LANDFILL
PANEL NO. 53
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR FARNHILL
INSTALLER ENV. DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 53

*1 of

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11-23-93~~	#1	SCRATCH		~~OK~~	~~JRC~~

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 54

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL

INSTALLER ENV. DESIGN

DATE PLACED 11-21-93

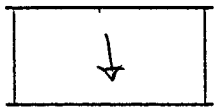
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 54

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 501

PANEL WIDTH 225'

PANEL AREA 1125 FT²

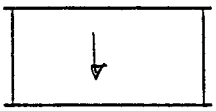
ROLL NUMBER 1557

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 55
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL
INSTALLER ENV. DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD ROLLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 56

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1543

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARNHILL

DATE PLACED 11-21-97

WEATHER CONDITIONS SUNNY & CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 56

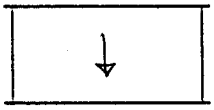
GEOMEMBRANE TYPE HDPE

INSTALLER ENV. DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 56

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1543

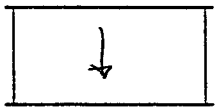
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 57
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARLHILL
INSTALLER ENV. DESIG
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 57

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1543

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 5e
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL
INSTALLER ENV. DESIGN
DATE PLACED 11-21-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & CLEAR
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 5e

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1543

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 59

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11 22 93

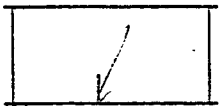
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY / CLEAR

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

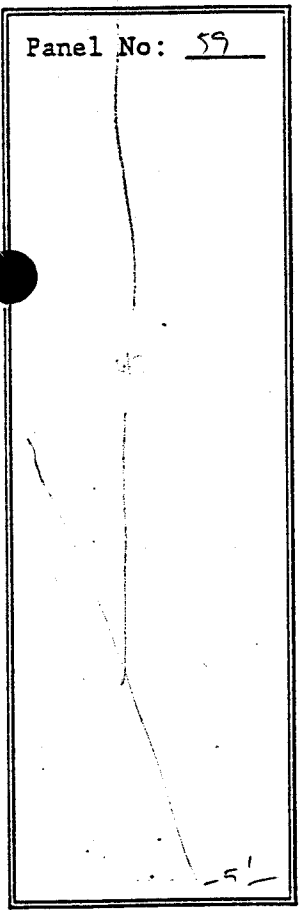
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 59



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 47

PANEL WIDTH 22.5'

PANEL AREA 1053 FT²

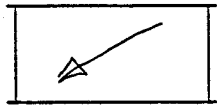
ROLL NUMBER 1943

TECHNICIAN COMMENTS SN

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 60
PROJECT NO. 5716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & COOL
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 60

45

451

15'

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

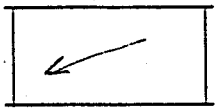
PANEL LENGTH 451
PANEL WIDTH 22.5'
PANEL AREA 10138 FT²
ROLL NUMBER 1543

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 61
PROJECT NO. 3110
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 68°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 61

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 41'
PANEL WIDTH 22.5'
PANEL AREA 990 FT²
ROLL NUMBER 1543

TECHNICIAN COMMENTS SDS

CQA PANEL INSPECTION FORM

62

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. _____

PROJECT NO. 5110 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

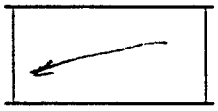
DATE PLACED 11-25-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 68°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 62

41'

225'

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 41

PANEL WIDTH 22.5'

PANEL AREA 923 FT²

ROLL NUMBER 1543

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL

PANEL NO. 63

PROJECT NO. 3710

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-12-93

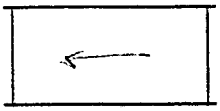
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 68°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 63

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1576

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL — PANEL NO. 64

PROJECT NO. 3711 — GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING — INSTALLER ENVIRONMENTAL DESIGN

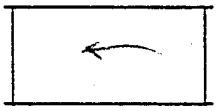
DATE PLACED [illegible] — SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY < 60°

DEPLOYMENT METHOD DRILLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 64

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

OLL NUMBER 1556

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL — PANEL NO. 65

PROJECT NO. 376 — GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING — INSTALLER ENVIRONMENTAL DESIGN

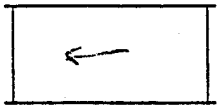
DATE PLACED 11 [illegible] — SUBGRADE CONDITION

WEATHER CONDITIONS SUNNY ; 62°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 65

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1556

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 66
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 60°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 66

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
JLL NUMBER 1551

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL — PANEL NO. 67

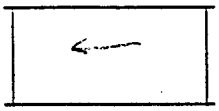
PROJECT NO. 3716 — GEOMEMBRANE TYPE HDPE

CONTRACTOR FARNHILL CONTRACTING — INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-22-93 — SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 63°

DEPLOYMENT METHOD DULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH 

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 67

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1556

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 68

PROJECT NO. 3711 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED [illegible] SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 63°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 63

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 225'

PANEL AREA 878 FT²

ROLL NUMBER 1556

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HOLIDAY COUNTY ASH MONOFILL
PANEL NO. 69

PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE

CONTRACTOR FARMHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN

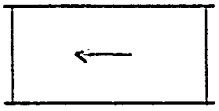
DATE PLACED 11 22 93
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 60°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 69

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 89'
PANEL WIDTH 22.5'
PANEL AREA 878 FT.²
ROLL NUMBER 1556

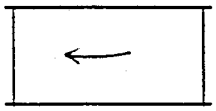
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 70
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-12-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 60°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 70

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 59'
PANEL WIDTH 22.5'
PANEL AREA 978 FT²
ROLL NUMBER 1-56

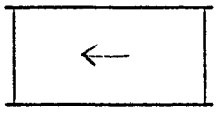
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 71
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 63°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 71

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 225'
PANEL AREA 878 FT²
ROLL NUMBER 1556

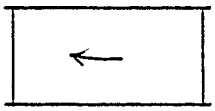
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 72
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 68°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 72

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 225'
PANEL AREA 803 FT²
ROLL NUMBER 1564

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 73
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR FARNELL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-12-96
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 62°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 73

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 m²
ROLL NUMBER 1564

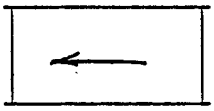
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 74
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR FARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS CLOUDY ; 68°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 74

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 164

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 75

PROJECT NO. 3716 GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHFILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

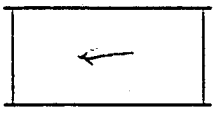
DATE PLACED 11-22-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 68°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 75

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1564

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME WALKER COUNTY ASH MONOFILL — PANEL NO. 76

PROJECT NO. 3716 — GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING — INSTALLER ENVIRONMENTAL DESIGN

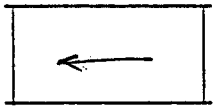
DATE PLACED 11-22-93 — SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 68°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 76

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1-6,4

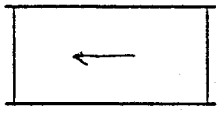
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 77
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR RANKIN CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 62°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 77

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1564

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL

PANEL NO. 78

PROJECT NO. 3710

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-12-93

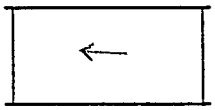
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY : 60°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 78

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER 1564

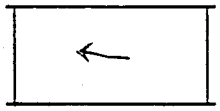
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 79
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 60°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 79

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 ft²
ROLL NUMBER 1516

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL

PANEL NO. 80

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-22-93

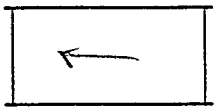
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 60°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

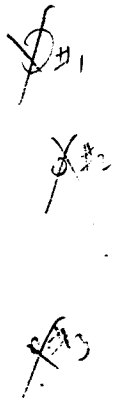
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 80



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	ROCK	11-29-93 AG	PATCH	SAS
11-26-93	#2	PUNCTURE	11-29-93 AG	PATCH	SAS
11-27-93	#3	SCRATCH	11-29-93 AG	PATCH	SAS

PANEL LENGTH 39'

PANEL WIDTH 225'

PANEL AREA 908 FT²

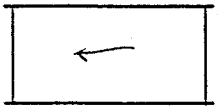
ROLL NUMBER 1516

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 81
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR DARHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 63°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 81

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1564

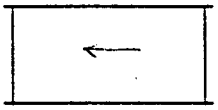
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 82
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & COOL
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 82

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1553

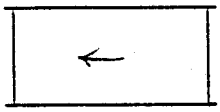
TECHNICIAN COMMENTS JAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 83
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR FARMHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY / 60°
DEPLOYMENT METHOD PULLED FROM T.O. OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 83

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 ft²
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 84

PROJECT NO. 3716 GEOMEMBRANE TYPE HDPE

CONTRACTOR PARSHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-22-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ; 60°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH ←

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 84

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 873 FT²

ROLL NUMBER 1465

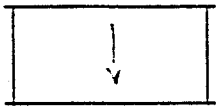
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 85
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY - 68°
DEPLOYMENT METHOD PULLED WITH 4 WHEELER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 85

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 392'
PANEL WIDTH 22.5'
PANEL AREA 8820 m^2
ROLL NUMBER 1549

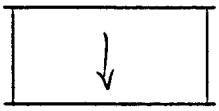
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 36
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 68°
DEPLOYMENT METHOD PULLED WITH 4 WHEELER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 36

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

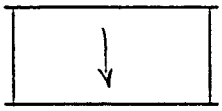
PANEL LENGTH 373'
PANEL WIDTH 225'
PANEL AREA 8505 m²
OLL NUMBER 1545

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 87
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 37

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	H.	CREASE	[illegible]	[illegible]	SAS

PANEL LENGTH 359'
PANEL WIDTH 22.5'
PANEL AREA 8753 FT²
ROLL NUMBER 1550

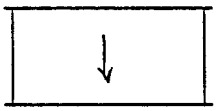
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 88
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 63°
DEPLOYMENT METHOD PULLED WITH

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 83

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	CREASE			SAS

PANEL LENGTH 395'
PANEL WIDTH 22.5'
PANEL AREA 8888 FT²
ROLL NUMBER 1997

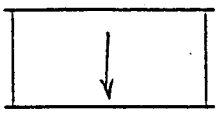
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 89
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELER (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 89

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 392'
PANEL WIDTH 22.5'
PANEL AREA 8820 ft²
ROLL NUMBER 1542

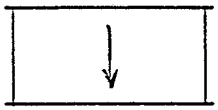
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 90
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELER (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 90

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 396'
PANEL WIDTH 22.5'
PANEL AREA 8911 ft²
ROLL NUMBER 1592

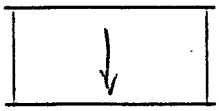
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 91
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (AM)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 91

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 393
PANEL WIDTH 22.5'
PANEL AREA ±243 M²
ROLL NUMBER 1547

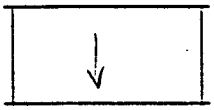
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 92
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 62°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV'S)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 92

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	CREASE			SAS
11-22-93	#2				SAS
11-22-93	#3				SAS

PANEL LENGTH 392'
PANEL WIDTH 22.5'
PANEL AREA 8820 FT²
ROLL NUMBER 1W1

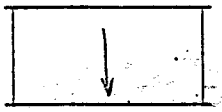
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 93
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-97
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELER (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 93

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

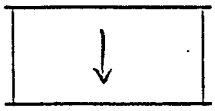
PANEL LENGTH 391'
PANEL WIDTH 22.5'
PANEL AREA 8793 ft²
ROLL NUMBER 1589

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 94
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV)

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 94

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11-29~~	# 1	~~[illegible]~~			

PANEL LENGTH 396'
PANEL WIDTH 22.5'
PANEL AREA 8910 FT²
ROLL NUMBER 1603

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 95
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-97
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 60°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 95

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 380'
PANEL WIDTH 22.5'
PANEL AREA 8550 ft²
ROLL NUMBER 1591

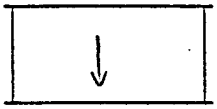
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 96
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 60°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 96

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 346'
PANEL WIDTH 22.5'
PANEL AREA 7910 ft²
OLL NUMBER 1580

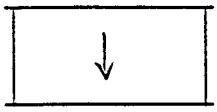
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 97
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 68°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 97

#1
#2
#3
#4
#5
#6
#7

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	CREASE			SAS
11-22-93	#2	CREASE			SAS
11-22-93	#3	CREASE			SAS
11-22-93	#4	CREASE			SAS
11-22-93	#5	CREASE			SAS
11-22-93	#6	CREASE			SAS
11-22-93	#7	CREASE			SAS

PANEL LENGTH 390'
PANEL WIDTH 225'
PANEL AREA 87750 SF
ROLL NUMBER 1600

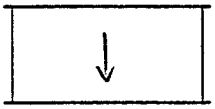
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 98
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 60°
DEPLOYMENT METHOD PULLED WITH 4-WHEELERS (ATV)

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 92

#1 N

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	CREASE			SAS

PANEL LENGTH 390'
PANEL WIDTH 22.5'
PANEL AREA 8775 SF
ROLL NUMBER 1604

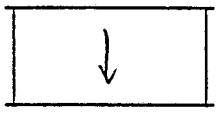
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 99
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-27-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 62°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 19

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 390'
PANEL WIDTH 22.5'
PANEL AREA 8775 FT²
ROLL NUMBER 1535

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 100
PROJECT NO. 2716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 63°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 100

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-[illegible]-93	1	SCRATCH	[illegible]-93		SAS

PANEL LENGTH 393'
PANEL WIDTH 22.5'
PANEL AREA 8843 ft²
ROLL NUMBER 1609

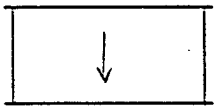
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 101
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 68°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 101

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	SCRATCH			SAS

PANEL LENGTH 394'
PANEL WIDTH 22.5'
PANEL AREA 365 m²
OLL NUMBER 1593

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 102
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-22-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 68°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 102

#2

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-22-93	#1	CREASE			SAS
11-22-93	#2	CREASE			SAS
11-22-93	#3	CREASE			SAS

PANEL LENGTH 391'
PANEL WIDTH 22.5'
PANEL AREA 37913 ft²
OLL NUMBER 1558

TECHNICIAN COMMENTS SAS

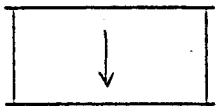
Base

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 103
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 70°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 103

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
					SA

PANEL LENGTH 400
PANEL WIDTH 22.5'
PANEL AREA 9000 sq'
ROLL NUMBER 1584

TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARTHILL CONTRACTING

DATE PLACED 11-23-93

WEATHER CONDITIONS SUNNY ; 70°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 104

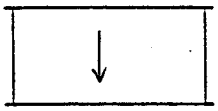
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

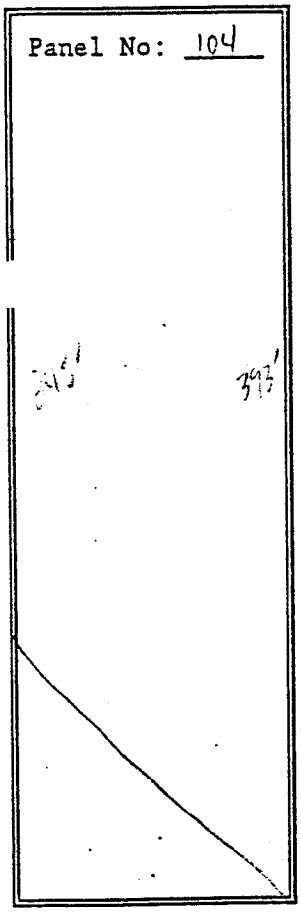
SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 345.393

PANEL WIDTH 22.5'

PANEL AREA 8302.5 ft2

ROLL NUMBER 1607

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 105

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-23-93

SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 70°

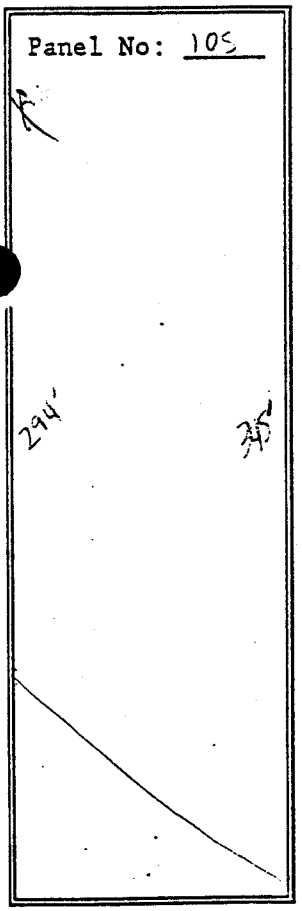
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 105



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
[illegible]					SAS

PANEL LENGTH [illegible]

PANEL WIDTH 22.5'

PANEL AREA 7169 ft2

ROLL NUMBER 1579

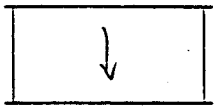
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

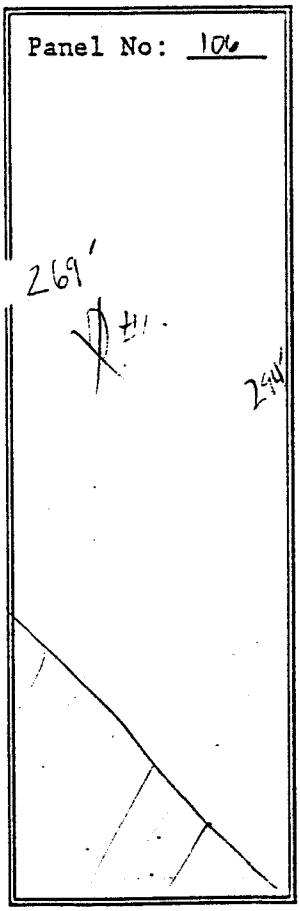
PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 106
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 70°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-23-93	# 1	CREASE			SAS

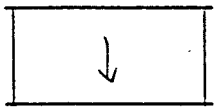
PANEL LENGTH 269' 241'
PANEL WIDTH 22.5'
PANEL AREA 6334 ft²
ROLL NUMBER 1556

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 107
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY : 70°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 107

244'

26'

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 204', 269'-
PANEL WIDTH 22.5'
PANEL AREA 5,771 SQ
ROLL NUMBER 1578

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-23-93

WEATHER CONDITIONS SUNNY : 70°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 108

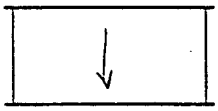
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

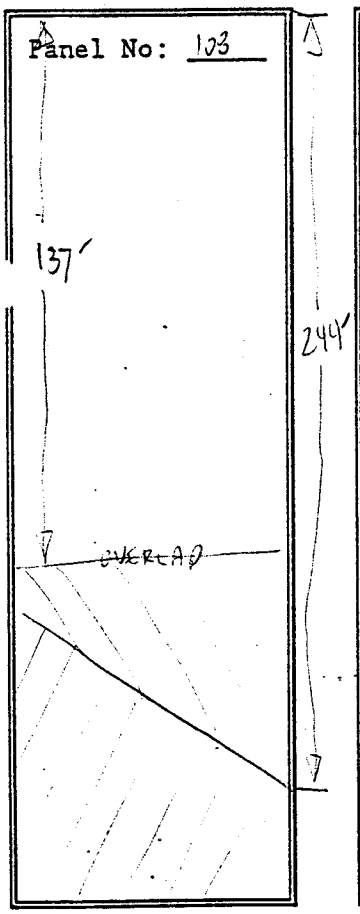
SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 137'

PANEL WIDTH 22.5'

PANEL AREA 3083 SF

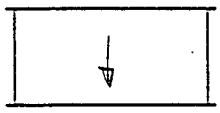
ROLL NUMBER 1578

TECHNICIAN COMMENTS SAS

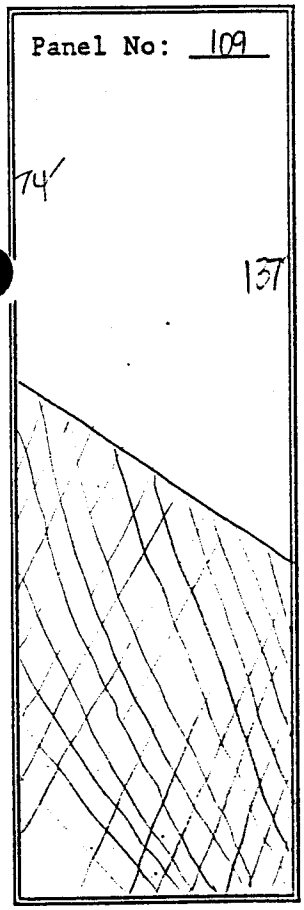
CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 109
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 74', 137'
PANEL WIDTH 22.5'
PANEL AREA 2374 ft²
ROLL NUMBER 1603

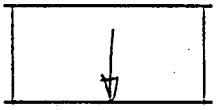
TECHNICIAN COMMENTS SAT.

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 110
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

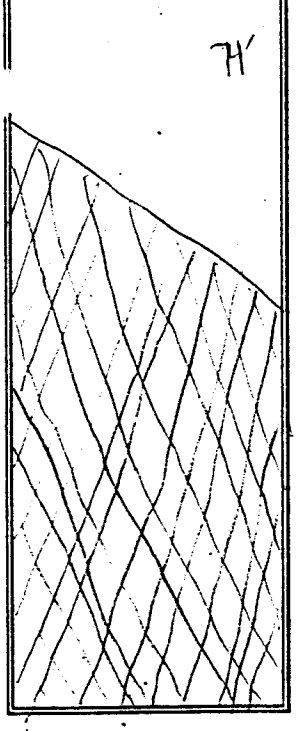
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 110



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

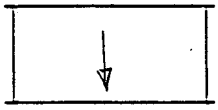
PANEL LENGTH 44' 74'
PANEL WIDTH 22.5'
PANEL AREA 1384 ft²
ROLL NUMBER 1603

TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 111
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 111

#2

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-23-93	# 1	CREASE	11-29-93 (PS)	PATCH	SAS
11-23-93	#2	PUNCTURE	11-29-93 (PS)	PATCH	SAS

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000
ROLL NUMBER 1575

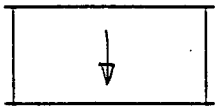
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 112
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 112

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11-23-93~~	~~#1~~	~~[illegible]~~	OK		

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9,000 ft²
ROLL NUMBER 1554

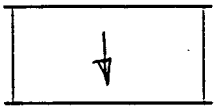
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 113
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 113

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 ft²
OLL NUMBER 15

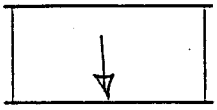
TECHNICIAN COMMENTS SAC

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 114
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 114

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-23-93	#1	CREASE	11-29-93 (PT)	PATCH	SAS

PANEL LENGTH 399
PANEL WIDTH 22.5'
PANEL AREA 8,997.5 ft2
ROLL NUMBER 1605

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 115
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 115

4 #'s.

#2

#1, #3

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
~~11-23-93~~	~~#1~~	~~CREASE~~	OK		SK
11-23-93	#2	CREASE	11-29-93 (PS)	PATCH	SAS
11-23-93	#3 *	CREASE		PATCH	SAS

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9,000 ft²
ROLL NUMBER 1594

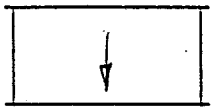
TECHNICIAN COMMENTS SAS
* NOT PATCHED YET (12-1)

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 116
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 116

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401
PANEL WIDTH 22.5'
PANEL AREA 9022.5 ft²
OLL NUMBER 1606

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 117
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARLHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 117

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 76'
PANEL WIDTH 22.5'
PANEL AREA 1,710 ft²
ROLL NUMBER 1496

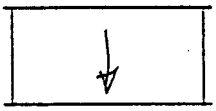
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 118
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 118

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-30-93 (AG)	PATCH	SA:

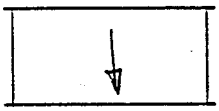
PANEL LENGTH 320'
PANEL WIDTH 22.5'
PANEL AREA 7,200 ft²
ROLL NUMBER 1596

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 119
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION
WEATHER CONDITIONS SUNNY AND 70°
DEPLOYMENT METHOD PULLED WITH FRONT LOADER.

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 119

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9,000 ft²
ROLL NUMBER 1559

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-23-93

WEATHER CONDITIONS SUNNY AND 70°

DEPLOYMENT METHOD PULLED

PANEL NO. 120

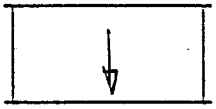
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 120

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 405'

PANEL WIDTH 22.5'

PANEL AREA 9000 ft²

ROLL NUMBER 1571

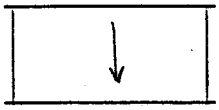
TECHNICIAN COMMENTS [illegible] 11-30-93

4A/

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 121
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-23-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 70°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 121

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-23-93	#1	CREASE	12-1-93 (PJ)	PATCH	SAS
11-23-93	#2	CREASE	12-1-93 (PJ)	PATCH	SAS
11-23-93	#3	CREASE		PATCH	SAS

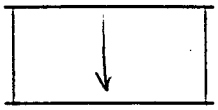
PANEL LENGTH 600'
PANEL WIDTH 22.5'
PANEL AREA 9000 FT²
ROLL NUMBER 1560

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 122
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY, 65°
DEPLOYMENT METHOD PUSHED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 122

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 ft²
ROLL NUMBER 1595

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY < 60°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 123

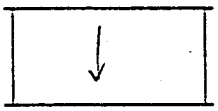
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 123

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'

PANEL WIDTH 22.5'

PANEL AREA 9000 ft²

ROLL NUMBER 1590

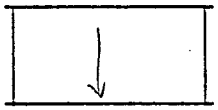
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 124
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 124

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-24-93	#1	CREASE	11-29-93 (HG)	PATCH	SAS

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 SF
OLL NUMBER 1599

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY < 65°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 125

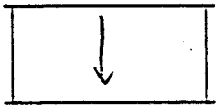
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 125

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'

PANEL WIDTH 22.5'

PANEL AREA 9000 FT²

ROLL NUMBER 1576

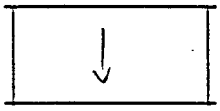
TECHNICIAN COMMENTS CAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 126
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION ok
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 126

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
[illegible]	1	[illegible]	[illegible]	[illegible]	SAS

PANEL LENGTH 200'
PANEL WIDTH 22.5'
PANEL AREA 4500 ft²
ROLL NUMBER 1931

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 127
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH ↓
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 127

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-24-93	#1	CREASE			SAS

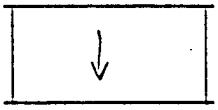
PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 FT²
ROLL NUMBER 1570

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 123
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY 1 6°C
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 128

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	2	CREASE	11-29-93(AG)	PATCH	SAS SAS

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 M²
OLL NUMBER 157

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY 65°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 129

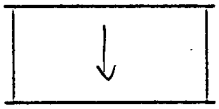
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 129

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'

PANEL WIDTH 22.5'

PANEL AREA 9000 ft²

ROLL NUMBER 1603

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY 60's

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 130

GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 130

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
	1	CREASE			SAS
	2				SAS

PANEL LENGTH 400 ft

PANEL WIDTH 22.5'

PANEL AREA 9000 ft²

ROLL NUMBER 1603

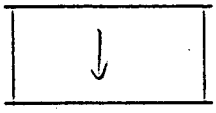
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 131
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 131

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 FT²
OLL NUMBER 1586

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY ~ 65°

DEPLOYMENT METHOD PULLED BY LABORERS

PANEL NO. 132

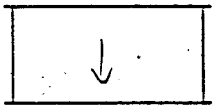
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 132

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400

PANEL WIDTH 22.5

PANEL AREA 9000 FT²

OLL NUMBER 1579

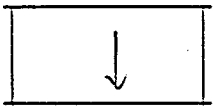
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 133
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-[illegible]-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 133

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

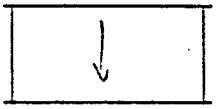
PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 FT^2.
ROLL NUMBER 1531

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 134
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY · 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 40 (mils)

Panel No: [illegible]

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-24-93	# 1	CREASE	[illegible]	[illegible]	SAS
11-24-93	# 2	CREASE	[illegible]	[illegible]	SAS

PANEL LENGTH 400
PANEL WIDTH 22.5'
PANEL AREA 9000 FT²
OLL NUMBER 1537

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 135
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 135

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 Ft²
ROLL NUMBER 1583

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 136
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION
WEATHER CONDITIONS SUNNY & 45°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 136

#1 #2

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	~~CREASE~~ 1	CREASE	11-29-93 (PJ)	PATCH	SAS
11-26-93	2	hole	11-29-93 (PJ)	PATCH	SAS

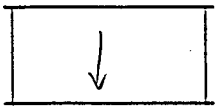
PANEL LENGTH 400'
PANEL WIDTH 22.5'
PANEL AREA 9000 FT²
ROLL NUMBER 1532

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 137
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11.24.93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY / 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 137

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'
PANEL WIDTH 22.5
PANEL AREA 9000 FT²
OLL NUMBER 1572

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 138

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-24-93

SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 65°

DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 138

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-24-93	#1	CREASE	11-29-93 (PJ)	PATCH	SAS
11-24-93	#2	CREASE	11-29-93 (AG)	PATCH	SAS
11-24-93	#3	CREASE	11-29-93 (AG)	PATCH	SAS

PANEL LENGTH 400'

PANEL WIDTH 22.5'

PANEL AREA 9000 SF

ROLL NUMBER 1574

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY < 65°

DEPLOYMENT METHOD DOLLED WITH LOADER

PANEL NO. 139

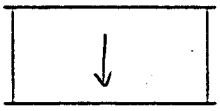
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 139

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 400'

PANEL WIDTH 225

PANEL AREA 9000 FT²

OLL NUMBER 1562

TECHNICIAN COMMENTS SM

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARRHILL CONTRACTING

DATE PLACED 11-26

WEATHER CONDITIONS SUNNY

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 140

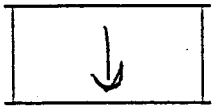
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION

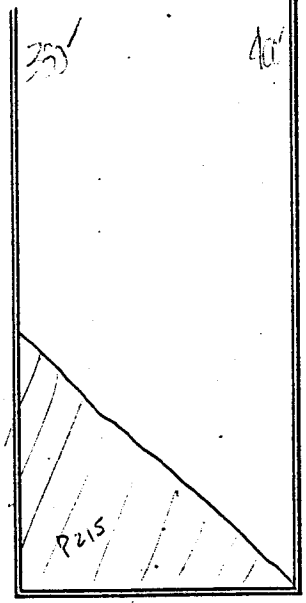
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 140



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH ~~22.5'~~ 380' 400'

PANEL WIDTH 22.5'

PANEL AREA 8775 ft²

ROLL NUMBER 1577

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 141
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION
WEATHER CONDITIONS SUNNY 65°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 141

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	PUNCTURE	11-29-93 (FA)	PATCH	SAS

Ø#1

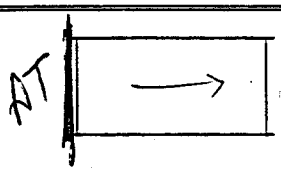
PANEL LENGTH 300'
PANEL WIDTH 22.5'
PANEL AREA 6,750ft2
ROLL NUMBER 1937

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 142
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 142

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
OLL NUMBER 1567

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 143

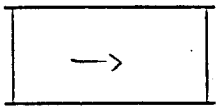
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 143

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 ft.²

ROLL NUMBER 1567

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 144

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-24-93

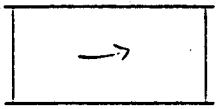
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 144

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 FT²

OLL NUMBER 1567

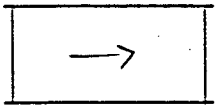
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 145
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 145

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 225'
PANEL AREA 900 ft²
ROLL NUMBER 1567

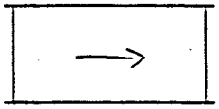
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 146
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 146

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 410'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1567

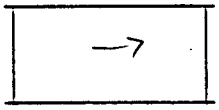
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 147
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ± 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 147

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1567

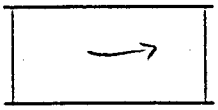
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 148
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY & 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 143

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
		Sump #1			

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1567

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 149
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH →
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 149

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1567

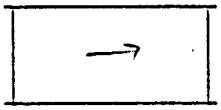
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 150
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 150

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

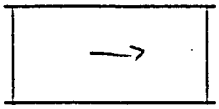
PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 90,225 FT²
ROLL NUMBER 1567

TECHNICIAN COMMENTS CAL

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 151
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 151

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1567

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 152

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-20-93

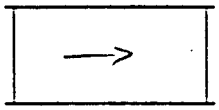
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY ~ 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 152

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 FT²

ROLL NUMBER 1569

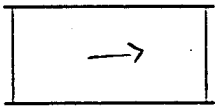
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 153
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY < 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 153

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

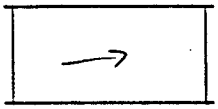
PANEL LENGTH 410'
PANEL WIDTH 225'
PANEL AREA 900 FT²
OLL NUMBER 1569

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 154
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ~ 65°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 154

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1569

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 155

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-24-93

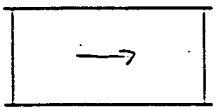
SUBGRADE CONDITION OK

WEATHER CONDITIONS SUNNY & 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 155

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 FT²

ROLL NUMBER 1569

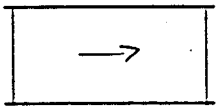
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 156
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-24-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS SUNNY ; 45°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 156

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
OLL NUMBER 1569

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHHILL CONTRACTING

DATE PLACED 11-24-93

WEATHER CONDITIONS SUNNY ; 65°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 157

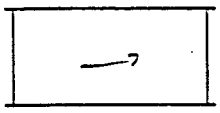
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 157

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 ft²

ROLL NUMBER 1569

TECHNICIAN COMMENTS DAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 158

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-23-93

SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 158

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 872 FT²

ROLL NUMBER 1569

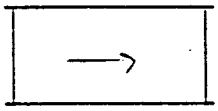
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 159
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 159

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 79'
PANEL WIDTH 225'
PANEL AREA 370 M²
ROLL NUMBER 1569

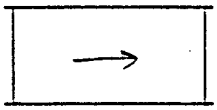
TECHNICIAN COMMENTS DAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 160
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 160

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1569

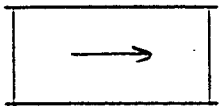
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 161
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY - 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 161

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 391'
PANEL WIDTH 224'
PANEL AREA 873 FT²
ROLL NUMBER 1568

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 162

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

SUBGRADE CONDITION OK

WEATHER CONDITIONS WIND < 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 162

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 877 ft²

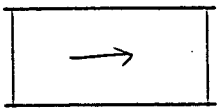
ROLL NUMBER 1568

TECHNICIAN COMMENTS JAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 163
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & SUD
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 163

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-29-93 (AG)	PATCH	SAC

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1568

TECHNICIAN COMMENTS OK

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 164

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

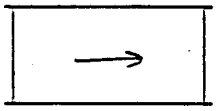
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY : 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 164

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 391

PANEL WIDTH 225'

PANEL AREA 87,8 FT²

ROLL NUMBER 1563

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 165
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 165

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 M²
ROLL NUMBER 1568

TECHNICIAN COMMENTS SM

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 166

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

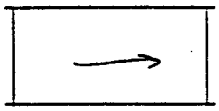
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ~ 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 166

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

ROLL NUMBER K63

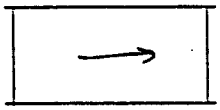
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 167
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 167

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 873 m²
ROLL NUMBER 1563

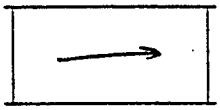
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 168
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY 150°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 168

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 225'
PANEL AREA 872 FT²
ROLL NUMBER 1563

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 169

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-92

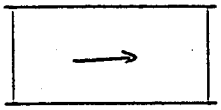
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 169

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 ft²

ROLL NUMBER 1563

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY < 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 170

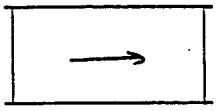
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 170

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 FT²

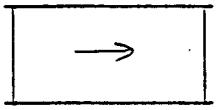
ROLL NUMBER 1568

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 171
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 171

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 ft²
ROLL NUMBER 1516

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR EARTHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 172

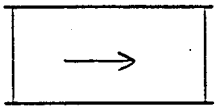
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 172

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 sq ft

ROLL NUMBER 1566

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 173
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 173

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 877 sq ft
ROLL NUMBER 1566

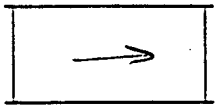
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 174
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ~ 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 174

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1566

TECHNICIAN COMMENTS SAC

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 175
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 175

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1966

TECHNICIAN COMMENTS SAC

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 176

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR EARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

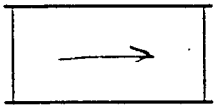
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY · 4C

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 176

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 ft²

ROLL NUMBER 156

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 177

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

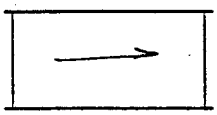
SUBGRADE CONDITION ok

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 177

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 ft²

ROLL NUMBER 1566

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 178

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR CARTHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

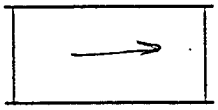
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 178

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 391

PANEL WIDTH 22.5'

PANEL AREA 8797 SF

ROLL NUMBER 1566

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 179
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR CARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY 150°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH →
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 179

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'
PANEL WIDTH 22.5'
PANEL AREA 878 FT²
ROLL NUMBER 1566

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-25-92

WEATHER CONDITIONS WINDY ± 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 180

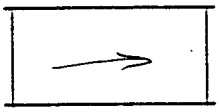
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 180

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 39'

PANEL WIDTH 22.5'

PANEL AREA 878 ft²

ROLL NUMBER 1566

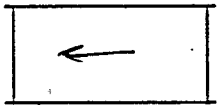
TECHNICIAN COMMENTS OK

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 181
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 181

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1553

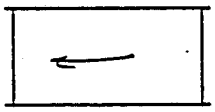
TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 182
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 30°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 182

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

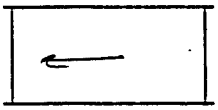
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT².
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 183
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 183

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 900 FT²
ROLL NUMBER 1503

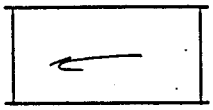
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 184
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 184

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

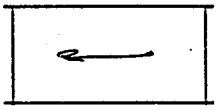
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 M²
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 185
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 185

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 225'
PANEL AREA 900 FT²
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 186

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

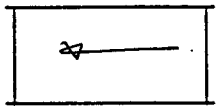
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY & 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 186

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'

PANEL WIDTH 22.5'

PANEL AREA 900 FT²

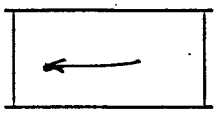
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 187
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 187

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-30-93	#1	PUNCTURE	RR-1-93 (A.G.)	PATCH	SAS

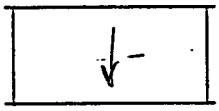
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1553

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 188
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 188

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASED	11-30-93 (EA)	PATCH	SAC
11-26-93	2	CREASE	11-30-93 (EA)	PATCH	SAC
11-26-93	3	HOLE	11-30-93 (EA)	PATCH	SAS

PANEL LENGTH 275'
PANEL WIDTH 22.5'
PANEL AREA 6,188 ft2
ROLL NUMBER 1551

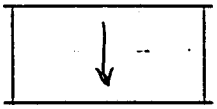
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 189
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 189

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 125'
PANEL WIDTH 22.5'
PANEL AREA 2813 ft²
ROLL NUMBER 1551

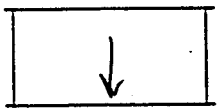
TECHNICIAN COMMENTS SAC

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 190
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY, 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 190

#1

#2

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	~~CREASE~~ 1	CREASE	11-30-93 (FA)	PATCH	SAS
11-26-93	2	CREASE	11-30-93 (FA)	PATCH	SAS

PANEL LENGTH 100'
PANEL WIDTH 22.5'
PANEL AREA 2250 ft²
ROLL NUMBER 1540

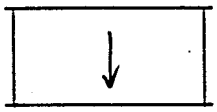
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 191
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 191

#1

#2

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-24-93	1	CREASE	11-30-93(FA)	PATCH	SAS
11-24 93	2	CREASE	11-30-93(FA)	PATCH	SAS

PANEL LENGTH 200'
PANEL WIDTH 22.5'
PANEL AREA 4500 ft2
ROLL NUMBER 1540

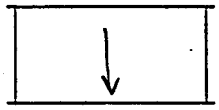
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 192
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 192

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 1751
PANEL WIDTH 2251
PANEL AREA 3938.ft2
ROLL NUMBER 1540

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 193

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

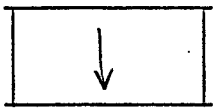
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 193

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 100'

PANEL WIDTH 22.5'

PANEL AREA 2250ft²

ROLL NUMBER 1540

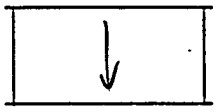
TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 194
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 194

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 165'
PANEL WIDTH 22.5'
PANEL AREA 3,713 ft.²
ROLL NUMBER 1539

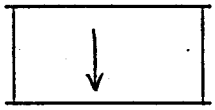
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 195
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 195

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 165'
PANEL WIDTH 22.5'
PANEL AREA 3,713 ft²
ROLL NUMBER 1539

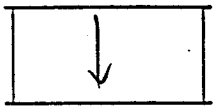
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 196
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 196

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 70'
PANEL WIDTH 225'
PANEL AREA 1,575 ft2
ROLL NUMBER 1539

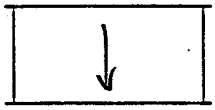
TECHNICIAN COMMENTS SAG

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 197
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 197

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

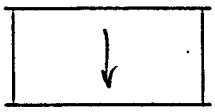
PANEL LENGTH 95'
PANEL WIDTH 22.5'
PANEL AREA 2138ft²
ROLL NUMBER 1541

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 198
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR EARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 198

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-25-93	1	HOLE	11-29-93 (FA)	PATCH	SAS

PANEL LENGTH 155'
PANEL WIDTH 22.5'
PANEL AREA 3488 ft2
ROLL NUMBER 1541

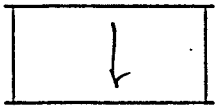
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 199
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 199

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 75'
PANEL WIDTH 22.5'
PANEL AREA 1688 SF
ROLL NUMBER 1569

TECHNICIAN COMMENTS OK
SAV

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR CARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED WITH LOADER

PANEL NO. 200

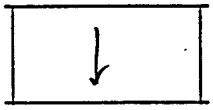
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 200

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 150'

PANEL WIDTH 22.5'

PANEL AREA 3375 ft²

ROLL NUMBER 1541

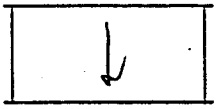
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 201
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD DULLED WITH LOADER

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 201

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 170'
PANEL WIDTH 22.5'
PANEL AREA 3825 sq ft
ROLL NUMBER 1610

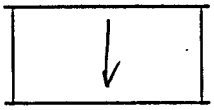
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 202
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 202

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1573

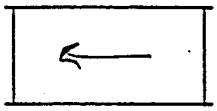
TECHNICIAN COMMENTS SAG

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 203
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ~50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 203

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 Ft²
ROLL NUMBER 1573

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PANEL NO. 204

PROJECT NO. 3716

GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING

INSTALLER ENVIRONMENTAL DESIGN

DATE PLACED 11-25-93

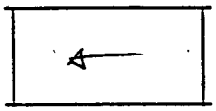
SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY & 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 40 (mils)

Panel No: 204

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 501'

PANEL WIDTH 22.5'

PANEL AREA 1125 Ft²

ROLL NUMBER 1573

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 205
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 205

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-29-93 (FH)	PATCH	SAS

PANEL LENGTH 501
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1573

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY & 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 206

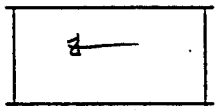
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 206

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 Ft²

ROLL NUMBER 1573

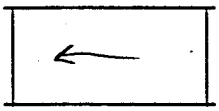
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 207
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 207

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

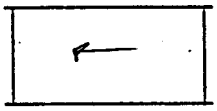
PANEL LENGTH 50'
PANEL WIDTH 225'
PANEL AREA 1125 ft²
ROLL NUMBER 1573

TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 208
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 208

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 Ft²
ROLL NUMBER 1573

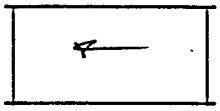
TECHNICIAN COMMENTS SD

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 209
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR GARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 209

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-29-93 (AG)	PATCH	SAS

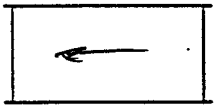
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 Ft²
ROLL NUMBER 1561

TECHNICIAN COMMENTS DAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 210
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 210

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASED	11-29-93 (AG)	PATCH	SAS

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1561

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 211
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH ←
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 211

#1

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-29-93 (AG)	PATCH	SAS

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1561

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 212

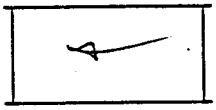
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

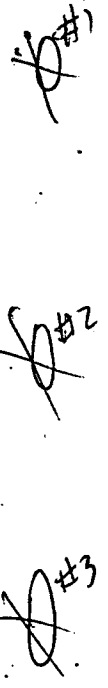
SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 212



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	(1-30-93 (FA)	PATCH	SAS
11-26-93	2	CREASE	11-30-93(FA)	PATCH	SAS
11-26-93	3	CREASE	11-30-93 (FA)	PATCH	SAS

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 ft²

ROLL NUMBER 1561

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 213
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARRHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ± 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 213

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 501
PANEL WIDTH 225'
PANEL AREA 1125 FT²
ROLL NUMBER 1561

TECHNICIAN COMMENTS JA/

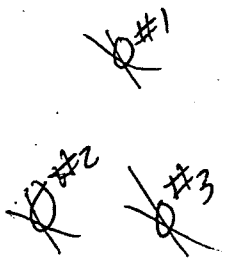
CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 214
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH
SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 214



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-30-93(AG)	PATCH	SAS
11-26-93	2	CREASE	11-30-93(FA)	PATCH	SOS
112693	3	CREASE	11-30-93(FA)	PATCH	SAS

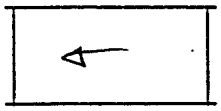
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 Ft²
ROLL NUMBER 1238

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 215
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 215

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 225'
PANEL AREA 1125 FT²
ROLL NUMBER 1238

TECHNICIAN COMMENTS SAT.

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 216

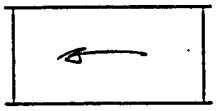
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 216

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 60'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT²

ROLL NUMBER 1230

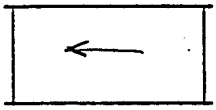
TECHNICIAN COMMENTS SAT.

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 217
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY · 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 217

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1238

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL

PROJECT NO. 3716

CONTRACTOR BARNHILL CONTRACTING

DATE PLACED 11-25-93

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

PANEL NO. 218

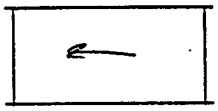
GEOMEMBRANE TYPE HDPE

INSTALLER ENVIRONMENTAL DESIGN

SUBGRADE CONDITION OK

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 218

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'

PANEL WIDTH 22.5'

PANEL AREA 1125 FT^2

ROLL NUMBER 1238

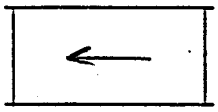
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 219
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR GARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 219

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

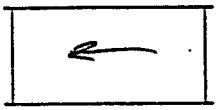
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1233

TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 220
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 220

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 ft²
ROLL NUMBER 1238

TECHNICIAN COMMENTS SAT

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 221
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARTHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 221

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

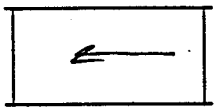
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 m^2
ROLL NUMBER 1238

TECHNICIAN COMMENTS CA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 222
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

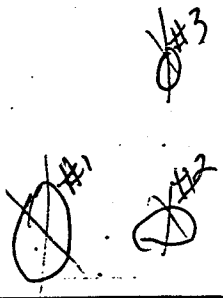
SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 222



DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY
11-26-93	1	CREASE	11-30-93 (FA)	PATCH	SAS
11-26-93	2	CREASE	11-30-93 (FA)	PATCH	SAS
11-26-93	3	CREASE	11-30-93 (FA)	PATCH	SAS

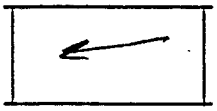
PANEL LENGTH 50'
PANEL WIDTH 22.5'
PANEL AREA 1125 FT²
ROLL NUMBER 1249

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 223
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 223

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1249

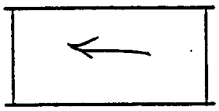
TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 224
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BAIRDHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 224

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
OLL NUMBER 1249

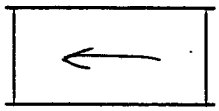
TECHNICIAN COMMENTS SAK

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 225
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR DARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 225

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

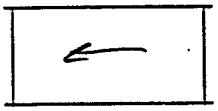
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1249

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 226
PROJECT NO. 3710
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 226

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

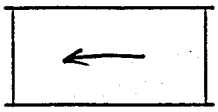
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1249

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 227
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 227

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

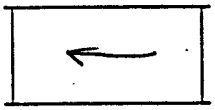
PANEL LENGTH 401'
PANEL WIDTH 225'
PANEL AREA 900 M²
ROLL NUMBER 1249

TECHNICIAN COMMENTS CA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 228
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY : 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 228

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 401
PANEL WIDTH 22.5'
PANEL AREA 900 M^2
ROLL NUMBER 1249

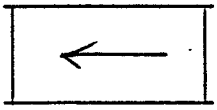
TECHNICIAN COMMENTS SA

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 229
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 229

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 FT²
ROLL NUMBER 1249

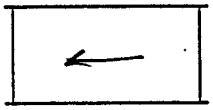
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PANEL NO. 230
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR DAIRYHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY & 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 230

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1249

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL PANEL NO. 231

PROJECT NO. 3710 GEOMEMBRANE TYPE HDPE

CONTRACTOR BARNHILL CONTRACTING INSTALLER ENVIRONMENTAL DESIGN

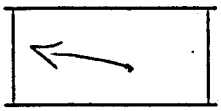
DATE PLACED 11-25-93 SUBGRADE CONDITION OK

WEATHER CONDITIONS WINDY ; 50°

DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 231

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 461

PANEL WIDTH 22.5'

PANEL AREA 900 FT²

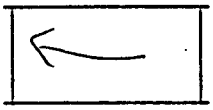
ROLL NUMBER 1593

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 232
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY < 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: 232

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

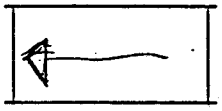
PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900. FT²
ROLL NUMBER 1598

TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 233
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH



SHOW ALL DIMENSIONS

PANEL THICKNESS 60 (mils)

Panel No: _____

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1598

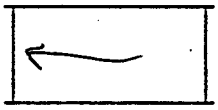
TECHNICIAN COMMENTS SAS

CQA PANEL INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PANEL NO. 234
PROJECT NO. 3716
GEOMEMBRANE TYPE HDPE
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
DATE PLACED 11-25-93
SUBGRADE CONDITION OK
WEATHER CONDITIONS WINDY ; 50°
DEPLOYMENT METHOD PULLED FROM TOP OF SLOPE

SHOW PROJECT NORTH

SHOW ALL DIMENSIONS



PANEL THICKNESS 60 (mils)

Panel No: 234

DATE	DEFECT	DEFECT DESCRIPTION	REPAIR DATE	REPAIR TYPE	APPROVED BY

PANEL LENGTH 40'
PANEL WIDTH 22.5'
PANEL AREA 900 ft²
ROLL NUMBER 1593

TECHNICIAN COMMENTS SAS

APPENDIX 3.7
TRIAL SEAM FORMS

Trial Seam Report
for Cell1 of the
Halifax Couny Ash Monofill

Date	Time	Seamer	Welder	Weld Type	Test Results
21-Nov	10:45	EG	851	Fusion	Pass
21-Nov	9:00	PM	711	Fusion	Pass
21-Nov	9:00	FZ	327	Fusion	Pass
21-Nov	13:00	EG	851	Fusion	Fail
21-Nov	13:00	PM	711	Fusion	Pass
21-Nov	13:00	FZ	327	Fusion	Pass
21-Nov	14:00	EG	851	Fusion	Pass
22-Nov	7:35	PM	711	Fusion	Pass
22-Nov	7:40	FZ	327	Fusion	Pass
22-Nov	8:20	EG	851	Fusion	Pass
22-Nov	11:55	FZ	327	Fusion	Pass
22-Nov	12:00	EG	851	Fusion	Pass
22-Nov	12:15	FA	851	Fusion	Pass
22-Nov	12:00	MM	327	Fusion	Pass
22-Nov	12:20	PM	711	Fusion	Pass
22-Nov	12:20	AG	711	Fusion	Pass
23-Nov	8:00	FA	327	Fusion	Pass
23-Nov	8:10	FZ	327	Fusion	Pass
23-Nov	8:10	PM	711	Fusion	Pass
23-Nov	8:00	EG	851	Fusion	Fail
23-Nov	8:30	EG	851	Fusion	Pass
23-Nov	12:30	FZ	327	Fusion	Pass
23-Nov	12:30	PM	711	Fusion	Pass
23-Nov	12:30	EG	851	Fusion	Pass
24-Nov	7:45	FA	327	Fusion	Pass
24-Nov	8:00	PM	711	Fusion	Pass
24-Nov	9:30	AG	41	Fusion	Pass
24-Nov	10:00	FZ	54	Fusion	Pass
24-Nov	10:00	EG	59	Fusion	Pass
24-Nov	13:00	EG	59	Fusion	Pass
24-Nov	13:00	FZ	54	Fusion	Pass
24-Nov	13:00	FA	327	Fusion	Pass
24-Nov	12:10	AG	41	Fusion	Pass
24-Nov	12:30	PM	711	Fusion	Pass
25-Nov	7:40	PM	711	Fusion	Pass

Date	Time	Seamer	Welder	Weld Type	Test Results
25-Nov	7:30	FA	54	Fusion	Pass
25-Nov	7:30	AG	41	Fusion	Pass
25-Nov	7:30	FZ	327	Fusion	Pass
25-Nov	10:00	PJ	2579	Extrusion	Pass
25-Nov	10:00	AG	2624	Extrusion	Pass
25-Nov	13:00	FA	59	Fusion	Pass
25-Nov	13:00	PM	711	Fusion	Pass
25-Nov	13:00	AG	41	Fusion	Pass
25-Nov	13:00	FZ	327	Fusion	Pass
25-Nov	15:00	MM	54	Fusion	Pass
26-Nov	7:30	PM	711	Fusion	Pass
26-Nov	7:30	FZ	327	Fusion	Pass
26-Nov	7:30	FA	54	Fusion	Pass
26-Nov	7:45	AG	41	Fusion	Pass
26-Nov	11:45	FZ	327	Fusion	Pass
26-Nov	12:30	PJ	2579	Extrusion	Pass
26-Nov	13:00	AG	2624	Extrusion	Pass
26-Nov	14:10	FA	46	Extrusion	Pass
29-Nov	8:00	PJ	2579	Extrusion	Pass
29-Nov	8:45	AG	2624	Extrusion	Pass
29-Nov	8:15	FA	24	Extrusion	Pass
29-Nov	12:40	PJ	2579	Extrusion	Pass
29-Nov	12:00	AG	2624	Extrusion	Pass
30-Nov	8:15	PJ	2579	Extrusion	Pass
30-Nov	8:15	AG	2624	Extrusion	Pass
30-Nov	12:00	FA	24	Extrusion	Pass
30-Nov	12:15	PJ	2579	Extrusion	Pass
30-Nov	12:15	AG	2624	Extrusion	Pass
30-Nov	12:15	FA	24	Extrusion	Pass
1-Dec	8:00	AG	2624	Extrusion	Pass
1-Dec	8:00	PJ	2579	Extrusion	Pass
1-Dec	8:00	FA	24	Extrusion	Pass
1-Dec	13:00	PJ	2579	Extrusion	Pass
1-Dec	13:15	FA	24	Extrusion	Pass

PROJECT NAME: HALIFAX COUNTY ASH MONOFIL
PROJECT NUMBER: 3716
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: HDPE 60 MIL

TECHNICIAN: SCOTT COLLINS
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11-21 10.45am	58°	EG	851					120	380	380	2			FTB		P	
11-21 9am	50°	PM	711					120	365	365	4.5			FTB		P	
11-21 9pm	50°	FZ	327					120	380	380	3			FTB		P	
11-21 1:00	60°	EG	851					120	380	380	3			FTP		F	Retest
11-21 1:00P	60°	PM	711					120	365	365	4.5			FTB		P	
11-21 1:00P	60°	FZ	327					120	380	380	3			FTB		P	
11/21 2pm	60°	EG	851					120	380	380	2.5			FTB		P	

PROJECT NAME: HALIFAX COUNTY ASH MONOFIL
PROJECT NUMBER: 3716
INSTALLER: ENVIROMENTAL PRODUCTS
GEOMEMBRANE TYPE: HDPE -60 MIL

TECHNICIAN: SCOTT COLLINS
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11-22 7:35A	44°	PM	# 111					120	365	365	4.5			FTB		P	
11-22 7:40A	44°	FZ	327					120	380	380	3			FTB		P	
11-22 8:20A	44°	E.G.	851					120	380	380	3			FTB		P	3 FAILS & 1 PASS
11-22 11:55	65°	FZ	327					120	380	380	3			FTB		P	
11-22 12:30	65°	E.G.	851					120	380	380	3			FTB		P	
11-22 12:15	65°	FA	851					120	380	380	3			FTB		P	WELDER CHANGE
11-22 12:00	65°	PM	327					120	380	380	3			FTB		P	WELDER CHANGE
11-22 12:20	65°	PM	711					120	380	380	4.5			FTB		P	
11-22 12:20	65°	AG	711					120	380	380	4.5			FTB		P	

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NUMBER: 3716
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: HDPE - POLYFLEX

TECHNICIAN: Scott C. Collins
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11/23 8:00A	44°	FA	327					120	380		3			FTB		P	
11/23 8:10AM	44°	FZ	327					120	380		3			FTB		P	
11/23 8:10A	44°	PM	711					120	380		4½			FTB		P	
11/23 8:00A	44°	EG	851					120	380		2½			FTB		F	
11/23 8:30A	45°	EG	851					120	380		3			FTB		P	
11/23 12:30P	65°	FZ	327					120	380		3			FTB		P	
11/23 12:30P	65°	PM	711					120	380		5½			FTB		P	
11/23 12:30P	65°	EG	851					120	380		3			FTB		P	

PROJECT NAME: HALIFAX COUNTY LCW LANDFILL
PROJECT NUMBER: 3716
INSTALLER: [illegible]
GEOMEMBRANE TYPE: [illegible]

TECHNICIAN: Scott C. Collins
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11/24 7:45A	40°	FA	327					120	380		3			FTB		P	
11/24 8:00	40°	PM	711					120	380		4½			FTB		P	
11/24 9:30	50°	AG	41					120	375		5½			FTB		P	
11/24 10:00 AM	60°	FZ	54					120	370		3			FTB		P	
11/24 10:00 PM	60°	EG	59					120	375		3			FTB		P	
11/24 1 PM	65°	EG	59					120	375		3½			FTB		P	
11/24 1...	65°	FZ	54					120	370		3			FTB		P	
11/24 1:00 ..	65°	FA	327					120	380		3			FTB		P	
11/24 12:10 ..	65°	AG	41					120	380		5½			FTB		P	
11/24 12:35	65°	PM	711					120	380		4½			FTB		P	

PROJECT NAME: HALIFAX COUNTY ASH [illegible]
PROJECT NUMBER: 3716
INSTALLER: [illegible]
GEOMEMBRANE TYPE: HDPE [illegible] POLYE[illegible]

TECHNICIAN: [illegible]

SHEET 1 OF 2

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11/25 7:40AM	45° WINDY	PM	711					120	380		4½			FTB		P	
11/25 7:30AM	45° WINDY	TA	54					120	380		3			FTB		P	
11/25 7:30AM	45° WINDY	AG	41					120	375		5½			FTB		P	
11/25 7:30AM	45° WINDY	FZ	327					120	380		3			FTB		P	
11/25 10:00AM	55° WINDY	PJ	2579	500	480°	5	270						130	FTB		P	
11/25 10:00AM	55° WINDY	AG	2624	540	500	5	270						120	FTB		P	
11/25																	
11/25																	

PROJECT NAME: [illegible]
PROJECT NUMBER: 3716
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: [illegible]

TECHNICIAN: [illegible]
SHEET 1 OF 2

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11/24 1PM	45° WINDY	FA	59					120	380		3			FTB		P	
11/25 1PM	45° WINDY	PM	711					120	380		4 1/2			FTB		P	
11/24 1PM	45° WINDY	AG	41					120	375		5 1/2			FTB		P	
11/24 11	45° WINDY	IE	327					120	380		3			FTB		P	
11/24 PM	45° WINDY	MM	54					120	380		3			FTB		P	

PROJECT NAME: HALIFAX COUNTY ASH LANDFILL
PROJECT NUMBER: 3716
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: 100% [illegible]

TECHNICIAN: Scott C. [illegible]
SHEET ____ OF ____

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11/26 7:30 AM	40°	PM	711					120	380		4½			FTB		P	P
11/26 7:30 AM	40°	FZ	327					120	380		3			FTB		P	
11/26 7:10 AM	40°	FA	54					120	380		3			FTB		P	
11/26 7:45 AM	40°	AG	41					120	375		5½			FTB		P	
11/26 11:45 AM	50°	FZ	327					120	380		3			FTB		P	CALIBRATION [illegible]
11/26 12:30	60°	PJ	2579	500°F		set 5								FTB		P	-
11/26 1:00 pm	60°	AG	2021	560°		set 5½								FTB		P	
11/26 2:10	60°	FA	#46	290°		set 4½								FTB		P	

PROJECT NAME: HALIFAX COUNTY ASH MODULE
PROJECT NUMBER: 3116
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: HDPE 60 MIL

TECHNICIAN: STACEY SMITH
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11-29 8:00 AM	45°	PJ	2579	500° F	480°	5	~ 280°							FTB		P	
11-29 8:15 AM	45°	AG	2624	560° F	520°	6	~ 280°							↓		↓	
11-29 8:15 AM	45°	TA	24	290°C		4.5	~ 280°										
11-29 12:40 PM	60°	PJ	2579	500°F	480°	5	~ 280°										
11-29 12:00 PM	60°	AG	2624	560°F	520°	6	~ 280°										

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NUMBER: 3716
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: HDPE

TECHNICIAN: SAS

SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP °F		PREHEAT TEMP °F		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
11-30 8:15 AM	38°	PJ	2579	520	510	8	~280							FTB		P	
11-30 8:15 AM	38°	AG	2624	580	525	7	~280										
11-30 12:00 PM	38°	FA	24	475	460	7	~280										
11-30 12:15 PM	48°	PJ	2579	520	510	8	~280										
11-30 12:15 PM	48°	AG	2624	580	525	7	~280										
11-30 12:15 PM	48°	FA	24	475	460	7	~280										

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NUMBER: 3316
INSTALLER: ENVIRONMENTAL DESIGN
GEOMEMBRANE TYPE: HDPE 60 mil

TECHNICIAN: STANLEY SMITH
SHEET 1 OF 1

TRIAL SEAM REPORT

DATE/ TIME	AMBIENT TEMP	SEAMER NAME	MACHINE NUMBER	EXTRUSION WELDS				FUSION WELDS					PEEL/SHEAR VALUES LBS/INCH			PASS/ FAIL	COMMENTS
				BARREL TEMP		PREHEAT TEMP		NIP ROLLER SPACING	WEDGE TEMP		MEASURED SPEED FT/MIN	SPEED SETTING					
				SET	ACTUAL	SET	ACTUAL		SET	ACTUAL							
12-1 8:00 AM	40°	AG	2624	500	520	6	~260°							FTG		P	
12-1 8:00 AM	40°	PJ	2579	500	480	5	~260°							↓		↓	
12-1 8:00 AM	40°	FA	24	475	460	5 1/2	~260°							↓		↓	
12-1 1:00 PM	52°	PJ	2579	500	480	5	~260°							↓		↓	
12-1 1:15 PM	52°	FA	24	475	460	5 1/2	~260°							↓		↓	

APPENDIX 3.8
SEAM INSPECTION FORMS

CQA SEAM INSPECTION FORM

Sheet 1 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH F.Z.
TYPE OF WELDER Fusion
DATE WELDED 11-21-93

SEAM NO. 1-2
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 10:00 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 1 Panel No. 2

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
12:10 AM	30	12:15	30		40'	—	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

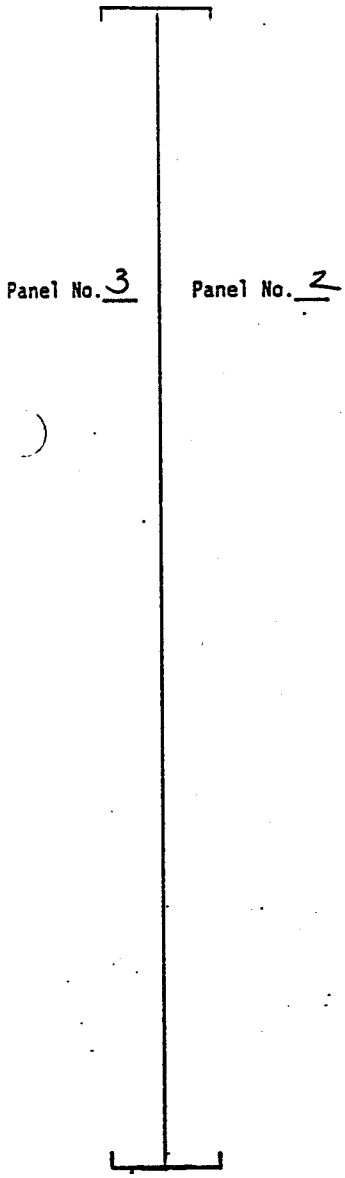
Sheet 2 of 254

PROJECT NAME: HALIFAX COUNTY ASH MONOFIL
PROJECT NO.: 3716
CONTRACTOR: BARNHILL
INSTALLER: ENVIRON. DESIGN
WELDING TECH: [illegible]
TYPE OF WELDER: FUSION
DATE WELDED: 11/21/03

SEAM NO.: 3-2
SEAM LENGTH: 40'
COMMENTS: OK

WELDING UNIT NO.: 711
TIME WELDED: 10:00 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
12:16	30	12:21	30		40	0	Y		SAS

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

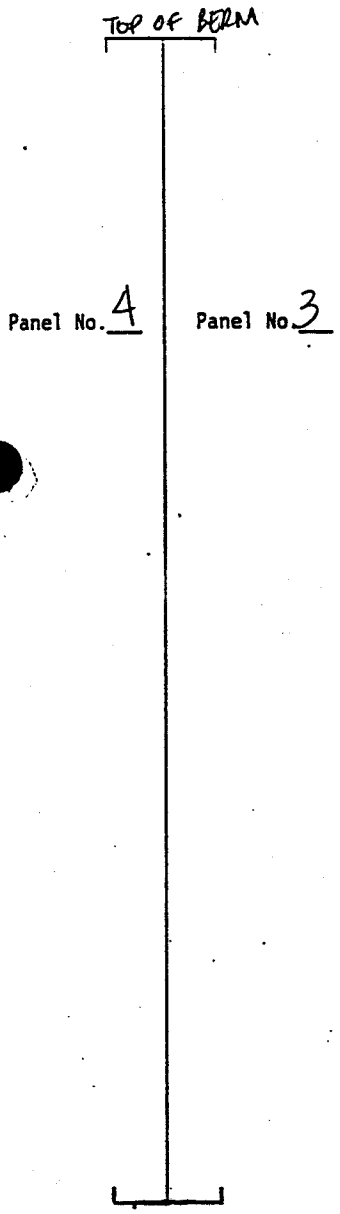
Sheet 3 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BANDHILL CONTRACTING
INSTALLER ENVIRON. DESIGNS INC
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 4-3
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 10:00 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1222	30 psi	1227	30psi	SLOPE	39'	–	Y		JR

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Co Landfill
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH RED HOT (FELIX) ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 4-5
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. R88-327
TIME WELDED 10:10 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 4 Panel No. 5

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:00 PM	30	1:05 PM	30		39'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

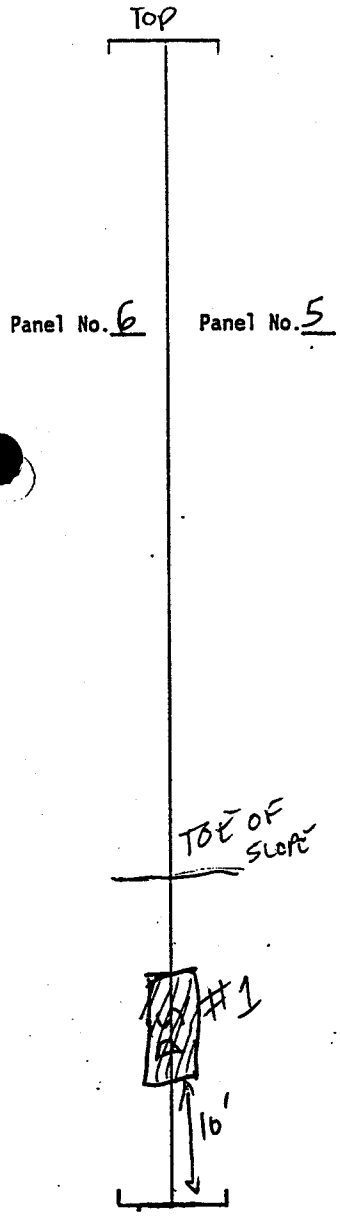
Sheet 5 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3710
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PIM
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 6-5
SEAM LENGTH 39'
COMMENTS (DS #1)

WELDING UNIT NO. 711
TIME WELDED 11:20 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
VT		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:08 pm	30	1:13 pm	30		39'	—	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	DEST. SAMPLE	11-29-93 (DS)	SAS

CQA SEAM INSPECTION FORM

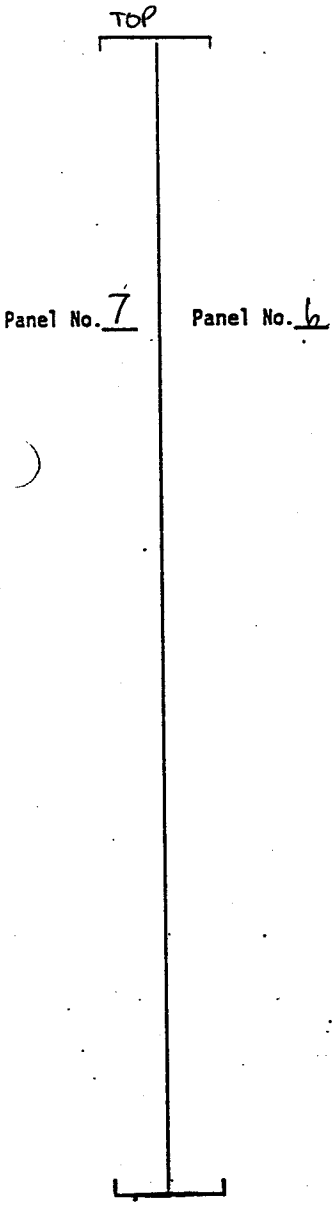
Sheet 6 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 6-7
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 857
TIME WELDED 11:23 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:15	30	1:20	30		39'	-	Y		BC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

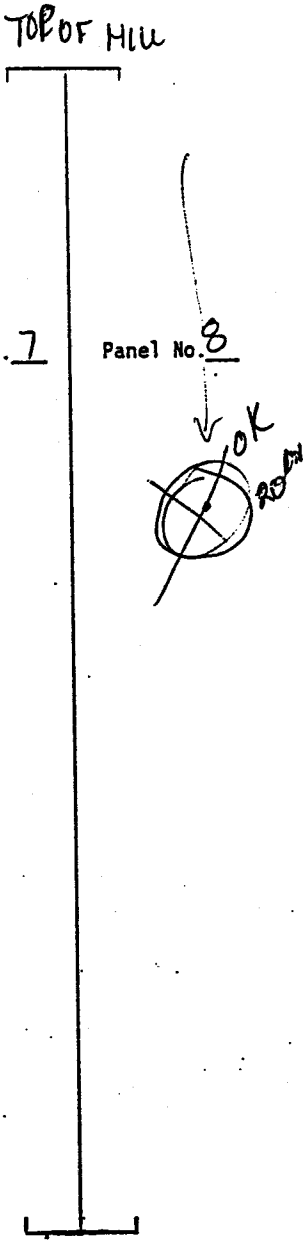
Sheet 7 of 254

PROJECT NAME Halfway Co. Landfill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH Felix (Red Hat)
TYPE OF WELDER Fusion
DATE WELDED 1-21-93

SEAM NO. 7-8
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. RBB 327
TIME WELDED 11:25 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:18 pm	30	1:23	30		39'	-	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	Burrow pt	OK	SDS

CQA SEAM INSPECTION FORM

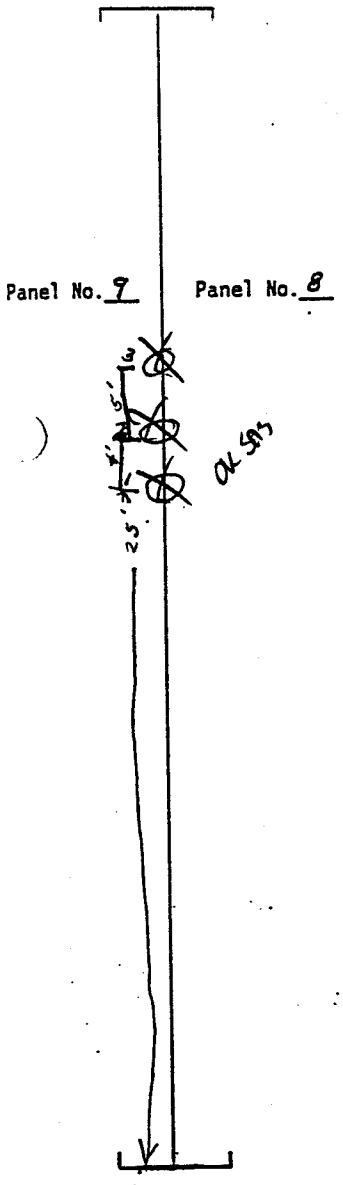
Sheet 8 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 9-8
SEAM LENGTH 40
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 11:30 a.m. / p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:25	30	1:30	30		40	0	Y		SAS

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 10-9
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 651
TIME WELDED 11:32 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 10 Panel No. 9

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:33	30	1:38	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

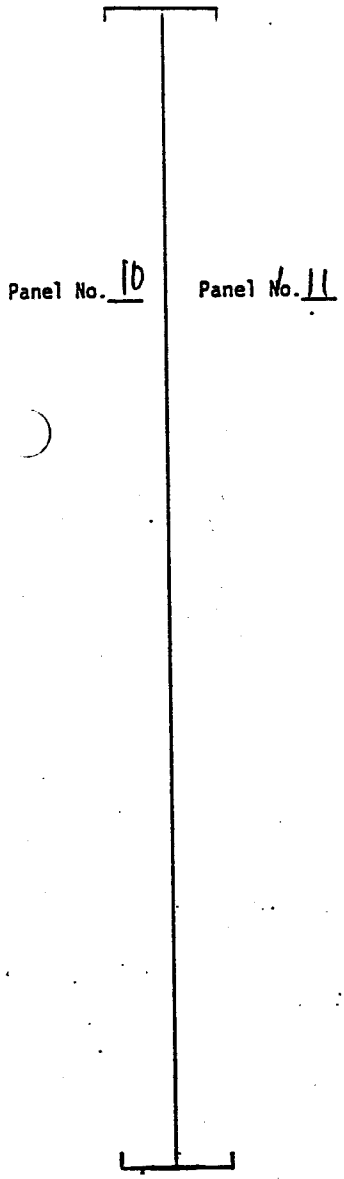
Sheet 10 of 254

PROJECT NAME Halifax Co. Landfill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH Felix (Red hat)
TYPE OF WELDER Fusion
DATE WELDED 11-21-93

SEAM NO. 10-11
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 988-327
TIME WELDED 11:37 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:40	30	1:45	30		39'	–	Y		x

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 11 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 12 - 11
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 1145 a.m./p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 12 Panel No. 11

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:46	30	1:51	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

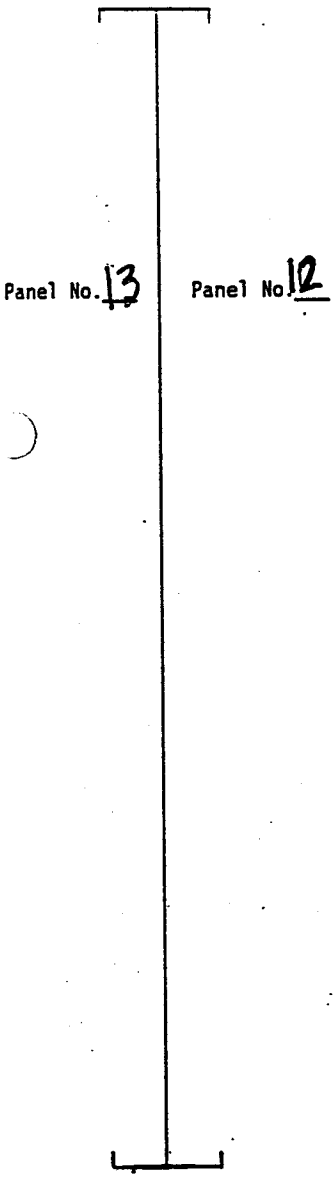
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 13-12
SEAM LENGTH 40
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 11:50 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:53	30	1:58	30		40	0	Y		SAS

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIKAY COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX (Red hat)
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 13-14
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. R88 327
TIME WELDED 11:50 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 13 Panel No. 14

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:00 pm	30	2:05	30		39'	—	Y		✱

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

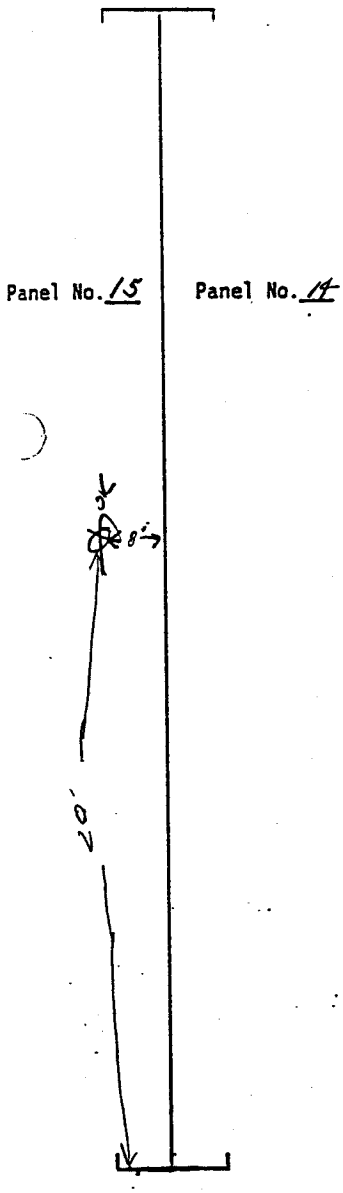
Sheet 14 of 254

PROJECT NAME HALIFAX CO. ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 15-14
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 12:00 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:06	30	2:11	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 15 of 254

PROJECT NAME Halifax County Ash Monofil
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH Felix
TYPE OF WELDER Fusion
DATE WELDED 11-21-93

SEAM NO. 15-16
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 1200 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 15 Panel No. 16

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:10	30	2:15	30		39'	-	Y		ac

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

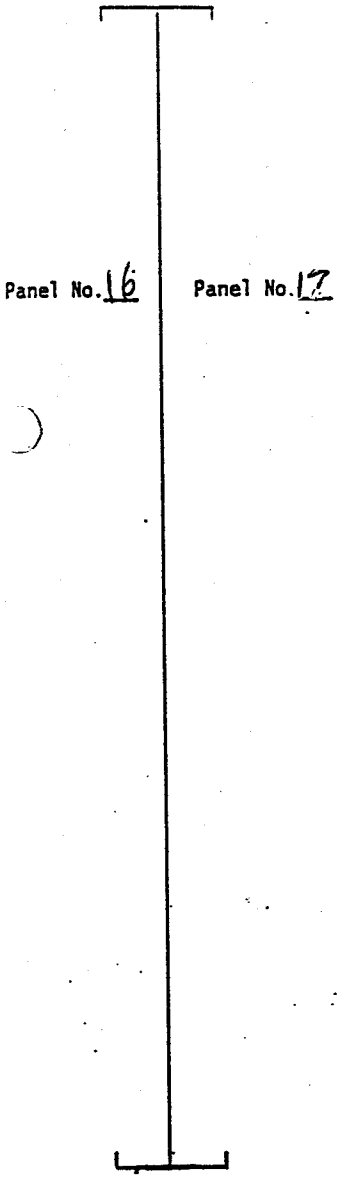
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX (Red hat)
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 16-17
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 209
TIME WELDED 1:00 a.m. p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:18	30	2:23	30		39'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 17 of 254

PROJECT NAME Halifax Co. Ash Monofil
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH P.M.
TYPE OF WELDER Fusion
DATE WELDED 11/22/93

SEAM NO. 19 - 17
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 71
TIME WELDED 1:00 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No 18 Panel No. 17

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:22	30	2:27	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

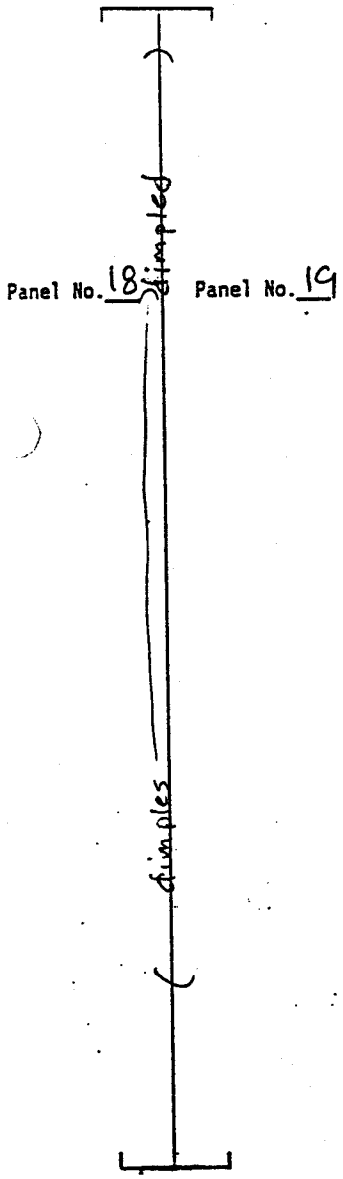
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO. ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 18-19
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 527
TIME WELDED 1213 a.m. (RMS)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:30	30	2:35	30		39'	-	Y		∝

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Co. Ash Monofil
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 20 - 19
SEAM LENGTH 40'
COMMENTS Ok

WELDING UNIT NO. 711
TIME WELDED 1:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 20 Panel No. 19

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:31	30	2:36	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

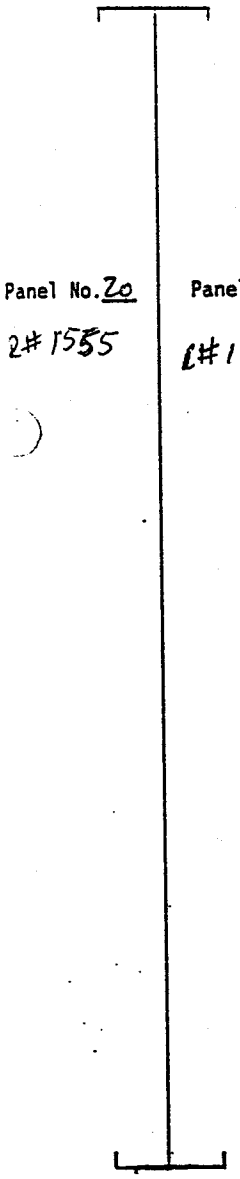
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX Co, ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH ~~Foley~~ E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 20-21
SEAM LENGTH 40'
COMMENTS SMALL PINHOLE TO LEFT OF EVERY SEAM (MUST BE WELDED)

WELDING UNIT NO. 327
TIME WELDED 1:25 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:37	30	2:42	30		39'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 21 of 254

PROJECT NAME HALIFAX Co. ASL MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 22-21
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 1:30 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 22 | Panel No. 21

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:40	30	2:45	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

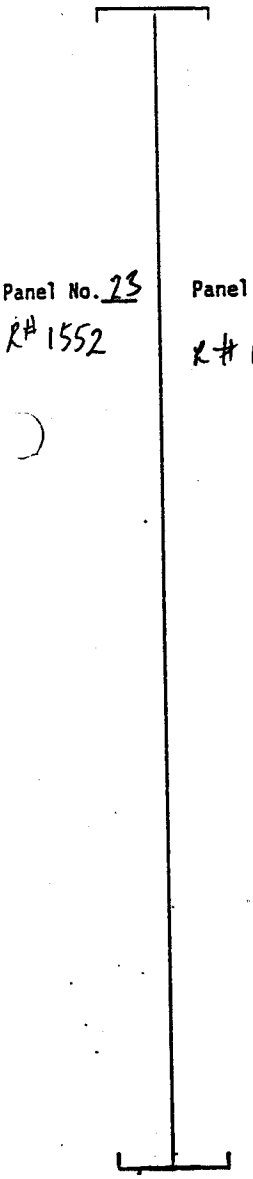
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 22-23
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 1:40 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:45	30	2:50	30		39'	–	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 23 of 254

PROJECT NAME Hall Ash Monofill
PROJECT NO. [redacted] 3716
CONTRACTOR Rathhill Contracting Co.
INSTALLER [redacted] Environ. Design
WELDING TECH R.A.
TYPE OF WELDER FUSION
DATE WELDED 11/21/97

SEAM NO. 24 - 23
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 1:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 24 Panel No. 23

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:48	30	2:53	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

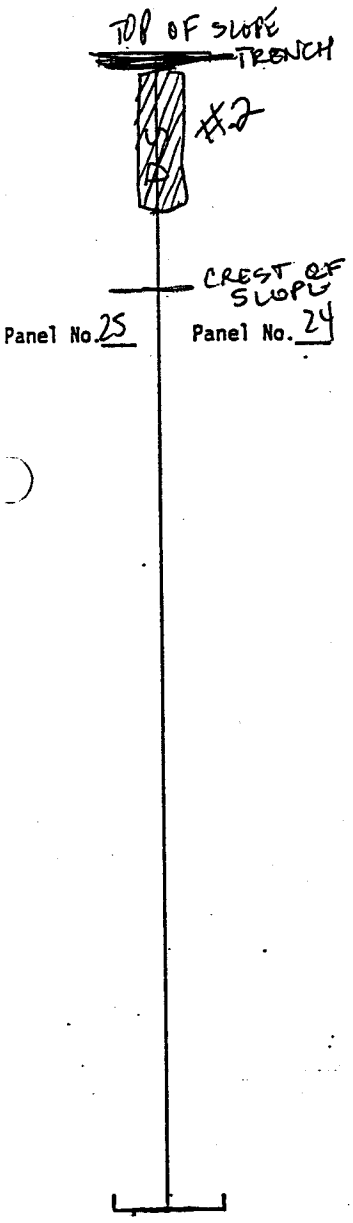
Sheet 24 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER
WELDING TECH E.G
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 25-24
SEAM LENGTH 39'
COMMENTS (DS #2)

WELDING UNIT NO. 327
TIME WELDED 1:55 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:07	30	3:07 pm	30		39'	-	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#2	DEST. SAMPLE	11-29-93 (PT)	SAS

CQA SEAM INSPECTION FORM

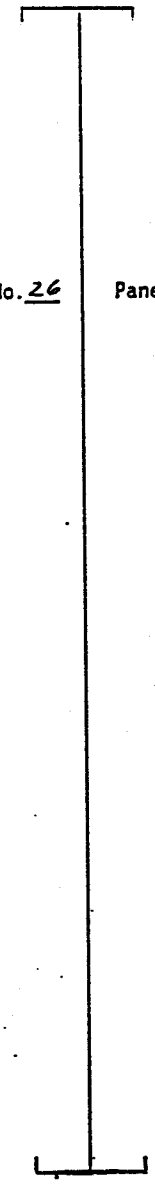
Sheet 25 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH RM.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 26-25
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 2:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:55	30	3:00	30		40	0	Y		SAS

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

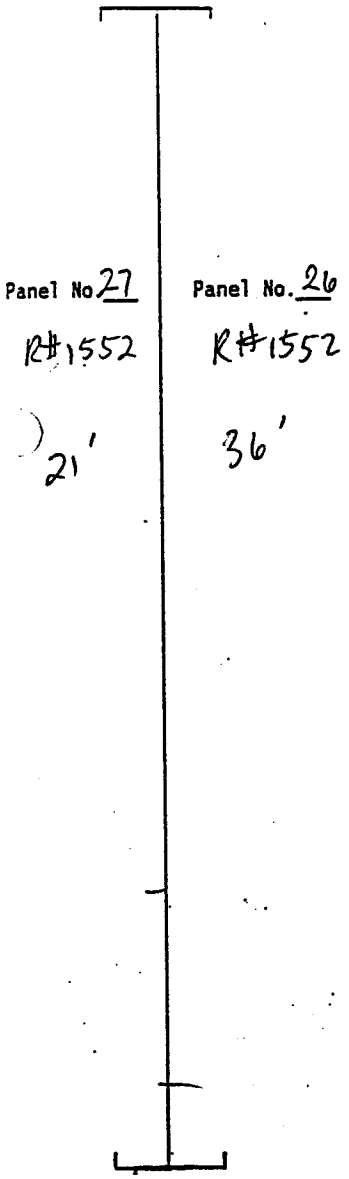
Sheet 26 of 254

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NO.: 37
CONTRACTOR: BARNHILL
INSTALLER: ENVIRONMENTAL DESIGNS
WELDING TECH: ~~Eng.~~ FELIX
TYPE OF WELDER: FUSION
DATE WELDED: 11-21-93

SEAM NO.: 26-27
SEAM LENGTH: 26-36' 27-21'
COMMENTS: CORNER WELD

WELDING UNIT NO.: 327
TIME WELDED: 2:10 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:58	30	3:04	30		39'	-	Y		∝

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

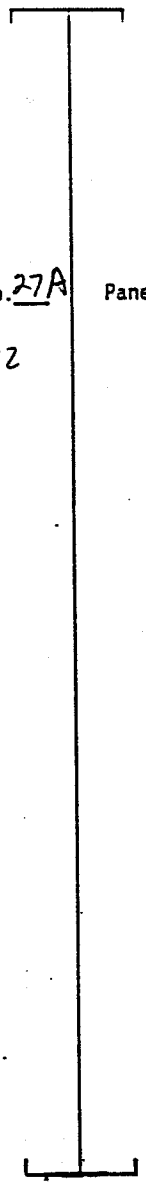
Sheet 71 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH Felix
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 27A-27B
SEAM LENGTH 6'
COMMENTS CORNER PATCH

WELDING UNIT NO. 327
TIME WELDED 2:20 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

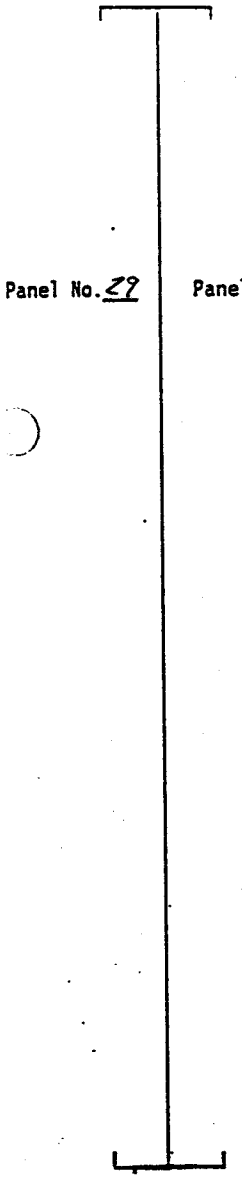
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Co. Ash Landfill
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON,
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 29-28
SEAM LENGTH ~~30'~~ + 30'
COMMENTS Ok

WELDING UNIT NO. 711
TIME WELDED 2:30 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:06	30	3:11	30		40	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 28-30
SEAM LENGTH 40' 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 2:31 a.m (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 29 | Panel No. 30

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:10 AM	30	8:15 AM	30		49'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

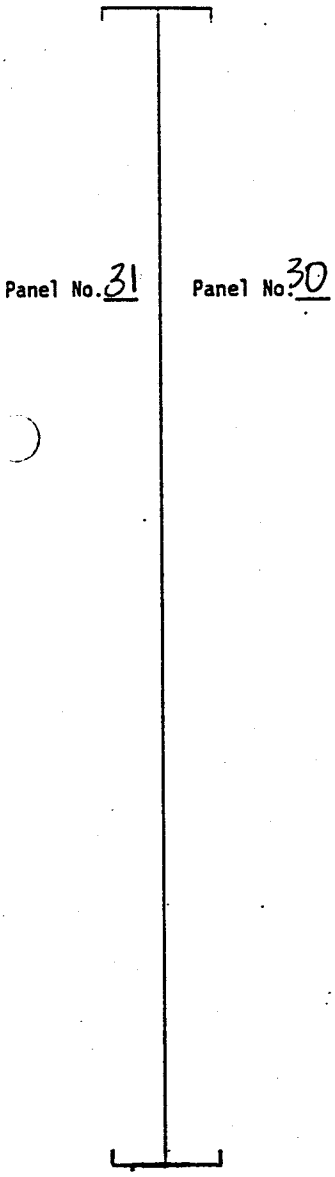
Sheet 30 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 31-30
SEAM LENGTH 49'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 2:32 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
820 AM	30	825 AM	30		49'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍/	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 31 of 254

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NO.: 3716
CONTRACTOR: BARNHILL
INSTALLER: ENVIRON. DESIGN
WELDING TECH: P.M.
TYPE OF WELDER: FUSION
DATE WELDED: 11/21/93

SEAM NO.: 32-31
SEAM LENGTH: 50'
COMMENTS: OK

WELDING UNIT NO.: 711
TIME WELDED: 2:42 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 32 | Panel No. 31

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:15	30	3:20	30		50'	0	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

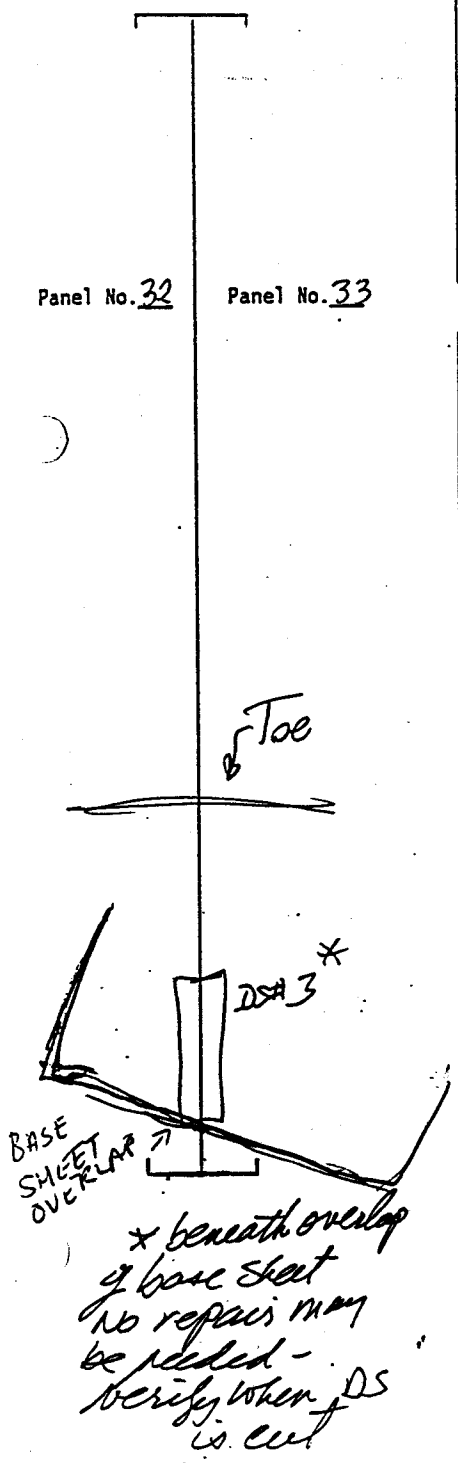
Sheet 32 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3710
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 32-33
SEAM LENGTH 49'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 2:40 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
321pm	30	3:26	30		49'	—	Y		

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 3	DESTRUCTIVE		SD

CQA SEAM INSPECTION FORM

Sheet 33 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 34-33
SEAM LENGTH 49'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 2:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 34 | Panel No. 33

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
325 pm	30	330 pm	30		49'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

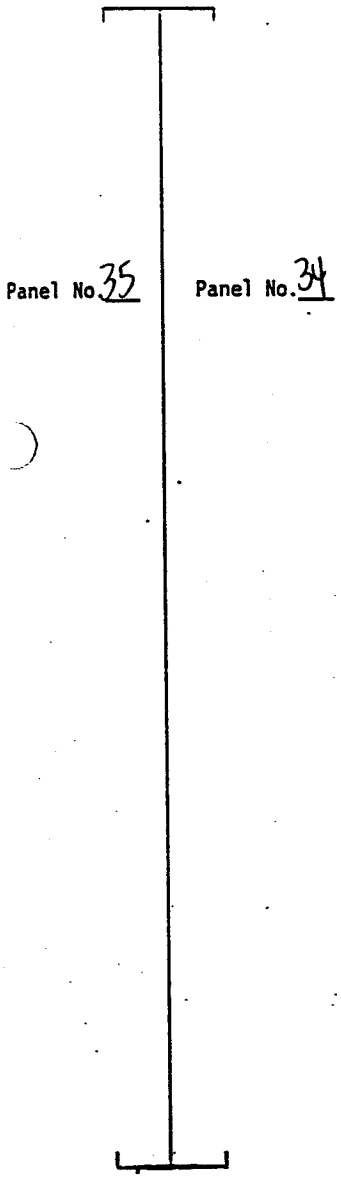
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21

SEAM NO. 35-34
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 2:50 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
826 AM	30	831 AM	30		49'	—	Y		SE

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 35 of 254

PROJECT NAME HALIFAX CO. ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR DARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 35-36
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 2:53 a.m (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 36 R#1544

Panel No. 35 R#1544

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
335 pm	30	340 pm	30	-	49'	-	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

253

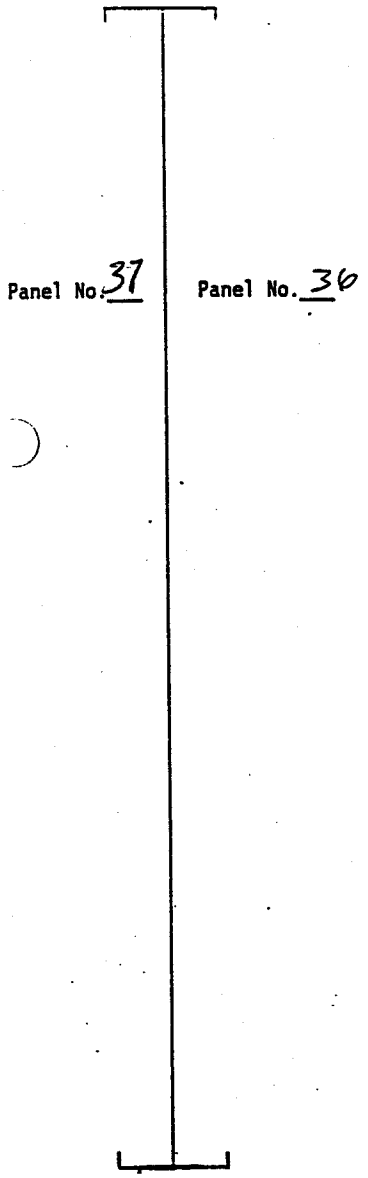
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG.
TYPE OF WELDER FUSION
DATE WELDED 11/21

SEAM NO. 37-36
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 3:00 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
835 AM	30	840	30		49'	—	Y		JC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

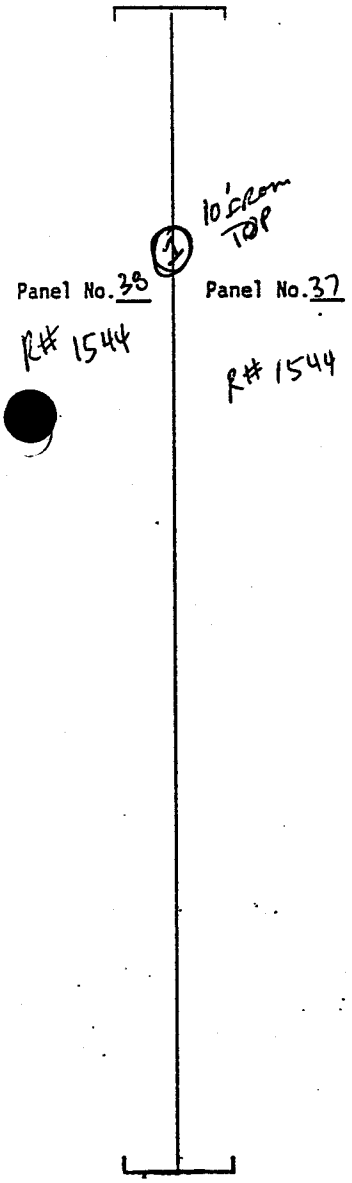
Sheet 37 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX C
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 37-38
SEAM LENGTH 50'
COMMENTS SEAM CUT TOO CLOSE NEEDS REPAIR

WELDING UNIT NO. 327
TIME WELDED 3:05 a.m (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
J.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
340 pm	30	345	30		49'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	SEAM CUT TOO SHORT		SAS

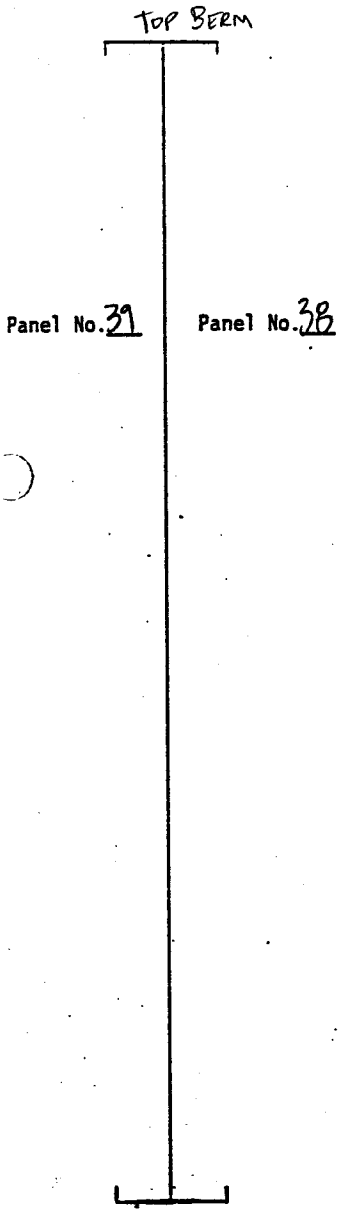
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 39-38
SEAM LENGTH 50'-0"
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3:10 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
426	30	431	30		49'	–	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 39 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11/22/93

SEAM NO. 40-39
SEAM LENGTH 49'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED ~~1531~~ 3:17 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 40 Panel No. 39

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
350	30	410	28		49'	2psi	Y		JC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

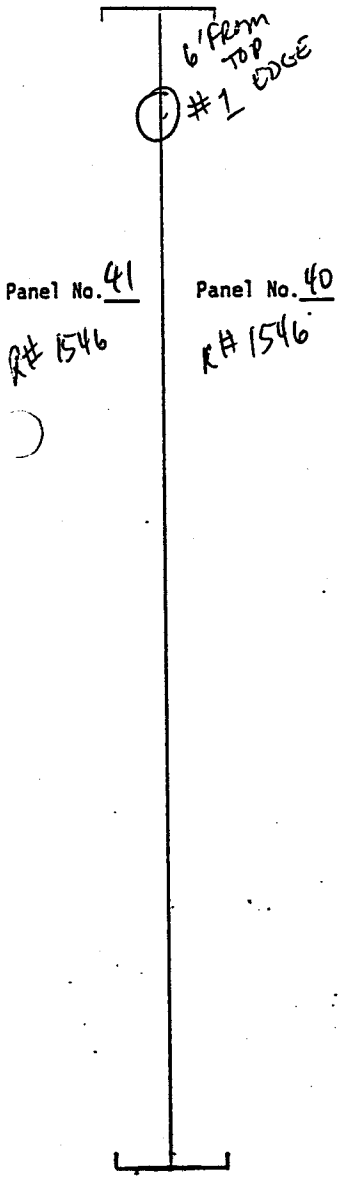
Sheet 40 of 254

PROJECT NAME: HALIFAX CO. ASH MONOFILL
PROJECT NO.: 3716
CONTRACTOR: BARNHILL
INSTALLER: ENVIRON. DESIGN
WELDING TECH: FELIX
TYPE OF WELDER: FUSION
DATE WELDED: 11-21-93

SEAM NO.: 40-41
SEAM LENGTH: 50'
COMMENTS: BURN THROUGH AT TOP 6' OF SEAM WHEN WELDER LOST POWER - (10 SECONDS)

WELDING UNIT NO.: 327
TIME WELDED: 3:23 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
446	30	451	30		49'	-	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	BURN THROUGH		SAS

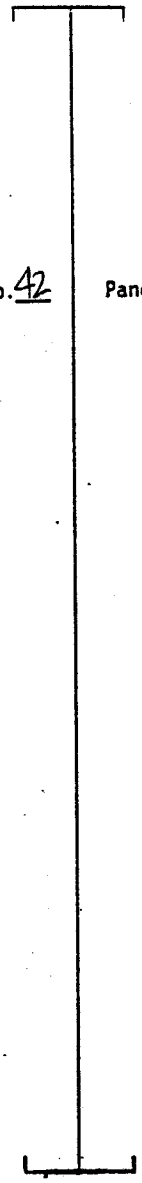
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 42-41
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
447 PM	30	457	28		49'	2psi	Y		gc

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

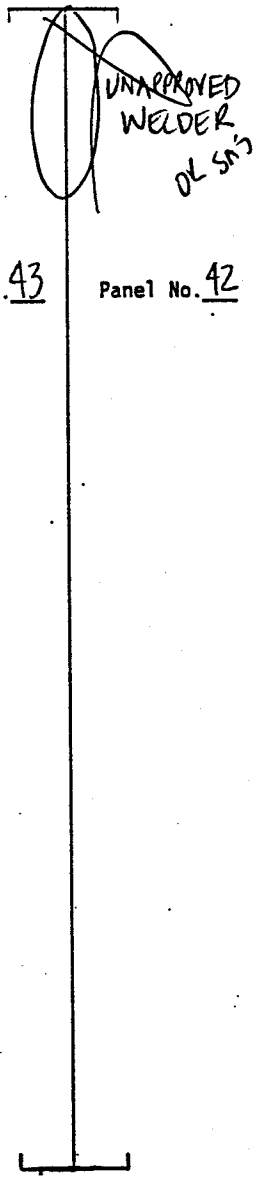
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 43-42
SEAM LENGTH 50'
COMMENTS USED UNAPPROVED WELDER 10'-15' SECTION

WELDING UNIT NO. 851
TIME WELDED 3:40 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
455	30	500	30		49'	-	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

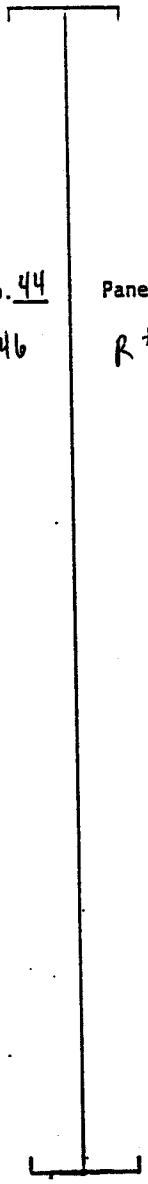
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX C.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 43-44
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 3:40 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



Panel No. 44 R# 1546

Panel No. 43 R # 1546

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
845AM	30	850	30		49'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11/21/93

SEAM NO. 45-44
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3145 a.m./~~p.m.~~

SEAM DETAIL
(Show Dimensions)

Panel No. 45 Panel No. 44

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
651 AM	30	8:57	30		49'	-	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 45 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 371L
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 46-45
SEAM LENGTH 49'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 3:50 a.m./p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 46 Panel No. 45

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:00 am	30	9:05	30		49'	-	Y		BC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

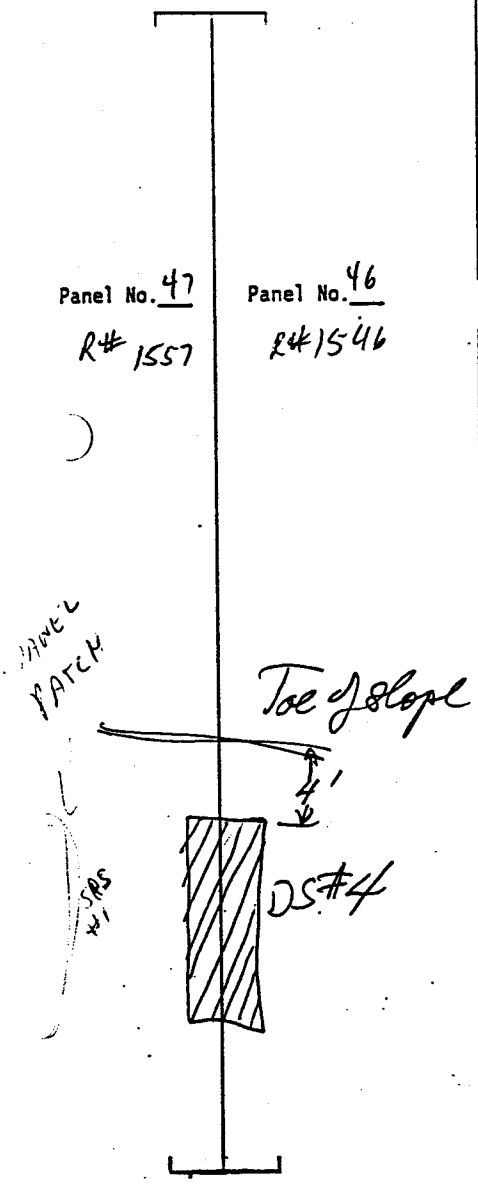
Sheet 46 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Bathtub
INSTALLER Environmental Designs
WELDING TECH Felix Z
TYPE OF WELDER Fusion
DATE WELDED 11-21-93

SEAM NO. 46-47
SEAM LENGTH 50'
COMMENTS East Slope (DS 4)

WELDING UNIT NO. 327
TIME WELDED 3:55 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T ok

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:06 AM	30	9:14	30		49'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 4	DESTRUCTIVE		SAS

CQA SEAM INSPECTION FORM

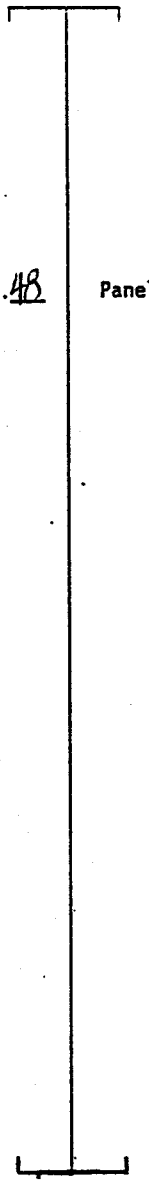
Sheet 47 of 254

PROJECT NAME HALIFAX COUNTY LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 48-47
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 405 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



Panel No. 48 Panel No. 47

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
917	30	9:22	30		49'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

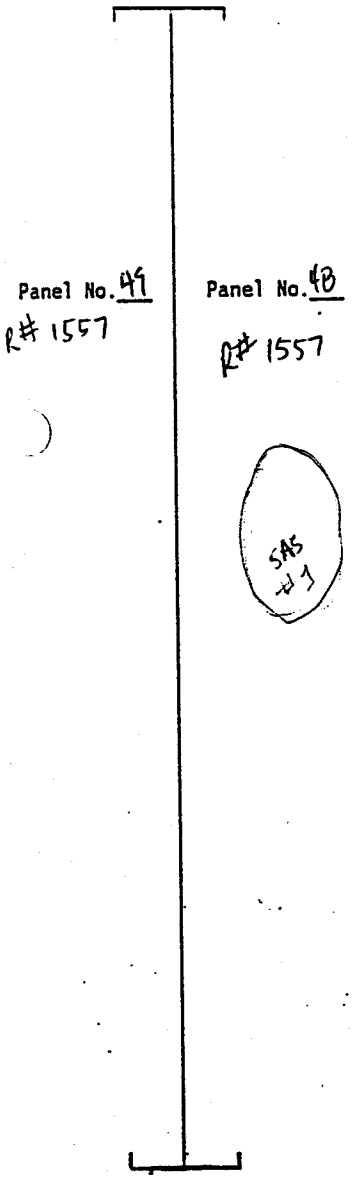
Sheet 48 of 254

PROJECT NAME HALIFAX COUNTY LCH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX Z
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 48 - 49
SEAM LENGTH 50'
COMMENTS P-48 NEEDS PATCH NEAR BOTTOM 15' EDGE
BOTTOM EDGE 7' ABOVE TOE OF SLOPE CENTER OF PANEL

WELDING UNIT NO. 372
TIME WELDED 4:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
920	30	925	30		49'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

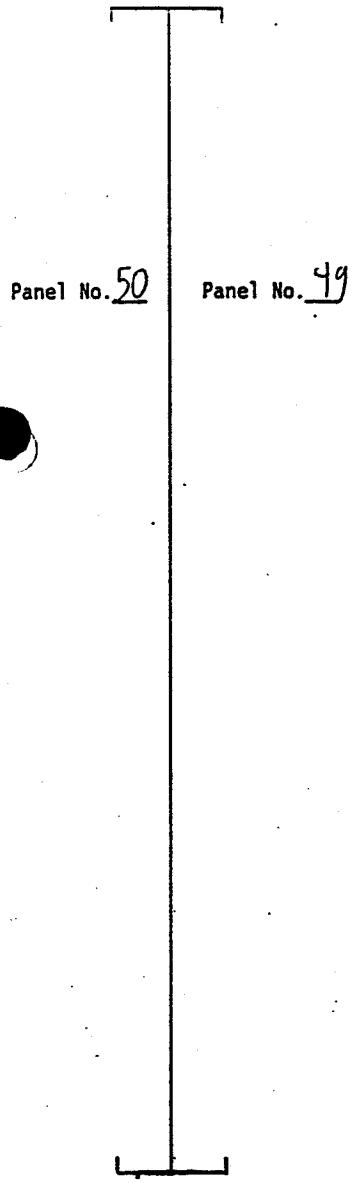
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY EAST LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 50-49
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 4:10 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
938	30	943	30		49'	-	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

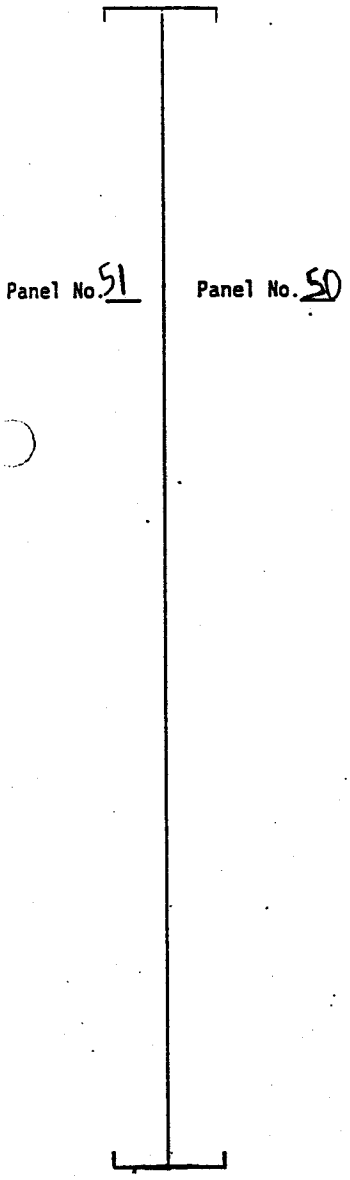
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 51-50
SEAM LENGTH 50
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 420 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:40	30	945	30		49'	-	Y		OK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

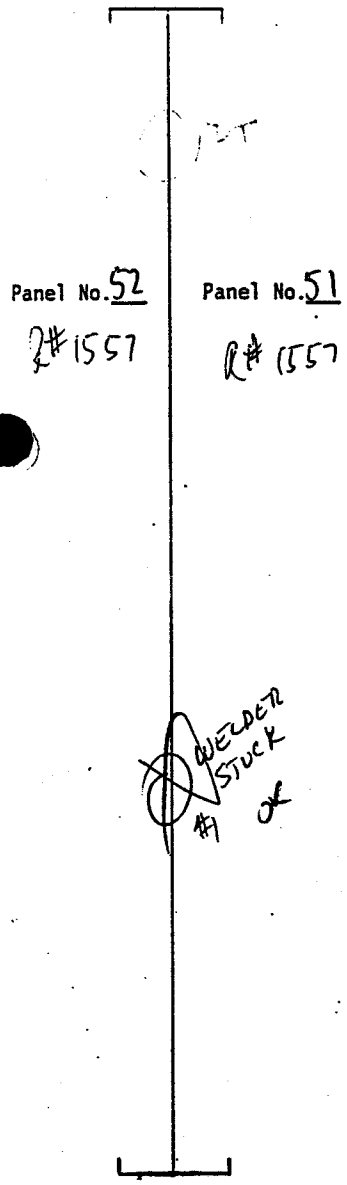
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 51-52
SEAM LENGTH 50'
COMMENTS Sample Top of Seam (SC)

WELDING UNIT NO. 372
TIME WELDED 4:21 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
946	30	951	30		49'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	WELDER STUCK		SAS

CQA SEAM INSPECTION FORM

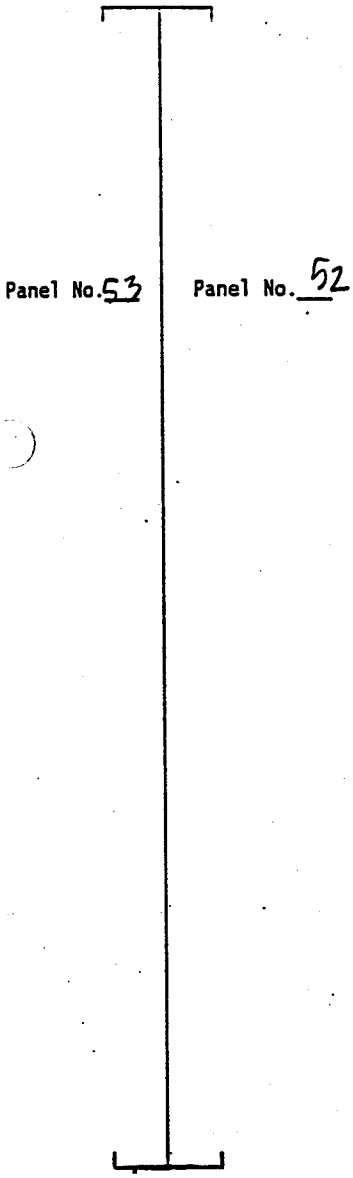
Sheet 52 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG.
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 53-52
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 4:25 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
956 Am	30 ~~1001~~	1001	30		49'	–	Y		[illegible]

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 53 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 53-54
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 435 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1084	30	1009	30		49'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

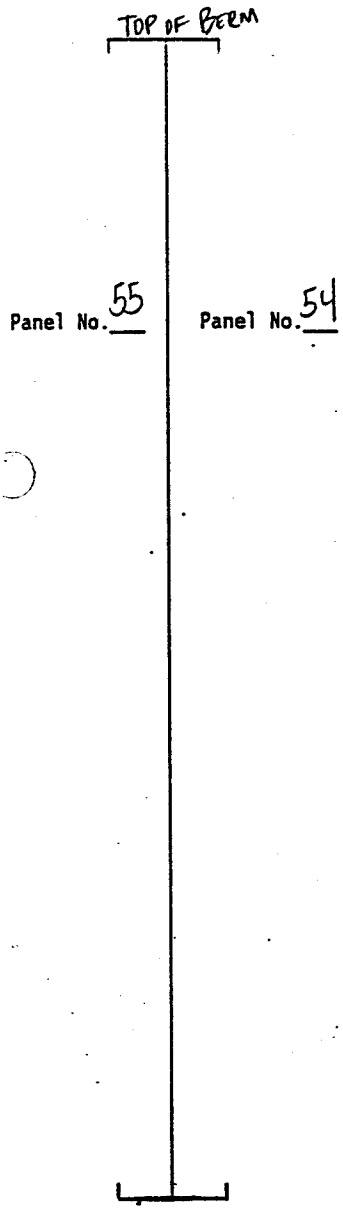
Sheet 54 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 55-54
SEAM LENGTH 49'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 4:40 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:05	30	3010	30		49'	-	Y		SR

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

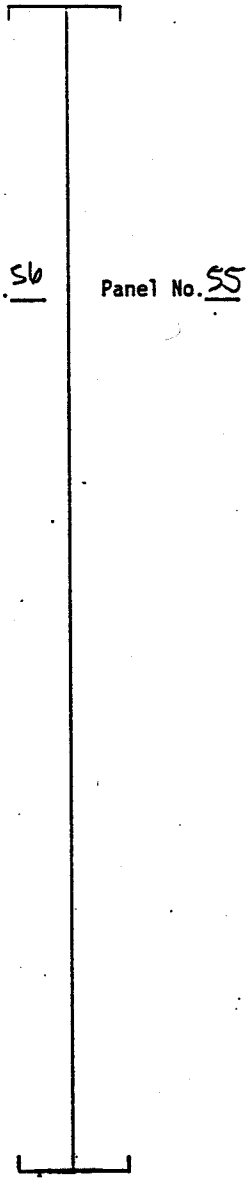
Sheet 55 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 56-55
SEAM LENGTH 49'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 4:40 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1012	30	1017	30		49'	–	Y		BC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

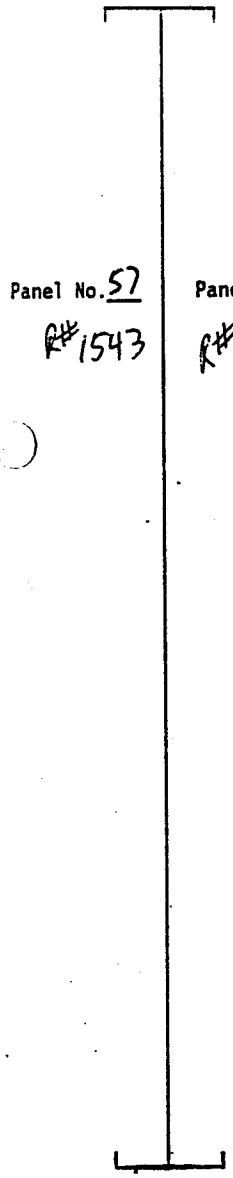
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX Z
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 56-57
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 4:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1019	30	1024	30		49'	—	Y		SC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

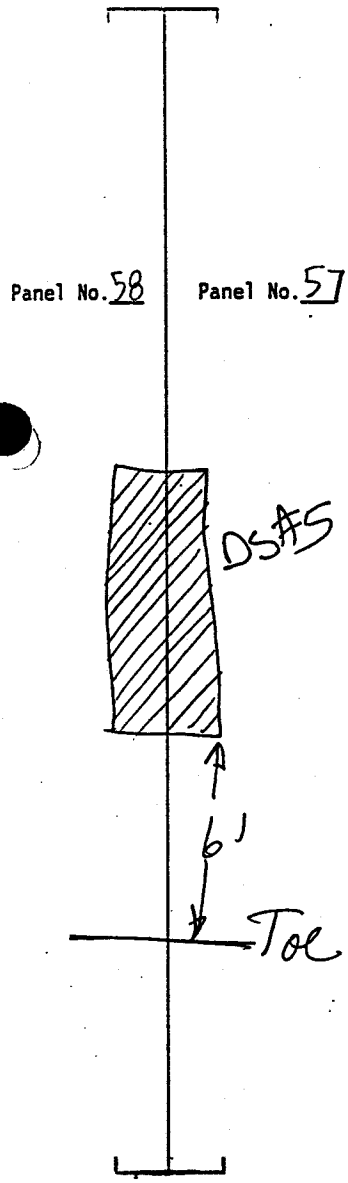
Sheet 57 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3710
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-21-93

SEAM NO. 58-57 East Slope
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 4:50 a.m./(p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. DL		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	F NO, CORRECTIVE ACTION	APPROVED BY
1025	30	1030	30		49	–	Y		DL

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS-5	D.S.	11-29 (PS)	SAM

CQA SEAM INSPECTION FORM

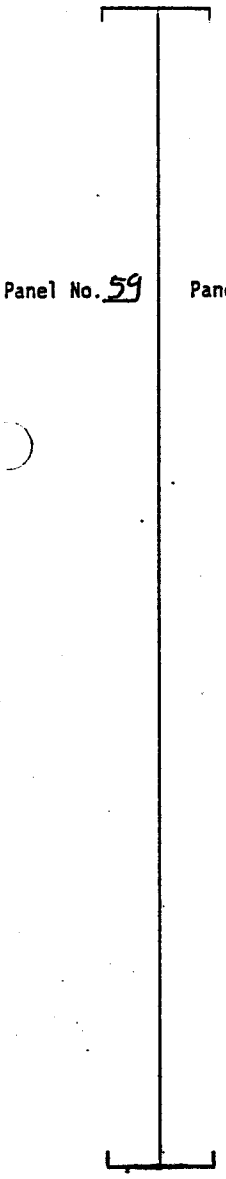
Sheet 58 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 58 - 59
SEAM LENGTH 49'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 11:25 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:28A	30	10:33A	30		49	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

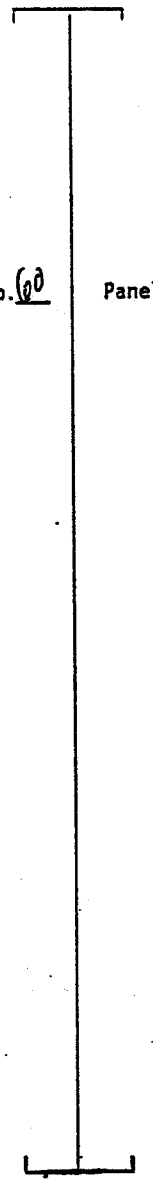
Sheet 59 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 59-60
SEAM LENGTH 45'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 8:08 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1032	30	1037	30		45'	-	Y		SC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

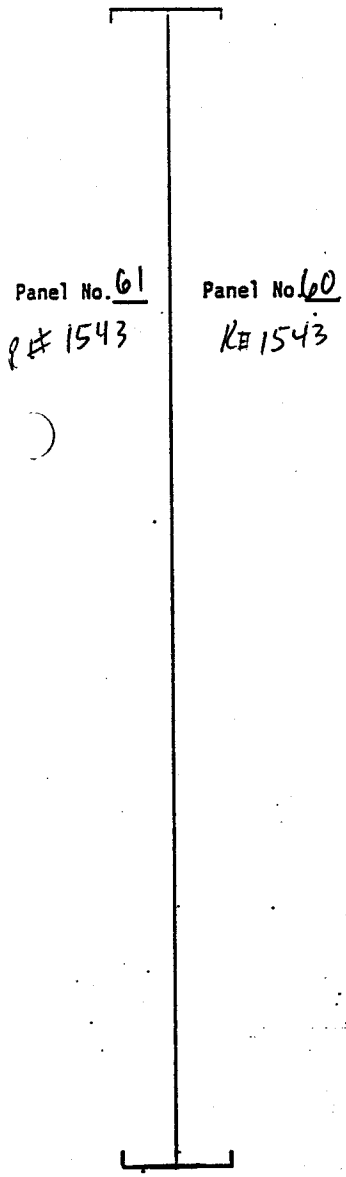
Sheet 60 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 60-61
SEAM LENGTH 44'
COMMENTS MINOR SCRATCHING ON LAST 20'

WELDING UNIT NO. 327
TIME WELDED 8:22 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1040	30	1045	30		44'	–	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

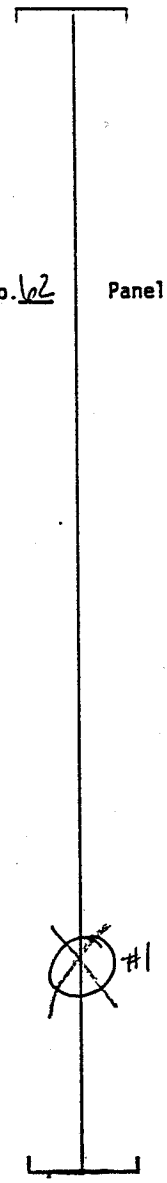
Sheet 61 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 62-61
SEAM LENGTH 41'
COMMENTS BURN THRU

WELDING UNIT NO. 711
TIME WELDED 8:26 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1047	30	1052	30		41'	-	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11/22	SAS

CQA SEAM INSPECTION FORM

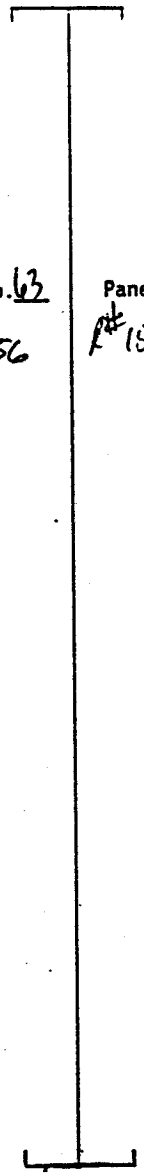
Sheet 62 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX Z
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 62-63
SEAM LENGTH 39'
COMMENTS MINOR SCRATCHING 10' FROM TOE OF SLOPE

WELDING UNIT NO. 327
TIME WELDED 8:35 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1054	30	1059	30		39'	—	Y		∝

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

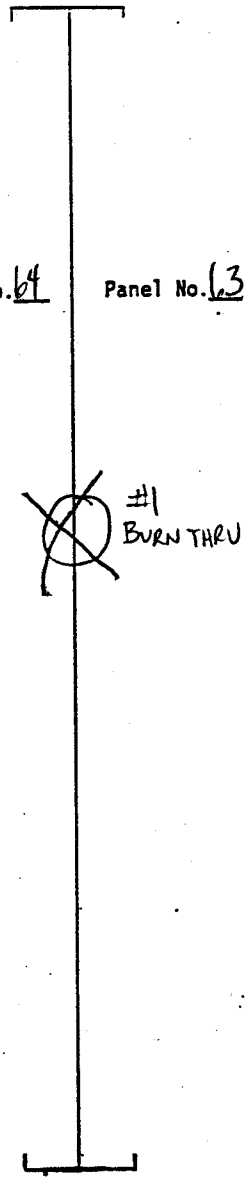
Sheet 63 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 64-63
SEAM LENGTH 39'
COMMENTS BURN THRU

WELDING UNIT NO. 711
TIME WELDED 8:40 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:02	30	11:07	30		39'	-	Y		SE

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11-26	SAS

CQA SEAM INSPECTION FORM

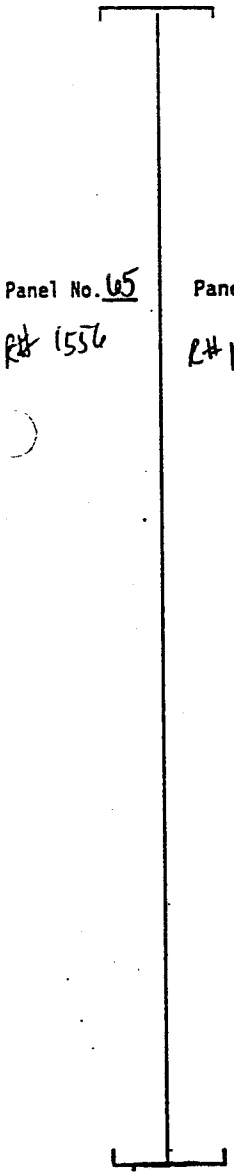
Sheet 64 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH Felix
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 65-64
SEAM LENGTH 39'
COMMENTS GOOD CLEAN WELD

WELDING UNIT NO. 327
TIME WELDED 8:45 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:07	30	11:12	30		39'	—	Y		JC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 65 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 66-65
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 8:47 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 66 Panel No. 65

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:14	30	11:19	30		39'	—	Y		ac

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 66 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 66-67
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 8:50 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 67 Panel No. 66

#1556

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:20	30	11:25	30		39'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 67 of 254

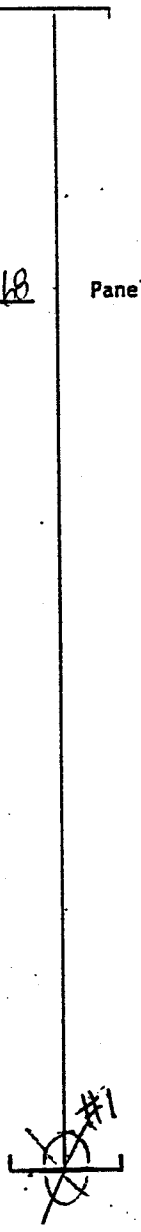
PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 68-67
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 9:02 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 68 Panel No 67



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:23	30	11:28	30		39'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURNTHRU	11-26	SAS

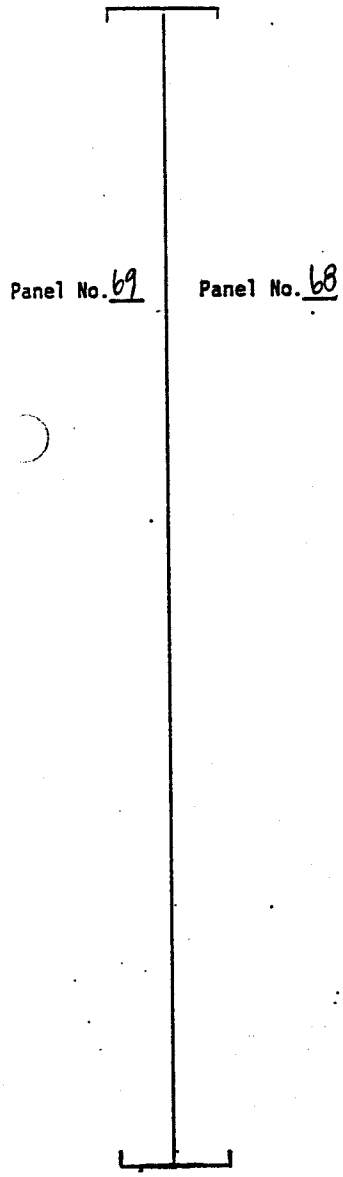
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 69-68
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 9:05 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:24	30	11:29	30		39'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

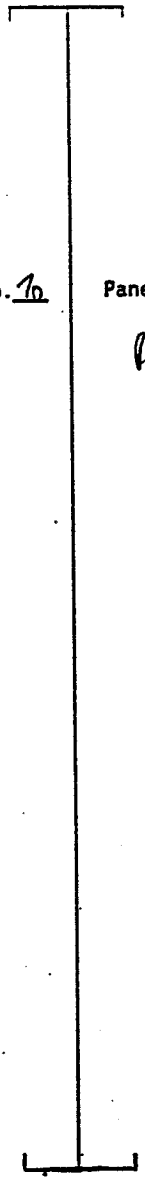
Sheet 69 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH Felix
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 69-70
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 9:10 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



Panel No. 70 R# 1556

Panel No. 69 R# 1554

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:30	30	11:35	30		39'	-	Y		JL

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 71-70
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 9:15 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No.___ Panel No.___

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:37	36	11:42	30		39'	-	Y		JE

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 71 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 71-72
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 9:20 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 72 R# 1504

Panel No. 71 R# 1556

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1136	30	1141	30		39'	-	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

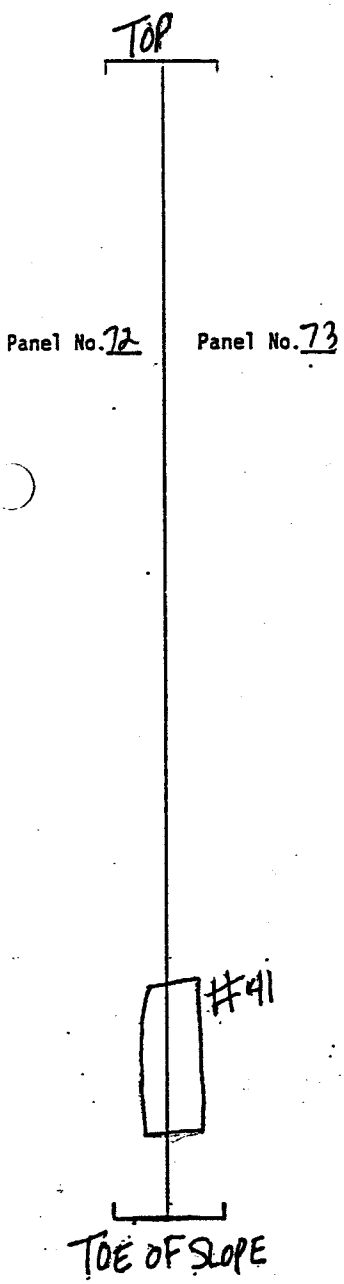
CQA SEAM INSPECTION FORM

Sheet 72 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH P.M.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 73-72
SEAM LENGTH 39'
COMMENTS OK
DS#41
WELDING UNIT NO. 711
TIME WELDED 9:21 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:40	30	11:45	30		39'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#41	D.S.	12-1-93 (AG)	SAG

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 73-74
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 932 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 74
R# 1564

Panel No. 73
R# 1564

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1142	30	1147	30		39'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

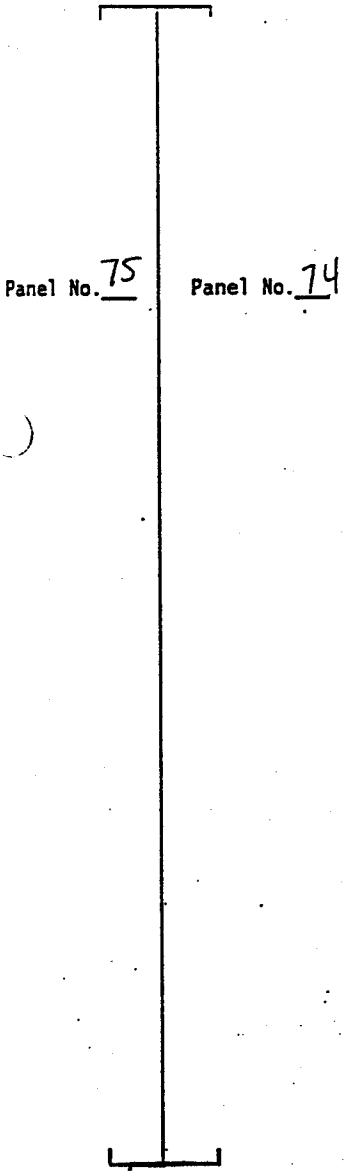
Sheet 74 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CNTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 75-74
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 9:30 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:52 AM	30	8:57 AM	30		39'	—	Y		JL

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 76-75
SEAM LENGTH 391
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 9:35 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 76 | Panel No. 75

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:54 AM	30	8:54 PM	30		391	-	Y		JC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

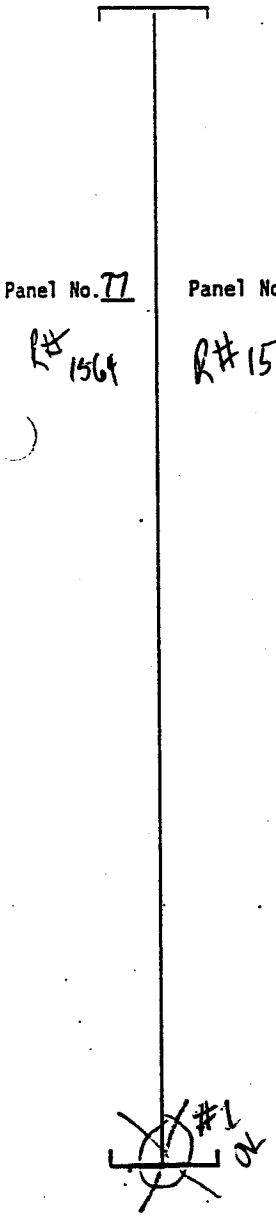
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 76-77
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 9:45 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:01 AM	30	9:06 AM	30		39'	—	Y		SK

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◉	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU		SAS

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 78-77
SEAM LENGTH 39'
COMMENTS Ok

WELDING UNIT NO. 851
TIME WELDED 9:50 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 78 | Panel No. 77

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:03 AM	30	9:08	30		39'	—	Y		JE

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

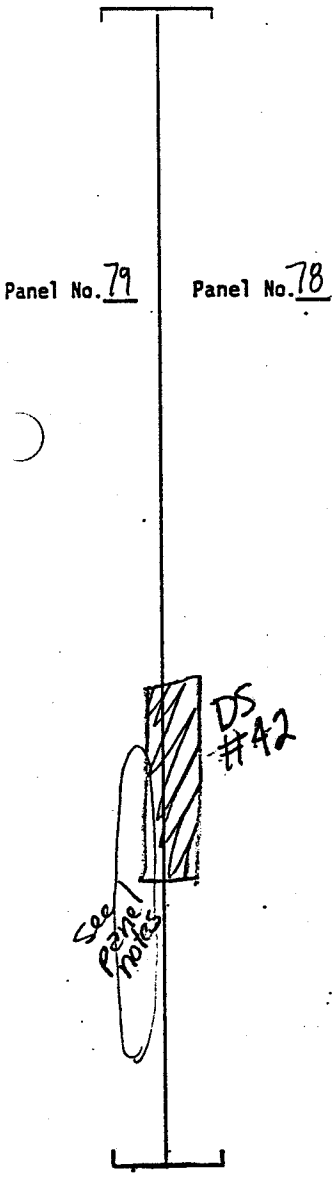
CQA SEAM INSPECTION FORM

Sheet 78 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 79-78
SEAM LENGTH 39'
COMMENTS OK
DS #42
WELDING UNIT NO. 711
TIME WELDED 9:53 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.A.J

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:05 AM	30	9:10	30		39'	—	Y		SAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS #42	D.S.	11-30-93 (AG)	SAS

CQA SEAM INSPECTION FORM

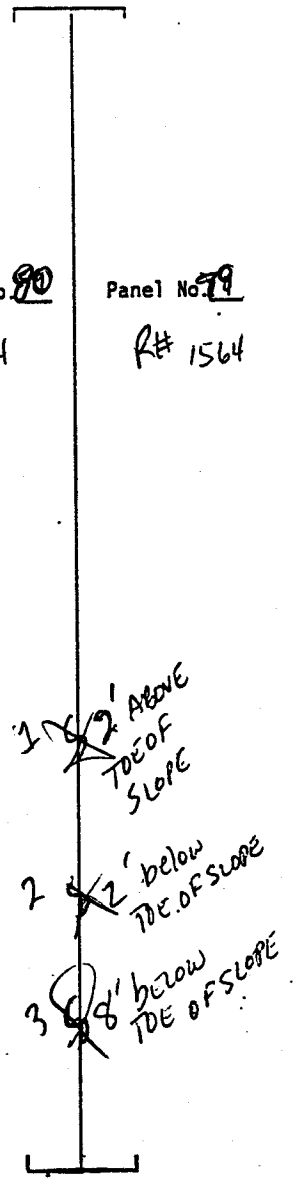
Sheet 79 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 79-80
SEAM LENGTH 39'
COMMENTS SCRATCHES (NOT FROM WELDER)

WELDING UNIT NO. 327
TIME WELDED 4:55 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:08 AM	30	9:13	30		39'	—	Y		JAS

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	SCRATCHES	OK	JAS
2	"	OK	JAS
3	"	OK	JAS

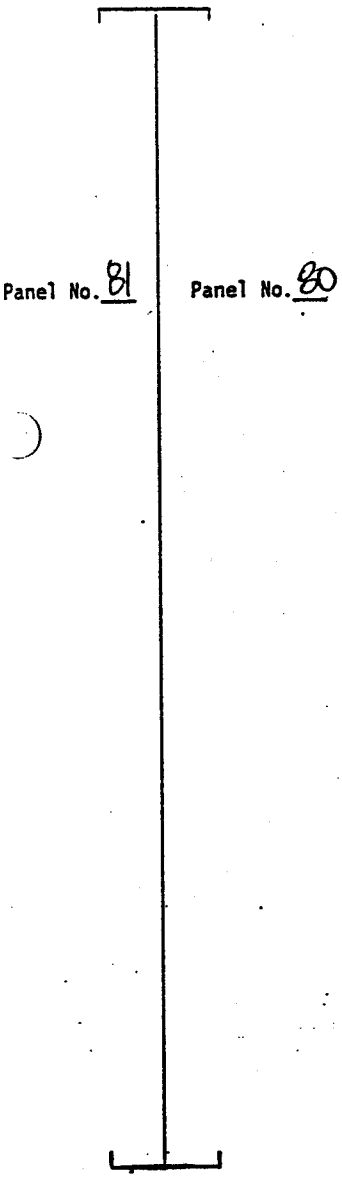
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 81-80
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 10:05 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:11 AM	30	9:16 AM	30		39'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

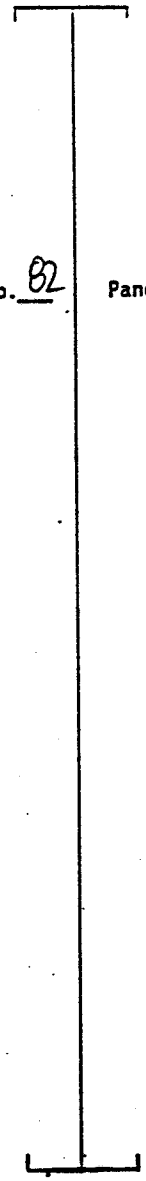
Sheet 81 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 82-81
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 10:09 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:14 AM	30	9:19 AM	30		39'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◉	Repair Tested
◉/	Repair Approved
⊞	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

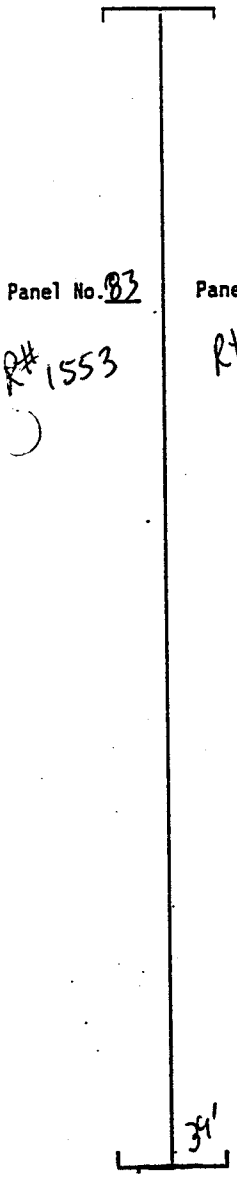
Sheet 82 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CNTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 82-83
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 10:16 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:16 AM	30	9:21 AM	30		39'	-	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

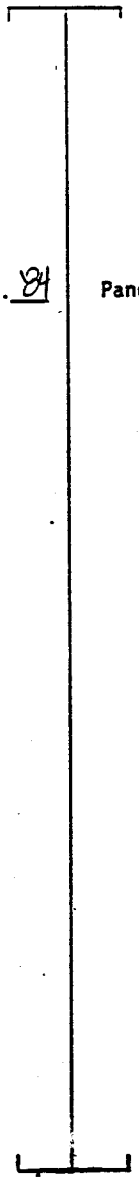
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 84-83
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 851
TIME WELDED 10:15 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:20 AM	30	9:25 PM	30		39'	—	Y		[illegible]

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

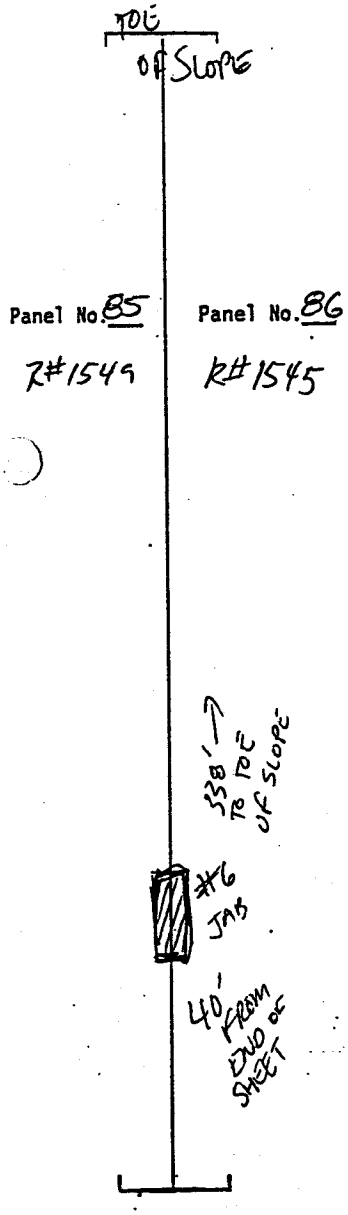
CQA SEAM INSPECTION FORM

Sheet 84 of 254

PROJECT NAME HALIFAX ASH MONDFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CNTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH P. M.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 85-86
SEAM LENGTH 378'
COMMENTS DESTRUCTIVE SAMPLE OFF END (DS #6)
WELDING UNIT NO. 711
TIME WELDED 10:42 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
2		No. of Defects Found
1.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:30	30	3:35	30		378'	—	Y		DC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#6	D.S.		SR

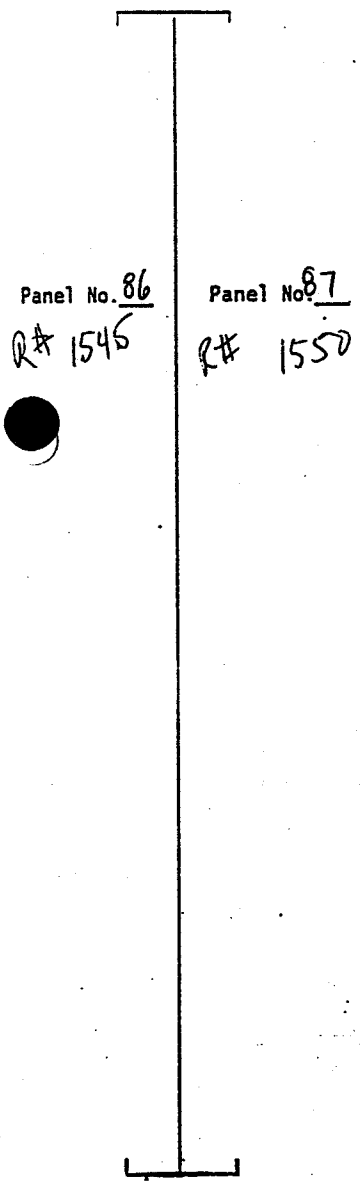
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 86-87
SEAM LENGTH 378'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 10:40 a.m./p.m.
11:50 = 1h 10min

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:38 PM	30	3:43	30		378'	—	Y		gc

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

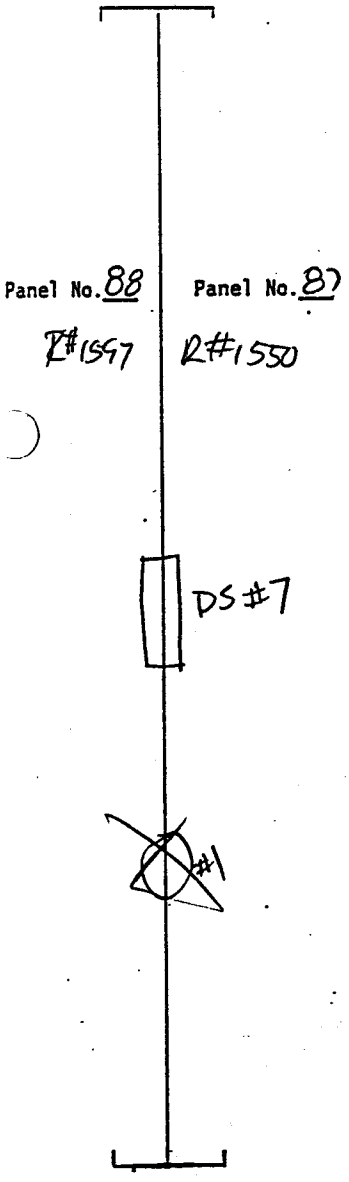
Sheet 86 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 87-88
SEAM LENGTH 389'
COMMENTS 1 REPAIR

WELDING UNIT NO. 851
TIME WELDED 10:45 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:45	30	3:50	30		389'	—	Y		ge

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	CUTOUT IN TRACK	11-29 (PJ)	SAS
DS #7		11-25 (PJ)	SAS

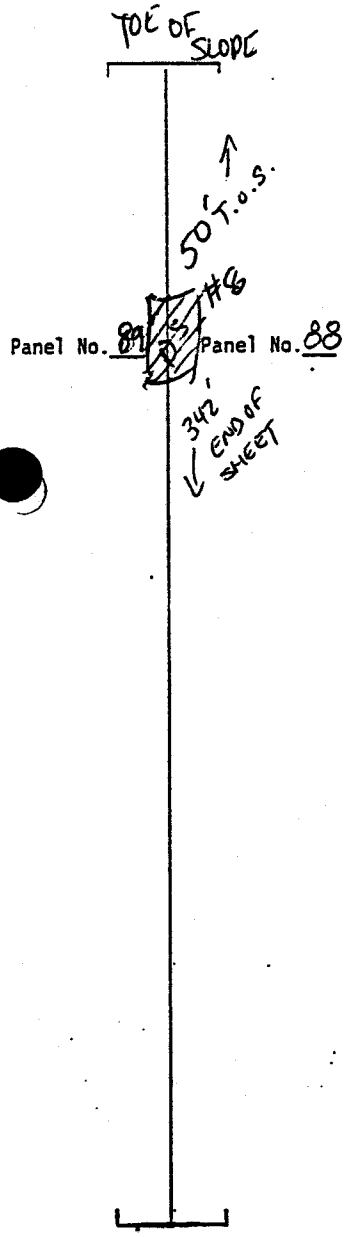
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON: DESIGN
WELDING TECH FZ / MM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 89 - 88
SEAM LENGTH 392
COMMENTS DS #8

WELDING UNIT NO. 327
TIME WELDED 12:05 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
4:10 pm	30	4:15	30		392'	—	Y		BC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS #8	DS		SK

CQA SEAM INSPECTION FORM

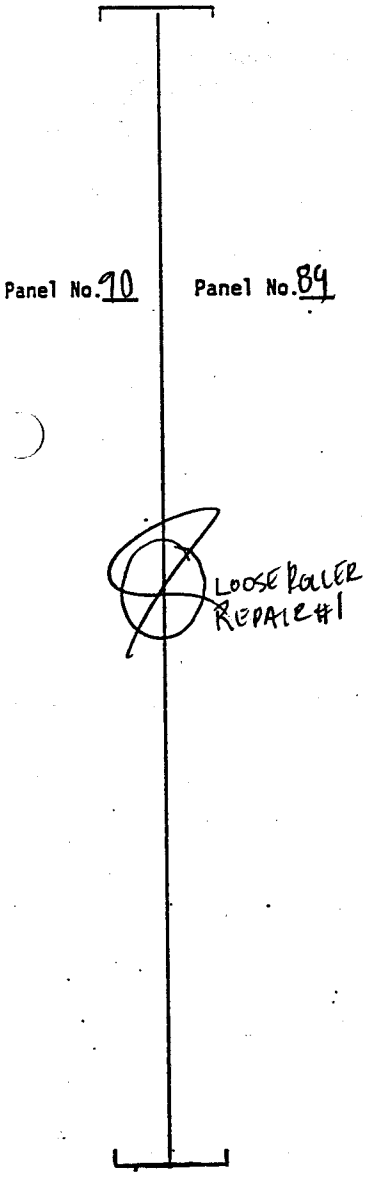
Sheet 88 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH EG / FA
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 90-89
SEAM LENGTH 396
COMMENTS LOOSE ROLLER IN ONE AREA

WELDING UNIT NO. 851
TIME WELDED 12:20 a.m./(p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
UT OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
4:17 pm	30	4:22	30		396'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	loose Roller START/STOP	11-29 (PJ)	SAS

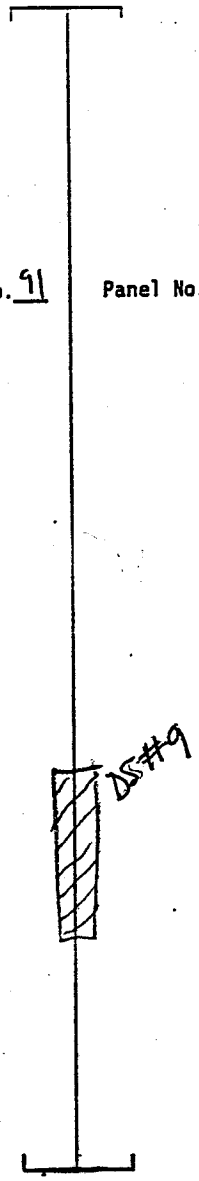
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH A.G./P.M.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 91-90
SEAM LENGTH 364
COMMENTS OK (DS#9)

WELDING UNIT NO. 711
TIME WELDED 12:30 / 1:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
432	30	437	30		364'	—	Y		JL

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
9	D.S.		SAS

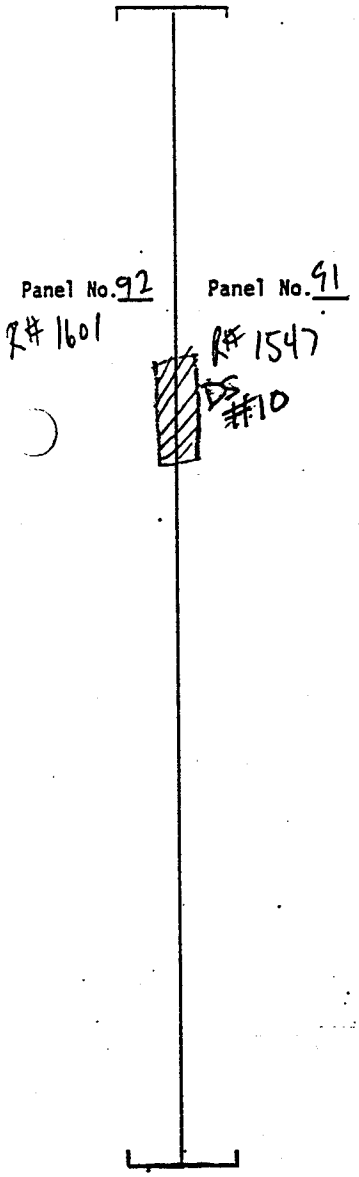
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGNS INC.
WELDING TECH FELIX Z.
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 91-92
SEAM LENGTH 364'
COMMENTS OK (DS#10)

WELDING UNIT NO. 372
TIME WELDED 1:31 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.F.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:30 PM	30	7:35	30		364'	-	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

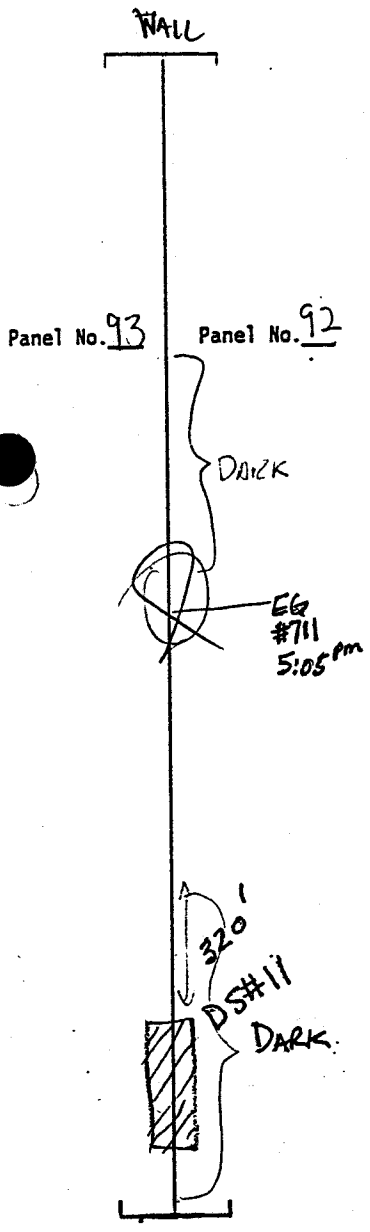
REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#10	DS	11-29-93 (AC)	

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGNS
WELDING TECH PM / EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 93-92
SEAM LENGTH 390'
COMMENTS DARK 11 @ 5:15 PM (DS #11)
WELDING UNIT NO. 711 / 951
TIME WELDED 4:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:38 AM	30	7:43	30		390'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	START/STOP	11-29 PJ	SAG
#11	D S.	11-29-PJ	SAG

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 94-93
SEAM LENGTH 390
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 1:55 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 94 Panel No 93

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:53 AM	30	7:58	30		390'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

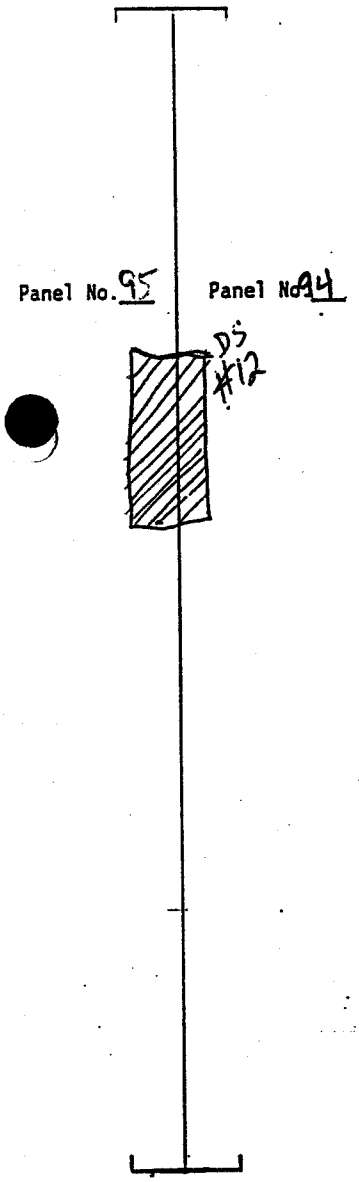
Sheet 93 of 254

PROJECT NAME HALIFAX ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 95-94
SEAM LENGTH * 380
COMMENTS OK (DS12)

WELDING UNIT NO. 851
TIME WELDED 2:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:00 AM	30	8:05 AM	30		380'	-	Y		JK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 12	DS	11-29-93 (PJ)	SAS

CQA SEAM INSPECTION FORM

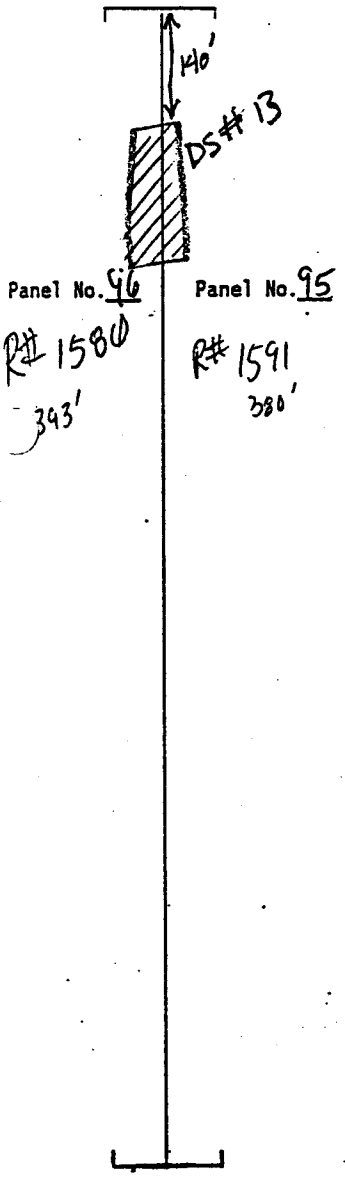
Sheet 94 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX E.
TYPE OF WELDER FUSION (CON)
DATE WELDED 11-22-93

SEAM NO. 95-96
SEAM LENGTH 380'
COMMENTS OK

WELDING UNIT NO. 372
TIME WELDED 2:55 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		OC Technician's Initials
J.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:08 am	30	8:13	30		380'	—	Y		JL

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#13	D.S.	11-29 (PJ)	SAS

CQA SEAM INSPECTION FORM

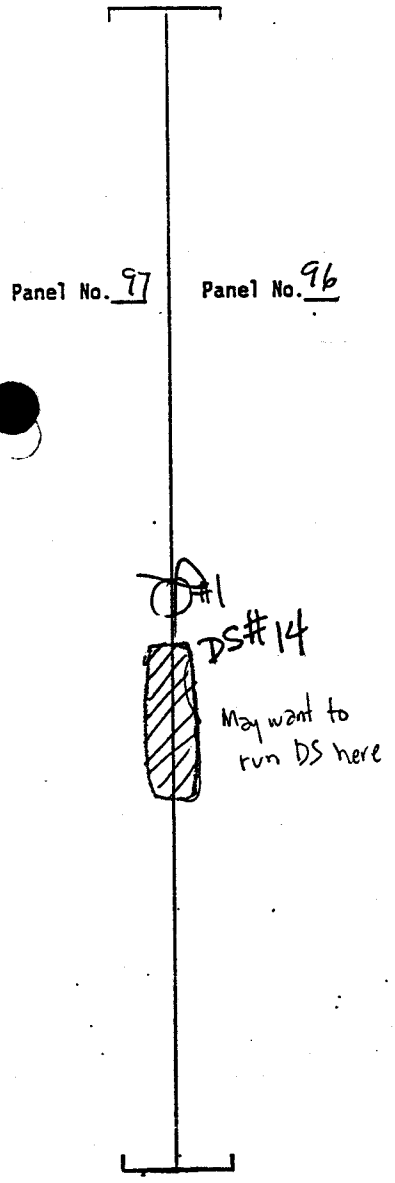
Sheet 95 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH AG / PM
TYPE OF WELDER FUSION
DATE WELDED 11/22/93

SEAM NO. 97-96
SEAM LENGTH 390
COMMENTS (DS #14)
REPAIR BURN THRU.

WELDING UNIT NO. 711
TIME WELDED 3:20 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:15 AM	30	8:20	30		390'	—	Y		

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11-30 (PJ)	SAS
#14	DS	11/29 (PJ)	SAS

CQA SEAM INSPECTION FORM

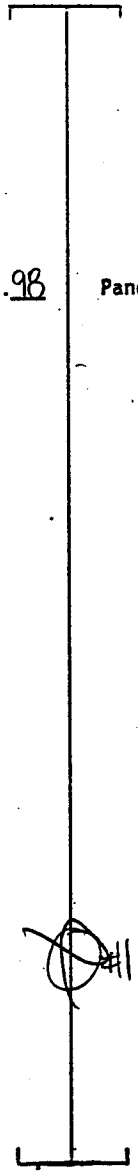
Sheet 96 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 98-97
SEAM LENGTH 390
COMMENTS REPAIR BURN

WELDING UNIT NO. 851
TIME WELDED 3:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:30 p.m.	30	8:35	30		390'	N	Y		

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN OUT	11-30 (PJ)	SAS

CQA SEAM INSPECTION FORM

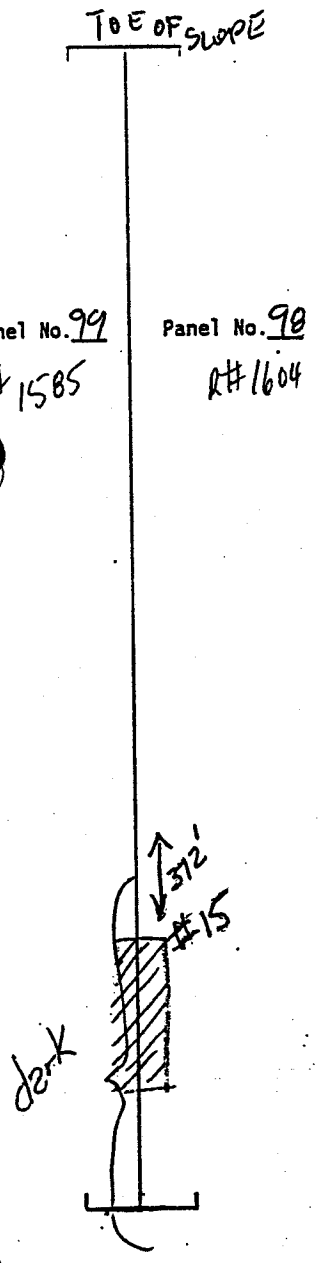
Sheet 97 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-22-93

SEAM NO. 98-99
SEAM LENGTH 390'
COMMENTS Dark (DS 15)

WELDING UNIT NO. 327
TIME WELDED 4:15 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:45 AM	30	8:50	30		390'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS-15	DS	11-30 93 (PJ)	SAS

CQA SEAM INSPECTION FORM

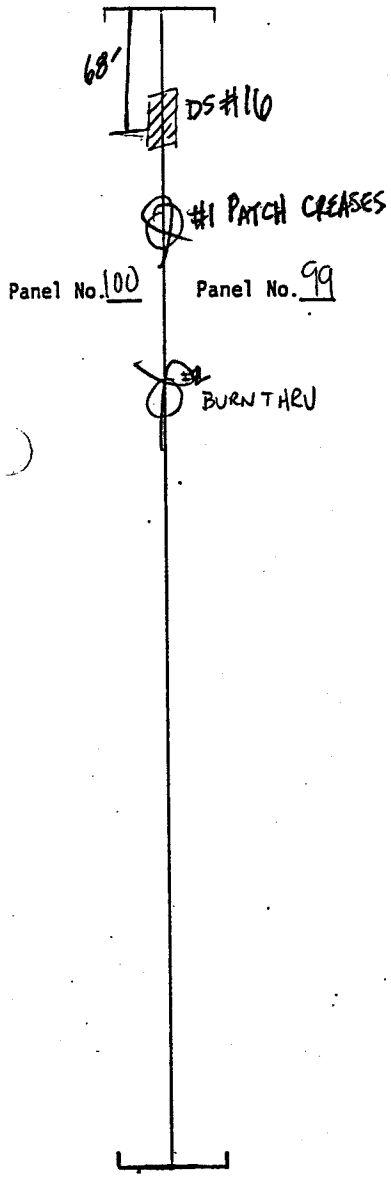
Sheet 98 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 100-99
SEAM LENGTH 390'
COMMENTS REPAIR

WELDING UNIT NO. 711
TIME WELDED 11:55 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.A.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1:00pm	30 psi	1:05	30psi		390'	0psi	Y		SCR

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	CREASE ON SEAM	11-30 (PJ)	SAS
#2	BURN THRU	11-30 (PJ)	SAS
DS #116	DS	11-30 (PJ)	SAS

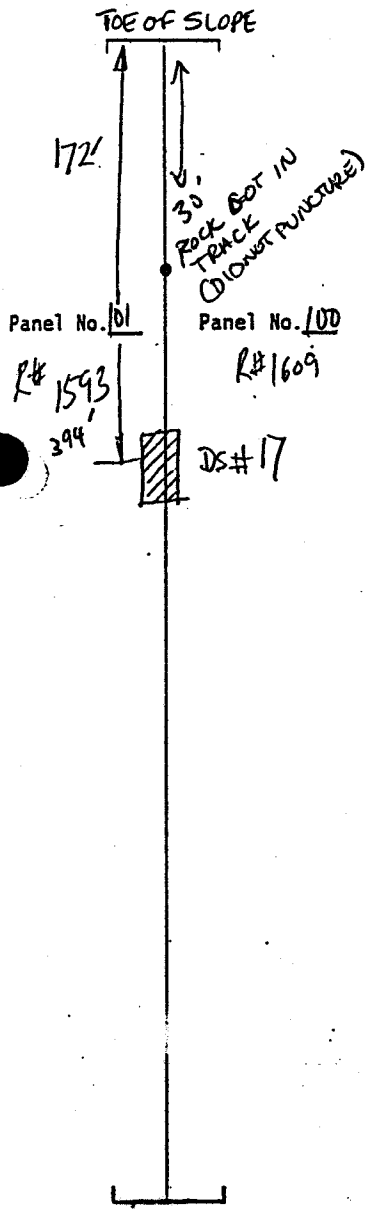
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 100 - 101
SEAM LENGTH 394'
COMMENTS SMALL INDENTATION ON ONE SPOT FROM RIDING OVER PEBBLE LOOKS OKAY

WELDING UNIT NO. 327
TIME WELDED 11:00 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1252 PM	30	DS?	30		394'	-	Y		SA

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#17	DS	11-30 (PJ)	SA's

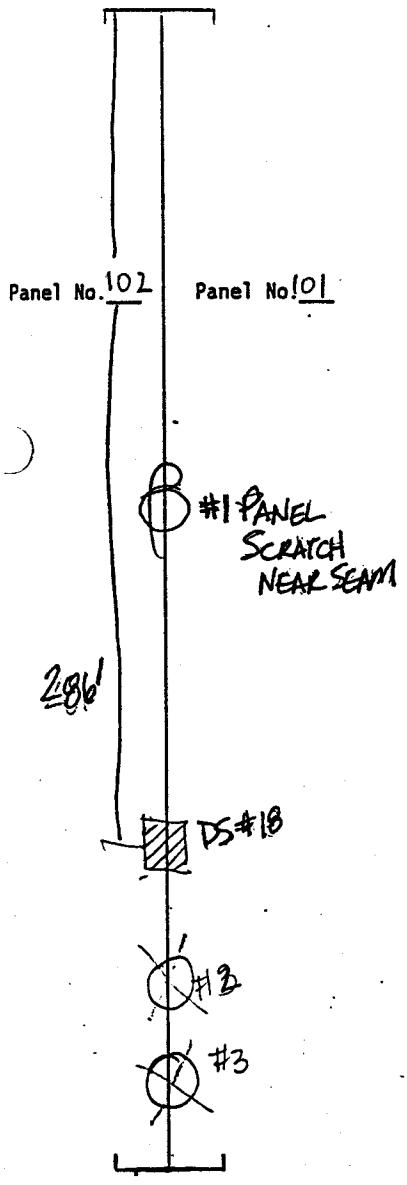
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY LCH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 102-101
SEAM LENGTH 394'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 11:00 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
N/A		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
12:50	30 psi	12:55	30 psi		394'	0 psi	Y		SCC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	PANEL SCRATCH		SAS
#2	SEAM TEAR		SAS
#3	SEAM TEAR		SAS
DS #1B	DS	11-30 PJ	SAS

CQA SEAM INSPECTION FORM

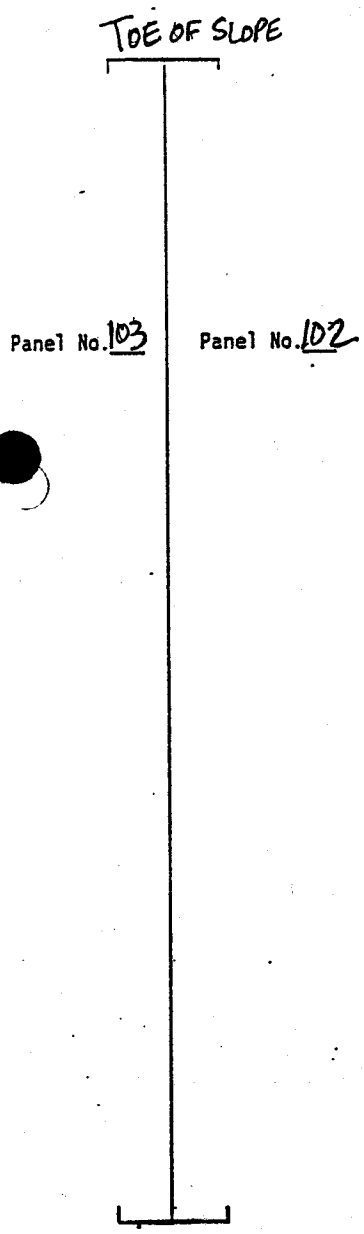
Sheet 101 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 103-102
SEAM LENGTH 389'
COMMENTS OK.

WELDING UNIT NO. 41
TIME WELDED 1:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:40 AM	30	9:45 AM	30		389'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

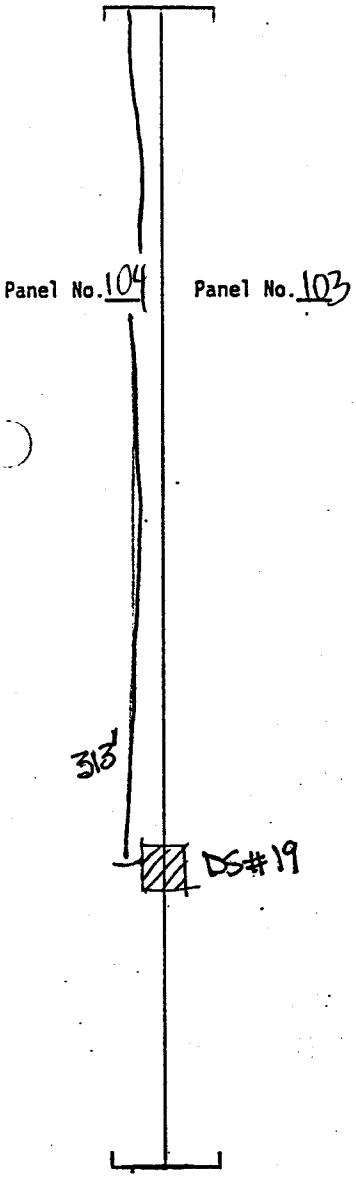
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 104-103
SEAM LENGTH 393'
COMMENTS OK (DS# 19)

WELDING UNIT NO. 327
TIME WELDED 8:20 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:05A	30psi	10:10A	30psi		393'	0psi	Y		SC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#19	DS	11-30 AG	SAS

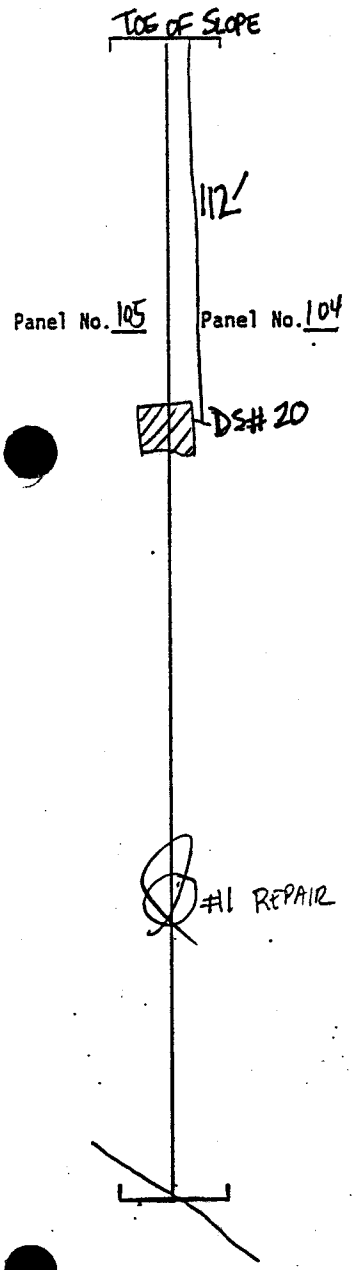
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 104-105
SEAM LENGTH 345'
COMMENTS REPAIR

WELDING UNIT NO. 711
TIME WELDED 825 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T.O.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:17A	30psi	10:22A	30psi		345'	0psi	Y		SCC.

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11-30(PJ)	SAS
DS#20	DS	11-30-PJ	SAS

CQA SEAM INSPECTION FORM

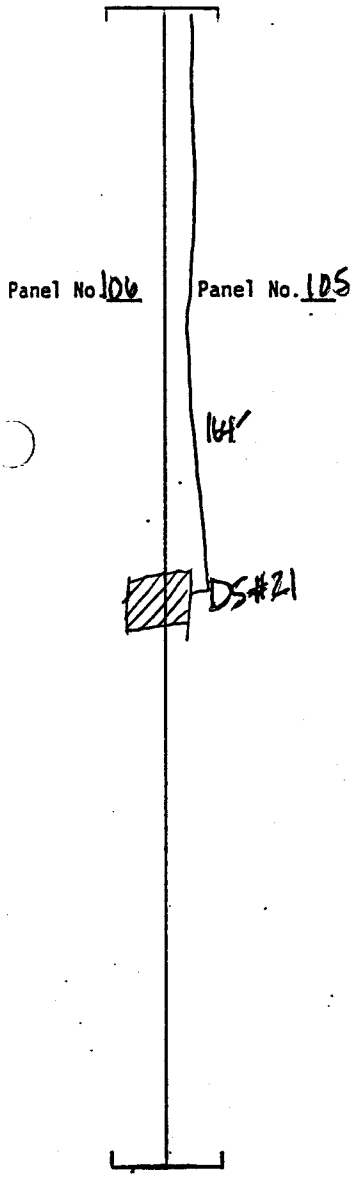
Sheet 104 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER EDISON
DATE WELDED 11-23-95

SEAM NO. 106-105
SEAM LENGTH 294'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 9:15 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:30A	30psi	10:35A	30psi		294'	0psi	Y		SCC.

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#21	DS	11-30 PS	SAS

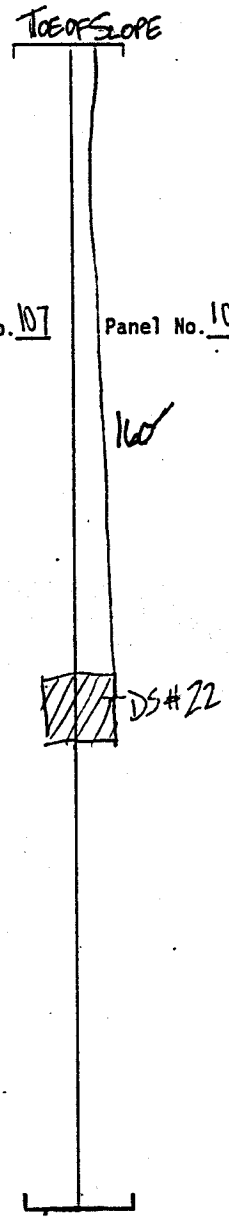
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 107-106
SEAM LENGTH 269'
COMMENTS (DS #22)

WELDING UNIT NO. 711
TIME WELDED 9:50 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.T.O

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:40	30psi	10:45	30psi		269'	0psi	Y		SCC.

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#22	DS	11-30 AG	SAS

CQA SEAM INSPECTION FORM

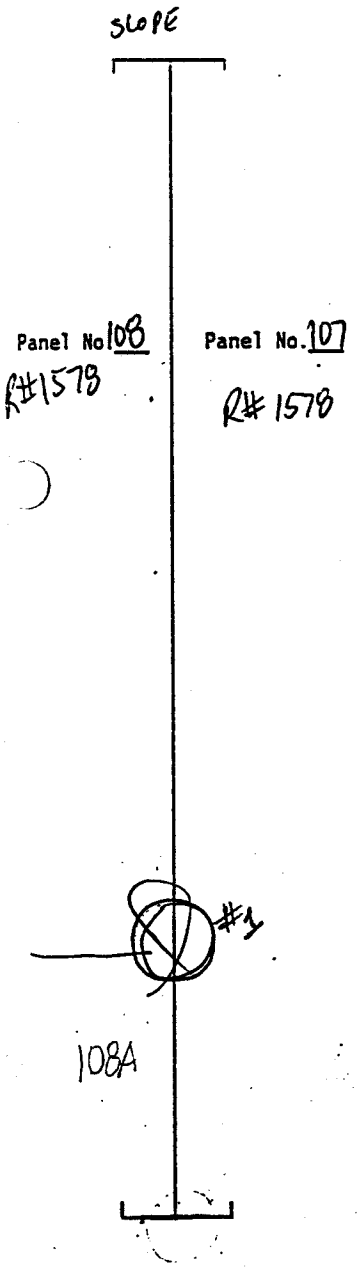
Sheet 106 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 107-108
SEAM LENGTH 244'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 9:48 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:48	30	10:53	30		244'	—	Y		gc

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	SEAM INT. NEEDS PATCH	11-30 (PJ)	SA;

CQA SEAM INSPECTION FORM

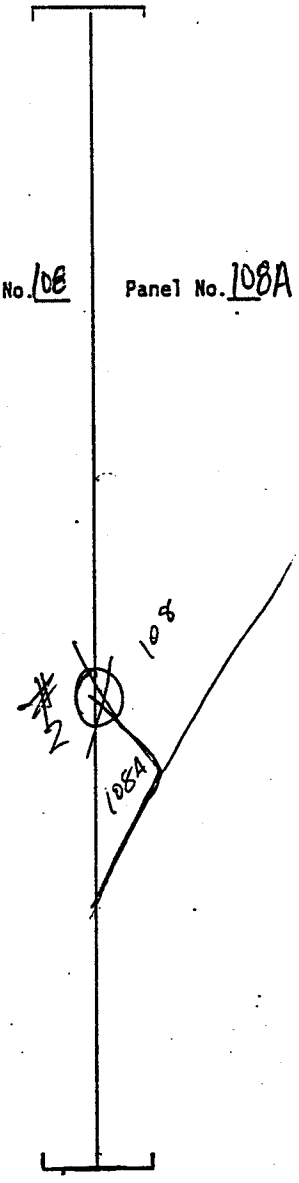
Sheet 107 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 108 - 108A
SEAM LENGTH 20'
COMMENTS ADD ON CORNER TO 108 PANEL

WELDING UNIT NO. 327
TIME WELDED 10:25 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.T.

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:15 Am	30	11:20	30		22.5'	—	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#2	PIGGYBACK	T WELD	SAS

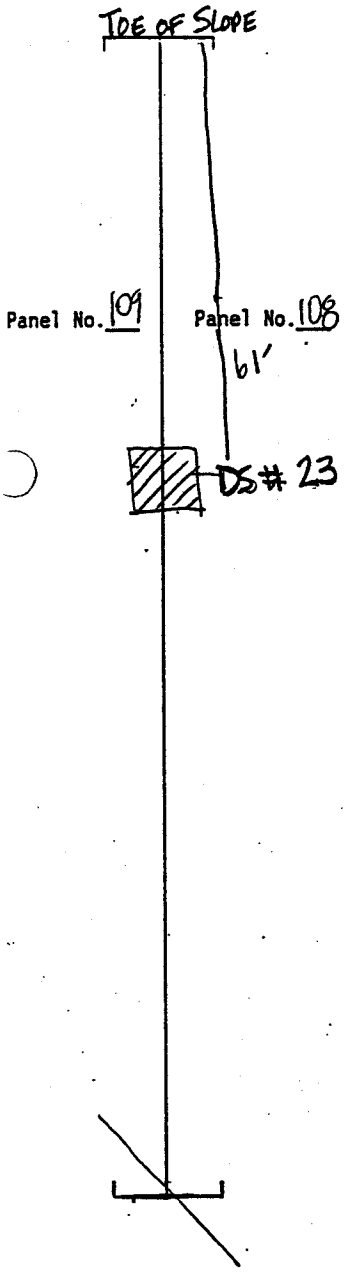
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 109-108
SEAM LENGTH 137'
COMMENTS (DS#23)

WELDING UNIT NO. 851
TIME WELDED 10:25 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:28A	30psi	11:33 AM	30psi		137'	0psi	Y		SCC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

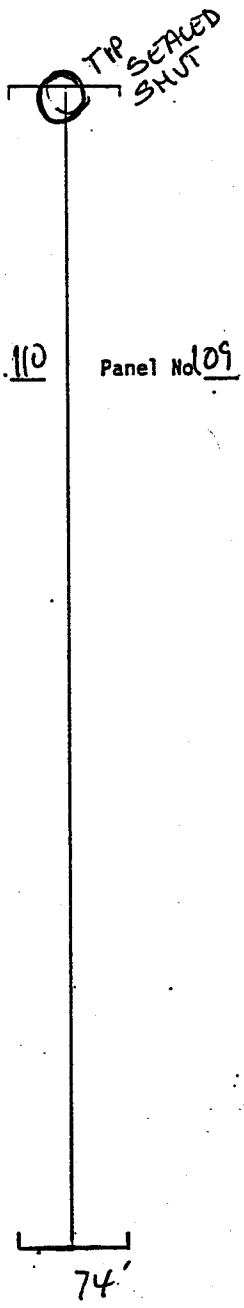
REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#23	DS	11-30 AC	SAS

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 109-110
SEAM LENGTH 74'
COMMENTS TIP SEALED SHUT AIR TEST MAIN WILL TRIM OFF WHEN AIR TESTING
WELDING UNIT NO. 327
TIME WELDED 10:40 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:30 AM	30	11:35 AM	30		74'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

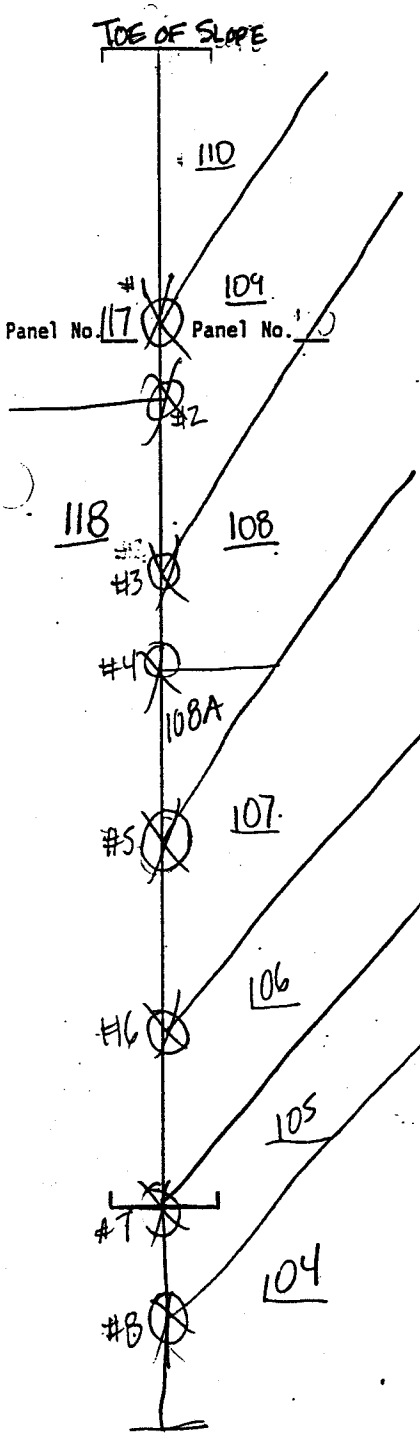
Sheet 110 of 254

PROJECT NAME HARDIN COUNTY ASH MONOFILL
PROJECT NO. 2716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA/PM
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. TIE-IN
SEAM LENGTH 245'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 12:40 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	PIGGYBACK	11-30 PJ	SAS
#2	" "	11-30 PJ	SAS
#3	" "	11-30 PJ	SAS
#4	" "	11-30 PJ	SAS
#5	" "	11-30 PJ	SAS
#6	" "	11-30 PJ	SAS
#7	" "	11-30 PJ	SAS
#8	" "	11-30 PJ	SAS

CQA SEAM INSPECTION FORM

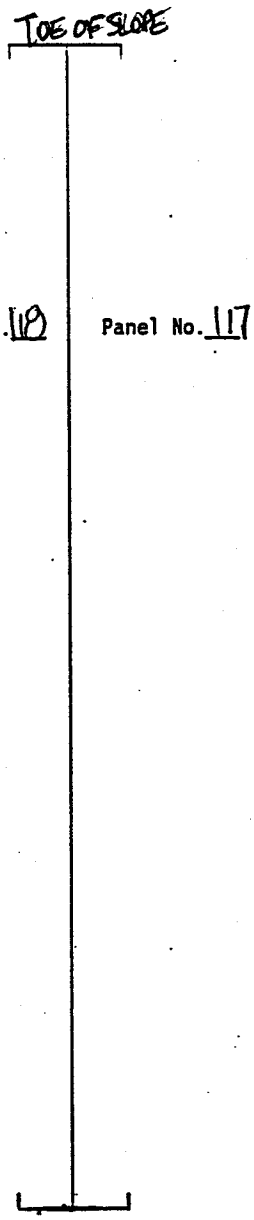
Sheet 111 of 259

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 2716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/23/93

SEAM NO. 118-117
SEAM LENGTH 225'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 12:30 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:00	30psi	3:05	30psi		22.5'	0psi	Y		CC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

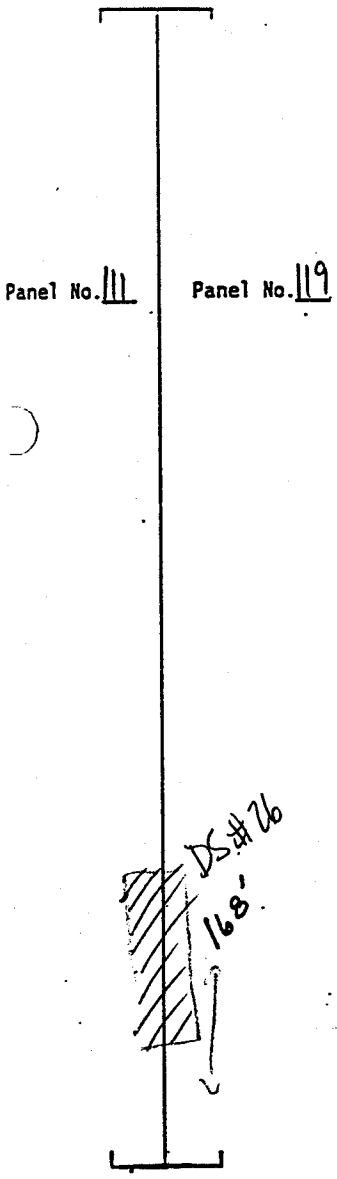
Sheet 112 of 259

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 111-119
SEAM LENGTH 399'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 3:40 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
5:10 pm	30	5:15	26		399'	4 psi	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#26	DS		SAS

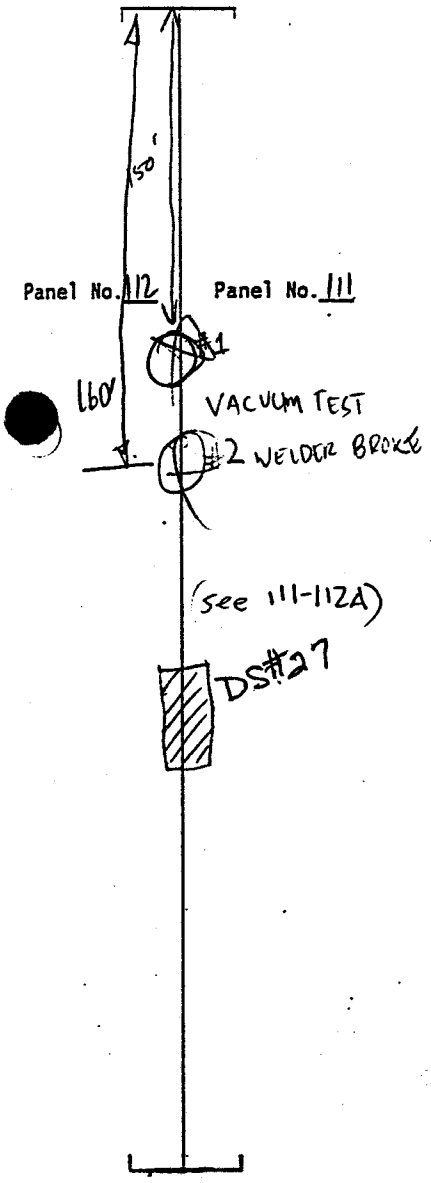
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH E. GONZALES
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 111-112
SEAM LENGTH 399'
COMMENTS WELDER BROKE @ ≈160'. (DS#27)

WELDING UNIT NO. 851
TIME WELDED 2:15 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:55	30 psi	4:00 pm	30 psi		150'	0 psi	Y		SC.

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	WELDER STOPPED CHAIN CAME OFF	11-29 (PJ)	SAS
2	WELDER BROKE	11-29 (PJ)	SAS
#27	D.S.	11-29 (PJ)	SAS

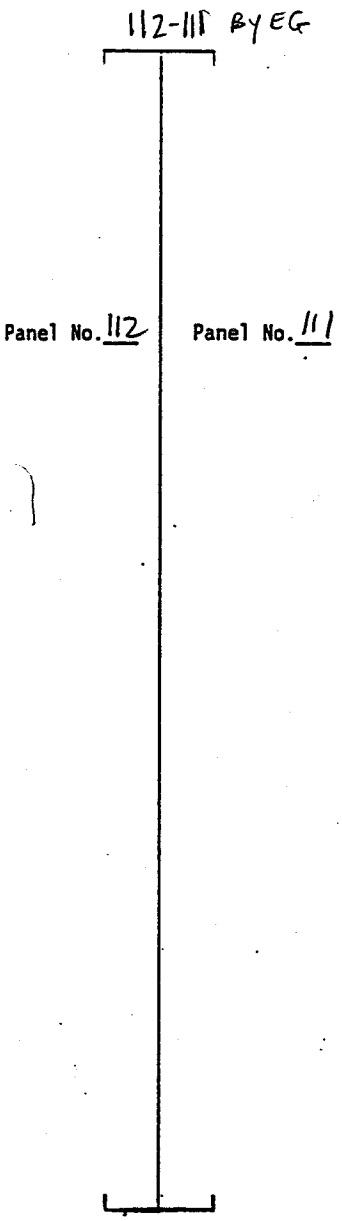
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH PM
TYPE OF WELDER Fusion
DATE WELDED 11/23/93

SEAM NO. 111-112 A
SEAM LENGTH 240'
COMMENTS Finish out 111-112 / OK

WELDING UNIT NO. 711
TIME WELDED 3:30 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
4:30p	30psi	4:35p	30psi		240'	0psi	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

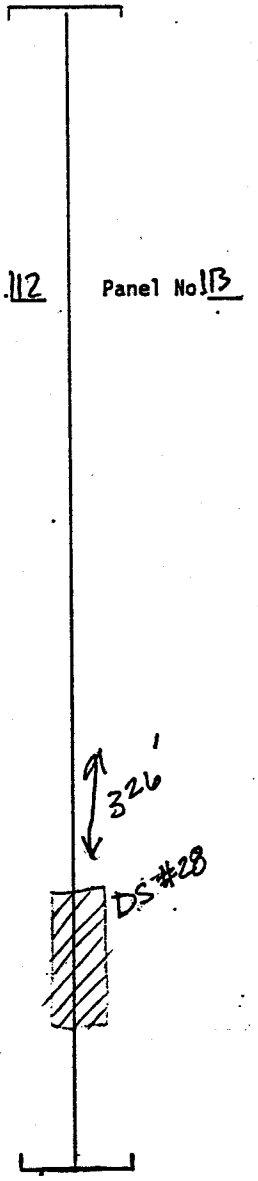
Sheet 115 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 112-113
SEAM LENGTH 399'
COMMENTS (DS 28)

WELDING UNIT NO. 327
TIME WELDED 2:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
345pm	30	350pm	30		399'	—	Y		SK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#28	D.S.		SK

CQA SEAM INSPECTION FORM

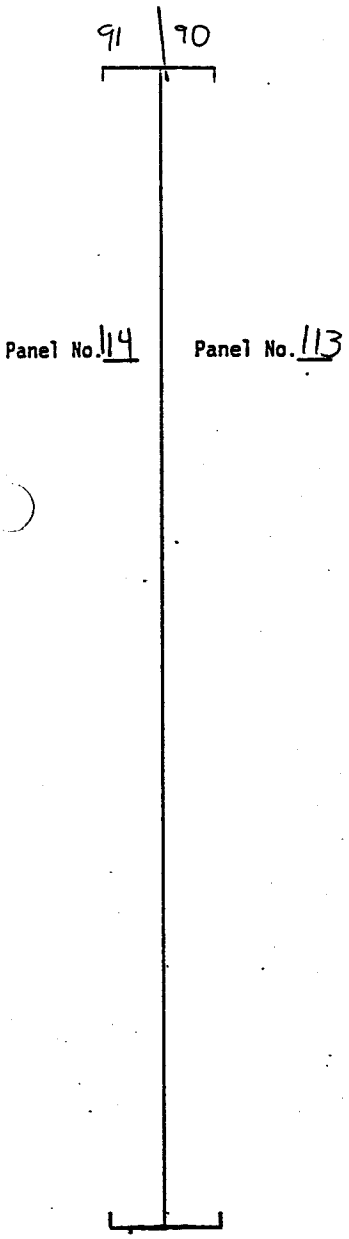
Sheet 116 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH PM
TYPE OF WELDER Fusion
DATE WELDED 11/23/93

SEAM NO. 114-113
SEAM LENGTH 400'
COMMENTS Ok

WELDING UNIT NO. 711
TIME WELDED 2:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
3:35p	30psi	3:40p	30psi	—	400'	0psi	Y		SC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

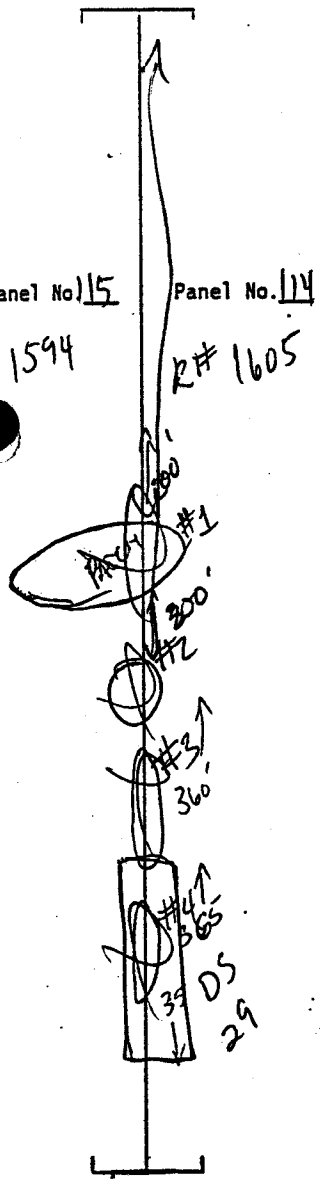
Sheet 117 of 259

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-23-93

SEAM NO. 114-115
SEAM LENGTH 400'
COMMENTS DAMAGES OCCURED WHILE UNROLLING WHEN WIND GUSTED (DS 29)

WELDING UNIT NO. 327
TIME WELDED 12:53 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

N/A

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:20 pm	30	2:25 pm	30		399'	-	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	CREASED	11-29 (PJ)	SAS
2	TEAR IN EDGE	CAP STRIP 11-29 (PJ)	SAS
3	EDGES CREASED	11-29 (PJ)	SAS
4	HOLE	CAP STRIP 11-29 (PJ)	SAS
DS	D.S.	11-29 (PJ)	SAS

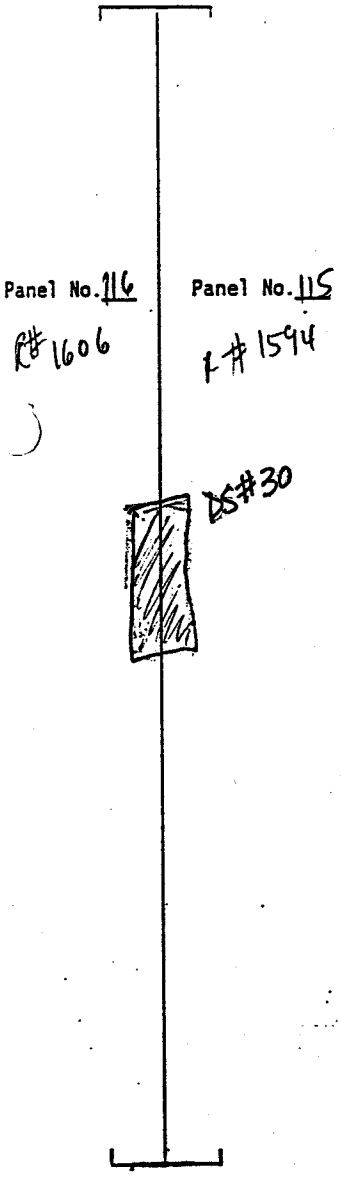
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 12-23-93

SEAM NO. 115-116
SEAM LENGTH 400'-399'
COMMENTS

WELDING UNIT NO. 851
TIME WELDED 12:45 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
2:18 pm	30	2:23 pm	30		399'	-	Y		SK

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#30	DS	11-30 (PT)	SAS

CQA SEAM INSPECTION FORM

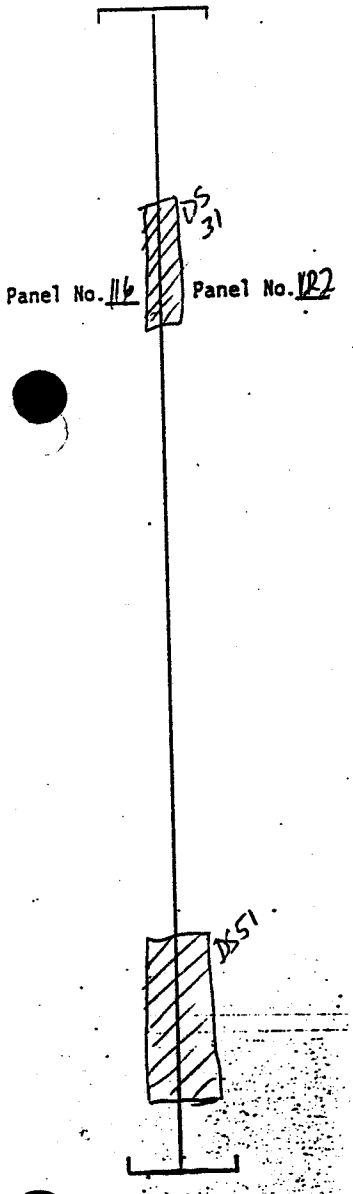
Sheet 119 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Babuhill Contracting
INSTALLER Environmental Design
WELDING TECH P.M.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 116 - 122
SEAM LENGTH 400'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 8:00 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
N.T.O.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:55 pm	30	12 pm	30			—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NOT TYPE	APPROVED BY
#31	D.S.		SAG
#51	D.S.		SAG

CQA SEAM INSPECTION FORM

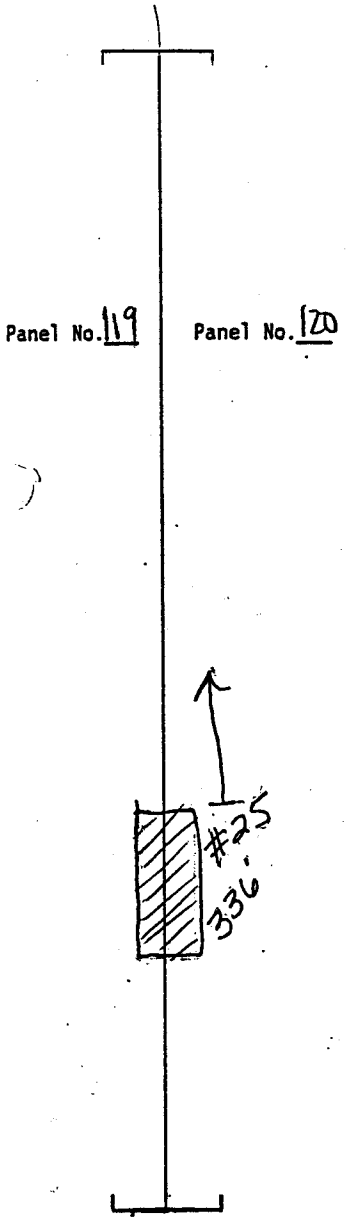
Sheet 120 of 254

PROJECT NAME Halifax County Ash Landfill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH PM
TYPE OF WELDER Fusion
DATE WELDED 11/23/93

SEAM NO. 119-120
SEAM LENGTH 280'
COMMENTS Dark @ 5:15 PM (DS#25)

WELDING UNIT NO. 711
TIME WELDED 4:25 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
1. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:10 AM	30	8:15	29		280'	1psi	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#25	D.S.		SAS

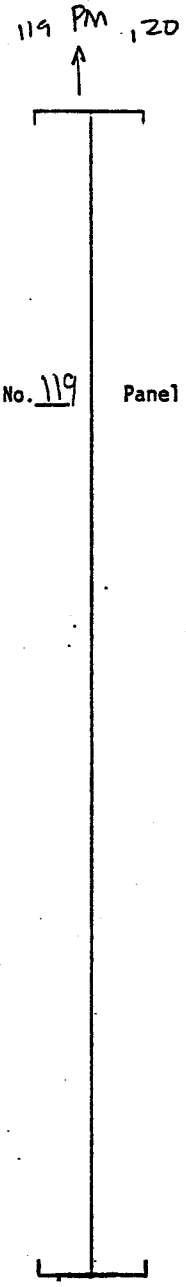
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH FZ
TYPE OF WELDER Fusion
DATE WELDED 11/23/93

SEAM NO. 119-120A
SEAM LENGTH 115'
COMMENTS DARK (@ 5:15 PM)

WELDING UNIT NO. 327
TIME WELDED 4:55 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:13 pm	30	8:18 pm	30		115'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

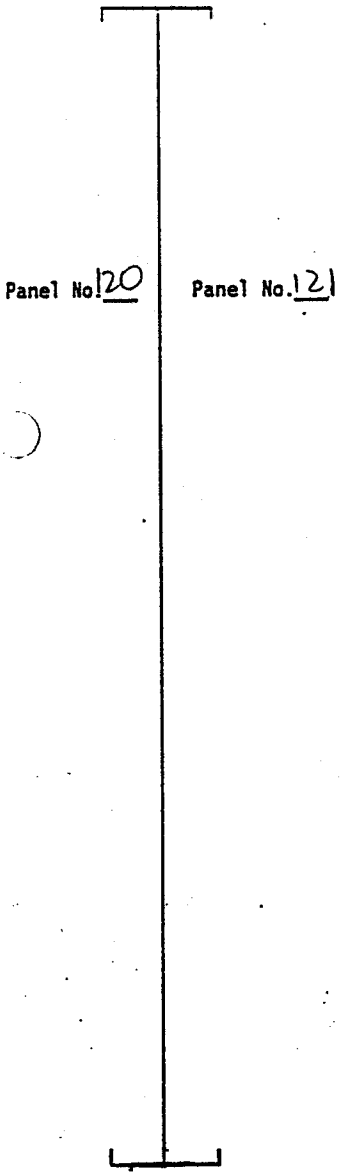
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 120-121
SEAM LENGTH 250'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 3:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:10 AM	30	7:15	30		250'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

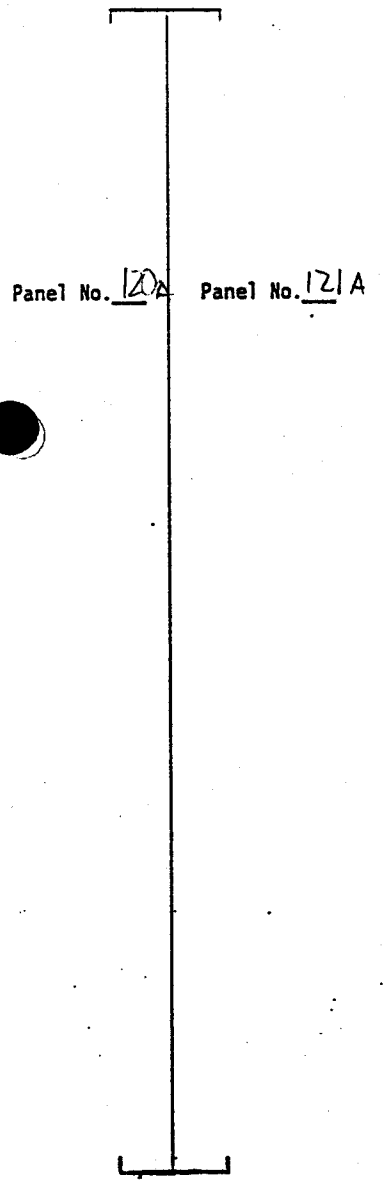
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON MENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 120-121A
SEAM LENGTH 150'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3:55 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:12A	30	7:17A	30		150'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

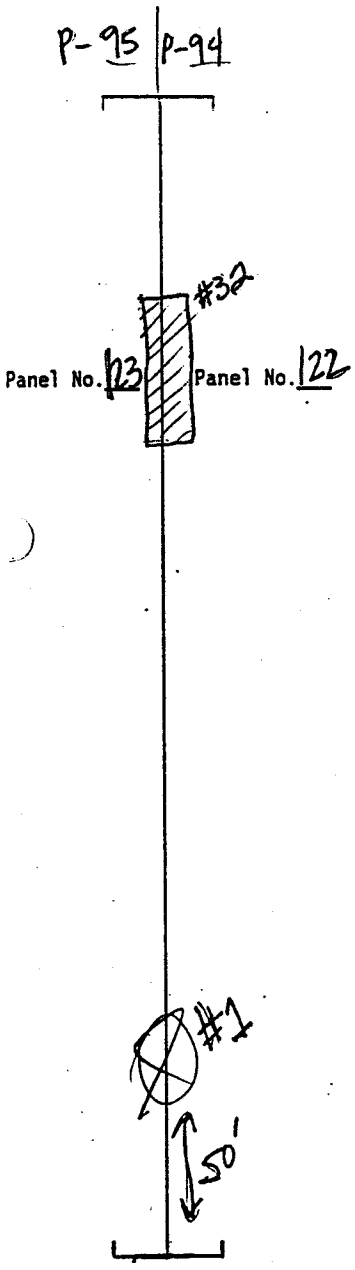
REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 123-122
SEAM LENGTH 400'
COMMENTS 1 BURN THRU (DS 32)
WELDING UNIT NO. 54
TIME WELDED 11:35 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:49	30	11:54	30		400'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◐	Repair Tested
◑	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU		SAS
#32	D.S.		SAS

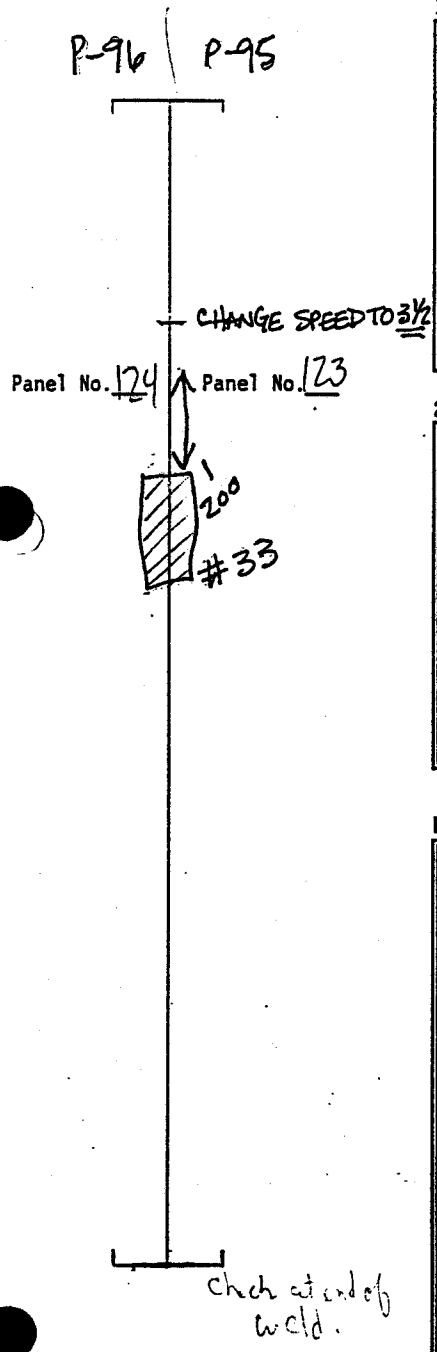
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO. ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH EG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 124/123
SEAM LENGTH 400'
COMMENTS OK (DS33)

WELDING UNIT NO. 59
TIME WELDED 11:30 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:40	30	11:45	30		400'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
●	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 33	DS	11-29 AG	SAS

CQA SEAM INSPECTION FORM

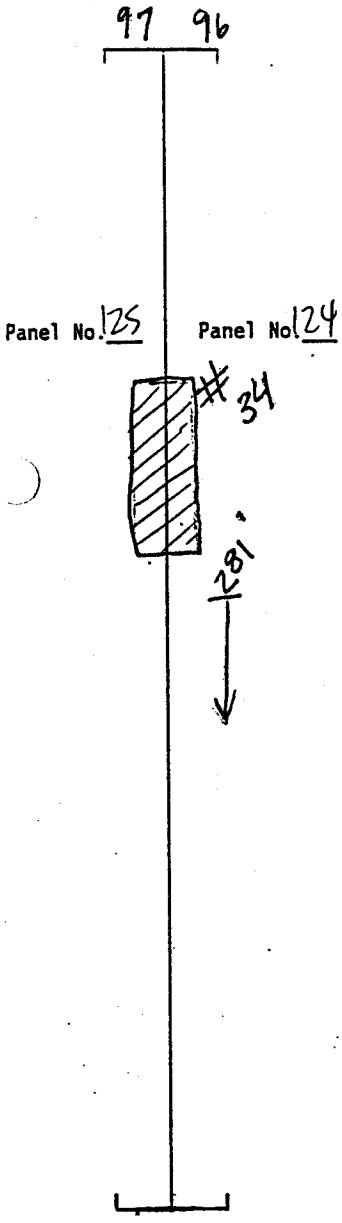
Sheet 126 of 254

PROJECT NAME HALIFAX COUNTY ACH MODIFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 125-124
SEAM LENGTH 400'
COMMENTS OK
DS #34

WELDING UNIT NO. 327
TIME WELDED 11:43 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
Vt. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:25	30	11:30	30		400'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 34	DS	11-24 AG	SAS

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 126-125
SEAM LENGTH 383'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 12:10 a.m./(p.m)

SEAM DETAIL
(Show Dimensions)

98 | 97

Panel No. 126 Panel No. 125

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:19	30	11:22	30		383'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

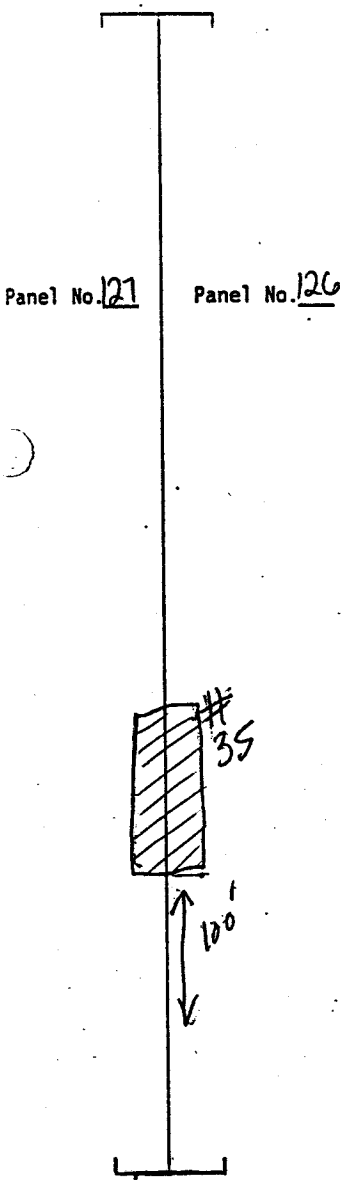
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs Inc.
WELDING TECH Felix Zarate
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 126-127
SEAM LENGTH 326'
COMMENTS DS35

WELDING UNIT NO. 54
TIME WELDED 1:25 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:07 AM	30	11:12	30		326'	-	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS 35	DS	11-29 AG	SAS

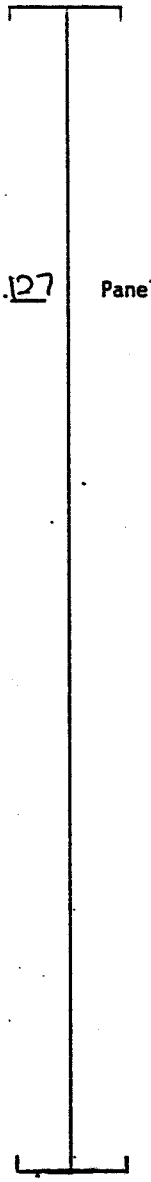
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs Inc.
WELDING TECH F.A.
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 127-128
SEAM LENGTH 279'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 135 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:57 am	30	11:02	30	—	279'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

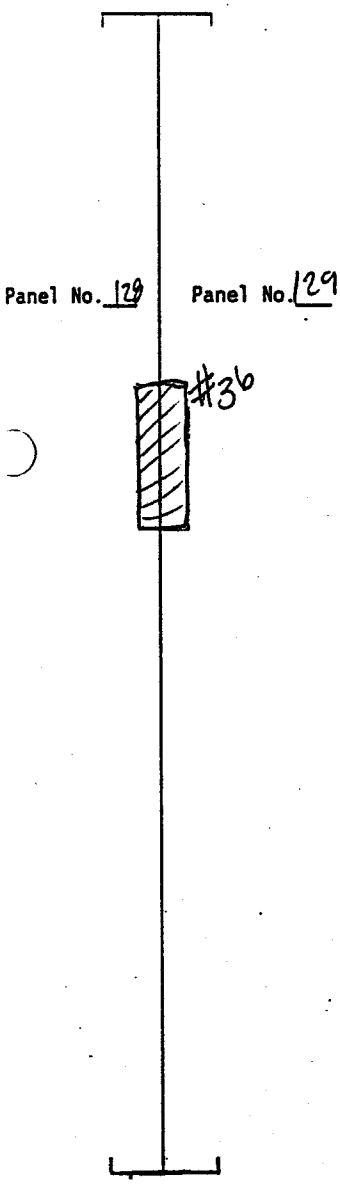
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO. LANDFILL
PROJECT NO. 5716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-24-97

SEAM NO. 128 · 129
SEAM LENGTH 22.5'
COMMENTS DS#36

WELDING UNIT NO. 59
TIME WELDED 1:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:45 AM	30	10:50	30		225'	—	Y		DC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#36	DS	11-30 PJ	SAS

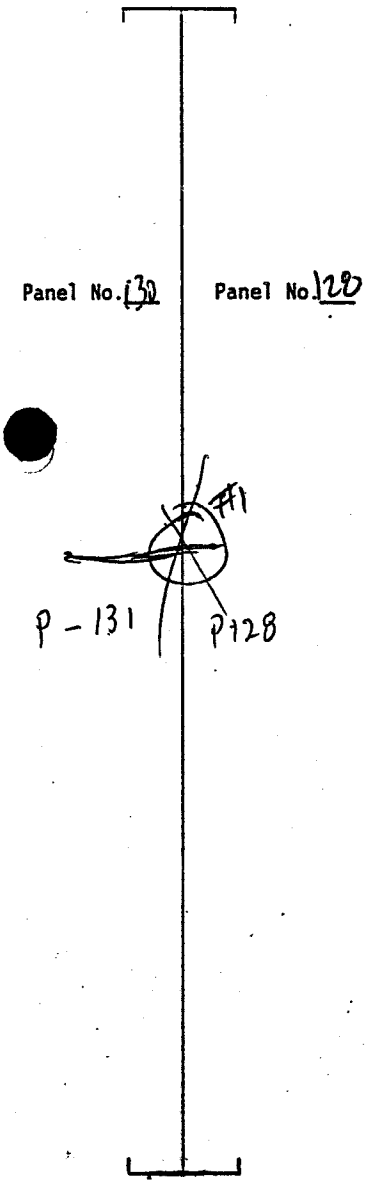
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs Inc.
WELDING TECH E.G.
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 128-130
SEAM LENGTH 111'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 145 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
J.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:30 AM	30	10:35	30		111'	—	Y		SL

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	T-WELD	11-30 AC	SAS

CQA SEAM INSPECTION FORM

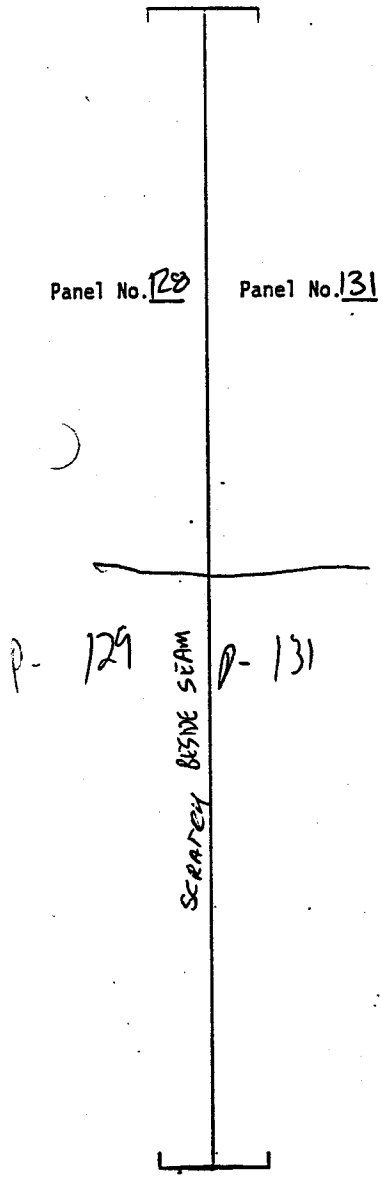
Sheet 132 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs Inc.
WELDING TECH E.G.
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 128-131
SEAM LENGTH SCRATCH BESIDE SEAM 100'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 2:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:33	30	10:38	30		100'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

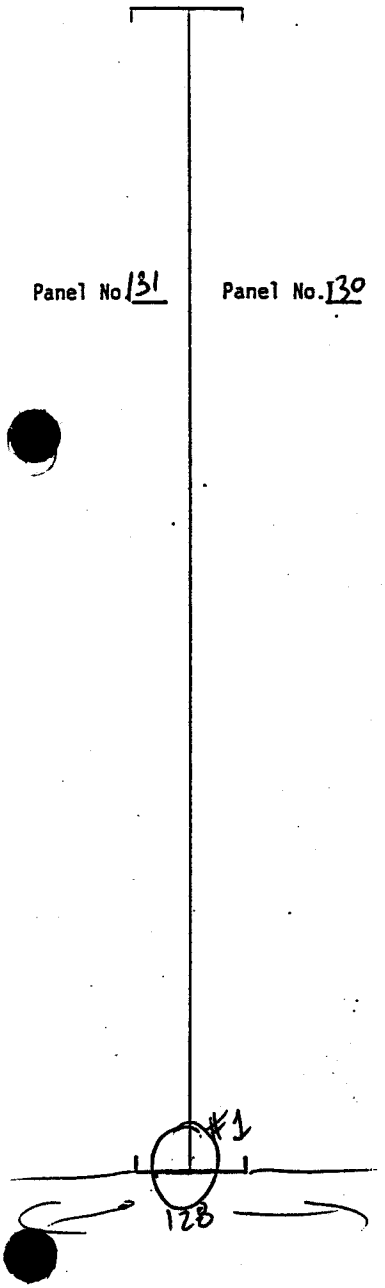
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs Inc.
WELDING TECH E.G.
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 130-131
SEAM LENGTH 22.5'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 1:55 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
J.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:16 Am	30	10:21	30		225'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	T-WELD	11-30 AG	SAS

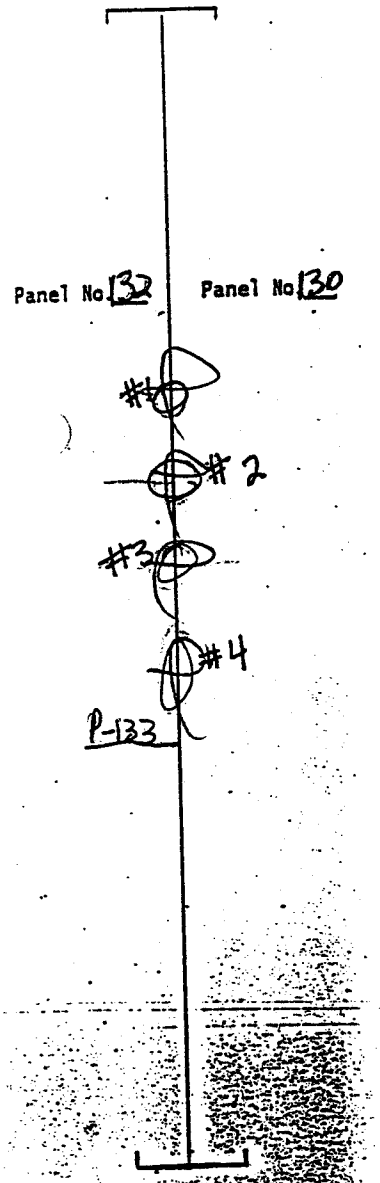
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH AG
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 132-130 & 133-131
SEAM LENGTH 225'
COMMENTS VT

WELDING UNIT NO. 41
TIME WELDED 2:40 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:55A	30	10:00A	30		225'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	BURN THRU		SAS
2	TIE-IN		SAS
3	"		SAS
4	BURN THRU		SAS

CQA SEAM INSPECTION FORM

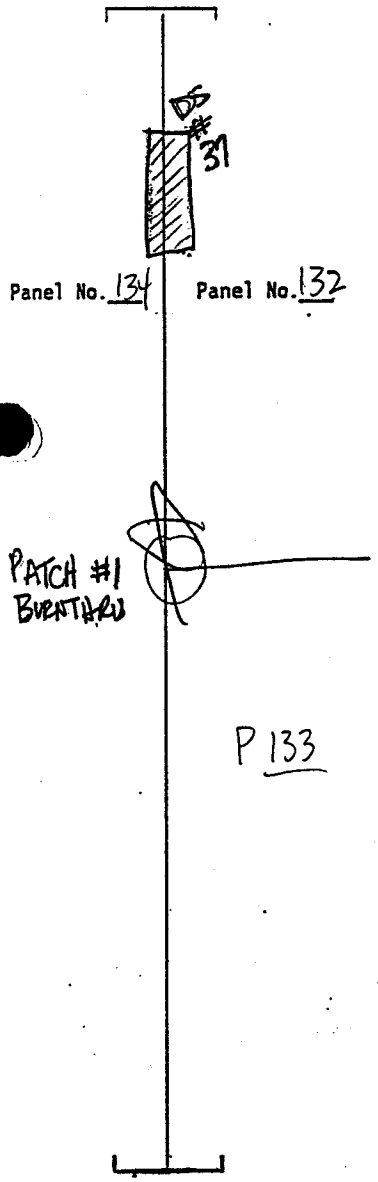
Sheet 135 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 134-132, 133
SEAM LENGTH 200'
COMMENTS (DS# 37)

WELDING UNIT NO. 41
TIME WELDED 3:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
V.T.		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
1002 Atm	30	10:07	30		200'	0	Y		JK

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◐	Repair Tested
◑	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU (TIE-IN)		
#37	D.S.		JK

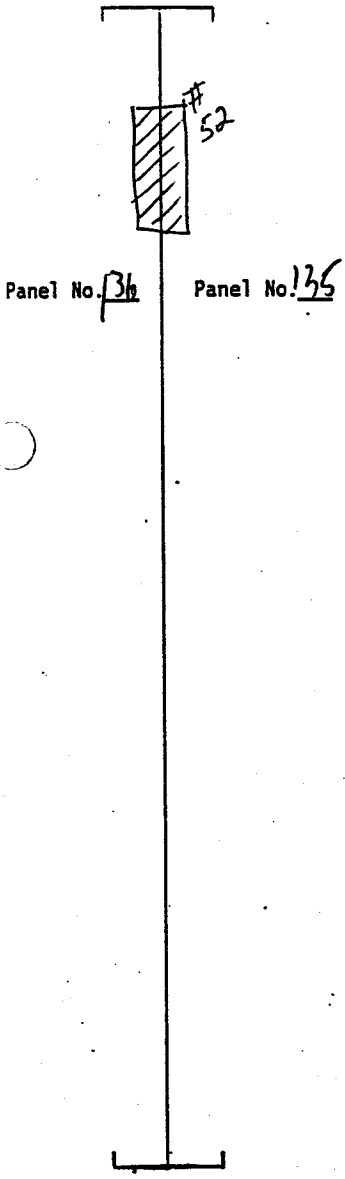
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofil
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Designs Inc
WELDING TECH P.M
TYPE OF WELDER Fusion
DATE WELDED 11-24-93

SEAM NO. 135-136
SEAM LENGTH OK
COMMENTS 395' (DS 52)

WELDING UNIT NO. 711
TIME WELDED 2:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
J.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:40 Am	30	7:45 Am	30		345'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#52	D.S.		SAS

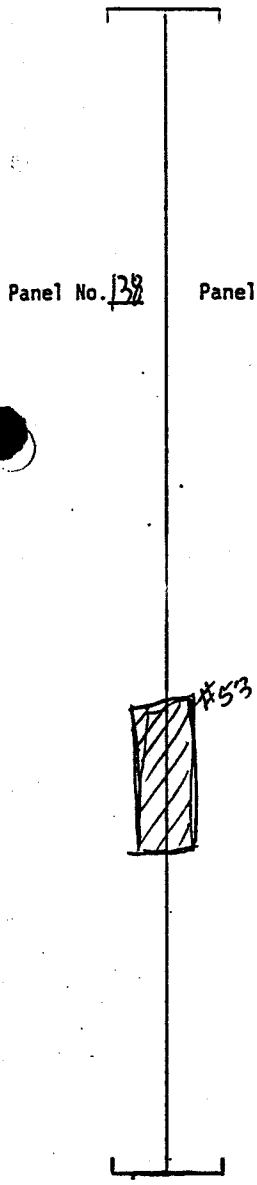
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 136-137
SEAM LENGTH OK 345'
COMMENTS (DS53)

WELDING UNIT NO. 54
TIME WELDED 2:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:15 AM	30	7:20	30		345'	—	Y		SK

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#53	D.S.		SAS

CQA SEAM INSPECTION FORM

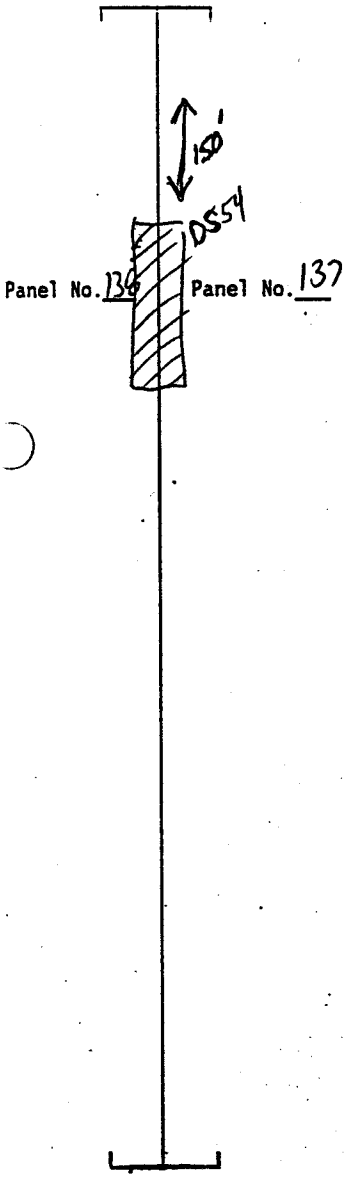
Sheet 138 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 137-138
SEAM LENGTH 345'
COMMENTS DS 54

WELDING UNIT NO. 59
TIME WELDED 2:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
J.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:18 AM	30	7:23 AM	30		345'	0	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#54	D.S.		SAS

CQA SEAM INSPECTION FORM

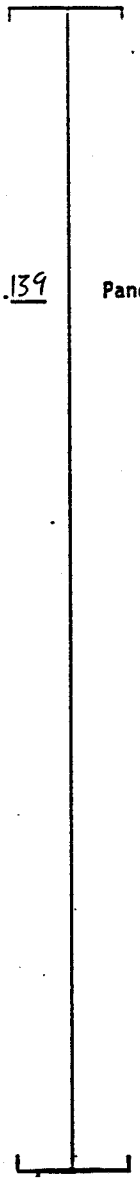
Sheet 139 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 371C
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 139-138
SEAM LENGTH 395'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 2:35 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:25 AM	30	7:30 AM	30		395'	0psi	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

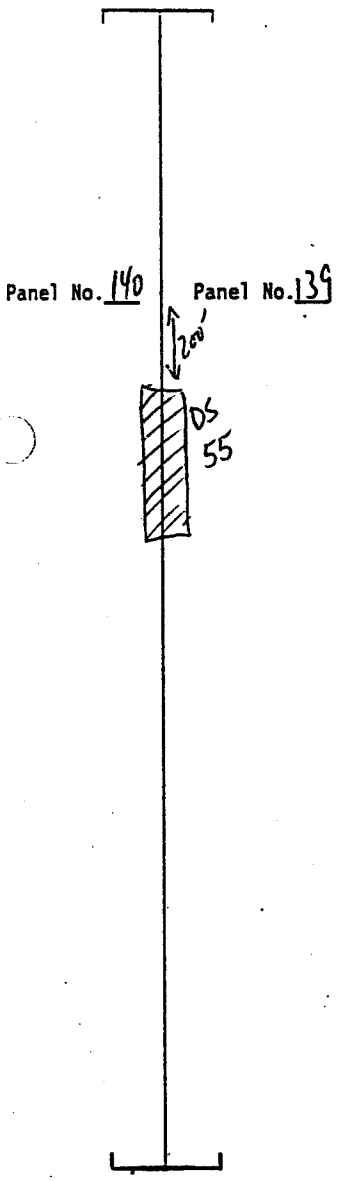
Sheet 140 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR KARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH E.G.
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 139-140
SEAM LENGTH 390'
COMMENTS (DS55)

WELDING UNIT NO. 54
TIME WELDED 347 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:29 AM	30	7:34 AM	30		390'	0	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#55	DS,		SA,

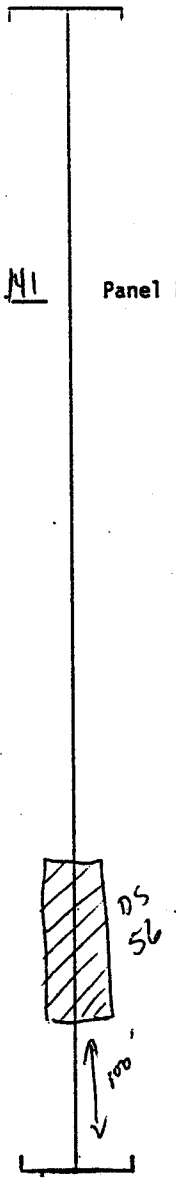
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH FELIX SOLATE
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 140-141
SEAM LENGTH 380'
COMMENTS (DS 56)

WELDING UNIT NO. 54
TIME WELDED 3:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
J.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:35 AM	30	7:40	30		380'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#56	D.S.		SAS

CQA SEAM INSPECTION FORM

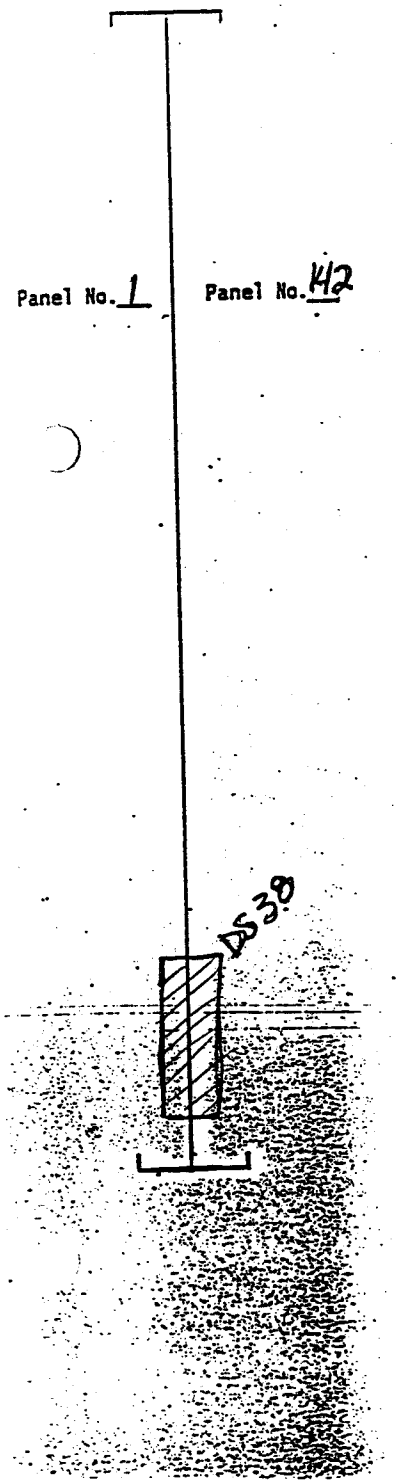
Sheet 142 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 1—142
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 9:15 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.K. JK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:25	30	9:30	30		39'	—	Y		JK

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS38	DS		SAY

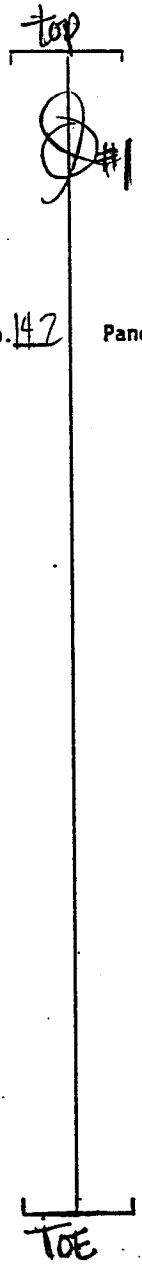
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 142-143
SEAM LENGTH 40'
COMMENTS 1 REPAIR

WELDING UNIT NO. 41
TIME WELDED 4:20 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:28A	30	9:33A	30		40'	0	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
⊟	Destructive Sample
▤	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU		SAB

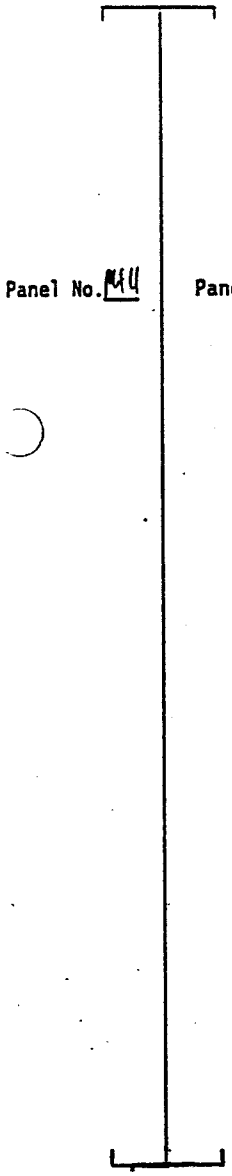
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 143-144
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 4:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:15A	30	9:20	30		40'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 145 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 144-145
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 4:45 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:55 AM	30	9:00 Am	30		39'	–	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

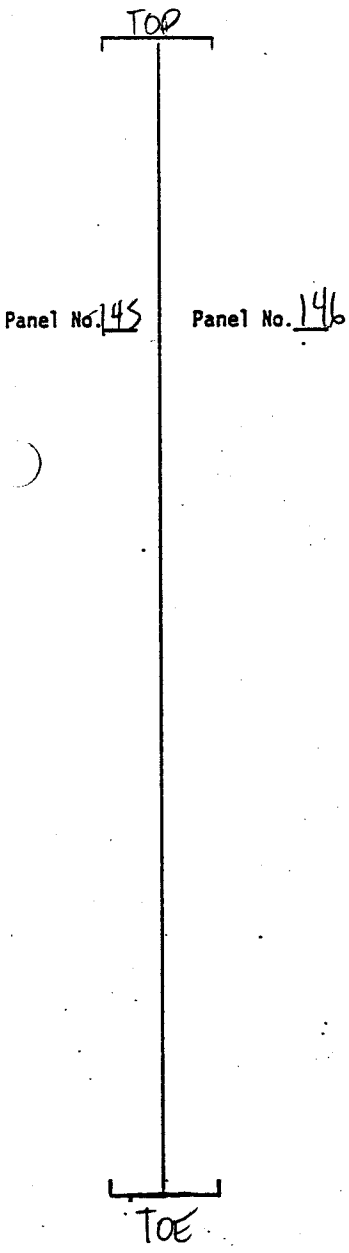
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 145 -146
SEAM LENGTH 410'
COMMENTS OK ~

WELDING UNIT NO. 41
TIME WELDED 4:55 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:50 A	30	8:55	30		410'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

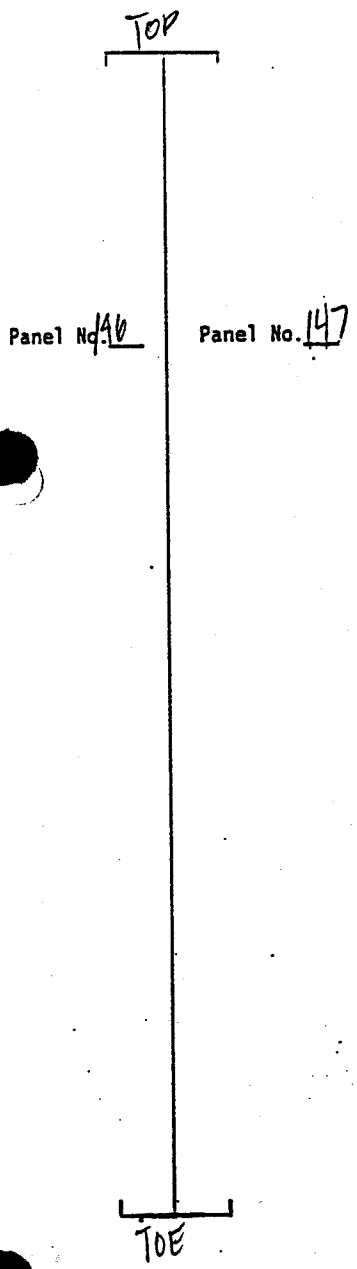
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 146-147
SEAM LENGTH 40'
COMMENTS OK ✓

WELDING UNIT NO. 41
TIME WELDED 5:10 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:46 Am	30	8:51 Am	30		40'	–	Y		gc

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

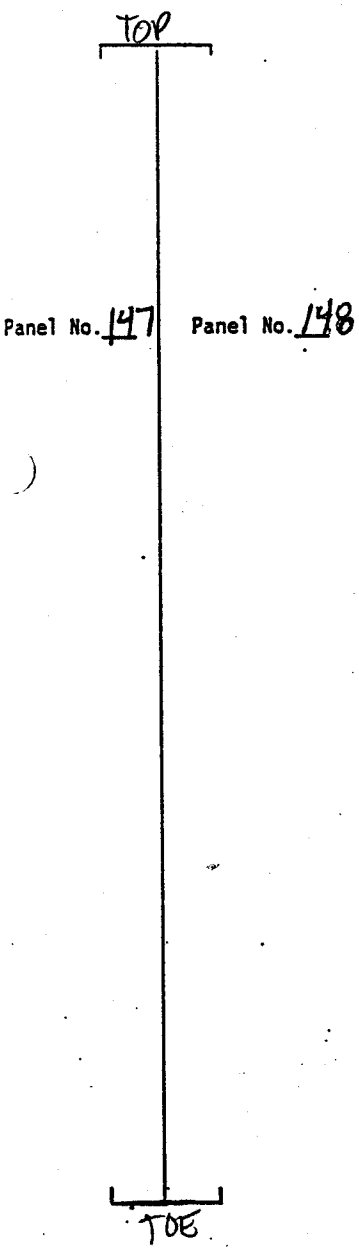
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 147-148
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 5:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:40 AM	30	8:45 PM	30		40'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

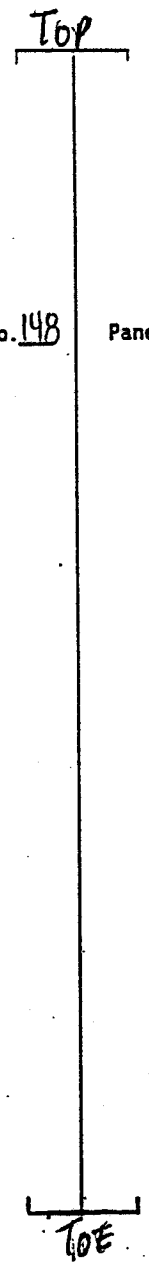
Sheet 149 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 148-149
SEAM LENGTH 40'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 4:50 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:37 pm	30	8:42	30		40'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

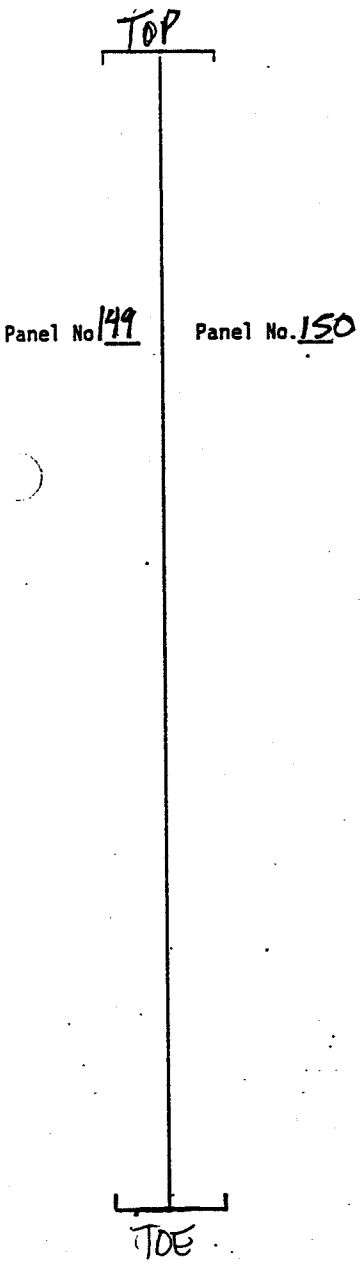
Sheet 150 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 149-150
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 4:35 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:30 AM	30	8:35 AM	30		39'	—	Y		[illegible]

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

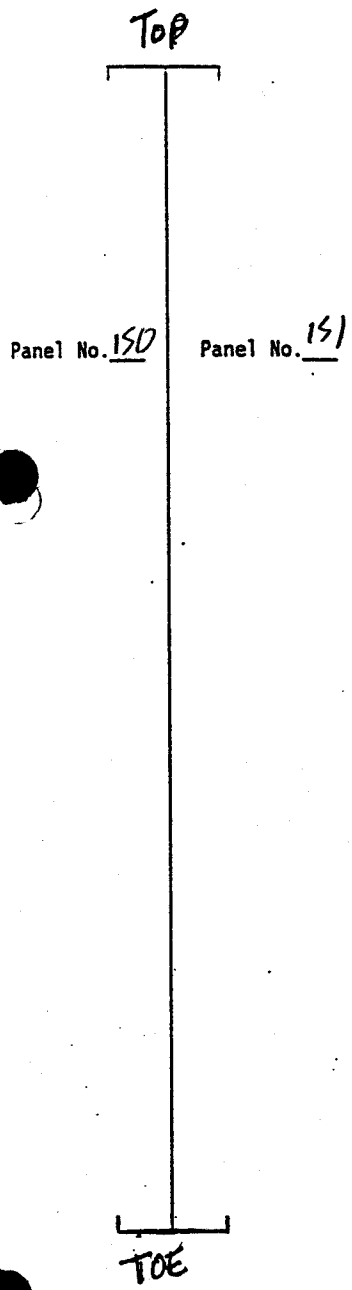
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY LCF MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 150-151
SEAM LENGTH 391
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 5:10 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:24 am	30	8:29	30		39'	-	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

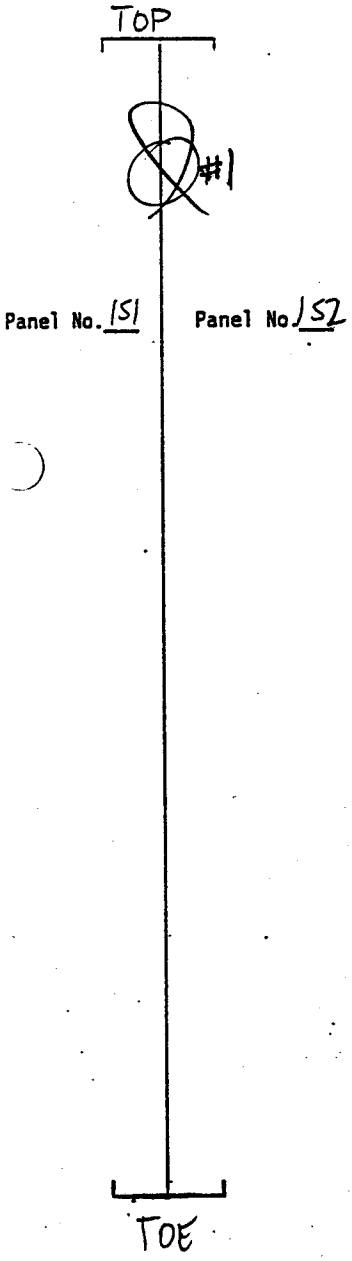
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 151-152
SEAM LENGTH 391'
COMMENTS BURN THRU

WELDING UNIT NO. 327
TIME WELDED 5:00 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:20 AM	30	8:25 AM	30		391'	—	Y		SK

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU		SAK

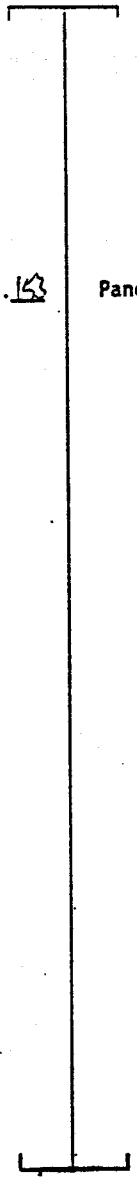
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/23

SEAM NO. 152-153
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 4:50 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:15 PM	30	8:20	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

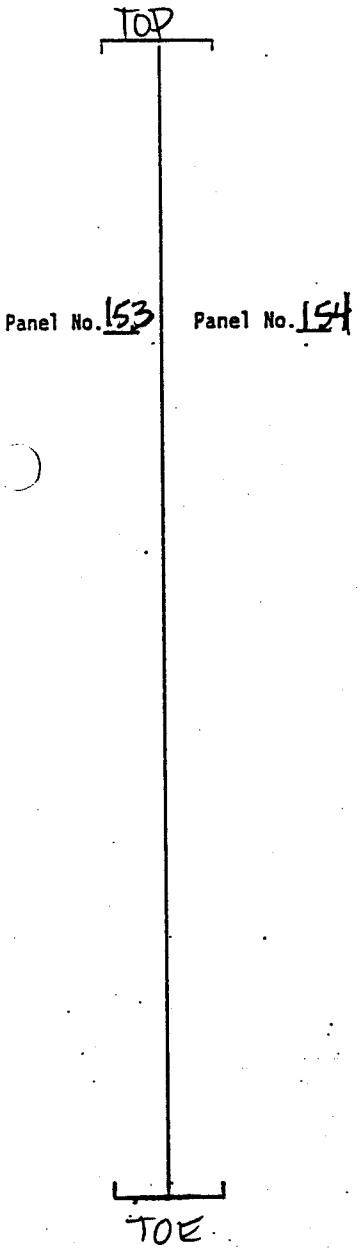
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CNTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 153-154
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 4:35 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:08 AM	30	8:13 AM	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

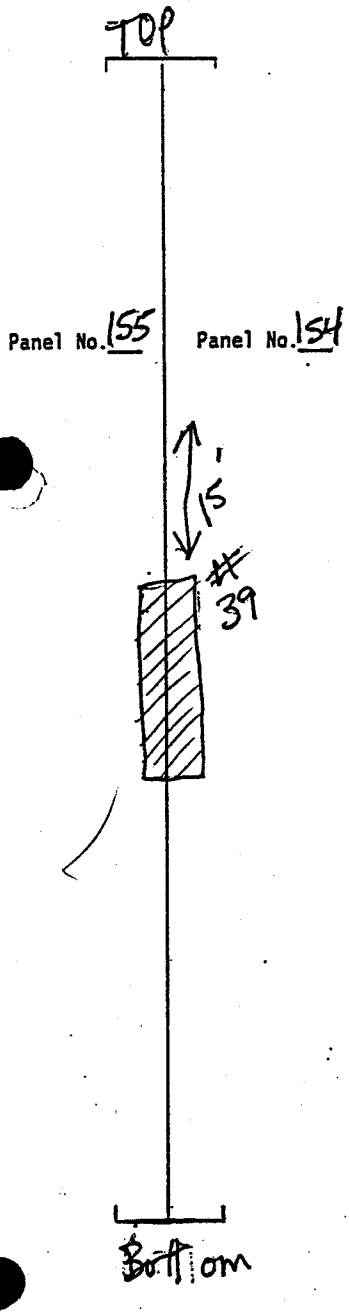
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 154-155
SEAM LENGTH 39'
COMMENTS OK (D539)

WELDING UNIT NO. 327
TIME WELDED 4:22 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11-25 8:02	30	8:07	30		40'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#39	D.S.		SNS

CQA SEAM INSPECTION FORM

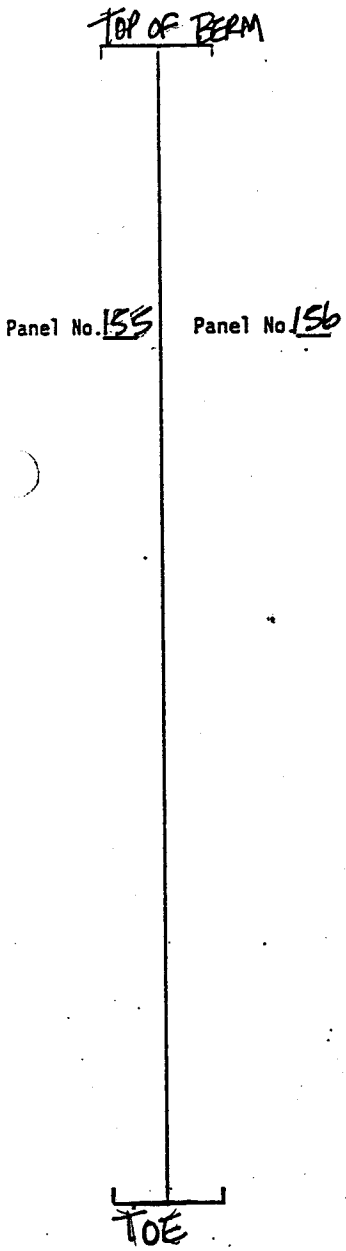
Sheet 156 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 155-156
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 4:10 PM a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:55 AM	30	8:00	30		39'		Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

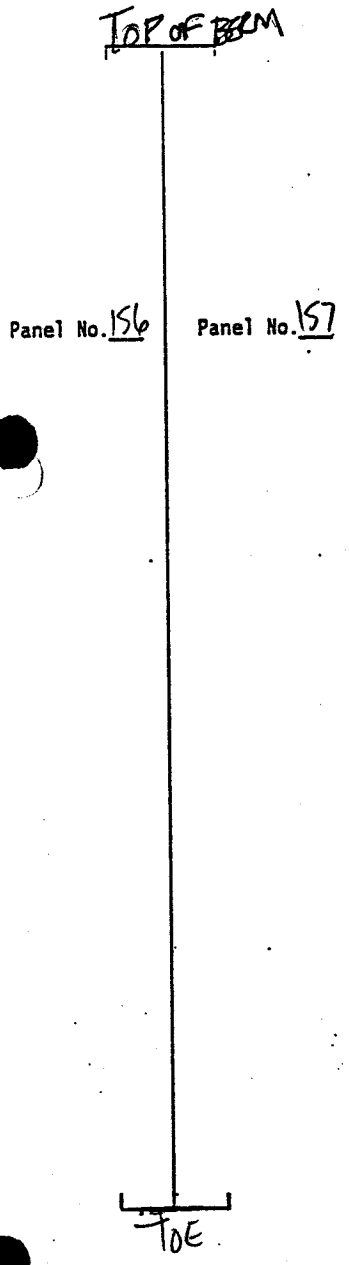
Sheet 157 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. 156-157
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 4:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	F NO, CORRECTIVE ACTION	APPROVED BY
7:50 Am	30	7:55 AM	30		39'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

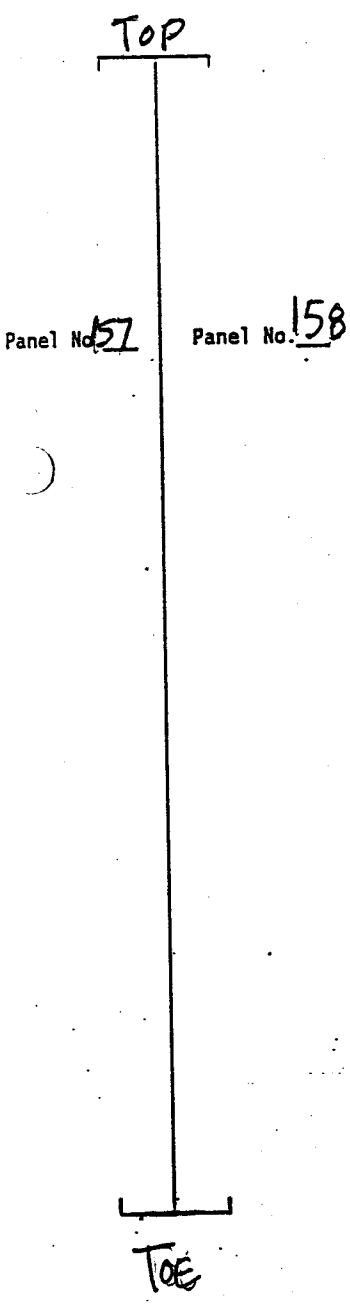
Sheet 159 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
NTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 157-158
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 54
TIME WELDED 11:55 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:14 AM	30	7:19 AM	30		39'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

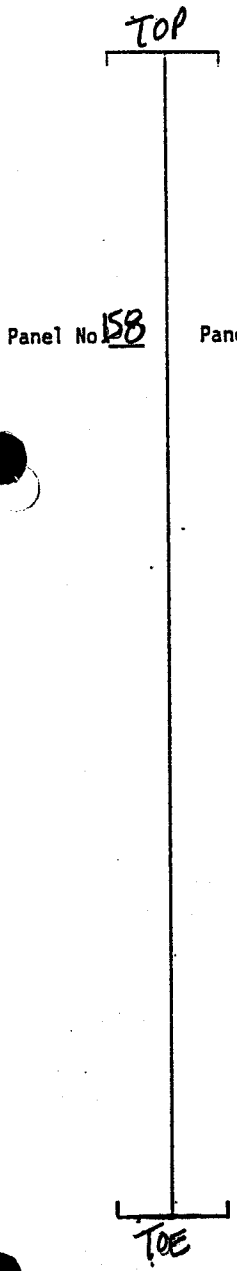
Sheet 151 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 158-159
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 8:00 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:20 AM	30	7:25 AM	30		39'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

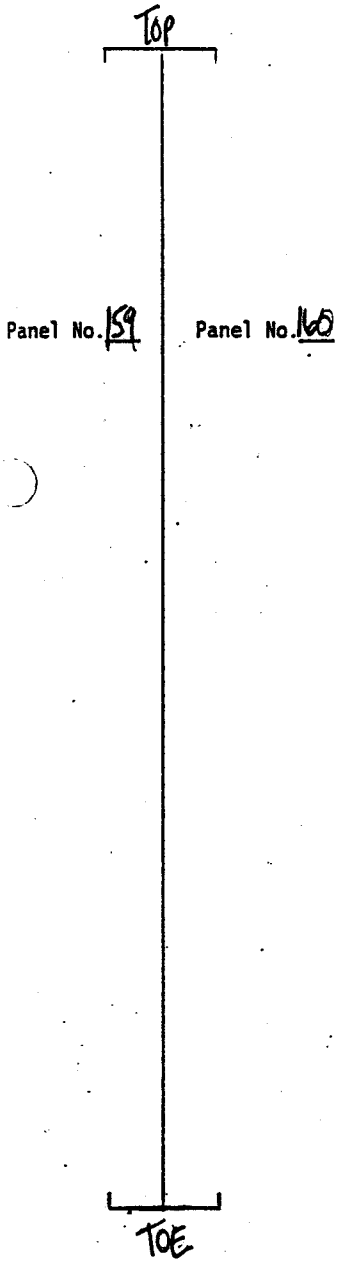
Sheet 160 of 254

PROJECT NAME HALIFAX COUNTY ASH WORKFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 159-160
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 8:05 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:27 Am	30	7:32 Am	30		39'	—	Y		

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
⊟	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

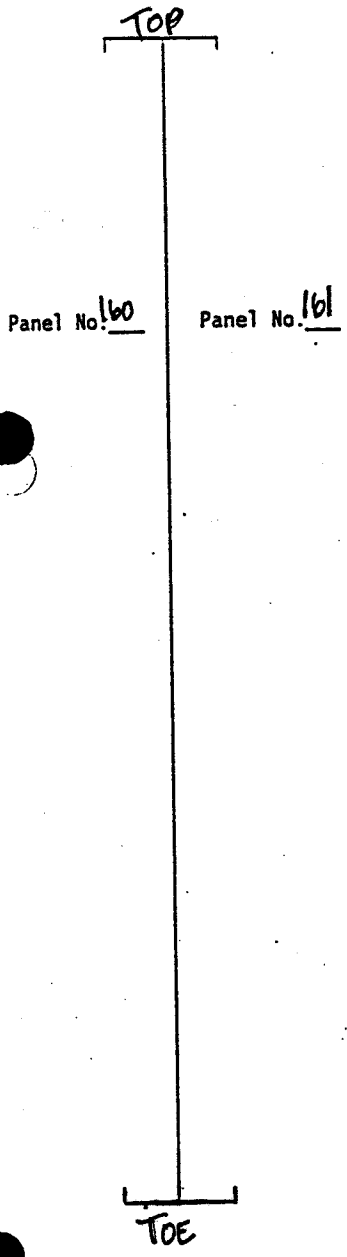
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 160-161
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 54
TIME WELDED 8:15 am (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:34 AM	30	7:39 AM	30		39'		Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 162 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 161-162
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 815 a.m./p.m.

SEAM DETAIL
(Show Dimensions)

TOP

Panel No 161 Panel No 162

TOE

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:40 AM	30	7:45 AM	30		39'		Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

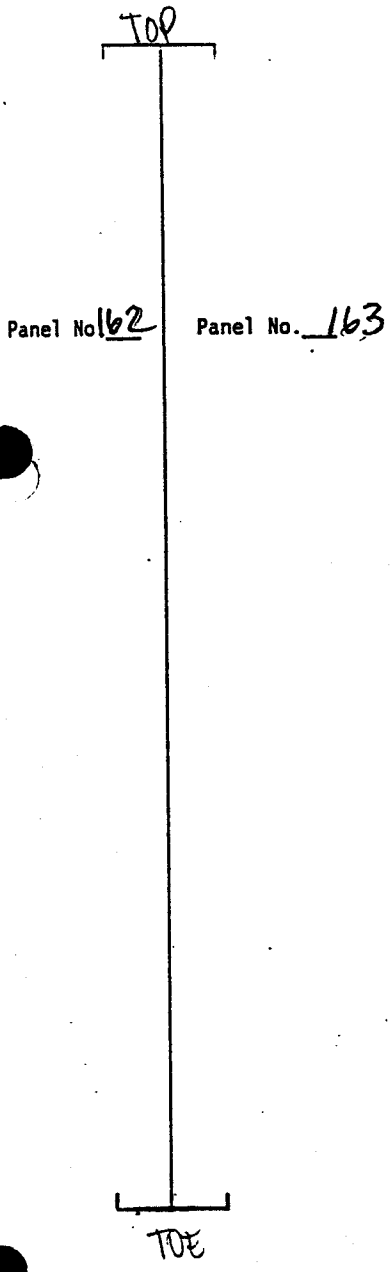
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX Co. ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 162-163
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 54
TIME WELDED 8:30 ~~a.m.~~ p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:47 Am	30	7:52	30		39'		Y		gc

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

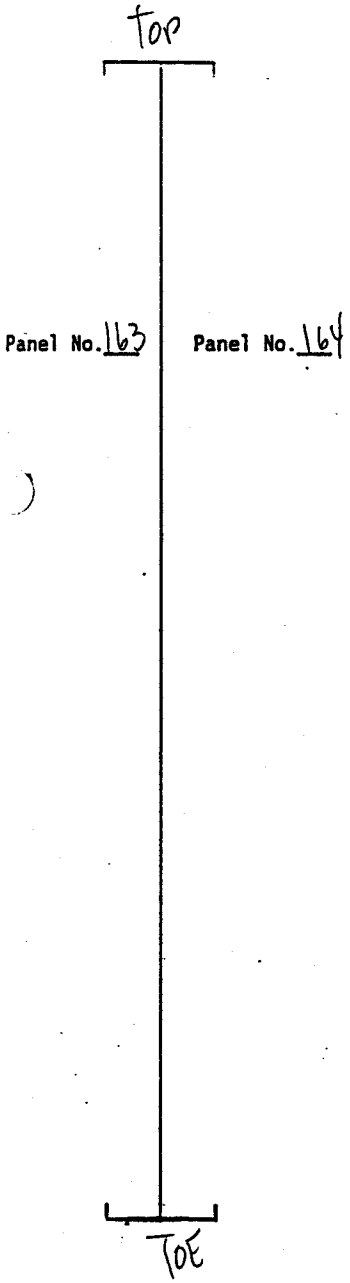
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO. ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 163-164
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 8:35 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:53	30	7:58	30		39'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

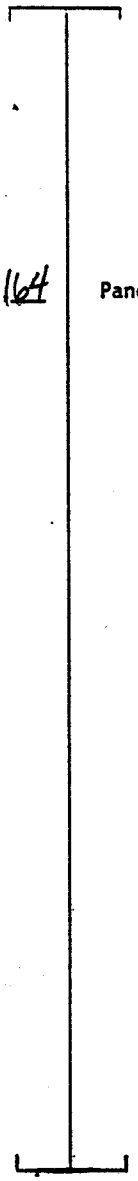
Sheet 165 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 16A-165
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 54
TIME WELDED 8:45 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:00 AM	30	8:05 AM	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

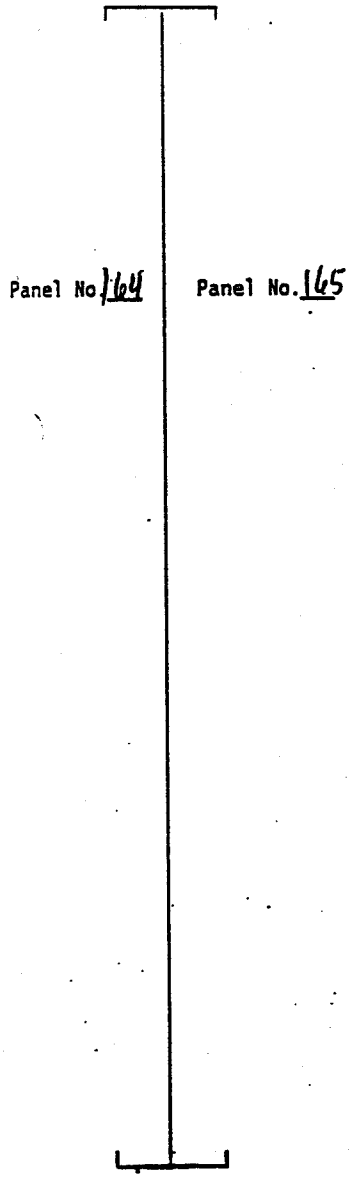
Sheet 166 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN INC.
WELDING TECH FELIX ZAMORA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 165-166
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 8:40 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:03 AM	30	8:08 AM	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◐	Repair Tested
◑	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

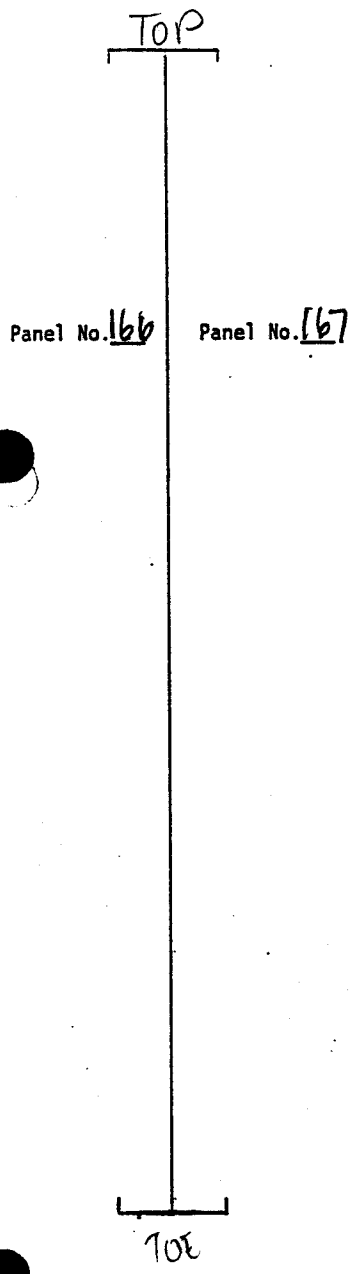
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 166-167
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 8:45 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:06 AM	30	8:11 AM	30		39'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

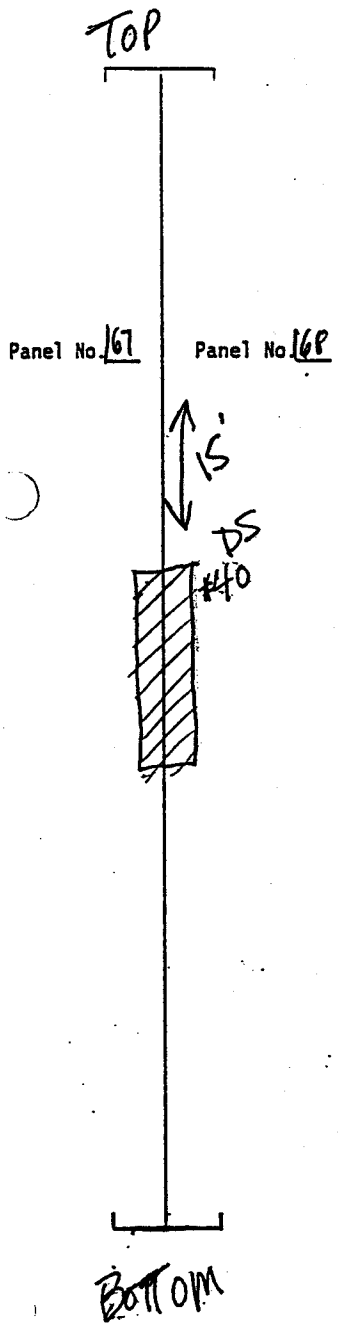
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 167-168
SEAM LENGTH 391
COMMENTS OK (DS40)

WELDING UNIT NO. 327
TIME WELDED 8:55 (a.m)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:08 PM	30	8:13	30		39'	—	Y		

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#40	D.S.		SAS

CQA SEAM INSPECTION FORM

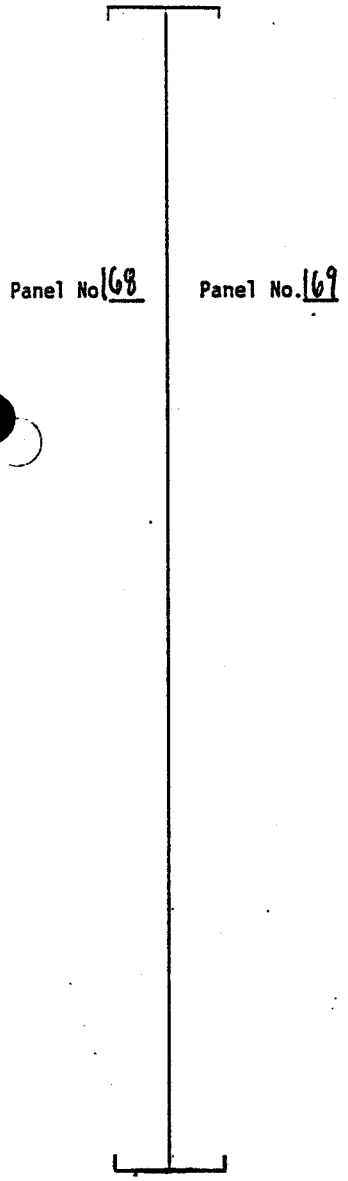
Sheet 169 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs
WELDING TECH A.G.
TYPE OF WELDER Fusion
DATE WELDED 11-29-93

SEAM NO. 168-169
SEAM LENGTH OK-39'
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 9:00 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:10 AM	30	8:15 AM	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
⊟	Destructive Sample
▤	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

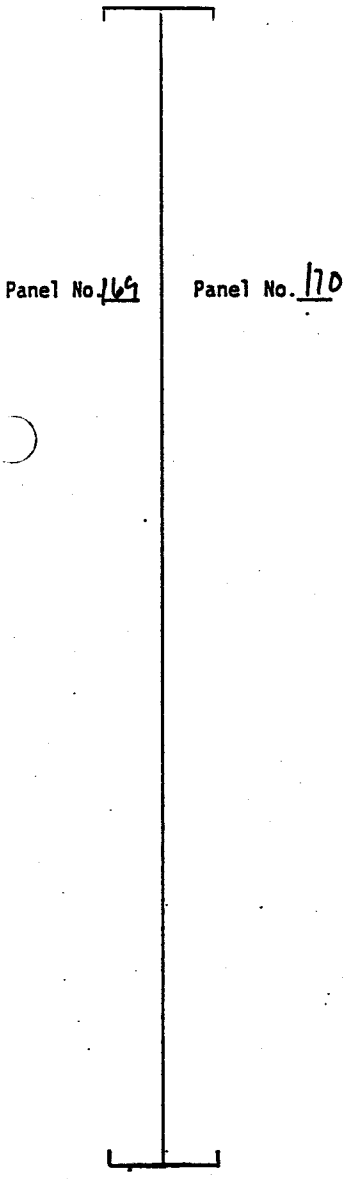
Sheet 170 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 169-170
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 9:15 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:12 AM	30	8:17 AM	30		39'	—	Y		gc

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 171 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Designs
WELDING TECH A.G.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 170-171
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 9:17 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 170 Panel No. 171

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:15 Am	30	8:20 Am	30		39'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

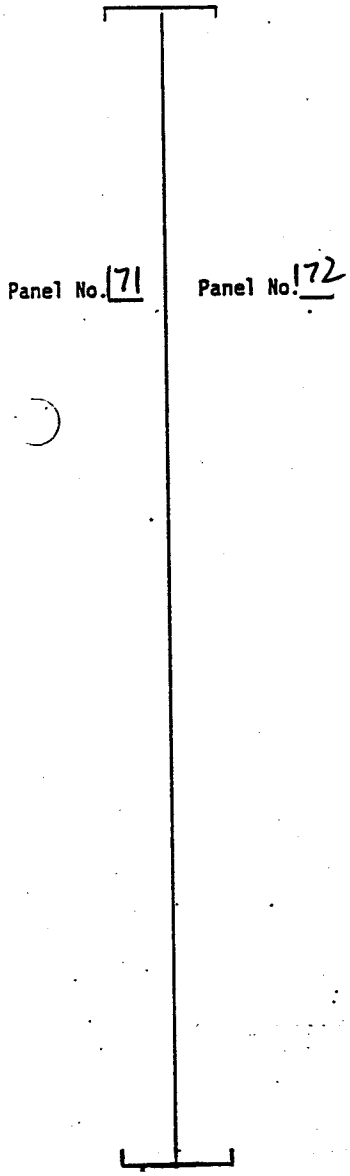
Sheet 172 of 254

PROJECT NAME HALIFAX ASM MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGNS
WELDING TECH. FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 171-172
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 9:30 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
818 AM	30	8:23	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 173 of 254

PROJECT NAME HALIFAX ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH A.G.
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 172 - 173
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 9:35 a.m./p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 172 Panel No 173

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:20 AM	30	8:25 AM	30		39'	—	Y		DC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

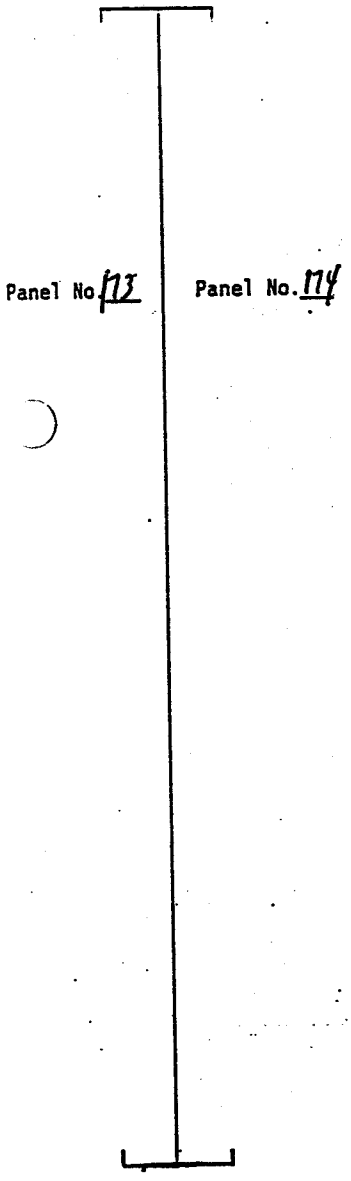
Sheet 174 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 173-174
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 9:50 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:22 AM	30	8:27 AM	30		39'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

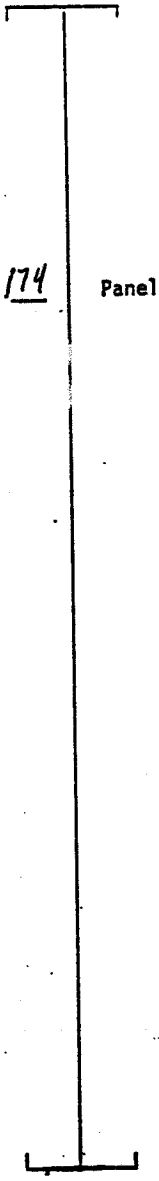
Sheet 175 of 254

PROJECT NAME Halifax Asm Monofil
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs
WELDING TECH A.C.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 174-175
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 9:55 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:24 Am	30	8:29 Am	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 176 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 175-176
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 10:08 a.m./p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 175 Panel No. 176

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:26 AM	30	8:31 AM	30		39'	-	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍/	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Designs
WELDING TECH A.G.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 176-177
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 10:10 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)

Panel No. 176 Panel No. 177

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:28 AM	30	8:33 AM	30		39'	—	Y		jc

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

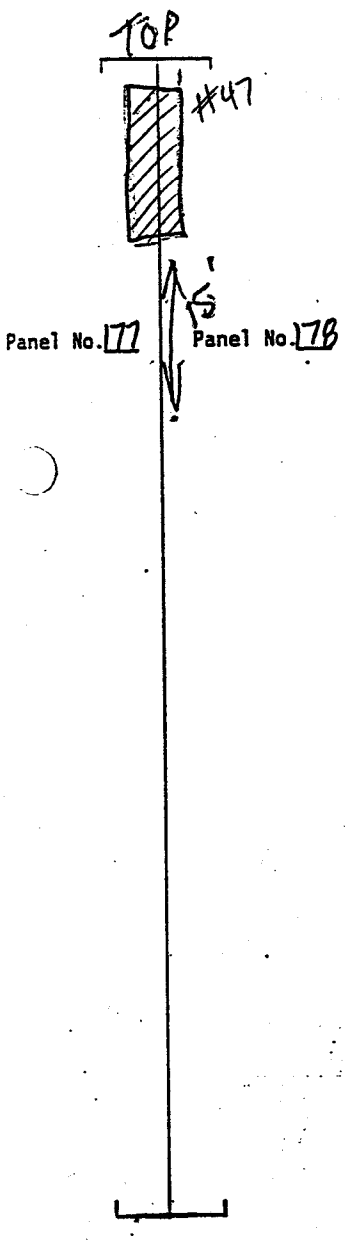
Sheet 178 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 177-178
SEAM LENGTH 39'
COMMENTS OK SLOPE (DS47)

WELDING UNIT NO. 327
TIME WELDED 10:21 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:30 AM	30	8:35 AM	30		39'	—	Y		

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS47	DS	12-1 (AG)	SAS

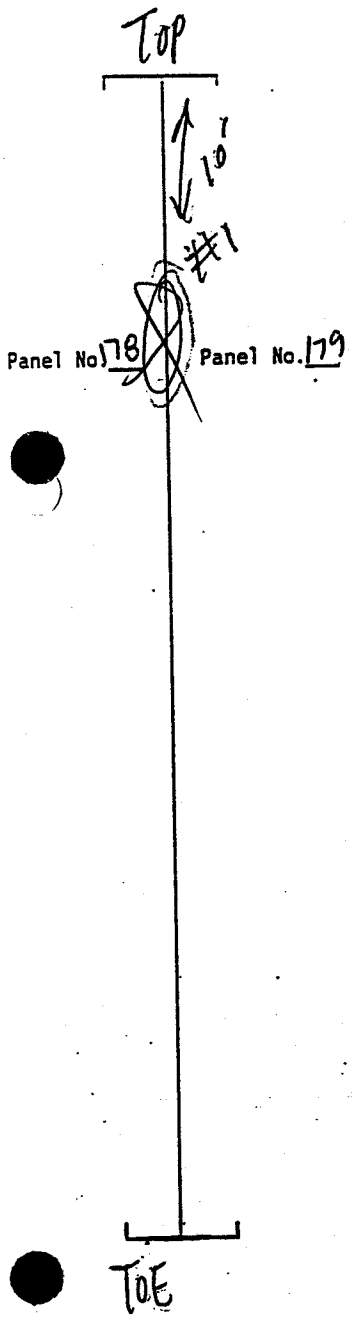
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH A.G.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 178-179
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 4
TIME WELDED 10:20 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:37 AM	30	8:42 AM	30		39'	—	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	Hole	12-1 (FA)	SM

CQA SEAM INSPECTION FORM

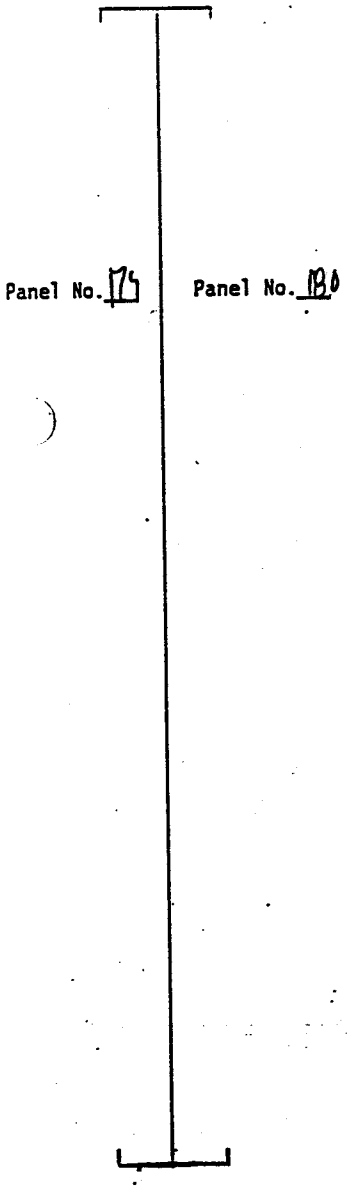
Sheet 180 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS
WELDING TECH FELIX IRRATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 179-180
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 10:45 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:38 am	30	8:43 am	30		39'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

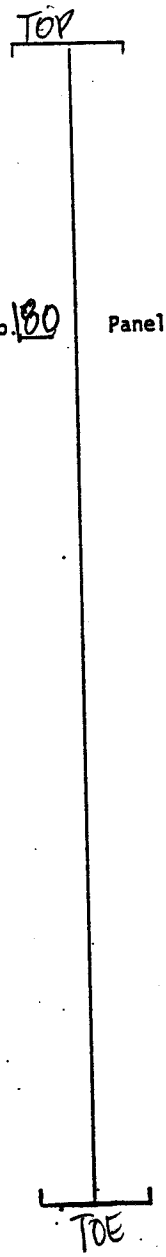
Sheet 181 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 180-208
SEAM LENGTH 25'
COMMENTS OK

WELDING UNIT NO. 59
TIME WELDED 9:00 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:40 AM	30	8:45	30		25'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

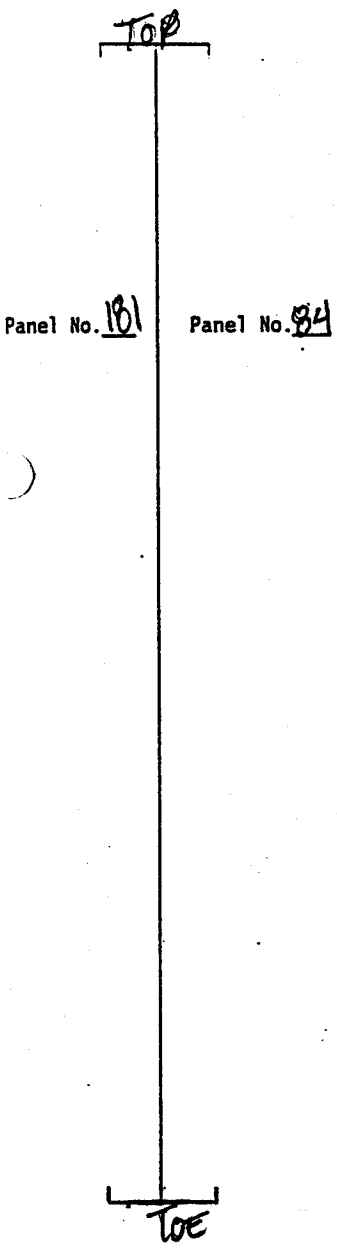
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 181-84
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 9:50 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:00 AM	30	9:05 AM	30		39'	—	Y		SL

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

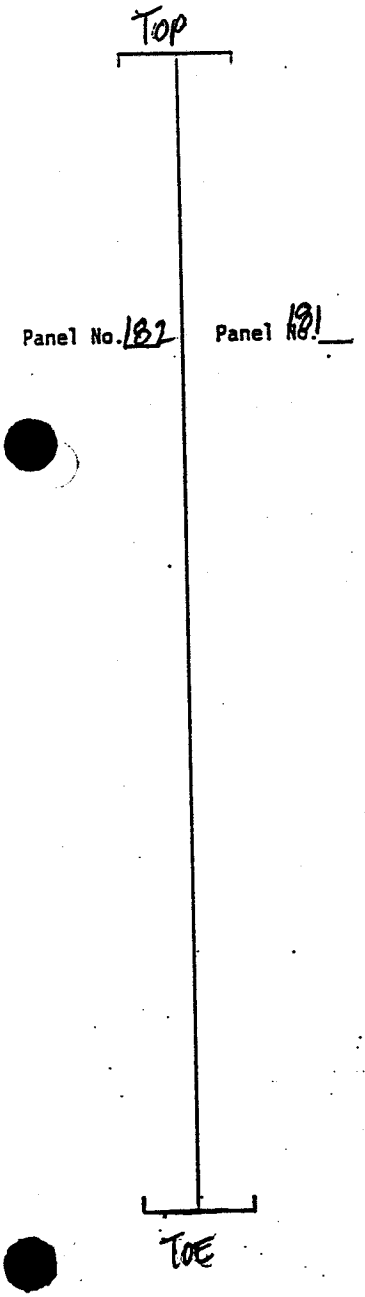
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 182-181
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 10:10 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:20 AM	30	9:25 AM	30		39'	—	Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 194 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 183-182
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 10:30 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)

TOP

Panel No. 183 Panel No. 182

TOE

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:23AM	30	9:28AM	30		39'	—	Y		

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

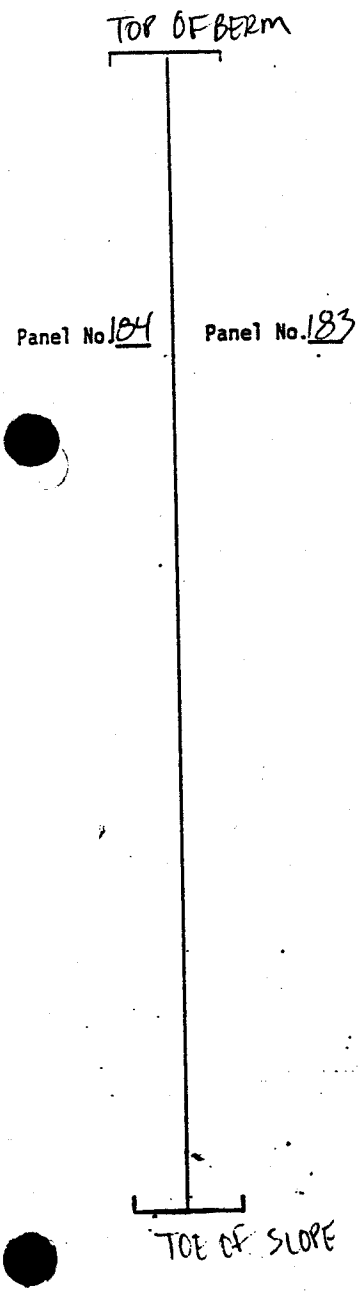
CQA SEAM INSPECTION FORM

PROJECT NAME: HALIFAX COUNTY LCU MONOFILL
PROJECT NO.: 3716
CONTRACTOR: BARNHILL
INSTALLER: ENVIRON. DESIGN
WELDING TECH: PM
TYPE OF WELDER: FUSION
DATE WELDED: 11-25-93

SEAM NO.: 184-183
SEAM LENGTH: 39'
COMMENTS:

WELDING UNIT NO.: 711
TIME WELDED: 10:45 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:30 AM	30	9:35 AM	30		39'		Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

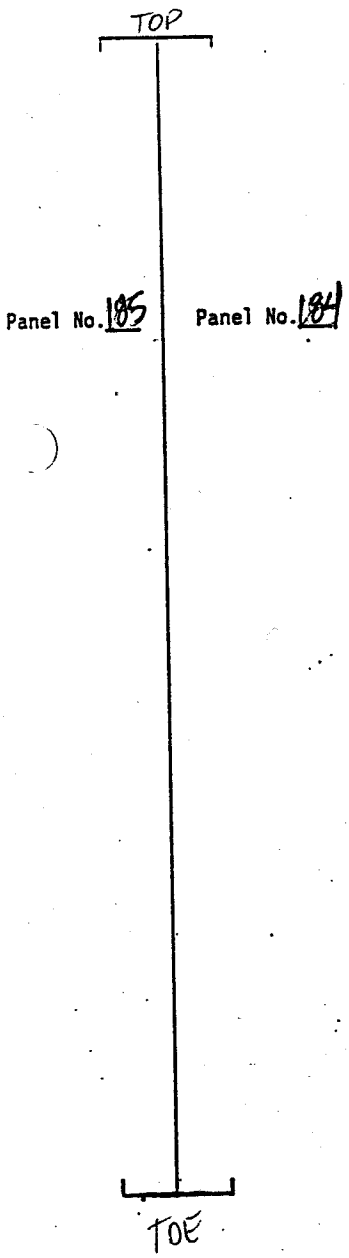
Sheet 186 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 185-184
SEAM LENGTH 39'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 11:00 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:33 AM	30	9:38 AM	30		39'		Y		JC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

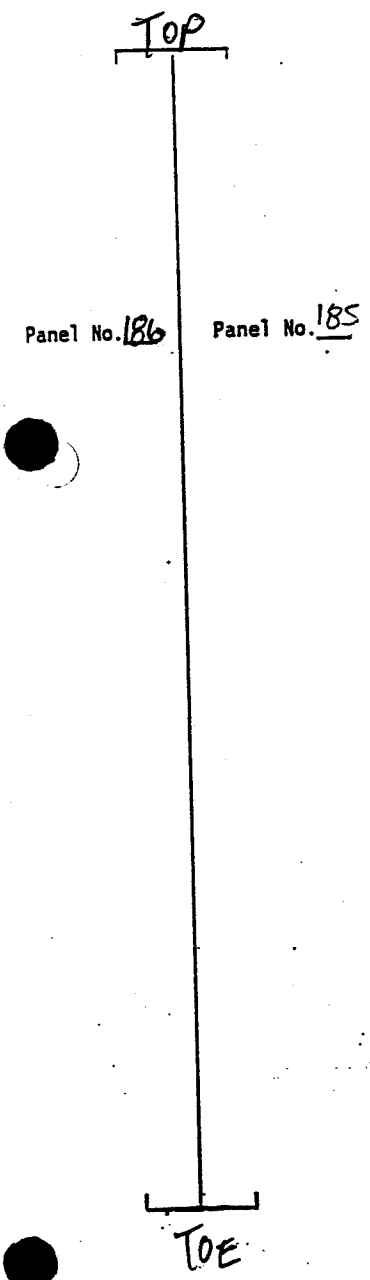
Sheet 187 of 254

PROJECT NAME HALIFAX COUNTY ESH MONROE LL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 186-185
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 11:10 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:37 AM	30	9:42 AM	30		39'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

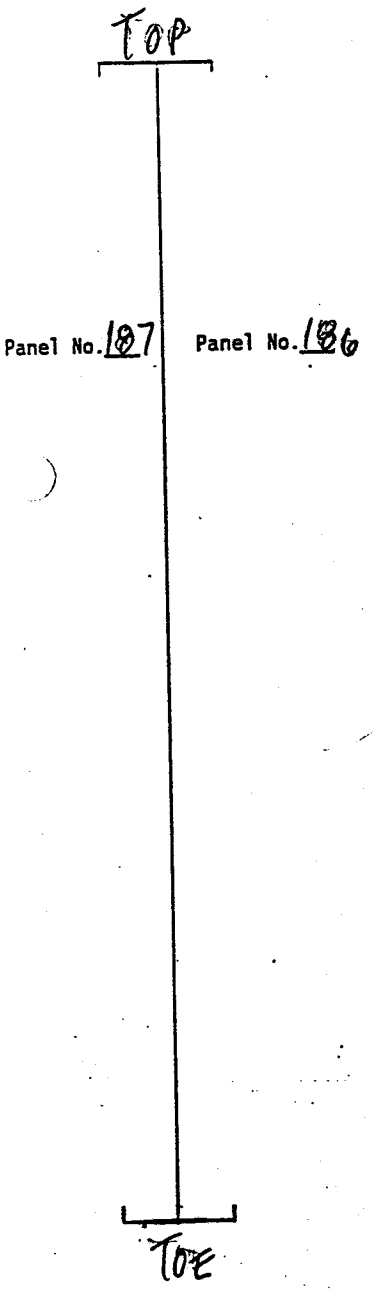
Sheet 188 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 187-186
SEAM LENGTH 39'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 1:25 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:41 Am	30	9:46 AM	30		39'		Y		

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

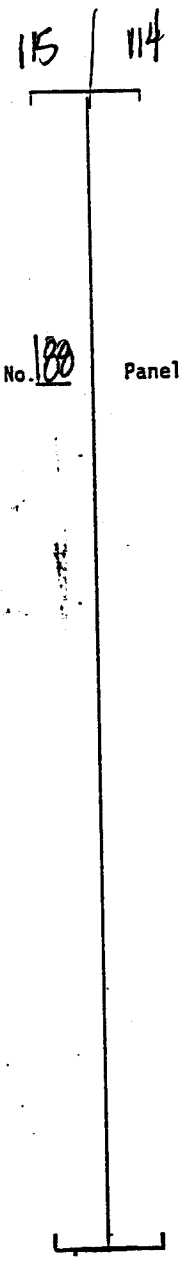
Sheet 199 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
TRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FELIX Z.
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 141 - 188
SEAM LENGTH 275'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 1:25 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:38 AM	30	7:43 AM	30		275'	—	Y		PE

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

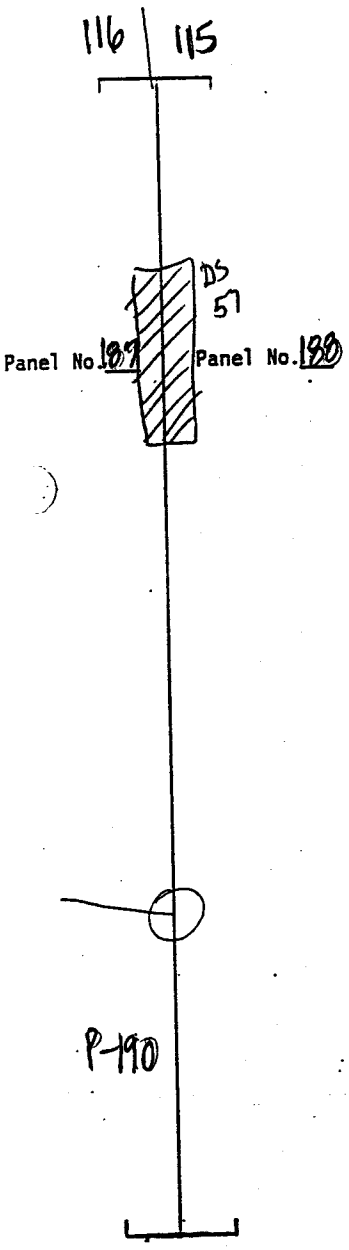
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax Ash Mondfill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH AG
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 188 - 189, 190
SEAM LENGTH 225'
COMMENTS (DS 57)

WELDING UNIT NO. 41
TIME WELDED 1:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:45 AM	30	7:50	30		225'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#57	D.S.		JA

CQA SEAM INSPECTION FORM

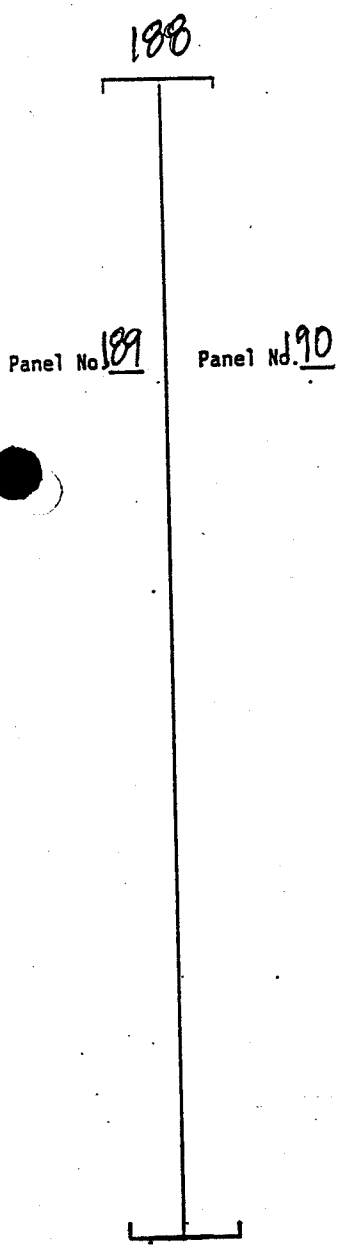
Sheet 191 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 189-190
SEAM LENGTH 22.5'
COMMENTS VT OK

WELDING UNIT NO. 59
TIME WELDED 1:40 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:50 AM	30	7:55 AM	30		22.5	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

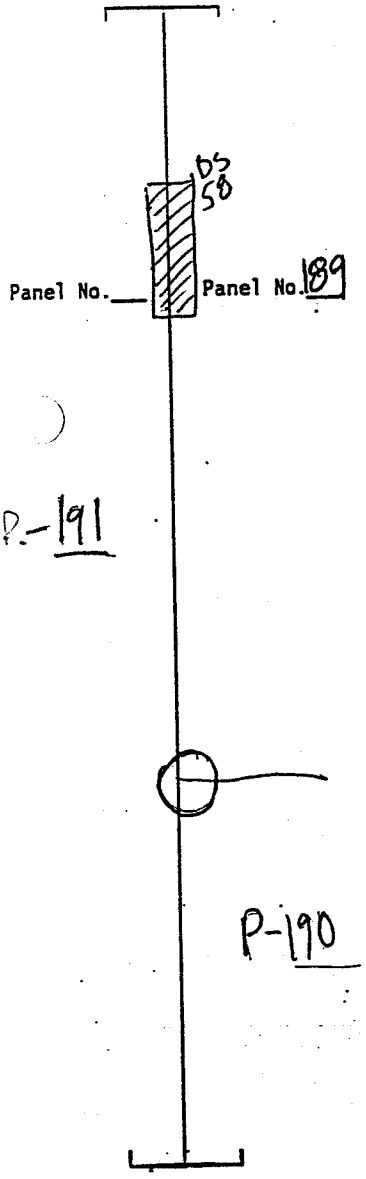
Sheet 191 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
ITRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 191-189, 190
SEAM LENGTH 200'
COMMENTS (DS 58)

WELDING UNIT NO. 59
TIME WELDED 1:47 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
7:52 AM	30	7:57 AM	30		725	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#58	D.S.		SAS

CQA SEAM INSPECTION FORM

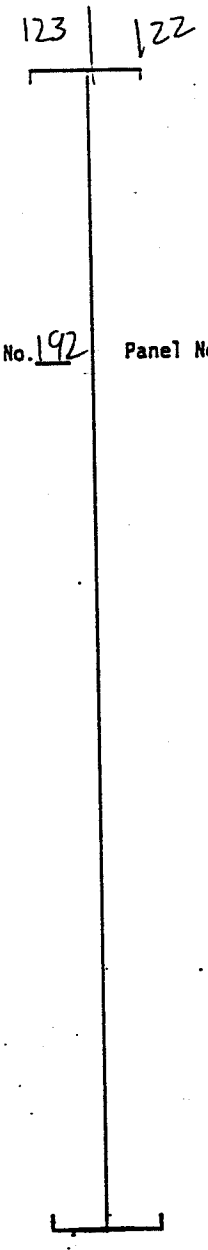
Sheet 193 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 192-191
SEAM LENGTH 175
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 2:30 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:00 AM	30	8:05 AM	30		175'	—	Y		∝

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

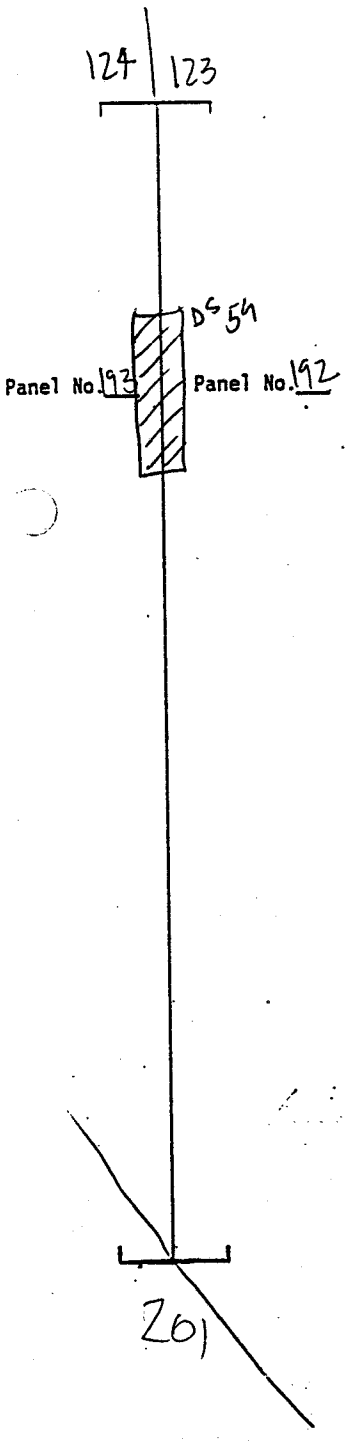
Sheet 194 of 254

PROJECT NAME HALIFAX COUNTY ASH [illegible]
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 193-192
SEAM LENGTH 106'
COMMENTS OK (DS 59)

WELDING UNIT NO. 59
TIME WELDED 3:00 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:10 AM	30	8:15 AM	30		100'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#59	D.S.		SAS

CQA SEAM INSPECTION FORM

Sheet 195 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH A.G.
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 194-195
SEAM LENGTH 175'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 2:20 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)

Panel No. 194 Panel No. 195

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:20	30	8:25	30		175'	—	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

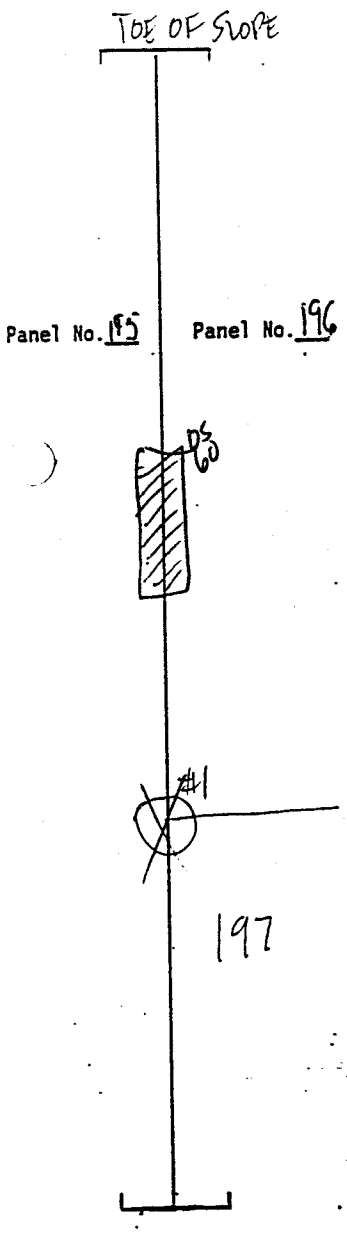
Sheet 196 of 259

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
NTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH F.Z
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 195 / 196 / 197
SEAM LENGTH 165'
COMMENTS T-Patch (DS60)

WELDING UNIT NO.
TIME WELDED 245 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
N.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:24	30	8:29	30		165'		Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	T-PATCH	11-30 (PJ)	SAS
#60	D.S.		SAS

CQA SEAM INSPECTION FORM

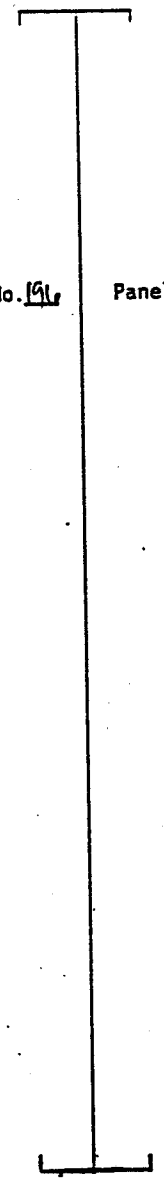
Sheet 197 of 251

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH ERICK ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 196-197
SEAM LENGTH 2215'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 235 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
830	30	8:35	30		22.5'	—	Y		QC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

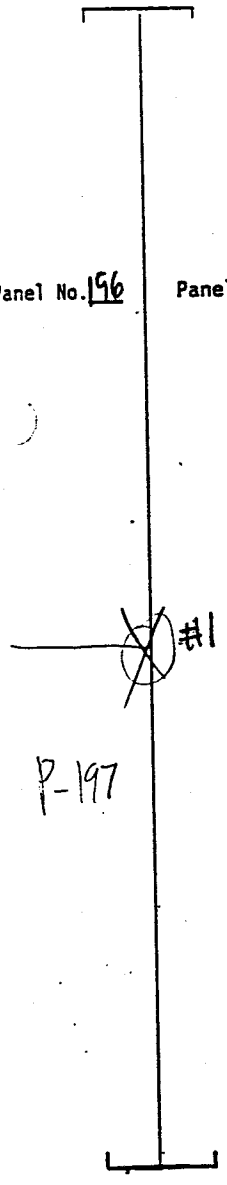
Sheet 190 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
NTRACTOR Barnhill
INSTALLER Environ. Design.
WELDING TECH A.G.
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 196 - 198
SEAM LENGTH 155
COMMENTS OK

WELDING UNIT NO. 41
TIME WELDED 3:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:40 AM	30	845 AM	30		155'	—	Y		JC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	T-Patch	11-30 AG	SAS

CQA SEAM INSPECTION FORM

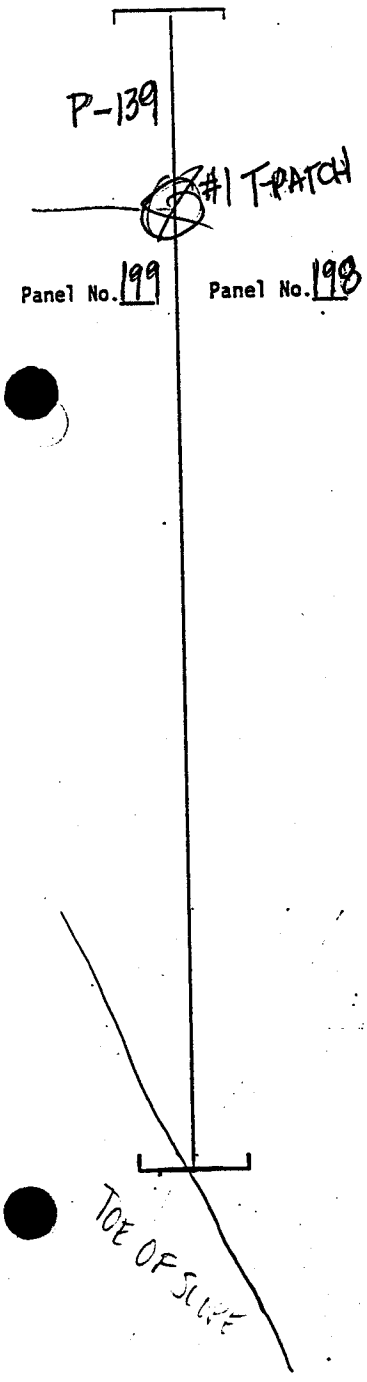
Sheet 199 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO 139, 199-198
SEAM LENGTH 125'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 3:28 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
846	30	851	30		125'	-	Y		QC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

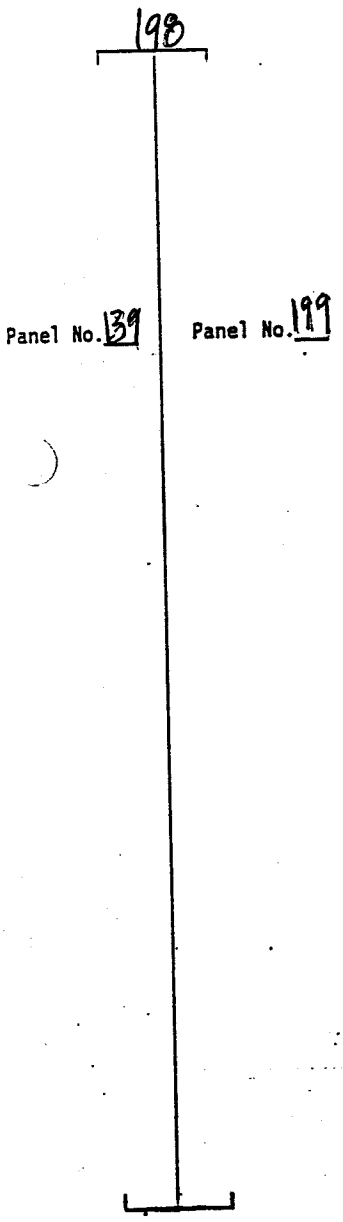
Sheet 200 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 139-199
SEAM LENGTH 22.5'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 3:20 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
850	30	855	30		22.5'	—	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

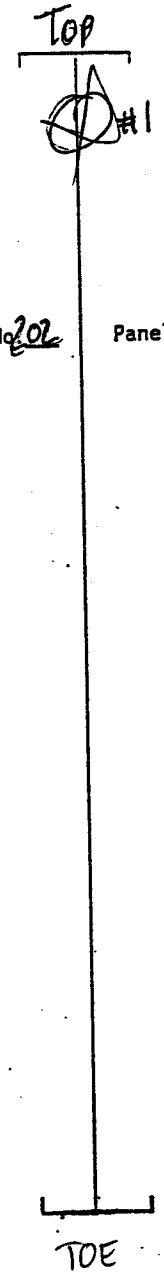
Sheet 201 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 202-203
SEAM LENGTH 50'
COMMENTS BURN THRU

WELDING UNIT NO. 41
TIME WELDED 3:40 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

J.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
11:00	30	11:05	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11-30 CFAD	SAS

CQA SEAM INSPECTION FORM

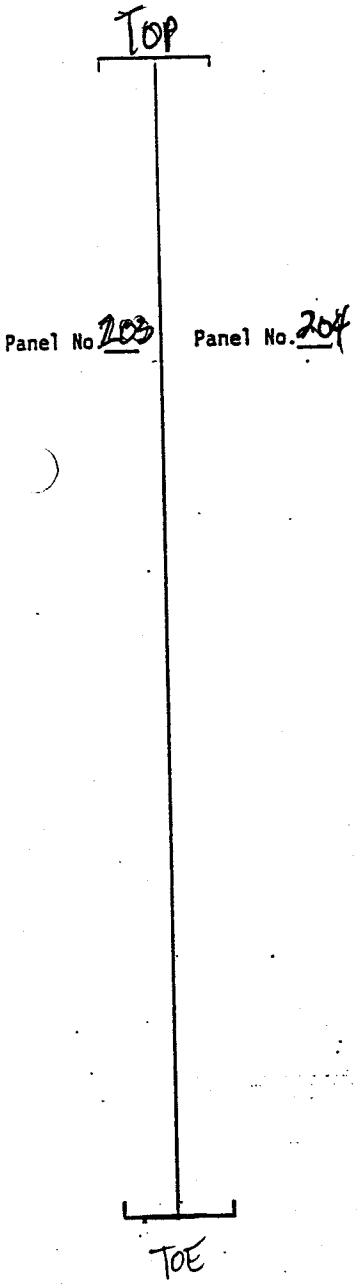
Sheet 202 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 371.
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 203-204
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3:40 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:53	30	10:58	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

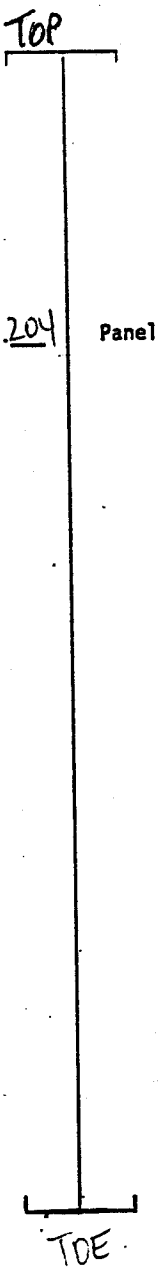
Sheet 203 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. (204 - 205)
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 59
TIME WELDED 3:35 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:45	30	10:50	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

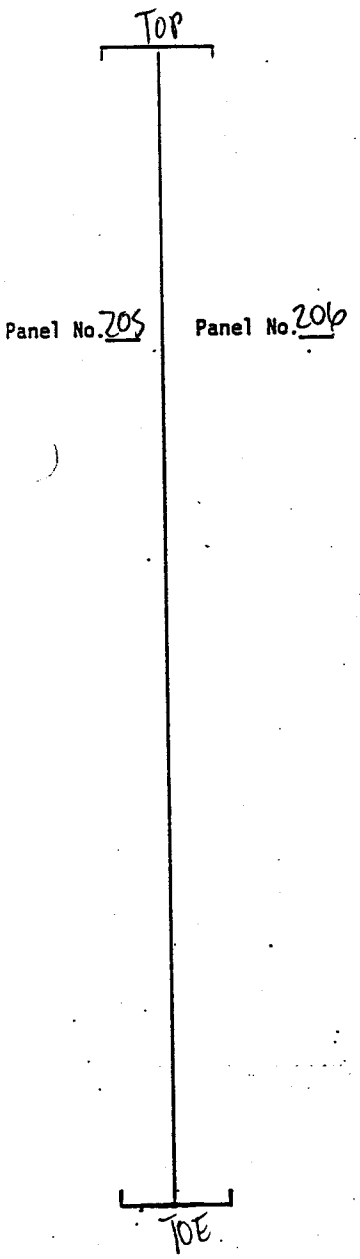
Sheet 204 of 254

PROJECT NAME HALIFAX COUNTY LSH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 205-206
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 327
TIME WELDED 3:45 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:38	30	10:43	30		50'	0	Y		SC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

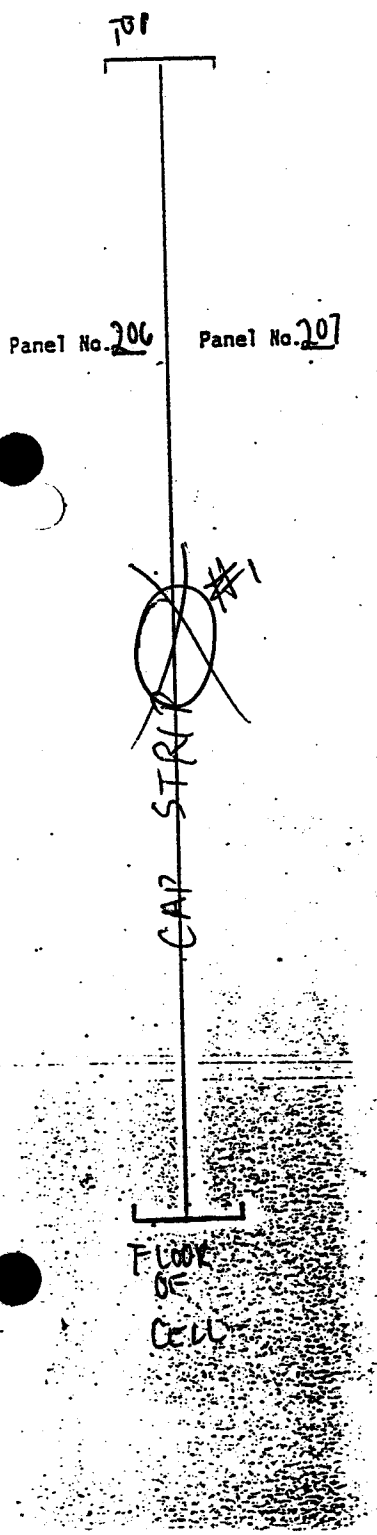
Sheet 205 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Babuhill Contracting
INSTALLER Environmental Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 206-207
SEAM LENGTH 49
COMMENTS CAP STRIP

WELDING UNIT NO. 54
TIME WELDED 11:55 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	F NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	Burn	11-30 AG	AG

CQA SEAM INSPECTION FORM

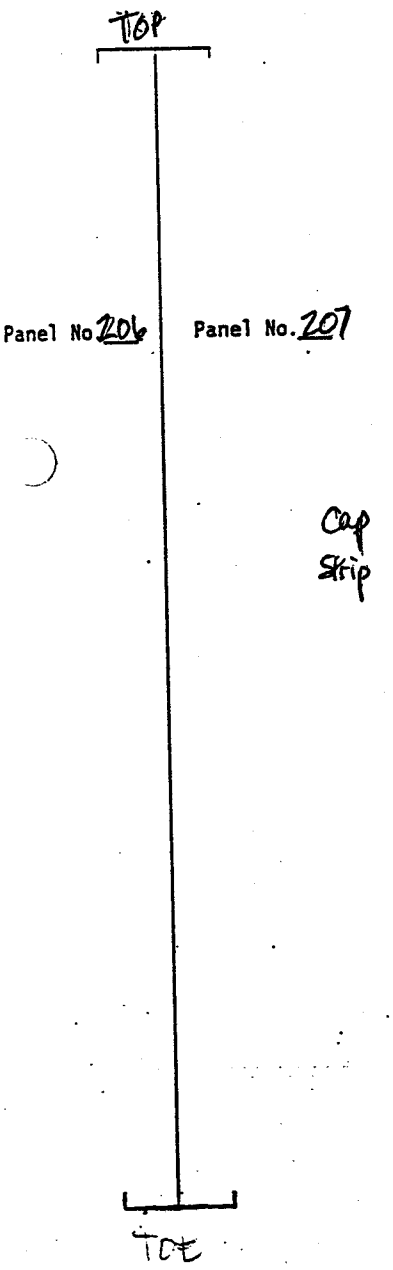
Sheet 206 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 206-207
SEAM LENGTH 50'
COMMENTS ~~OK~~ → See Cap Strip 206-VT

WELDING UNIT NO. 41
TIME WELDED 3:50 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

Sheet 207 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 207-209
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 711
TIME WELDED 3:55 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)

TOP

Panel No. 207 Panel No. 209

TOE

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:30A	30	10:35A	30		50	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

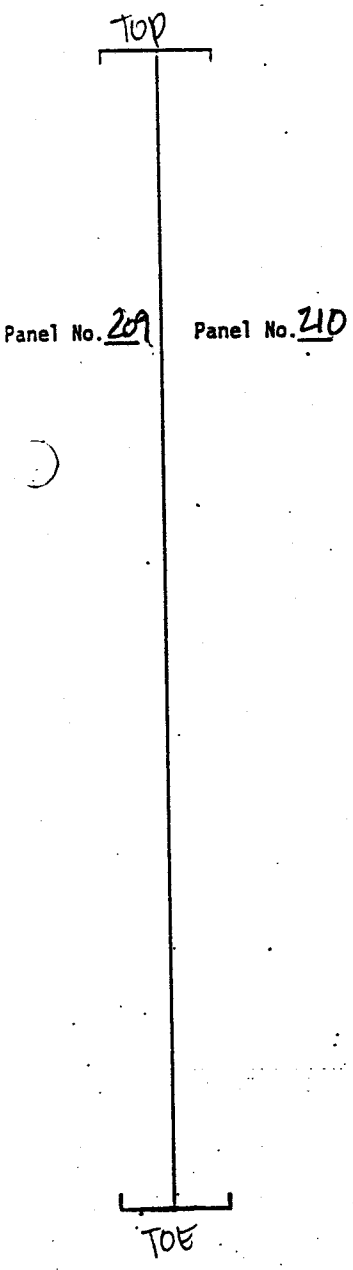
Sheet 208 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH MM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 209-210
SEAM LENGTH 50'
COMMENTS OK

WELDING UNIT NO. 54
TIME WELDED 4:00 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:18	30	10:23	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

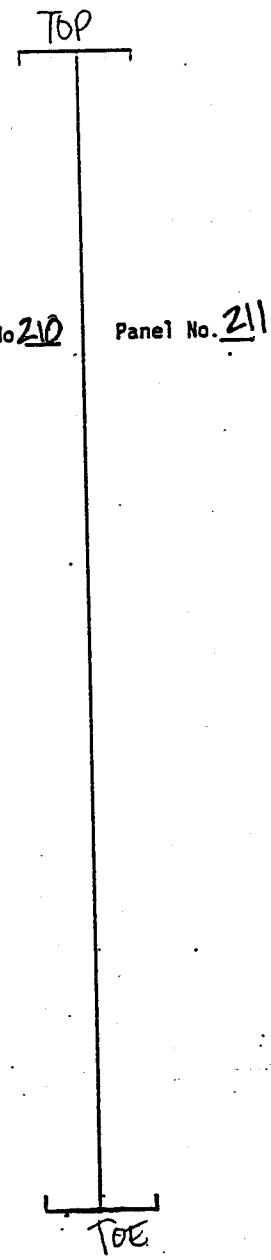
Sheet 209 of 254

PROJECT NAME HALIFAX COUNTY LF - MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 210-211
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 4:00 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:11	30	10:16	30		50'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

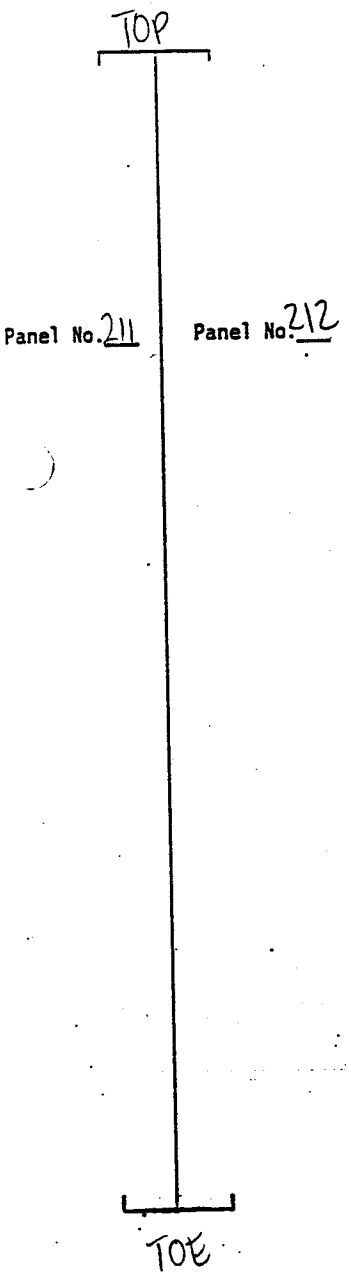
Sheet 40 of 254

PROJECT NAME HALIFAX COUNTY ASH [illegible]
PROJECT NO. 3716
NTRACTOR [illegible]
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 211-212
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 4:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:04 A	30	10:09 A	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

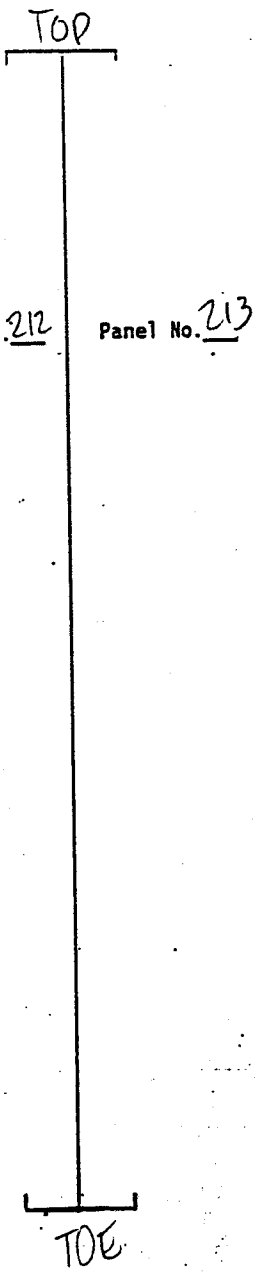
Sheet 211 of 254

PROJECT NAME HALIFAX COUNTY LCH MONCELL
PROJECT NO. 3716
TTRACTOR PARTAIL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 212-213
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 4:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:56	30	10:02	30		50'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
◪	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

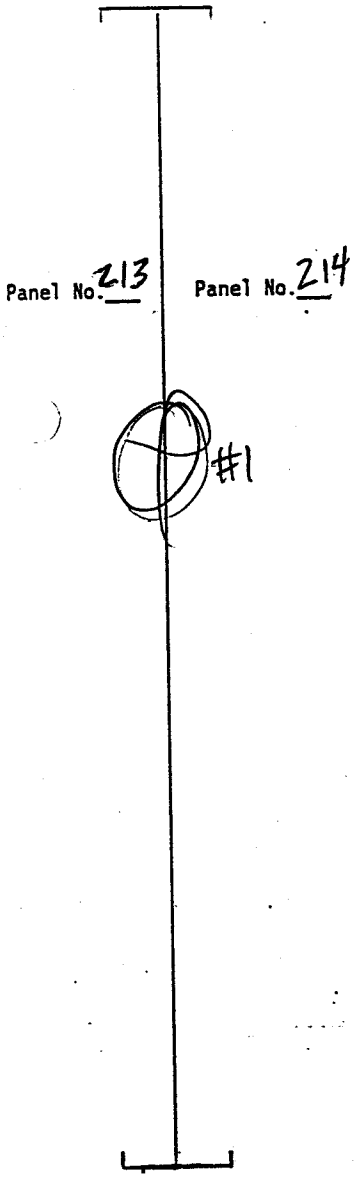
Sheet 212 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
ITRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 213-214
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 4:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:50A	30	9:55A	30		50'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	BURN THRU	11-29 (PAT)	SAS

CQA SEAM INSPECTION FORM

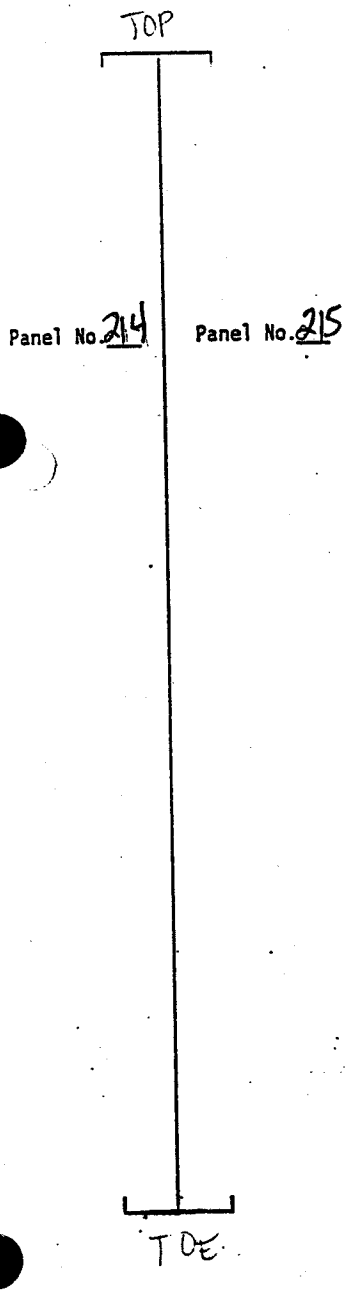
Sheet 213 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DEFIOLO
WELDING TECH MM
TYPE OF WELDER FUSION
DATE WELDED 11/25/93

SEAM NO. 214-215
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 4:25 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:44	30	9:49	30		50'	0	Y		SC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

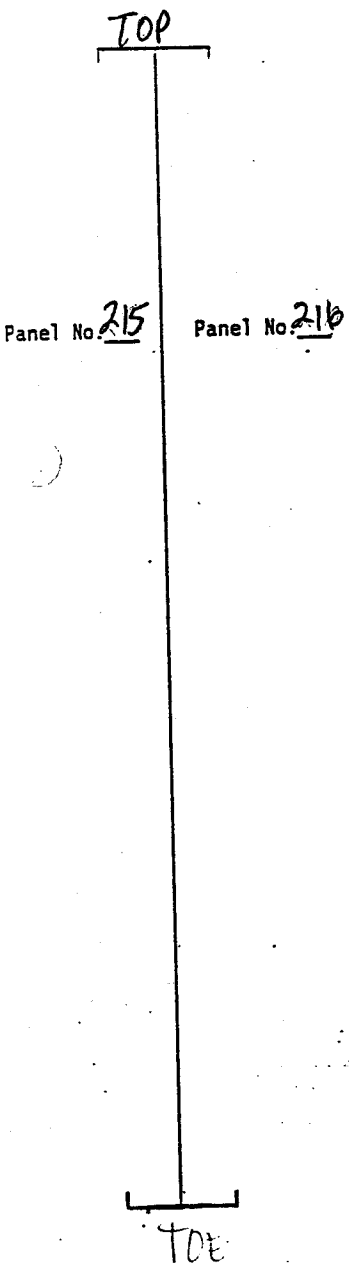
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
TRACTOR BARN HILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 215-216
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 4:25 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:37	30	9:42	30		50'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

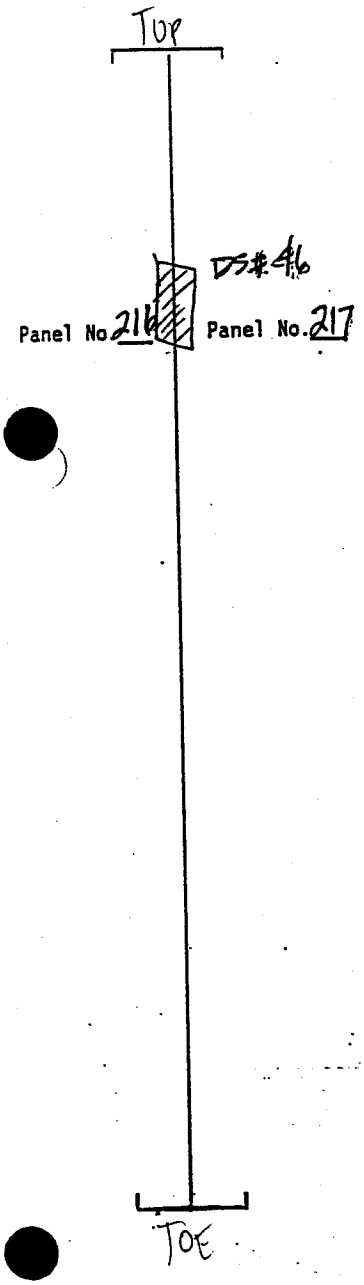
Sheet 215 of 254

PROJECT NAME HALIFAX COUNTY LSL LANDFILL
PROJECT NO. 3711
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 216-217
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 4:30 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:30	30	9:35	30		50'	0	Y		S.C.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS #46	DS	12-1 FA	SAS

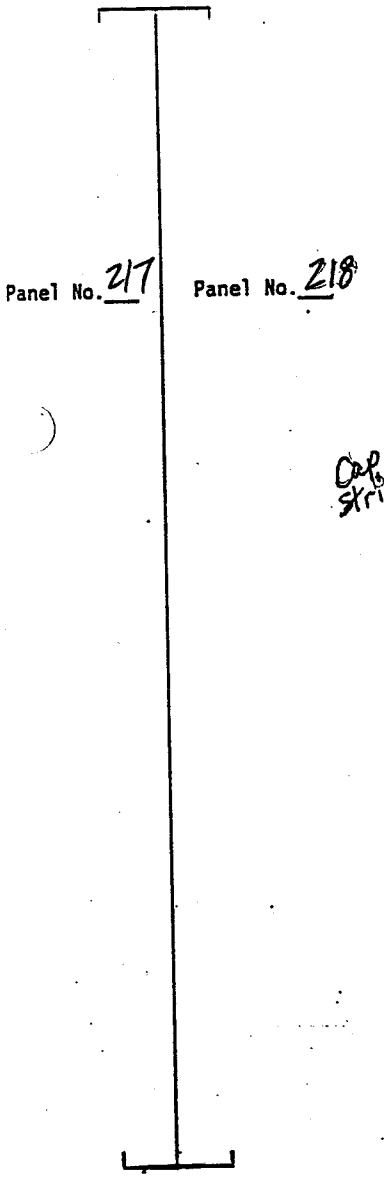
CQA SEAM INSPECTION FORM

Sheet 216 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 217-218
SEAM LENGTH 50'
COMMENTS See CAP STRIP REP VT
WELDING UNIT NO. 711
TIME WELDED 4:30 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

CAP Strip

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

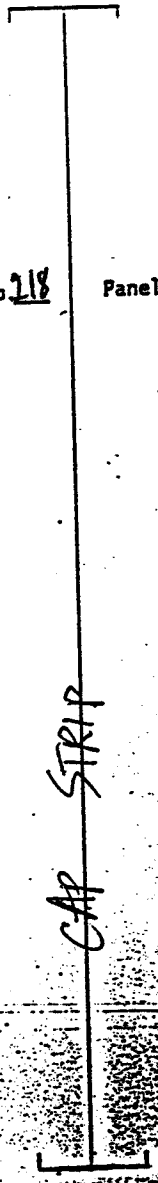
Sheet 217 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
TALLER Environmental Design
WELDING TECH F.Z.
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 217-218 CAP STRIP
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 120 a.m (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

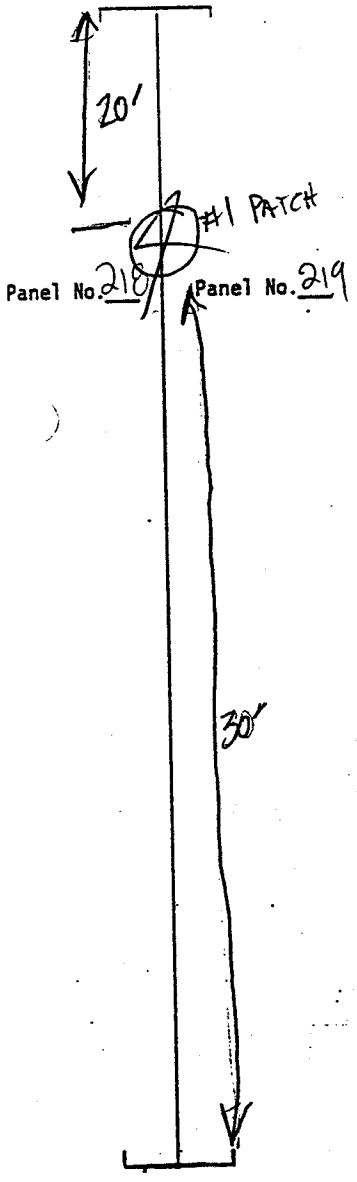
Sheet 218 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 218-219
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 4:35 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:15	30	9:20	30		20'	0	Y		SC
9:08	30	9:13	30		30'	0	Y		

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	START/STOP	11-29 (FA)	SAS

CQA SEAM INSPECTION FORM

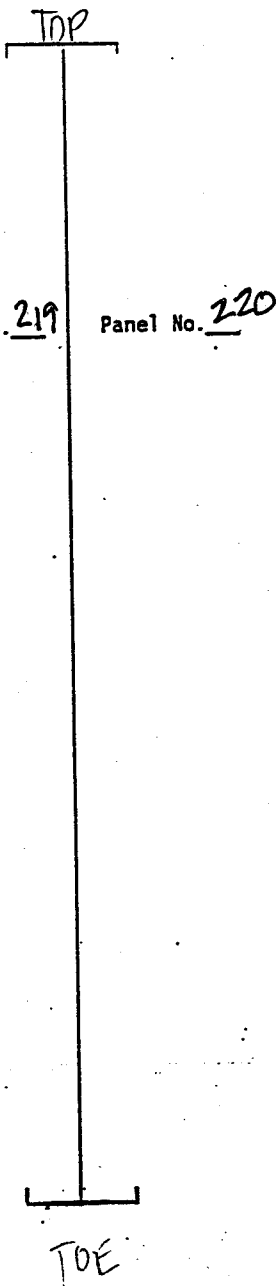
Sheet 219 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
ITRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 219-220
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 4:45 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:00	30	9:05	30		50	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

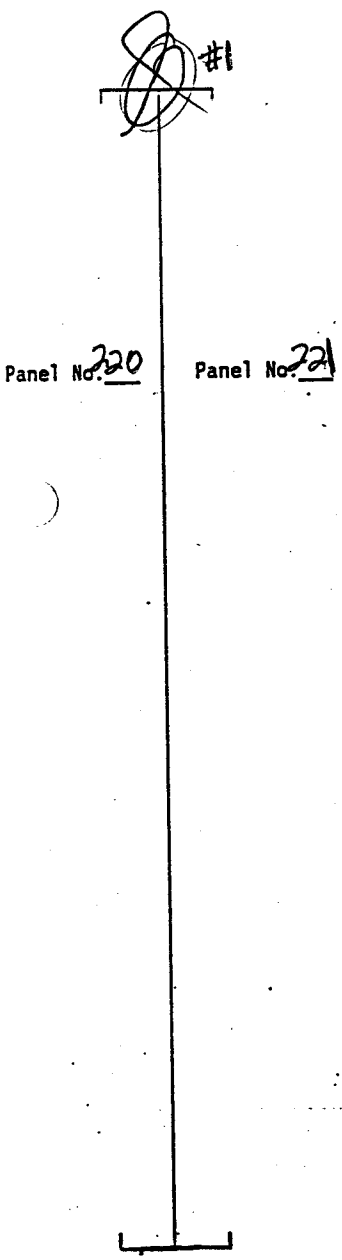
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY [illegible]
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH MM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 220-221
SEAM LENGTH 50'
COMMENTS CHECK

WELDING UNIT NO. 54
TIME WELDED 4:50 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
V.T. OK		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:50A	30	8:55A	30		50'	0	Y		SC.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	PATCH ANCHOR	11-28 DG	[illegible]

CQA SEAM INSPECTION FORM

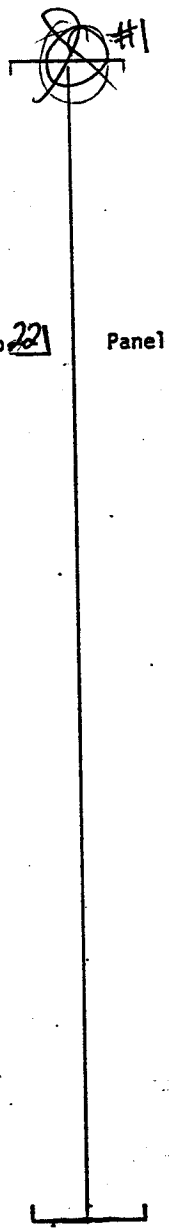
Sheet 221 of 254

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
NTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 221-222
SEAM LENGTH 50'
COMMENTS CHECK

WELDING UNIT NO. 41
TIME WELDED 4:45 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
8:48A	30	8:53A	30		50'	0	Y		CC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	PATCH ANCHOR	11-30 AG	SDL

CQA SEAM INSPECTION FORM

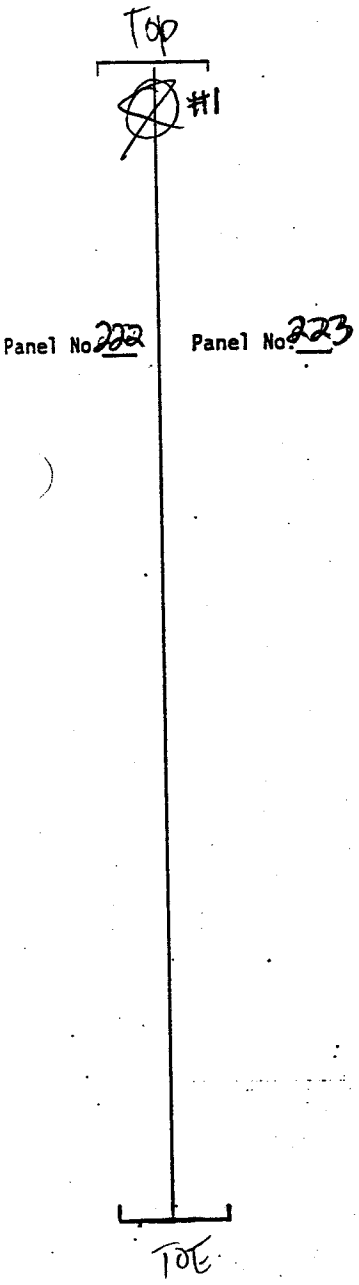
Sheet 222 of 254

PROJECT NAME HALIFAX COUNTY LANDFILL
PROJECT NO. 3711a
NTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 222-223
SEAM LENGTH 50'
COMMENTS CHECK

WELDING UNIT NO. 711
TIME WELDED 4:50 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		OC Technician's Initials
OK V.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:40	30	10:45	30		50'	0	Y		SS.

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	PATCH	11-29 (FA)	SA's

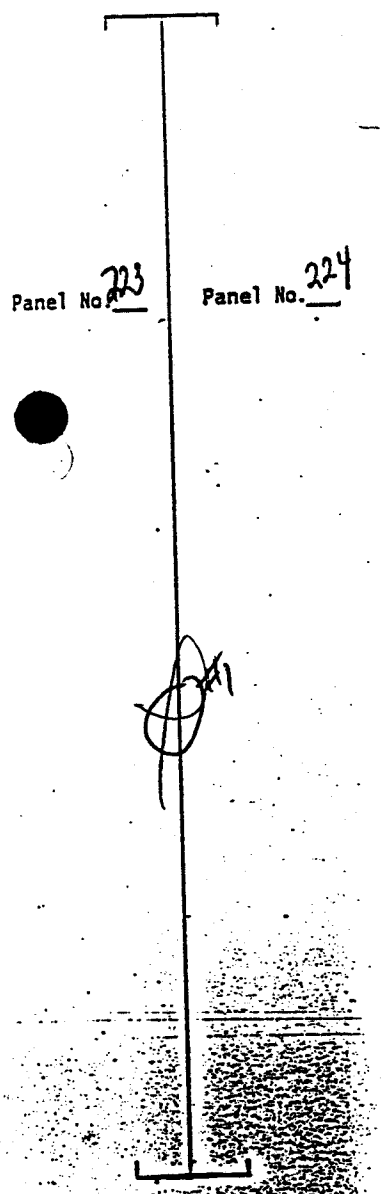
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH F.Z.
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 224-223
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 820 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
OK		No. of Defects Found
V.T.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	TWO DIFFERENT	11-29 FA	SAS
	SEAMS (NEEDS PATCH)		

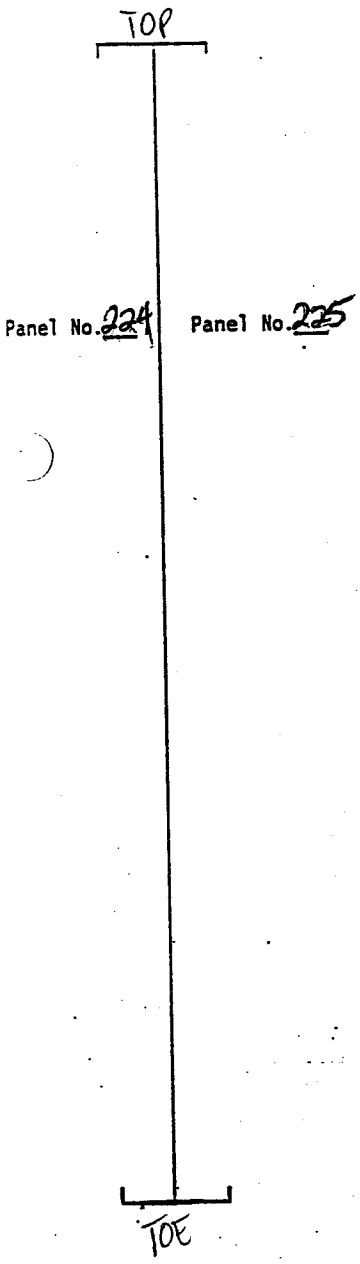
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofil
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH MM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 224-225
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 5:00 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:32	30	10:37	30		50'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

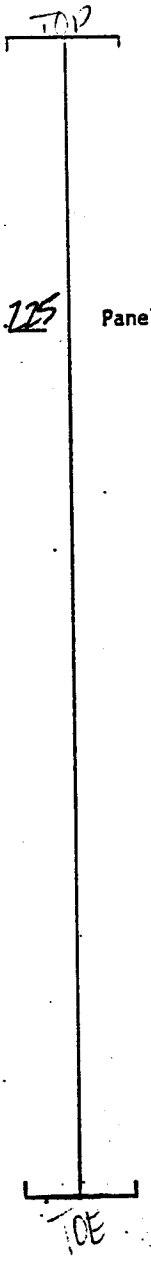
Sheet 225 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FZ
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 225-226
SEAM LENGTH 50'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 5:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



Panel No. 225 Panel No. 226

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:28	30	10:33	30		50	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

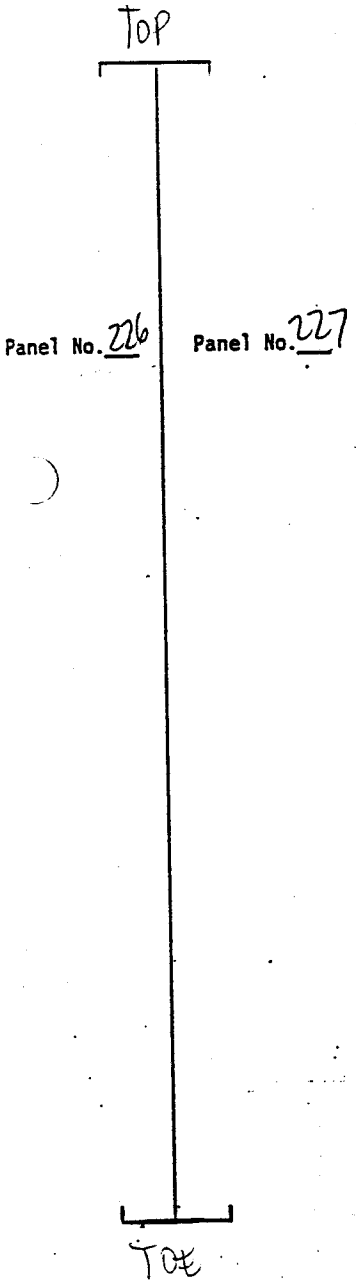
Sheet 226 of 254

PROJECT NAME: HALIFAX COUNTY ASH MONOFILL
PROJECT NO.: 3716
ITRACTOR: BARNHILL
INSTALLER: ENVIRON. DESIGN
WELDING TECH: AG
TYPE OF WELDER: FUSION
DATE WELDED: 11-25-93

SEAM NO.: 226-227
SEAM LENGTH: 40'
COMMENTS: -

WELDING UNIT NO.: 41
TIME WELDED: 5:00 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:25	30	10:30	30		40	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◍	Repair Tested
◍	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

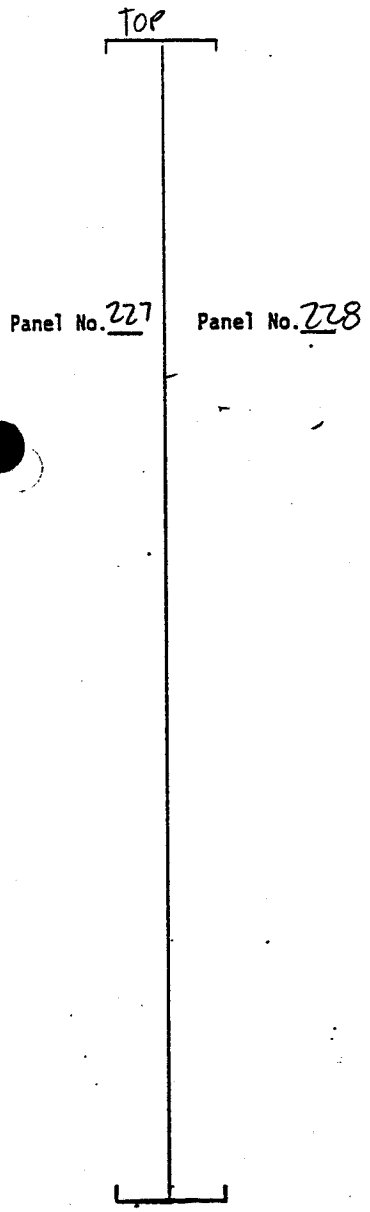
Sheet 227 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARJHILL CONTRACTING
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 227-228
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 5:05 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:17	30	10:22	30		40'	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

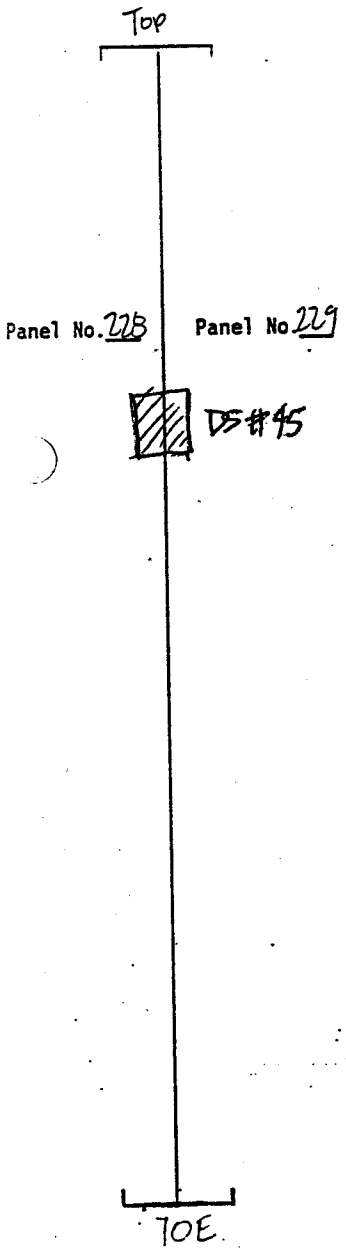
Sheet 228 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
NTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGNS
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 228-229
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 41
TIME WELDED 5:10 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:13	30	10:18	30		40	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#45	DS	11-30 PJ	SAS

CQA SEAM INSPECTION FORM

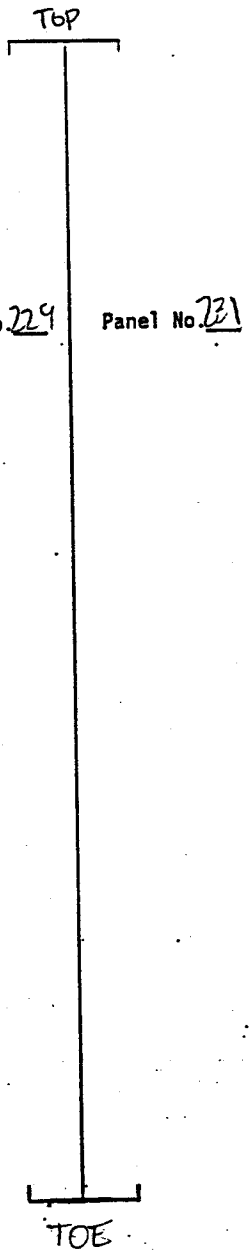
Sheet 229 of 254

PROJECT NAME Halifax Ash Moncfill
PROJECT NO. 3716
ITRACTOR Barnhill
INSTALLER Environ. Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11-25-93

SEAM NO. 229-231
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 5:10 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:09	30	10:14	30		40'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

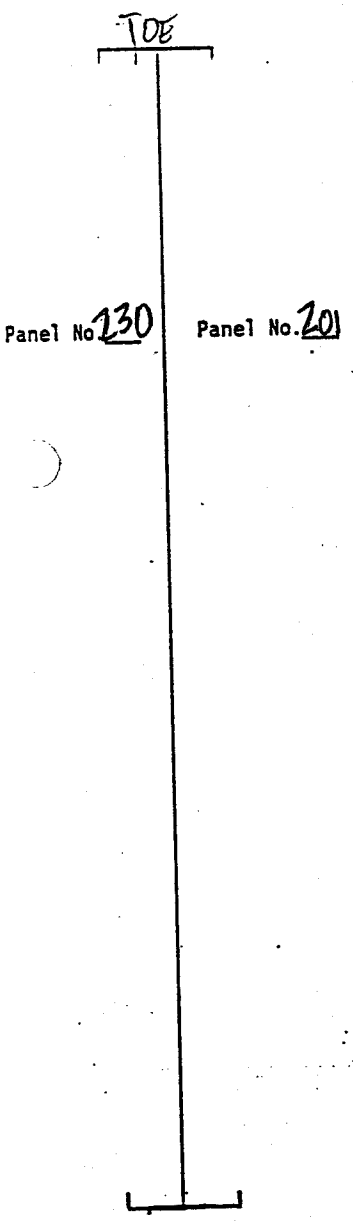
Sheet 230 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
ITRACTOR Barnhill
INSTALLER Environ. Designs
WELDING TECH AG
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 201-230
SEAM LENGTH 22.5'
COMMENTS ON FLOOR OK

WELDING UNIT NO. 41
TIME WELDED 8:05 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:15	30	11:20	30		22.5'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

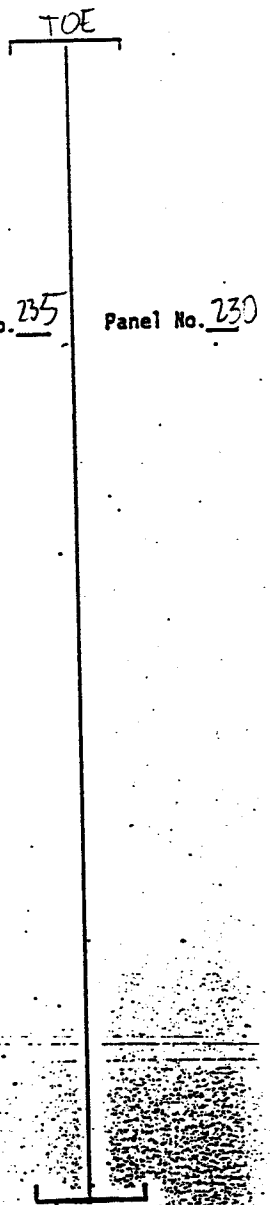
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 230-235
SEAM LENGTH 22.5'
COMMENTS ON FLOOR

WELDING UNIT NO.
TIME WELDED 8:00 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:31A	30	9:35A	30		22.5'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

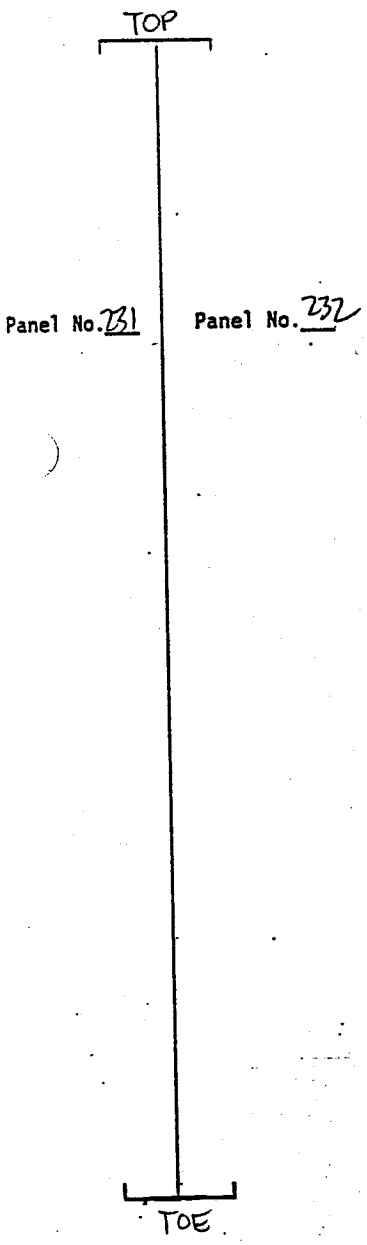
Sheet 232 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGNS
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 231-232
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 5:15 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
10:05	30	10:10	30		40'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

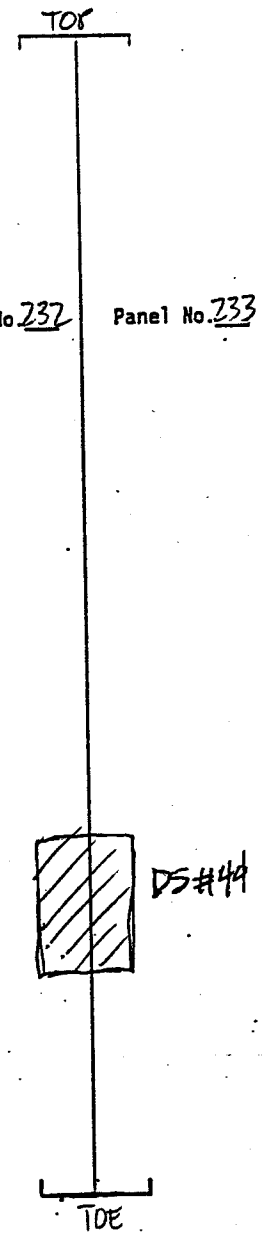
Sheet 233 of 254

PROJECT NAME Halifax Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environ. Designs
WELDING TECH MM
TYPE OF WELDER Fusion
DATE WELDED 11-23-93

SEAM NO. 232-233
SEAM LENGTH 40'
COMMENTS (DS 44)

WELDING UNIT NO. #54
TIME WELDED 5:20 a.m. (p.m)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:55	30	10:00	30		40'	0	Y		SC

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS #44	DS		SMS

CQA SEAM INSPECTION FORM

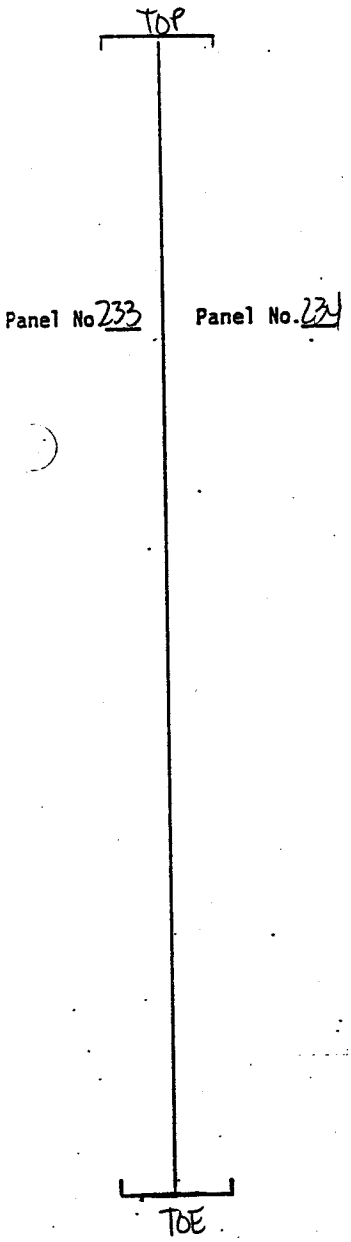
Sheet 234 of 254

PROJECT NAME HALIFAX COUNTY Ac- LANDFILL
PROJECT NO. 371h
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 233-234
SEAM LENGTH 40'
COMMENTS

WELDING UNIT NO. 59
TIME WELDED 5:20 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:49	30	9:54	30		40'	0	Y		SC

Legend

ZONE 1 Air Pressure Zone	
Repair Needed	
Repair Completed	
Repair Tested	
Repair Approved	
Destructive Sample	
CAP Strip Repair	

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY

CQA SEAM INSPECTION FORM

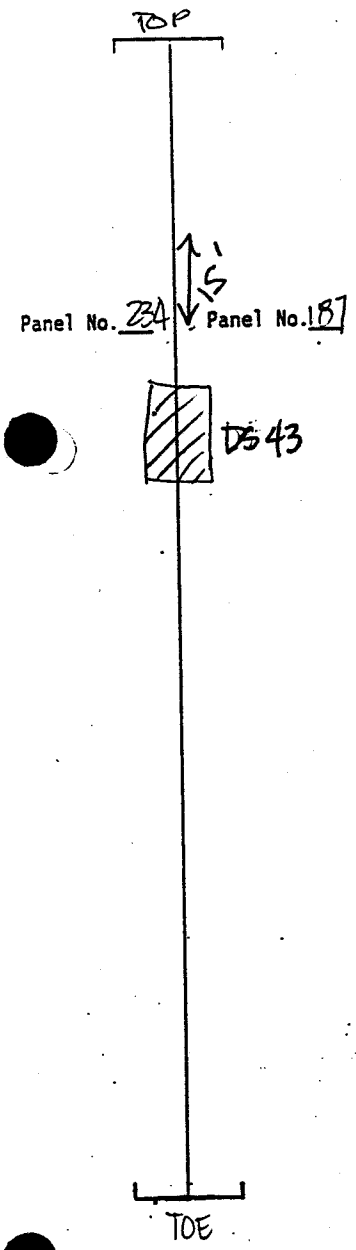
Sheet 235 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-26-93

SEAM NO. 234-187
SEAM LENGTH 40'
COMMENTS OK (DS#43)

WELDING UNIT NO. 711
TIME WELDED 5:30 a.m. (p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY
9:45	30	9:50	30		40	0	Y		SC

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
▨	Repair Tested
▨	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
DS#43	DS	11-30 AG	SM

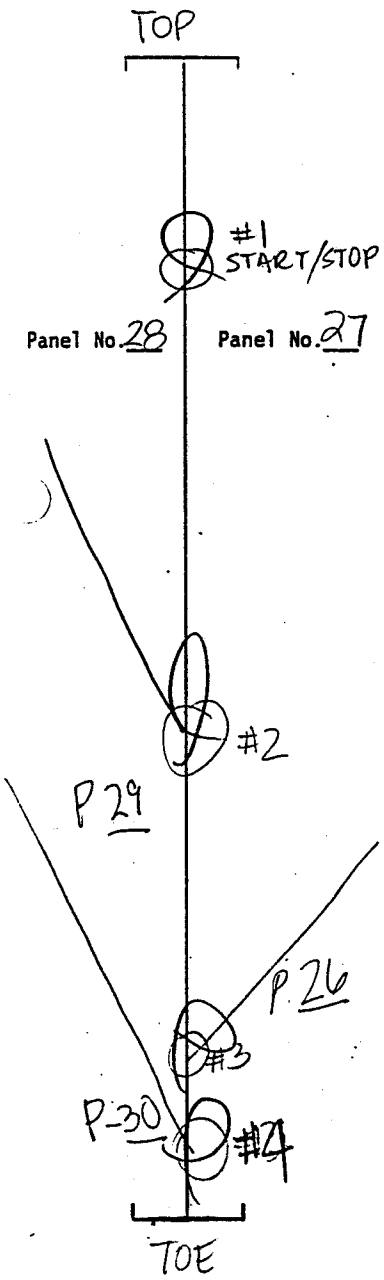
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill
INSTALLER Environmental Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11/24/93

SEAM NO. 27-28, 29, 30
SEAM LENGTH ≈60'
COMMENTS Corner Seam (3 Tie In's)

WELDING UNIT NO. 327
TIME WELDED 10:45 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
◐	Repair Tested
◑	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

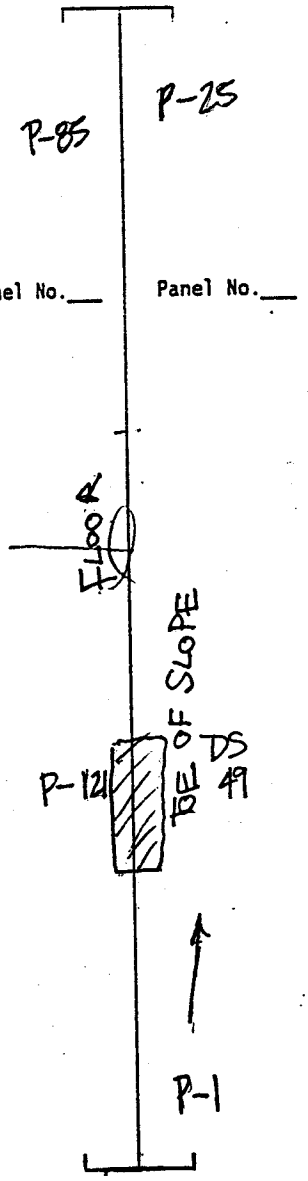
REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	START/STOP	11-29 (PJ)	SAS
#2	TIE IN	11-29 (PJ)	SAS
#3	TIE IN	11-29 (PJ)	SAS
#4	TIE IN	11-29 (PJ)	SAS
		A	

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFIL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. TIE-IN
SEAM LENGTH 550'
COMMENTS 25 tie-in patches (DS49)
WELDING UNIT NO. 327
TIME WELDED 8:30 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

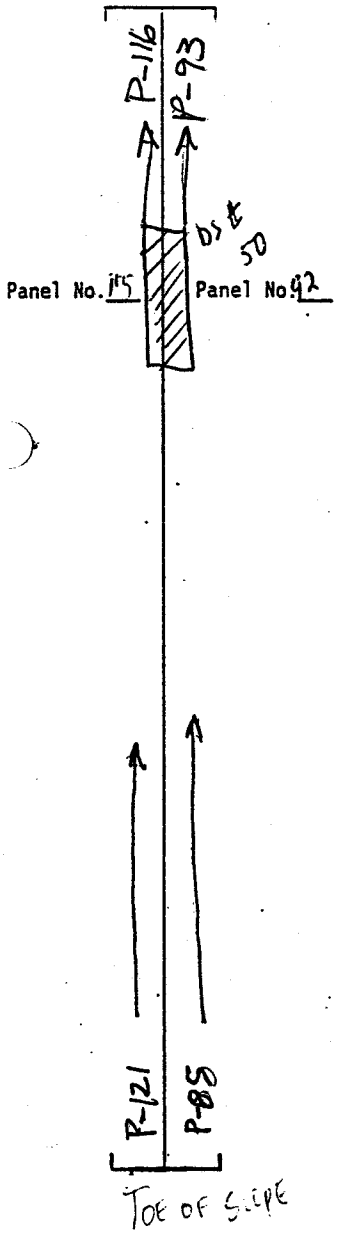
REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1-#25	TIE IN PATCH	11-29 (PJ)	SM
~~P-24~~	~~D.S~~	11-29 (PJ)	SM
D-49	D.S		

CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. TIE-IN #5/93 - 116/121
SEAM LENGTH 160'
COMMENTS 1 TIE IN REPAIRS
PART 1 OF 2 (DS 50)
WELDING UNIT NO. PF 91-41
TIME WELDED 9:45 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

N.T.C.

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1-#7	TIE IN		SAS
#50	D.S.		SAS

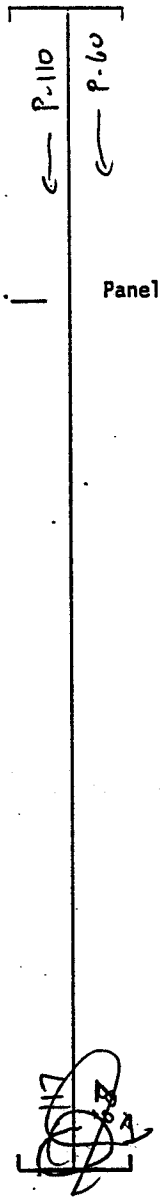
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX CO. LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH P.M
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. TIE-IN
SEAM LENGTH 160'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 11:20 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	CUT-IN FOR	OK	SAS
	START-UP		

CQA SEAM INSPECTION FORM

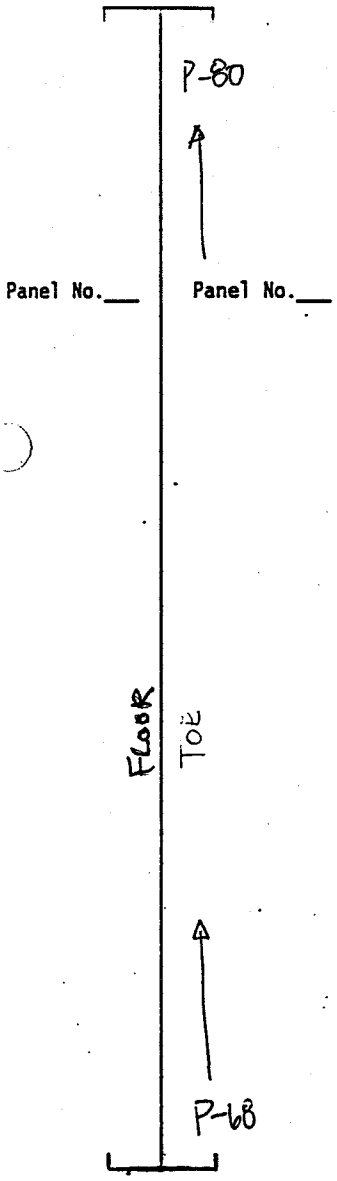
Sheet 240 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH AG
TYPE OF WELDER FUSION
DATE WELDED 11/29/93

SEAM NO. TIE-IN
SEAM LENGTH 270'
COMMENTS TIE IN

WELDING UNIT NO. 41
TIME WELDED 1105 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
⊘	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1-#12	PINCHED OFF	OK	SAS
	AT SEAMS		
	SONIC BURN THRU		

CQA SEAM INSPECTION FORM

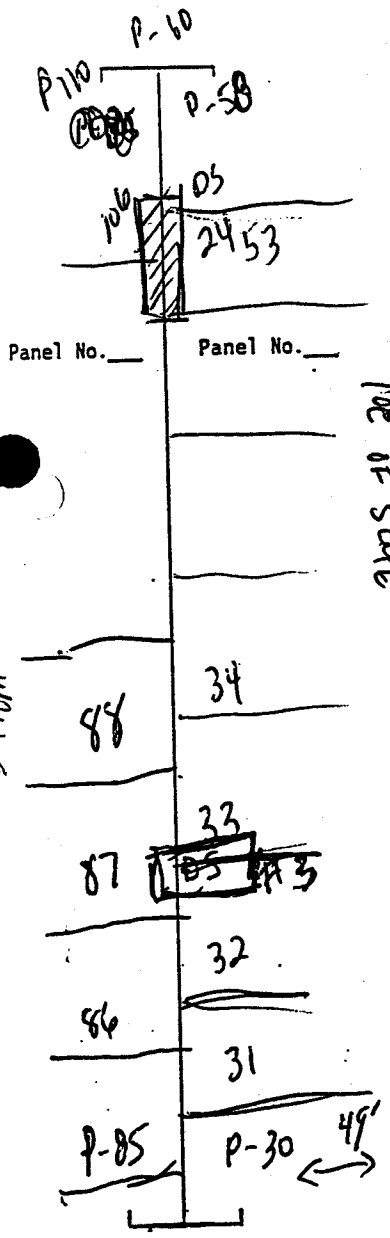
Sheet 241 of 254

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC.
WELDING TECH P.M
TYPE OF WELDER FUSION
DATE WELDED 11-24-93

SEAM NO. 30/58 – 85/113
SEAM LENGTH 650'
COMMENTS SEE DIAGRAM DS 24
1st SEAM SLOPE TO FLOOR (LEAST SEAM)

WELDING UNIT NO. 711
TIME WELDED 8:20 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

ALL OF SEAM

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#24	DS	VT OK	SM
#3	DS	VT OK	SM

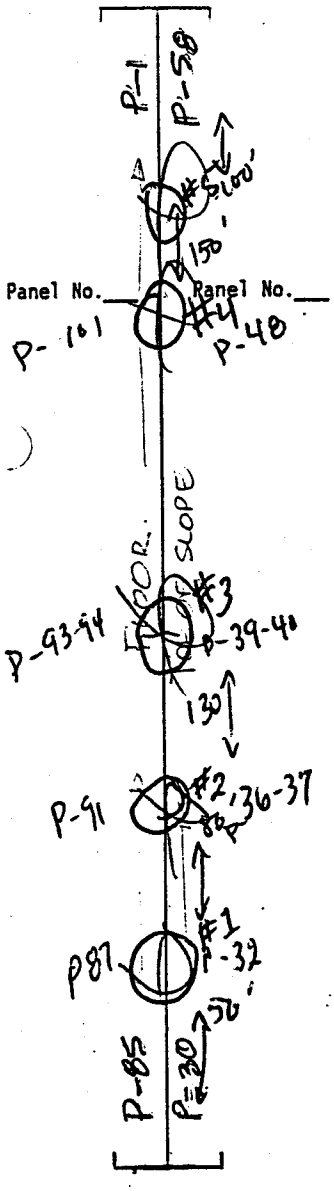
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH DM
TYPE OF WELDER FUSION
DATE WELDED 11/24/93

SEAM NO. TIE-IN
SEAM LENGTH 150'
COMMENTS

WELDING UNIT NO. -711
TIME WELDED 8:20 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. ✓		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	BURN THRU		SAS
2	CREASED		SAS
3	BURN THRU	V.T.	SAS
4	BURN THRU		SAS
5	" "		

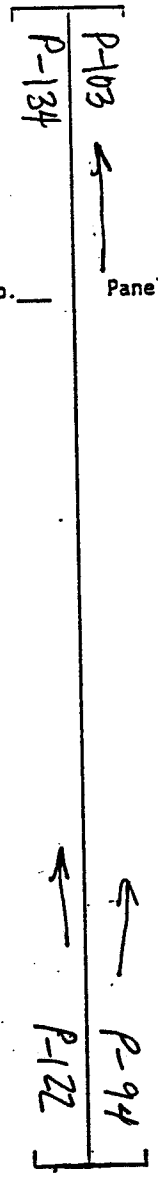
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX COUNTY ASH LANDFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. TIE-IN
SEAM LENGTH 210'
COMMENTS 10 TIE INS (T-PATCH)
PART 2 OF SAME 95/93 - 1/6/121

WELDING UNIT NO. 711
TIME WELDED 1:15 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
N.A.		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1-#10	TIE-IN (T-PATCH)	11-30 AG	SAM

CQA SEAM INSPECTION FORM

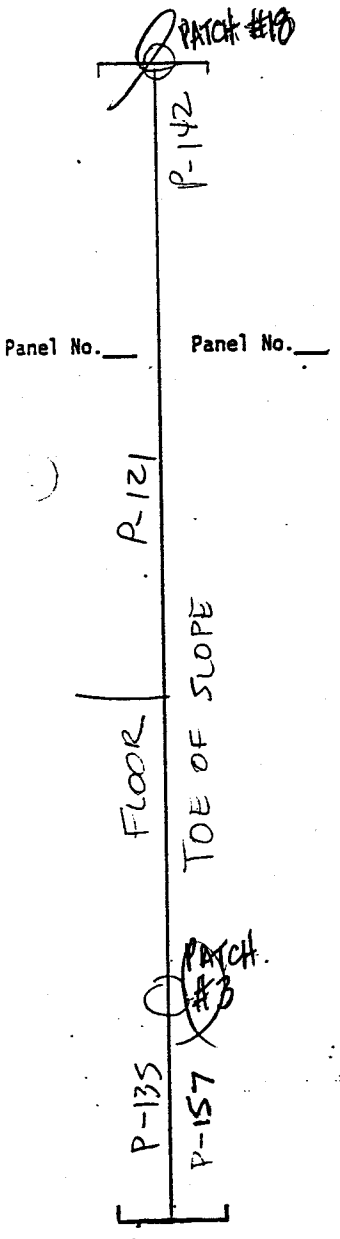
Sheet 244 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
ITRACTOR BARNHILL
INSTALLER ENVIRON. DESIGN
WELDING TECH FA
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. TIE-IN
SEAM LENGTH 340'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 10:15 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#3	BURN THRU	11-26 (PJ)	SAS
#18	END OF WELD	11-26 (PJ)	SAS
#1-#18	TIE ENDS	11-26 (PJ)	SAS

CQA SEAM INSPECTION FORM

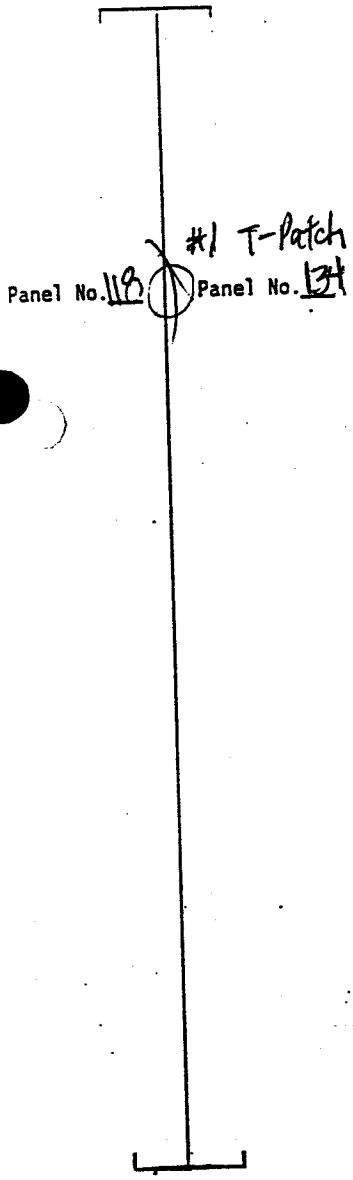
Sheet 245 of 254

PROJECT NAME HALIFAX COUNTY ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGN
WELDING TECH PM
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. 118-134 (TIE-IN)
SEAM LENGTH 22.5
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 2:20 a.m./(p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

N/A

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1	T-PATCH	11-30 AG	SAS

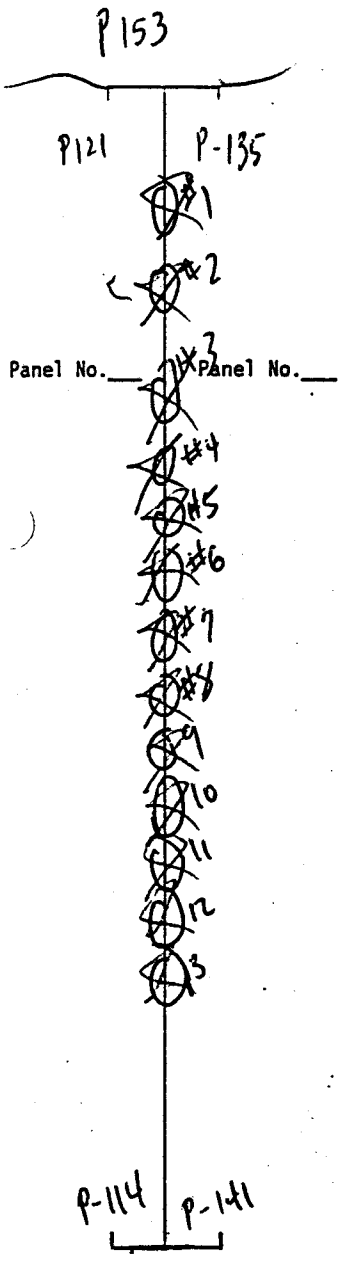
CQA SEAM INSPECTION FORM

PROJECT NAME HALIFAX ASH MONOFILL
PROJECT NO. 3716
CONTRACTOR BARNHILL
INSTALLER ENVIRONMENTAL DESIGNS INC
WELDING TECH FELIX ZARATE
TYPE OF WELDER FUSION
DATE WELDED 11-25-93

SEAM NO. MIDDLE SEAM TIE-IN
SEAM LENGTH 270'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 7:50 (a.m./p.m.)

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T. OK		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

I	ZONE 1 Air Pressure Zone
○	Repair Needed
⊗	Repair Completed
●	Repair Tested
◐	Repair Approved
▯	Destructive Sample
▨	CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	T-WELD	11-26 (PJ)	SAS
2-3	BURN THRU	11-29 (PJ)	SAS
4-6	T-WELD	11-29 (PJ)	SAS
7	BURN THRU	11-29 (PJ)	SAS
8-10	T-WELD	11-29 (PJ)	SAS
11	BURN THRU	11-29 (PJ)	SAS
12	T-WELD	11-29 (PJ)	SAS
13	BURN THRU	11-29 (PJ)	SAS

CQA SEAM INSPECTION FORM

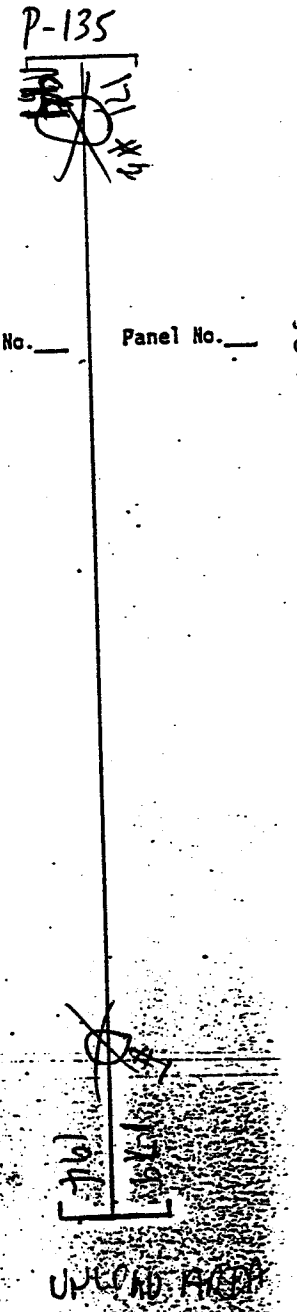
Sheet 247 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. TIE-IN
SEAM LENGTH 200
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 1000 a.m. / p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	Burn	11-26	SA's
2	Patch	11-26	SA's

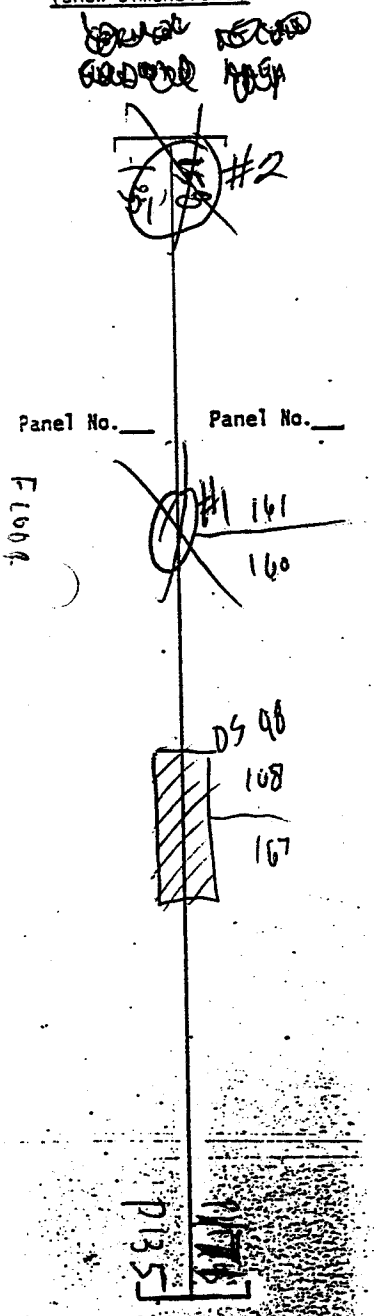
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
TALLER Environmental Design
WELDING TECH EZ
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. TIE IN SLOPE TO FLOOR
SEAM LENGTH 350'
COMMENTS DS 48

WELDING UNIT NO. 327
TIME WELDED 9:30 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

V.T. OK

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	Hole	11-26	SA
2	Hole	11-26	SA
DS 48	DS		

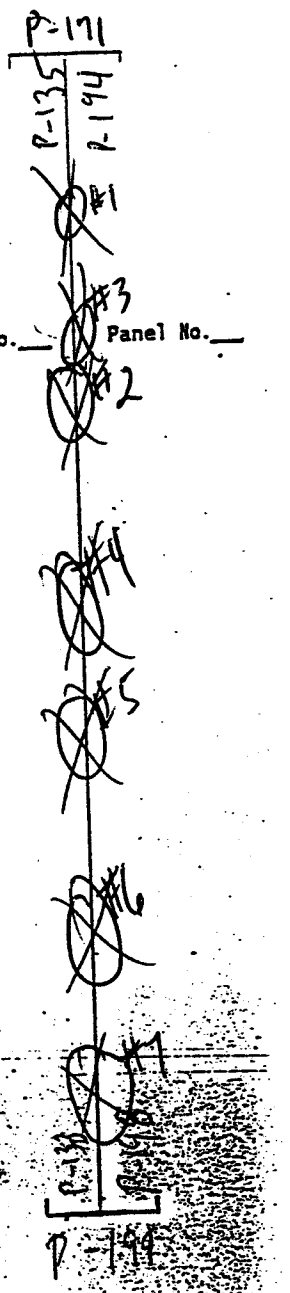
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH FA
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. TIE-14
SEAM LENGTH 113'
COMMENTS

WELDING UNIT NO. 54
TIME WELDED 9:30 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



Panel No. Panel No.

QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
V.T. OK		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	BURN THRU	11-26	SAS
2	HOLE	11-26	SAS
3	BURN THRU	11-29	SAS
4	BURN THRU	11-29	SAS
5	Hole	11-29	SAS
6	BURN THRU	11-29	SAS
7	PATCH HOLE	11-29	SAS

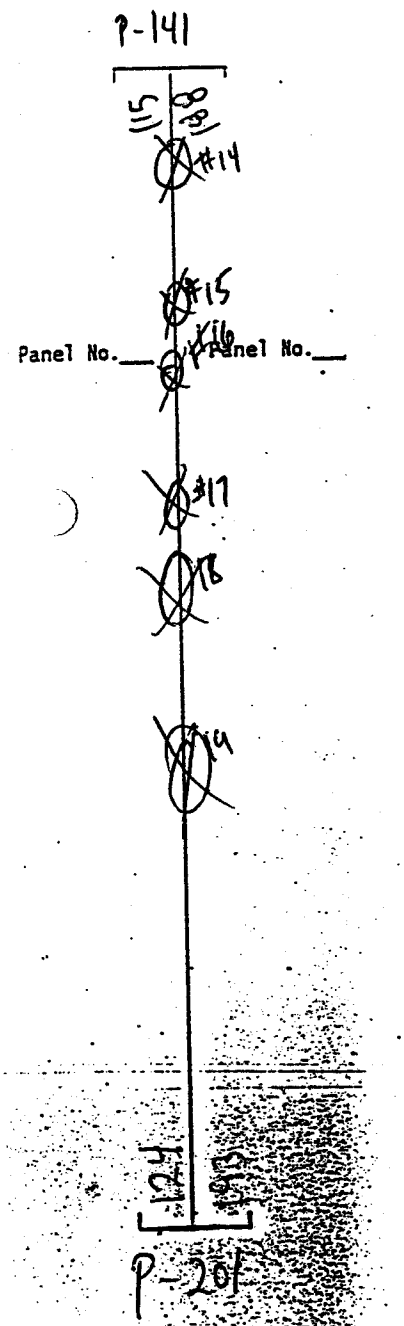
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
FABRICATOR Environmental Design
WELDING TECH F.Z.
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. MIDDLE TIE-IN
SEAM LENGTH 113'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 840 (a.m.)/p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
V.T.		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
14	Burn Thru	11-29	SAS
15	"	11-29	SAS
16	Hole	11-29	SAS
17	Burn Thru	11-29	SAS
18	"	11-29	SAS
19	"	11-29	SAS

CQA SEAM INSPECTION FORM

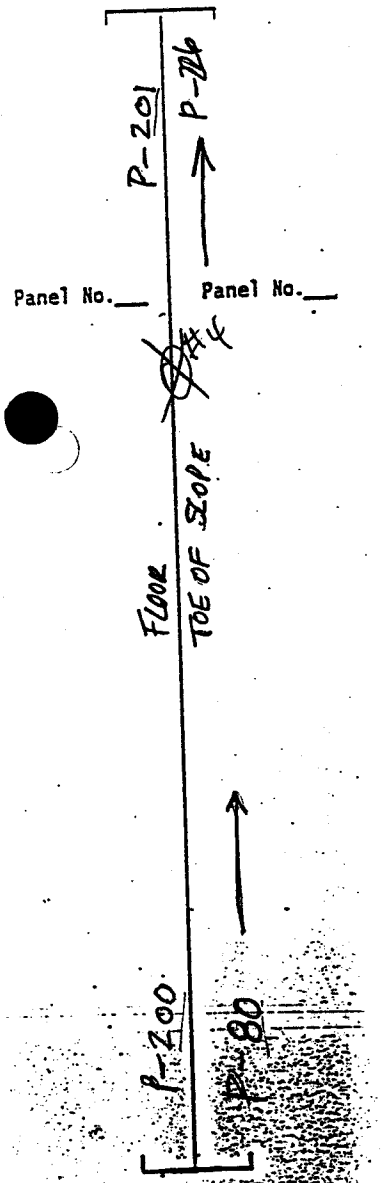
Sheet 251 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Babuhill Contracting
INSTALLER Environmental Design
WELDING TECH PM
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. TIEIN
SEAM LENGTH 400'
COMMENTS

WELDING UNIT NO. 711
TIME WELDED 10:25 a.m. p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1-#22	T-PATCH	11-30	SDS
#4	BURN-THRU	11-30 AG	SDS

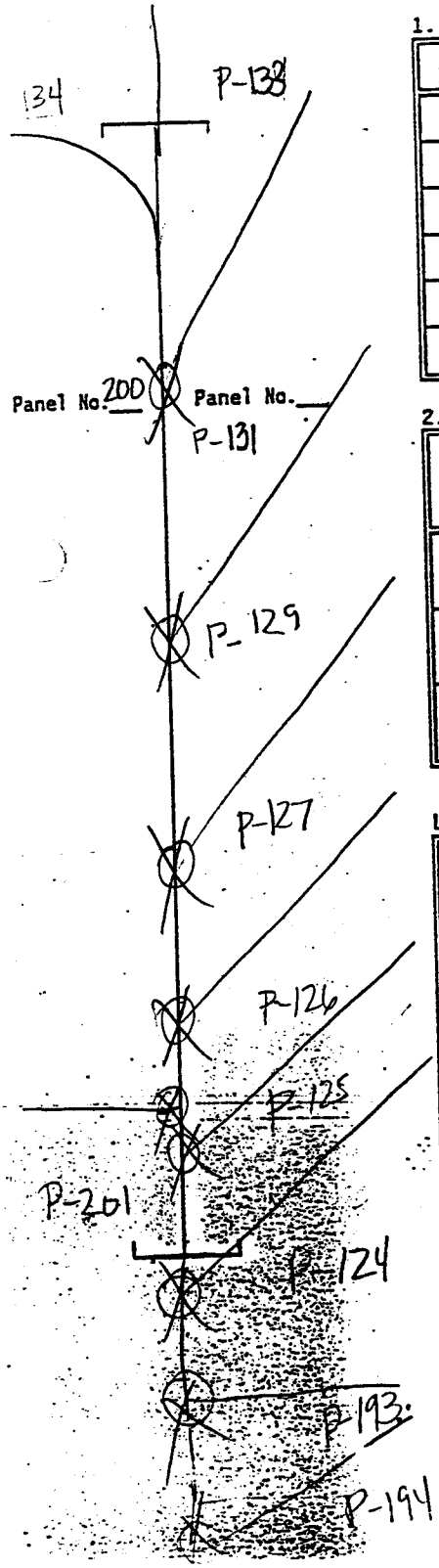
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH PM
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. FIE-IN
SEAM LENGTH 406'
COMMENTS FLOOR

WELDING UNIT NO. 711
TIME WELDED 8:15 a.m./p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
#1 -#13	T-PATCH	11-26	SM
#1	BVLN THRU	11-26	SM
#13	START/STOP	11-26	SM

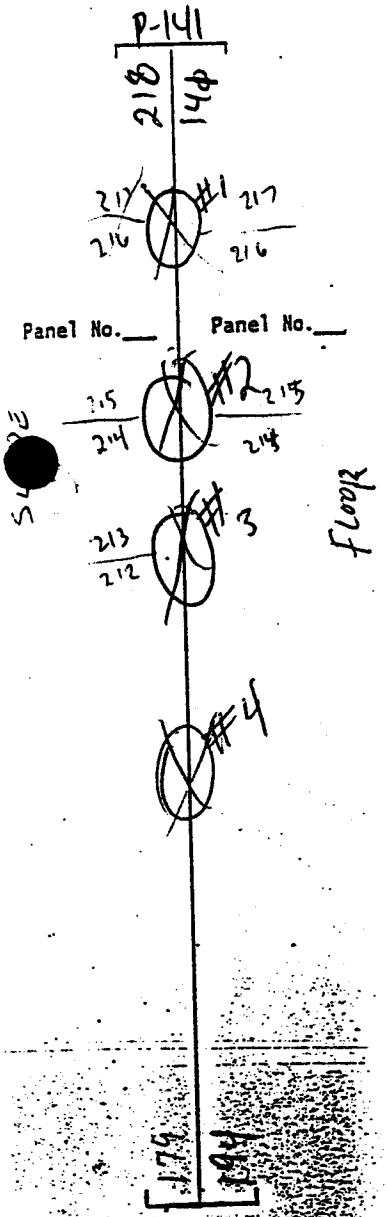
CQA SEAM INSPECTION FORM

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH F.Z
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. TIE IN MIDDLE
SEAM LENGTH 400'
COMMENTS

WELDING UNIT NO. 327
TIME WELDED 11:50 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	BURN THRU	11-29	SAS
2	HOLE	11-29	SAS
3	BURN	11-29	SAS
4	BURN	11-29	SAS

CQA SEAM INSPECTION FORM

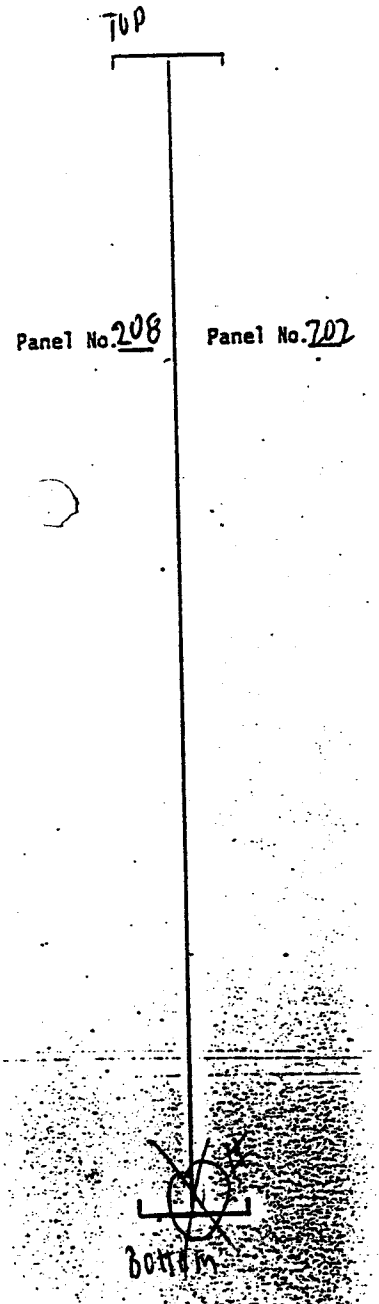
Sheet 254 of 254

PROJECT NAME Halifax County Ash Monofill
PROJECT NO. 3716
CONTRACTOR Barnhill Contracting
INSTALLER Environmental Design
WELDING TECH F.A.
TYPE OF WELDER Fusion
DATE WELDED 11-26-93

SEAM NO. 208-202
SEAM LENGTH 40
COMMENTS TIE IN CORNER OF LOADING AREA

WELDING UNIT NO. 54
TIME WELDED 11:15 (a.m.) p.m.

SEAM DETAIL
(Show Dimensions)



QUALITY ASSURANCE SUMMARY

1. Vacuum Box Test

ZONE	LENGTH	
		Date Tested
		QC Technician's Initials
		No. of Defects Found
		Date Repairs Made
		Date Retested
		Dated Inspected and Approved

2. Air Pressure Testing

START TIME	START PRESSURE (psi)	END TIME	END PRESSURE (psi)	ZONE	LENGTH (ft)	PRESSURE LOSS (psi)	APPROVED (Y/N)	IF NO, CORRECTIVE ACTION	APPROVED BY

Legend

- ZONE 1 Air Pressure Zone
- Repair Needed
- Repair Completed
- Repair Tested
- Repair Approved
- Destructive Sample
- CAP Strip Repair

3. Seam Repairs (Patches)

REPAIR NO.	DEFECT TYPE	DATE/NDT TYPE	APPROVED BY
1	HOLE	11-28	SA'

APPENDIX 3.9
DESTRUCTIVE SEAM TESTING RESULTS

Destructive Seams
for Cell 1 of the
Halifax County Ash Monofill

Destructiv Seam	Seam No.	Location	Date ('93) Sampled	Date ('93) Tested	Test Result	Comments or Repairs
1	5/6	Slope	21-Nov	23-Nov	PASS	
2	24/25	Slope	21-Nov	23-Nov	PASS	
3	32/33	Slope	21-Nov	30-Nov	PASS	
4	46/47	Slope	21-Nov	30-Nov	PASS	
5	57/58	Slope	21-Nov	30-Nov	PASS	
6	85/86	Bottom	21-Nov	23-Nov	PASS	
7	87/88	Bottom	21-Nov	23-Nov	PASS	
8	88/89	Bottom	21-Nov	23-Nov	PASS	
9	90/91	Bottom	29-Nov	3-Dec	PASS	
10	91/92	Bottom	29-Nov	3-Dec	PASS	
11	92/93	Bottom	29-Nov	3-Dec	PASS	
12	94/95	Bottom	29-Nov	3-Dec	PASS	
13	95/96	Bottom	29-Nov	6-Dec	PASS	
14	96/97	Bottom	29-Nov	3-Dec	PASS	
15	98/99	Bottom	30-Nov	3-Dec	PASS	
16	99/100	Bottom	30-Nov	6-Dec	PASS	
17	100/101	Bottom	30-Nov	6-Dec	PASS	
18	101/102	Bottom	30-Nov	6-Dec	PASS	
19	103/104	Bottom	30-Nov	6-Dec	PASS	
20	104/105	Bottom	30-Nov	3-Dec	PASS	
21	105/106	Bottom	30-Nov	6-Dec	FAIL	CAP STRIP
22	106/107	Bottom	30-Nov	3-Dec	PASS	
23	108/109	Bottom	30-Nov	3-Dec	PASS	
24	53/106	Slope	29-Nov	6-Dec	PASS	
25	119/120	Bottom	29-Nov	6-Dec	PASS	
26	111/119	Bottom	29-Nov	3-Dec	PASS	
27	111/112	Bottom	29-Nov	3-Dec	PASS	
28	112/113	Bottom	29-Nov	6-Dec	PASS	
29	114/115	Bottom	29-Nov	6-Dec	PASS	
30	115/116	Bottom	29-Nov	3-Dec	PASS	
31	116/122	Bottom	29-Nov	3-Dec	PASS	
32	122/123	Bottom	29-Nov	3-Dec	PASS	
33	123/124	Bottom	29-Nov	3-Dec	PASS	
34	124/125	Bottom	29-Nov	3-Dec	PASS	
35	126/127	Bottom	29-Nov	3-Dec	PASS	
36	128/129	Bottom	30-Nov	3-Dec	PASS	
37	132/134	Bottom	30-Nov	3-Dec	PASS	
38	1/142	Slope	30-Nov	3-Dec	PASS	
39	154/155	Slope	30-Nov	6-Dec	PASS	
40	167/168	Slope	29-Nov	30-Nov	PASS	
41	72/73	Slope	30-Nov	3-Dec	PASS	
42	78/79	Slope	30-Nov	6-Dec	PASS	
43	137/234	Slope	30-Nov	3-Dec	PASS	
44	232/233	Slope	30-Nov	3-Dec	PASS	
45	228/229	Slope	30-Nov	3-Dec	PASS	
46	216/217	Slope	1-Dec	3-Dec	PASS	
47	177/178	Slope	1-Dec	3-Dec	PASS	
48	135/167/168	Slope	29-Nov	30-Nov	PASS	
49	8/121	Bottom	29-Nov	30-Nov	PASS	
50	92/115	Bottom	30-Nov	3-Dec	PASS	
51	116/122	Bottom	30-Nov	3-Dec	PASS	
52	135/136	Bottom	30-Nov	3-Dec	PASS	
53	136/137	Bottom	30-Nov	6-Dec	PASS	
54	137/138	Bottom	30-Nov	6-Dec	PASS	
55	139/140	Bottom	30-Nov	6-Dec	PASS	
56	140/141	Bottom	30-Nov	6-Dec	PASS	
57	188/189	Bottom	30-Nov	3-Dec	PASS	
58	189/191	Bottom	30-Nov	6-Dec	PASS	
59	192/193	Bottom	30-Nov	3-Dec	PASS	
60	195/196	Bottom	30-Nov	3-Dec	PASS	

AGP Laboratories, Inc.
2004 E. Randol Mill, Suite 512
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(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

November 23, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC
AGP Project No. HS1530.002

Dear Mr. Smith:

Five (5) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	SEAM	NOMINAL THICKNESS	AGP COMMENTS
DS-1	5/6	N/A	GMS/DHW
DS-2	24/25	N/A	GMS/DHW
DS-6	85/86	N/A	GMS/DHW
DS-7	87/88	N/A	GMS/DHW
DS-8	88/89	N/A	GMS/DHW

The samples were tested in accordance with the test methods listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of those methods:

1) ASTM D 4437 (As modified by NSF Standard 54, Appendix A), "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

RESULTS:

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-1	1	136	FTB/SE-1	164	FTB/BRK
	2	113	"	166	FTB/SE-1
	3	122	"	167	FTB/BRK
	4	126	"	162	FTB/SE-1
	5	125	"	163	"
	AVG	124		164	
DS-2	1	118	FTB/SE-1	167	FTB/SE-1
	2	131	"	166	"
	3	120	"	161	"
	4	107	"	165	"
	5	85	NON-FTB/AD (100%)	164	"
	AVG	112		165	
DS-6	1	119	FTB/SE-1	169	FTB/SE-1
	2	109	"	165	"
	3	111	"	165	"
	4	118	"	162	"
	5	114	"	169	"
	AVG	114		166	
DS-7	1	113	FTB/SE-1	173	FTB/BRK
	2	112	"	167	FTB/SE-1
	3	130	"	172	"
	4	109	"	167	"
	5	113	"	169	"
	AVG	115		170	
DS-8	1	105	FTB/SE-1	170	FTB/SE-1
	2	104	"	168	"
	3	110	"	170	"
	4	105	"	169	"
	5	111	"	172	"
	AVG	107		170	

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

AGP Laboratories, Inc.
2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

November 30, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC
AGP Project No. HS1530.003

Dear Mr. Smith:

Six (6) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	SEAM	NOMINAL THICKNESS	AGP COMMENTS
DS-3		N/A	GMS/DHW
DS-4		N/A	GMS/DHW
DS-5		N/A	GMS/DHW
DS-40		N/A	GMS/DHW
DS-48		N/A	GMS/DHW
DS-49		N/A	GMS/DHW

The samples were tested in accordance with the test method listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of that method:

1) ASTM D 4437 (As modified by NSF Standard 54, Appendix A), "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

RESULTS:

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-3	1	114	FTB/SE-1	163	FTB/SE-1
	2	124	"	164	"
	3	129	"	166	FTB/BRK
	4	116	"	164	"
	5	113	"	160	"
	AVG	119		163	
DS-4	1	122	FTB/SE-1	162	FTB/SE-1
	2	112	"	159	"
	3	120	"	158	"
	4	114	"	158	"
	5	116	"	159	"
	AVG	117		159	
DS-5	1	106	FTB/SE-1	167	FTB/SE-1
	2	105	"	157	"
	3	103	"	155	"
	4	103	"	162	"
	5	101	"	160	"
	AVG	104		160	
DS-40	1	128	FTB/SE-1	158	FTB/SE-1
	2	116	"	157	"
	3	131	"	157	"
	4	131	"	153	"
	5	132	"	157	"
	AVG	128		156	
DS-48	1	130	FTB/SE-1	159	FTB/SE-1
	2	110	FTB/AD-BRK (70%)	156	"
	3	137	FTB/SE-1	158	"
	4	119	"	155	"
	5	128	"	151	"
	AVG	125		156	
DS-49	1	135	FTB/SE-1	171	FTB/SE-1
	2	121	"	170	"
	3	135	"	177	"
	4	144	"	172	"
	5	123	"	169	"
	AVG	132		172	

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Neelam Asher

for Wayne Youngblood
President - AGP Laboratories, Inc.

AGP Laboratories, Inc.

2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

December 3, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC; No. 3716
AGP Project No. HS1530.004

Dear Mr. Smith:

Twelve (12) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	SEAM	NOMINAL THICKNESS	AGP COMMENTS
DS-26		N/A	GMS/DHW
DS-27		N/A	GMS/DHW
DS-30		N/A	GMS/DHW
DS-31		N/A	GMS/DHW
DS-33		N/A	GMS/DHW
DS-34		N/A	GMS/DHW
DS-35		N/A	GMS/DHW
DS-43		N/A	GMS/DHW
DS-44		N/A	GMS/DHW
DS-45		N/A	GMS/DHW
DS-50		N/A	GMS/DHW
DS-51		N/A	GMS/DHW

The samples were tested in accordance with the test method listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of that method:

1) ASTM D 4437 (As modified by NSF Standard 54, Appendix A), "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

RESULTS:

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-26	1	109	FTB/SE-1	166	FTB/SE-1
	2	113	"	161	"
	3	112	"	163	"
	4	129	"	162	"
	5	110	"	163	"
	AVG	115		163	
DS-27	1	123	FTB/SE-1	163	FTB/SE-1
	2	124	"	165	"
	3	128	"	161	"
	4	125	"	165	"
	5	122	"	164	"
	AVG	124		164	
DS-30	1	97	FTB/SE-1	169	FTB/SE-1
	2	95	"	170	"
	3	98	"	173	"
	4	117	"	172	"
	5	95	"	174	"
	AVG	100		172	
DS-31	1	114	FTB/SE-1	171	FTB/SE-1
	2	116	"	172	"
	3	113	"	170	"
	4	113	"	174	"
	5	115	"	172	"
	AVG	114		172	
DS-33	1	112	FTB/SE-1	170	FTB/SE-1
	2	121	"	166	"
	3	114	"	173	"
	4	106	"	162	"
	5	118	"	167	"
	AVG	114		168	
DS-34	1	115	FTB/SE-1	180	FTB/SE-1
	2	107	"	171	"
	3	114	"	169	"
	4	104	"	168	"
	5	119	"	168	"
	AVG	112		171	

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-35	1	115	FTB/SE-1	165	FTB/SE-1
	2	111	"	166	"
	3	115	"	165	"
	4	116	"	162	"
	5	118	"	163	"
	AVG	115		164	
DS-43	1	128	FTB/SE-1	157	FTB/SE-1
	2	110	"	157	"
	3	120	"	160	"
	4	118	"	160	"
	5	114	"	160	"
	AVG	118		159	
DS-44	1	119	FTB/AD-BRK (95%)	178	FTB/SE-1
	2	118	FTB/SE-1	176	"
	3	131	"	170	"
	4	106	FTB/AD-BRK (95%)	167	"
	5	122	FTB/SE-1	169	"
	AVG	119		172	
DS-45	1	136	FTB/SE-1	168	FTB/SE-1
	2	136	"	171	"
	3	124	"	175	"
	4	129	"	163	"
	5	133	"	175	"
	AVG	132		170	
DS-50	1	134	FTB/SE-1	171	FTB/SE-1
	2	140	"	168	"
	3	126	"	160	"
	4	129	"	158	"
	5	115	"	166	"
	AVG	129		165	
DS-51	1	133	FTB/SE-1	162	FTB/SE-1
	2	119	"	161	"
	3	122	"	158	"
	4	115	"	161	"
	5	120	"	159	"
	AVG	122		160	

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

AGP Laboratories, Inc.

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Arlington, Texas 76011
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Fax: (817) 861-5400

December 3, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC; No. 3716
AGP Project No. HS1530.006

Dear Mr. Smith:

Twenty (20) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	SEAM	NOMINAL THICKNESS	AGP COMMENTS
DS-9	90/91	N/A	GMS/DHW
DS-10	91/92	N/A	GMS/DHW
DS-11	92/93	N/A	GMS/DHW
DS-12	94/95	N/A	GMS/DHW
DS-14	96/97	N/A	GMS/DHW
DS-15	98/99	N/A	GMS/DHW
DS-20	104/105	N/A	GMS/DHW
DS-22	106/107	N/A	GMS/DHW
DS-23	108/109	N/A	GMS/DHW
DS-32	122/123	N/A	GMS/DHW
DS-36	128/129	N/A	GMS/DHW
DS-37	132/134	N/A	GMS/DHW
DS-38	1/142	N/A	GMS/DHW
DS-41	72/73	N/A	GMS/DHW
DS-46	-------	N/A	GMS/DHW
DS-47	177/178	N/A	GMS/DHW
DS-52	-------	N/A	GMS/DHW
DS-57	-------	N/A	GMS/DHW
DS-59	-------	N/A	GMS/DHW
DS-60	-------	N/A	GMS/DHW

The samples were tested in accordance with the test method listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of that method:

1) ASTM D 4437 (As modified by NSF Standard 54, Appendix A), "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

RESULTS:

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-9	1	125	FTB/SE-1	159	FTB/SE-1
	2	96	"	166	"
	3	128	"	165	"
	4	128	"	167	"
	5	127	"	*	"
	AVG	121		164	
DS-10	1	98	FTB/SE-1	164	FTB/SE-1
	2	109	"	165	"
	3	103	"	169	"
	4	104	"	168	"
	5	110	"	*	"
	AVG	105		167	
DS-11	1	100	FTB/SE-1	168	FTB/SE-1
	2	107	"	174	"
	3	99	"	179	"
	4	98	"	170	"
	5	104	"	*	"
	AVG	102		173	
DS-12	1	121	FTB/SE-1	170	FTB/SE-1
	2	114	"	173	"
	3	116	"	175	"
	4	112	"	176	"
	5	114	"	174	"
	AVG	115		174	
DS-14	1	128	FTB/SE-1	172	FTB/SE-1
	2	137	"	171	FTB/BRK
	3	119	"	167	"
	4	132	"	169	FTB/SE-1
	5	124	"	*	"
	AVG	128		170	
DS-15	1	130	FTB/SE-1	170	FTB/SE-1
	2	122	"	172	"
	3	119	"	175	"
	4	117	"	175	"
	5	121	"	*	"
	AVG	122		173	

*** Not enough sample for 5 specimens**

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-20	1	115	FTB/SE-1	163	FTB/SE-1
	2	117	"	163	"
	3	119	"	161	"
	4	129	"	162	"
	5	110	"	157	"
	AVG	118		161	
DS-22	1	121	FTB/SE-1	155	FTB/SE-1
	2	115	"	154	"
	3	114	"	156	"
	4	126	"	156	"
	5	114	"	154	"
	AVG	118		155	
DS-23	1	100	FTB/SE-1	170	FTB/SE-1
	2	100	"	173	"
	3	95	"	172	"
	4	96	"	168	"
	5	95	"	172	"
	AVG	97		171	
DS-32	1	124	FTB/SE-1	167	FTB/SE-1
	2	114	"	173	"
	3	117	"	171	"
	4	117	"	166	"
	5	122	"	171	"
	AVG	119		170	
DS-36	1	125	FTB/SE-1	173	FTB/SE-1
	2	118	"	165	"
	3	118	"	167	"
	4	121	"	165	"
	5	123	"	161	"
	AVG	121		166	
DS-37	1	114	FTB/SE-1	166	FTB/SE-1
	2	123	"	157	"
	3	123	"	152	"
	4	125	"	161	"
	5	118	"	156	"
	AVG	121		158	

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-38	1	123	FTB/AD-BRK (90%)	171	FTB/SE-1
	2	136	FTB/SE-1	174	"
	3	130	FTB/AD-BRK (90%)	176	FTB/BRK
	4	135	FTB/SE-1	172	FTB/SE-1
	5	126	"	174	"
	AVG	130		173	
DS-41	1	118	FTB/SE-1	177	FTB/SE-1
	2	108	"	168	"
	3	123	"	174	"
	4	117	"	171	"
	5	116	"	174	"
	AVG	116		173	
DS-46	1	107	FTB/SE-1	148	FTB/SE-1
	2	114	"	149	"
	3	97	"	147	"
	4	115	"	148	"
	5	112	"	*	"
	AVG	109		148	
DS-47	1	124	FTB/SE-1	165	FTB/SE-1
	2	102	"	170	"
	3	137	"	156	"
	4	108	"	168	"
	5	136	"	168	"
	AVG	121		168	
DS-52	1	117	FTB/SE-1	157	FTB/SE-1
	2	119	"	169	"
	3	119	"	176	"
	4	122	"	174	"
	5	124	"	*	"
	AVG	120		169	
DS-57	1	124	FTB/SE-1	166	FTB/SE-1
	2	128	"	179	"
	3	133	"	171	"
	4	132	"	178	"
	5	120	"	*	"
	AVG	127		174	

* **Not enough sample for 5 specimens**

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-59	1	130	FTB/SE-1	169	FTB/SE-1
	2	96	"	172	"
	3	113	"	183	"
	4	116	"	179	"
	5	130	"	*	"
	AVG	117		176	
DS-60	1	133	FTB/SE-1	175	FTB/SE-1
	2	132	"	172	"
	3	122	"	171	"
	4	126	"	171	"
	5	119	"	*	"
	AVG	126		172	

*** Not enough sample for 5 specimens**

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

AGP Laboratories, Inc.

2004 E. Randol Mill, Suite 512
Arlington, Texas 76011
(817) 861-9090 • (800) AGP-6030
Fax: (817) 861-5400

December 6, 1993

Hazen & Sawyer
ATTN: Mr. Stacey Smith
4000 Westchase Blvd., Ste. 550
Raleigh, NC 27607

RE: Client Job - Halifax NC; No. 3716
AGP Project No. HS1530.007

Dear Mr. Smith:

Seventeen (17) samples were received for testing. The samples were identified as follows:

SAMPLE I.D.	SEAM	NOMINAL THICKNESS	AGP COMMENTS
DS-13		N/A	GMS/DHW
DS-16		N/A	GMS/DHW
DS-17		N/A	GMS/DHW
DS-18		N/A	GMS/DHW
DS-19		N/A	GMS/DHW
DS-21		N/A	GMS/DHW
DS-24		N/A	GMS/DHW
DS-25		N/A	GMS/DHW
DS-28		N/A	GMS/DHW
DS-29		N/A	GMS/DHW
DS-39		N/A	GMS/DHW
DS-42		N/A	GMS/DHW
DS-53		N/A	GMS/DHW
DS-54		N/A	GMS/DHW
DS-55		N/A	GMS/DHW
DS-56		N/A	GMS/DHW
DS-58		N/A	GMS/DHW

The samples were tested in accordance with the test method listed below and industry accepted modifications (National Sanitation Foundation Standard 54, Appendix A) of that method:

1) ASTM D 4437 (As modified by NSF Standard 54, Appendix A), "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

RESULTS:

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-13	1	113	FTB/SE-1	159	FTB/SE-1
	2	117	"	158	"
	3	111	"	165	"
	4	113	"	162	"
	5	107	"	*	"
	AVG	112		161	
DS-16	1	123	FTB/SE-1	166	FTB/SE-1
	2	142	"	162	"
	3	106	"	163	"
	4	130	"	163	"
	5	110	"	*	"
	AVG	122		164	
DS-17	1	118	FTB/SE-1	168	FTB/SE-1
	2	112	"	166	"
	3	112	"	166	"
	4	101	"	162	"
	5	105	"	*	"
	AVG	110		166	
DS-18	1	107	FTB/SE-1	175	FTB/SE-1
	2	104	"	165	"
	3	100	"	169	"
	4	114	"	163	"
	5	104	"	*	"
	AVG	106		168	
DS-19	1	111	FTB/SE-1	172	FTB/SE-1
	2	111	"	171	"
	3	114	"	168	"
	4	111	"	170	"
	5	123	"	*	"
	AVG	114		170	
DS-21	1	91	FTB/SE-1	169	FTB/SE-1
	2	92	FTB/AD-BRK (90%)	167	"
	3	69	"	163	"
	4	92	NON-FTB/AD (100%)	*	"
	5	91	FTB/SE-1	*	"
	AVG	87		166	

*** Not enough sample for 5 specimens**

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-24	1	121	FTB/SE-1	157	FTB/SE-1
	2	128	"	156	"
	3	122	"	155	"
	4	122	"	156	"
	5	114	"	*	"
	AVG	121		156	
DS-25	1	123	FTB/SE-1	165	FTB/SE-1
	2	118	"	161	"
	3	128	"	164	"
	4	128	"	167	"
	5	121	"	*	"
	AVG	124		164	
DS-28	1	128	FTB/SE-1	174	FTB/SE-1
	2	119	"	171	"
	3	124	"	170	"
	4	120	"	169	"
	5	122	"	*	"
	AVG	123		171	
DS-29	1	130	FTB/SE-1	162	FTB/SE-1
	2	134	"	162	"
	3	111	"	160	"
	4	130	"	*	"
	5	135	"	*	"
	AVG	128		161	
DS-39	1	116	FTB/SE-1	160	FTB/SE-1
	2	116	"	157	"
	3	112	"	162	"
	4	120	"	155	"
	5	113	"	*	"
	AVG	115		159	
DS-42	1	121	FTB/SE-1	161	FTB/SE-1
	2	117	"	158	"
	3	114	"	158	"
	4	116	"	155	"
	5	126	"	*	"
	AVG	119		158	

* **Not enough sample for 5 specimens**

Sample (Thickness, mil)	Specimen Number	PEEL ADHESION Lbs/in	PEEL ADHESION Type Failure	SHEAR Lbs/in	SHEAR Type Failure
DS-53	1	114	FTB/SE-1	171	FTB/BRK
	2	115	"	172	"
	3	121	"	168	FTB/SE-1
	4	116	"	166	"
	5	118	"	*	"
	AVG	117		169	
DS-54	1	133	FTB/SE-1	174	FTB/SE-1
	2	125	"	173	"
	3	136	"	176	"
	4	117	"	173	"
	5	122	"	*	"
	AVG	127		174	
DS-55	1	120	FTB/SE-1	173	FTB/SE-1
	2	120	"	166	"
	3	116	"	170	"
	4	115	"	170	"
	5	118	"	*	"
	AVG	118		170	
DS-56	1	114	FTB/SE-1	176	FTB/SE-1
	2	112	"	171	"
	3	116	"	*	"
	4	115	"	*	"
	5	120	"	*	"
	AVG	115		174	
DS-58	1	117	FTB/SE-1	182	FTB/SE-1
	2	114	"	175	"
	3	120	"	181	"
	4	123	"	181	"
	5	113	"	*	"
	AVG	117		180	

* **Not enough sample for 5 specimens**

Samples were submitted by HAZEN & SAWYER. AGP Laboratories, Inc. has no specific knowledge as to conditioning, origin, or sampling procedure prior to arrival of the samples at AGP. The testing listed herein is based upon accepted industry practice as well as by the test method listed. AGP Laboratories neither accepts nor makes claim as to final use and purpose of the material. This report only relays test methods and associated values. It does not comment on compliance of materials with specifications.

If there are any questions please contact us.

Respectfully yours,

Wayne Youngblood
President - AGP Laboratories, Inc.

SECTION 4
INTERNAL STORMWATER COLLECTION SYSTEM

4.0 INTERNAL STORMWATER COLLECTION SYSTEM

Precipitation that lands within Cell 1 and potentially contacts the coal residue, called contact water, is treated both within the cell and in an exterior basin to remove sediment. The basin, referred to as the Internal Stormwater System Settling Basin, is shown on Drawing G5, Section 7 of this report. It is located to the south of the cell footprint. The basin was constructed using Compacted Embankment, (see Section 2 of this report) to the lines and grades shown on Drawing G6. A typical section through the basin showing the riser and barrel assembly is provided on Drawing G18, Section 7.

Inside the cell, internal stormwater is conducted to the 30-inch diameter prefabricated HDPE sump located in the center of the south perimeter berm. The sump was fabricated by Fife Pipe, Inc. Hazen and Sawyer reviewed shop drawings and field verified dimensions of the sump. The as-built sump drawings are provided on Drawing G5, Section 7. The HDPE geomembrane was extrusion welded to the sump flange.

Two additional prefabricated HDPE risers are connected to the sump by 18-inch diameter solid HDPE pipes. The risers were surrounded by No. 57 stone. A detail showing the riser is shown on Drawing G9.

Geonet and overlying Cushion Geotextile were installed in the sump area prior to placement of overlying No. 57 stone and Operational Cover. See Drawing G8, Section 7 of this report.

The Cell 1 sump and the internal stormwater basin were connected by a 12-inch diameter HDPE gravity line. Sumps for future Cells 2 and 3 were installed during Cell 1 construction to eliminate service interruption during

tie-in of future cells. A typical detail for Sumps 2 and 3 is shown on Drawing G8, Section 7.

All HDPE pipe was Phillips Driscopipe 1000 in accordance with project Specifications. The 12-inch diameter pipe for the gravity line was SDR 17, and the 18-inch internal pipes were SDR 32.5.

Pipe connections were field butt-fusion welded by Fife Pipe, except where bolted flanges are shown on the Record Drawings.

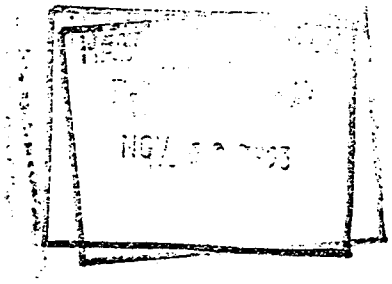
Each of the prefabricated sumps were pressure tested separately prior to installation. The gravity line was pressure tested by Barnhill after all connections were made and a temporary end plug was installed. To perform the test, water was pumped into Sump 1 until it remained full. The tops of Sumps 2 and 3 were temporarily sealed. The pipe joints and sumps were visually inspected by Hazen and Sawyer and Barnhill. No leaks in permanent joints were observed during the 1 hour test period.

Once testing was completed, cement/bentonite grout was pumped beneath and around the sumps as shown on Drawing G8. Once the grout was allowed to set, the pipe was backfilled with Compacted Embankment to the original ground surface. A concrete cover was placed on Sumps 2 and 3.

Pipe data and sump shop drawings are presented in Appendix 4.1.

APPENDIX 4.1
SHOP DRAWINGS, SUBMITTALS, AND DELIVERY TICKETS

FIFEPIPE



November 5, 1993

Stacey Smith
Engineer
Hazen and Sawyer
4011 WestChase Blvd.
Suite 550
Raleigh, NC 27607

Dear Stacey:

Enclosed are the revised shop drawings for the Halifax County Landfill project. The 12" HDPE flanges have been deleted from the sumps. On sump #1 I have added a fuse on end cap. Also, the stubouts have been extended to accomodate the jaws of the fusion machine. These changes will make the line jointless and greatly reduce the risk of leakage.

Concerning the testing of the line, I submitted drawings and a testing plan to Barnhill Construction. They should be submitting this to you soon. This plan incudes another fuse on cap to be joined to the pipe at the sediment basin to seal off the system. This cap can then be cut off at the end of the test.

If you have any further questions, feel free to give me a call.

Sincerely,

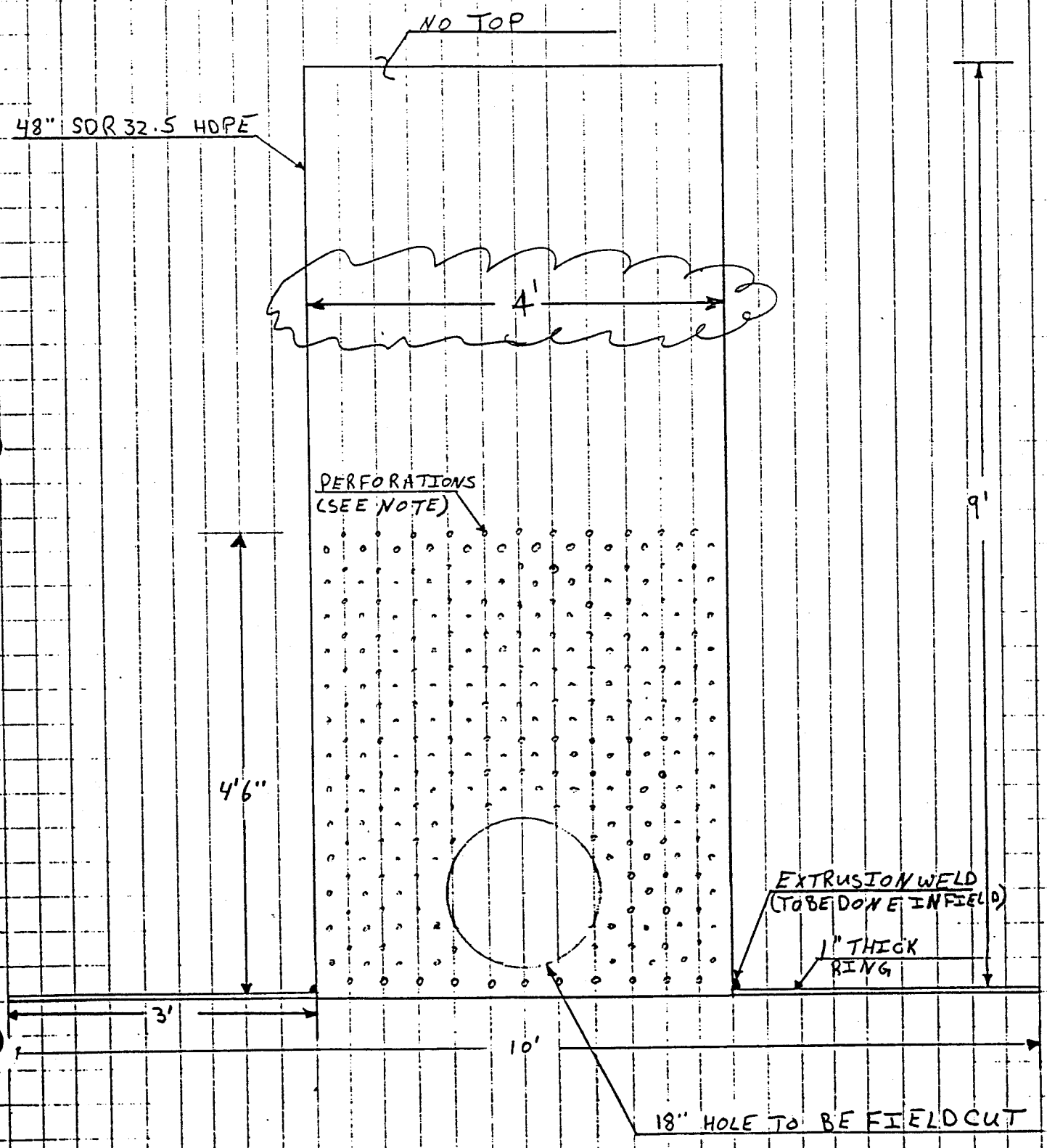
Edwin Douglas

1410 St. Andrews Road • Suite 210 • Columbia, S.C. 29210 • 803/798-3050 • Fax: 803/798-2964

DRAWING #2
HDPE RISER
HALIFAX CO.

NOTE: PERFORATIONS - ½" HOLES SPACED 3" O.C.

NOTE: COVER PERFORATED SECTION WITH APPROXIMATELY 2' OF #57 STONE



Shop Dwg. Log No. 12 H&S Job No. 3720-02
Date: 10/20/93 Contract No. 1
Division 2 Section 15

☐ FURNISH AS SUBMITTED
☒ FURNISH AS CORRECTED
☐ REVISE AND RESUBMIT

Checking of shop drawing is limited to general design and general arrangement only and is not intended to be a verification of compliance with all requirements. Approval shall not relieve the Contractor from the responsibility of details of design, correct dimensions for proper fitting, coordination with other performance, or any other requirement of the Contract.

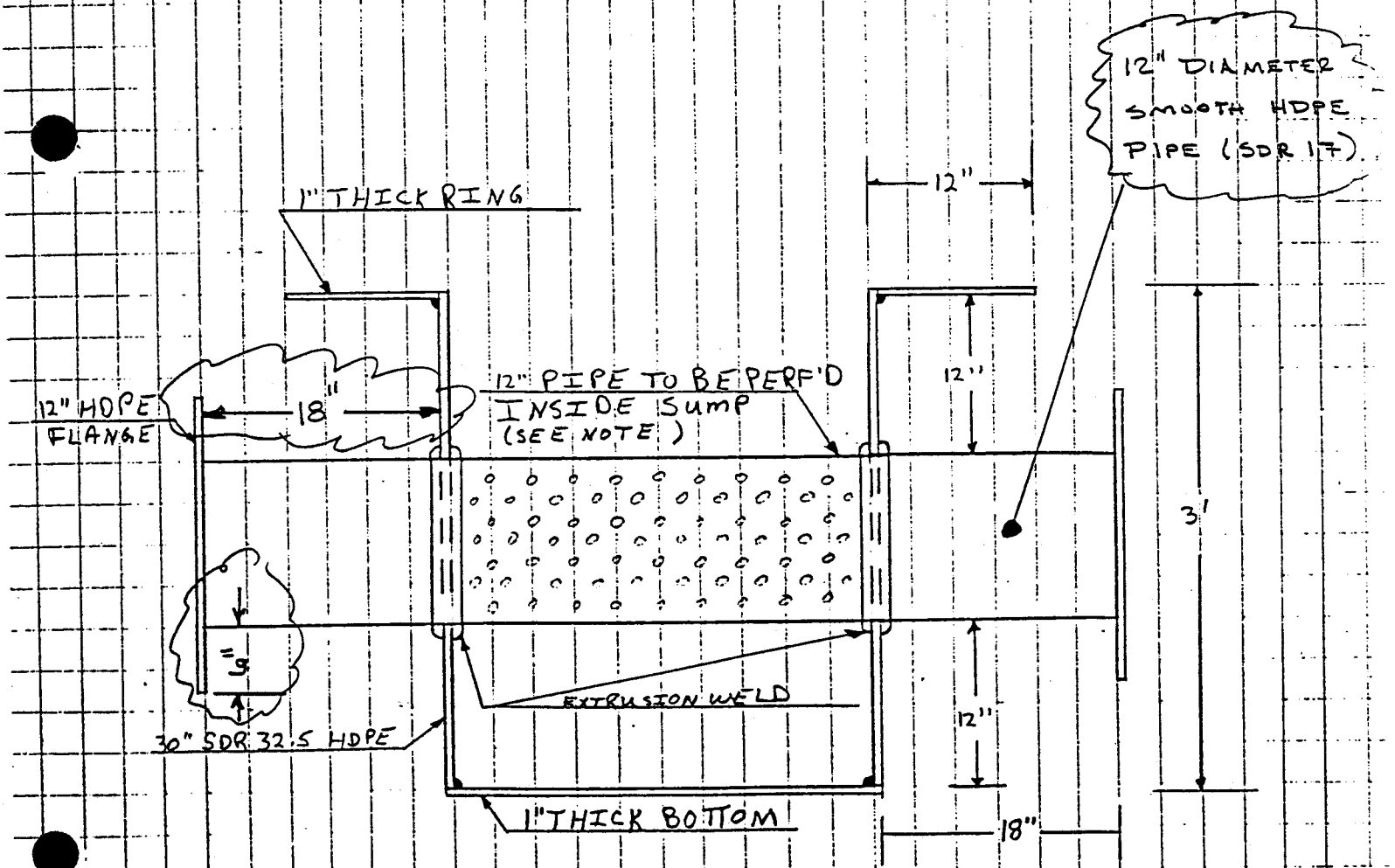
HAZEN AND SAWYER P.C.
BY

DRAWING #1
HDPE Sump
HALIFAX Co.

NOTE: PERF PATTERN NOT SPECIFIED
(SUGGEST ½" HOLES SPACED 3" O.C.)

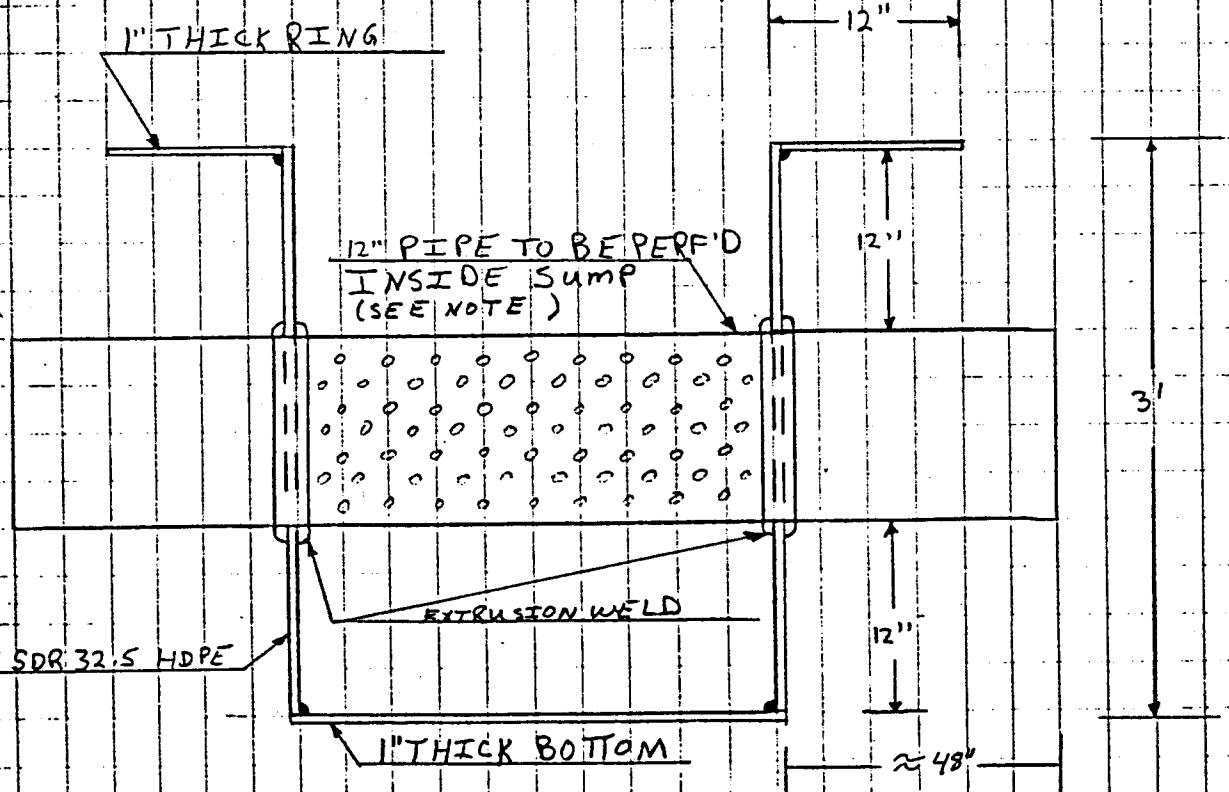
NOTE: ALL WELDS FACTORY CONSTRUCTED

BARNHILL CONTRACTING COMPANY
P. O. BOX 1529
TARBORO, NC 27886
10/18/93 DMJ



Sump # 2 & 3
DRAWING #1-A
HDPE Sump - Revised per changes
HALIFAX Co.

NOTE: PERF PATTERN NOT SPECIFIED.
(SUGGEST ½" HOLES SPACED 3" O.C.)



MEMORANDUM

Subject: High Density Polyethylene Pipe Submittals

Project: Halifax County Landfill

Contractor: Barnhill Contracting Co.

Pipe Supplier: FIFE Industrial Pipe Co.
by Mark R. Wallbom, V.P. Mark R. Wallbom

Pipe Manufacturer: Phillips Driscopipe, Inc.

This memorandum is intended to serve as certification that the high density polyethylene pipe and fittings meet the specifications for the above referenced job. The materials being provided are made from the TR 480 resin and known as Driscopipe 1000. FIFE Pipe is an authorized representative of Phillips Driscopipe.

The pipe meets all requirements of ASTM F714 and is made from a high density, high molecular weight polyethylene pipe material meeting the requirements of Type III, Class C, Category 5, Grade P 34, as defined in ASTM D 1248. The pipe will be made from a polyethylene compound having a cell classification of 345434C as referenced in ASTM D 3350. The fittings will be made from the same material.

Phillips Driscopipe will provide the contractor with certification that the pipe being supplied for this job meets all of the aforementioned specifications. The 12" and 18" pipe called for on the project will be SDR 17 and 32.5 respectively. In the case of the fittings, they will either be molded, having an SDR of 17, or will be fabricated from an SDR which will be at least one lower to allow for de-rating of the fitting to match the pressure rating of the pipe.

The following attachments and catalog cuts are made part of this submittal by reference:

* Driscopipe 1000 Brochure
* Typical Physical Properties of Driscopipe 1000
* Driscopipe Piping Systems Brochure
* Driscopipe Fittings "Sizes and Dimensions"
* FIFE Pipe Brochure on fabrication capabilities

BARNHILL CONTRACTING COMPANY
P. O. BOX 1529
TARBORO, NC 27886
CK 8-27-93

5

Driscopipe® 1000

Typical Physical Properties ⊜

Property		Specification	Units	Nominal Value
Material Designation		PPI / ASTM	-	PE 3408
Material Classification		ASTM D-1248	-	III C 5 P34
Cell Classification		ASTM D-3350	-	345434C
Density	(3)	ASTM D-1505	gm / cm^3	0.955
Melt Index	(4)	ASTM D-1238 (2.16 kg/190°C)	gm / 10 min.	0.11 ♦
Flex Modulus	(5)	ASTM D-790	psi	135,000
Tensile Strength	(4)	ASTM D-638	psi	3200
ESCR	(3)	ASTM D-1693	F_o, Hours	> 5000**
HDB @ 73° F	(4)	ASTM D-2837	psi	1600
U-V Stablizer	(C)	ASTM D-1603	% C	2.5
Hardness		ASTM D-2240	Shore "D"	65
Compressive Strength (Yield)		ASTM D-695	psi	1600
Tensile Strength @ Yield (Type IV Spec.)		ASTM D-638 (2" / min)	psi	3200
Elongation @ Yield		ASTM D-638	%, minimum	8
Tensile Strength @ Break (Type IV Spec.)		ASTM D-638	psi	5000
Elongation @ Break		ASTM D-638	%, minimum	750
Modulus of Elasticity		ASTM D-638	psi	130,000
ESCR				
(Cond A,B, C: Mold. Slab)		ASTM D-1693	F_o, Hours	> 5000 **
(Compressed Ring - pipe)		ASTM F-1248	F_{50}, Hours	> 1000
Slow Crack Growth		Battelle Method	Days to Failure	> 64
Impact Strength (IZOD) (.125" Thick)		ASTM D-256 (Method A)	In-lb / in notch	42
Linear Thermal Expansion Coef.		ASTM D-696	in / in / ° F	1.2×10^{-4}
Thermal Conductivity		ASTM D-177	BTU - in/ ft^2 / hrs/ ° F	2.7
Brittleness Temp.		ASTM D-746	° F	< -180
Vicat Soft. Temp.		ASTM D-1525	° F	257
Heat Fusion Cond.			psi @ °F	75 @ 400

⊜ This list of Typical Physical Properties is intended for basic characterization of the pipe, and does not represent specific determinations or specifications.

** Tests were discontinued because no failures and no indication of stress crack initiation.

♦ Average Melt Index value with a standard deviation of 0.01.

Distributed by:

FIFE PIPE CO.
1410 ST. ANDREWS ROAD
SUITE 210
COLUMBIA, S.C. 29210

PPI PLASTICS PIPE INSTITUTE

PHILLIPS DRISCOPIPE, INC
A SUBSIDIARY OF PHILLIPS 66 COMPANY

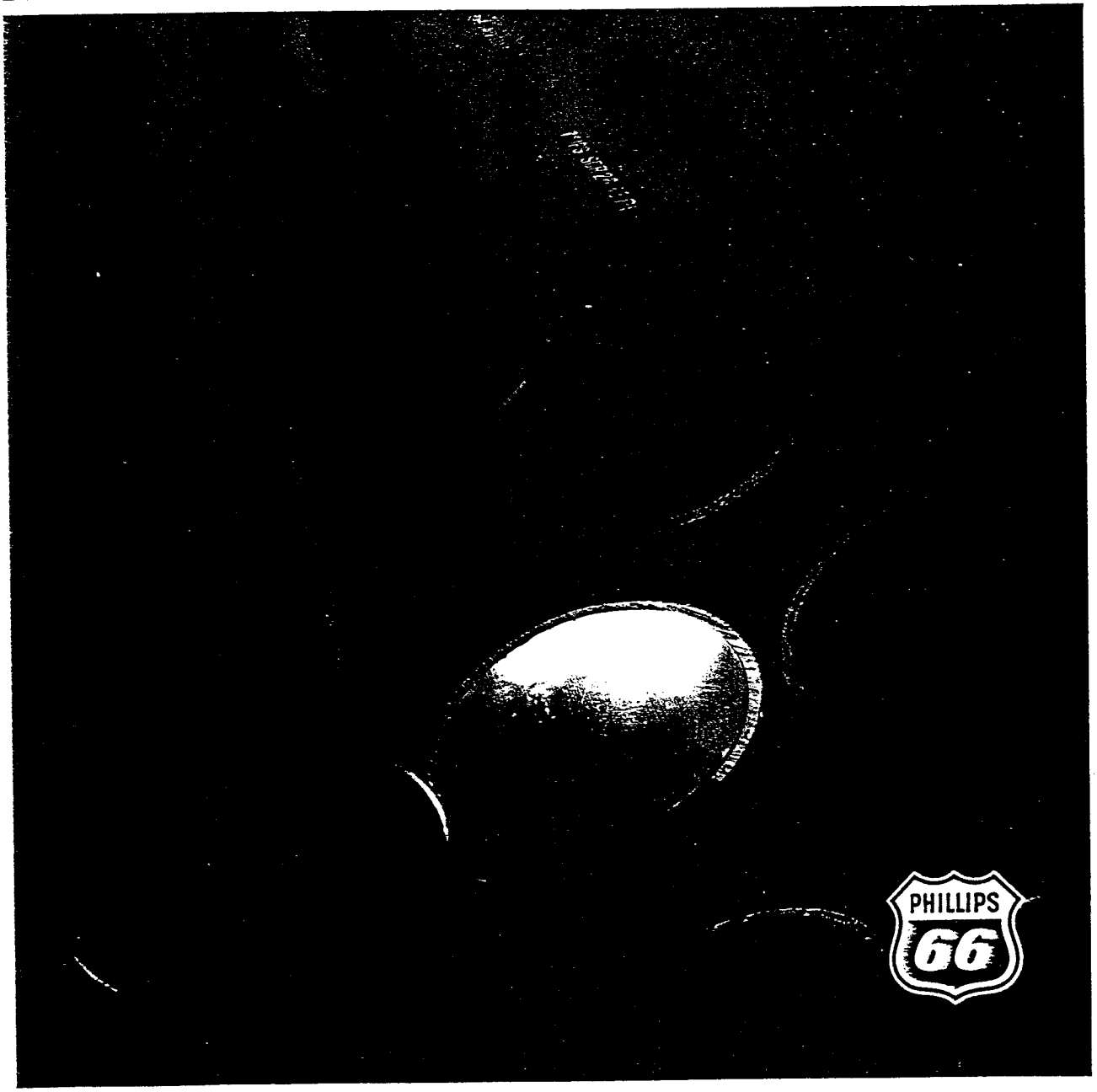
This document reports accurate and reliable information to the best of our knowledge but our suggestions and recommendations cannot be guaranteed because the conditions of use are beyond our control. The user of such information assumes all risk connected with the use thereof. Phillips 66 Company and its subsidiaries assume no responsibility for the use of information presented herein and hereby expressly disclaims all liability in regards to such use.

To secure product information or leave a message for a sales engineer or technical service representative.
Phone: 1-800-527-0662 or 1-214-783-2666
Fax: 1-214-783-2689

Printed in Texas, USA 6-91

Driscopipe 1000

High Density Polyethylene Pipe For Industrial And Municipal Applications



DRISCOPIPE

Driscopipe® 1000 series

Data Sheet

Customer Benefits

High quality Driscopipe® 1000 is manufactured from extra high molecular weight, high density PE3408 polyethylene pipe grade resin.

This black, weather-resistant pipe exhibits . . . .

- Outstanding Chemical & Corrosion Resistance
- High Environmental Stress Cracking Resistance
- Improved Flow Characteristics
- Toughness & Ductility
- Flexibility with lightweight
- Non-Toxic
- Abrasion Endurance
- Fatigue Endurance
- Long-term Hydrostatic Strength / Physical strength
- Reliability

Suggested Industries & Applications

- Industrial Water Distribution
- Agriculture
- Landfills
- Marine
- Pollution Control
- Pulp / paper / wood
- Power Plants
- Petrochemical
- Mining / Mineral Processing
- Dredging / sand / gravel
- Organic Chemicals
- Inorganic Chemicals
- Aquaculture
- Hazardous Waste
- Local / State / Federal Gov'ts.
- Cement Plants
- Irrigation
- Municipal
- Gravity sewers
- Forced main sewers
- Water distribution
- Sewer treatment
- Sludge handling
- Leachate collection
- Dual Containment
- Brine
- Fertilizer
- Acid / Caustic lines
- Utility / Process piping
- Slurry
- SX acid mining
- Tailings disposal
- Marinas
- Snow melting / making
- Hard rock mining
- Coal Slurry / Processing
- Dredging
- Water intakes
- Water outfalls
- Fire-water
- De-Watering
- Fly-Ash disposal
- Temporary pipelines
- Cable Stayed Bridges
- Golf course irrigation
- Farmland irrigation
- Swimming pools
- Ice rinks
- . . . . and many others

Available in sizes 1" thru 54"

Specification Data

The resin, pipe & fittings comply with these accepted (and other) industry standards . . . .

ASTM F-714 - Pipe Standard

ASTM D3261 - Fittings Standard

Cell Classification - ASTM D3350 - PE345434C

ASTM D1248 - Type III, Class C Category 5, Grade P34

EPA 9090 ISO #161

PPI Designation - PE3408

NSF - Listed, Standard #14 (by size, per order) NSF

Factory Mutual (by size, per order) ◀ FM ▶

CGSB41 - GP-25M-Pipe Standard

AWWA C901 - Potable Water Pipe & Tubing

American Water Works Association

Printed in Texas, USA 6-91

UNIFORM STRAIGHT BILL OF LADING OR DELIVERY RECEIPT of Lading, nor a copy or duplicate and is intended solely for filling or record.

6

IF OR WHEN THIS INSTRUMENT CONSTITUTES A BILL OF LADING, the Carrier, on shipping date shown below, has received, subject to the classifications and tariffs in effect on such date, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all or any of said property over all of any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail, or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

☐ BILL OF LADING
☐ PRODUCT DELIVERY RECEIPT

(This instrument is not a bill of lading when the property described below is moved in a vehicle (other than that of a common carrier) furnished and/or operated by the shipper or owner of the property, but is merely a receipt for said property on behalf of shipper or owner.)

269499

ORIGIN NAME	ORG. CODE	CUSTOMER CODE A/R NO.	SUFFIX	SHIPPING DATE MO.	DAY	YR.	CUSTOMER ORDER NUMBER	SHIPPER'S ORDER NO.
STARTEX	ST	002362	999	11	04	93	1681-2	226139-001

SHIP TO
BARNHILL CONTRACTING CO.
% HALIFAX COUNTY LANDFILL
SR 1417
LITTLETON, NC
TAG: 1116 27850

SOLD TO
FIFE/PIPE COMPANY
P.O. BOX 770
BRANDON, FL
33509

FREIGHT CHARGES TO BE: PPD

C.O.D. CHARGE TO BE PAID BY

RECEIVED $
To apply in prepayment of the charges on the property described hereon.
AGENT OF CASHIER
PER
(The Signature here acknowledges only the amount prepaid.)

CAR/VEHICLE NO.	ROUTING
6 WD 1680	POOLE TRUCK LINE

PAGE 1

SKIDS	PKGS	UNITS	DESCRIPTION (PLASTIC PIPE)	WEIGHT
18	18		18 SDR-32.5 1000 MUNICIPAL PIPE BLK 40 JT PL ED	9317
22	22		12 SDR-17 1000 MUNICIPAL PIPE BLK 40 JT PL ED	10586
40	40		TOTAL	19903

MRM/DAG
DELIVERY PROBLEMS? (813) 681-3765
NOTE: JOB# BCC 24293
DREW JOHNSON (919) 823-1021
TELESCOPE PIPE TO SHIP ON ONE ( )
TRUCK PER DIANA (PHONE) MRM 11-03-93
INVOICE $100.00 FOR TELESCOPING

SEND BILL TO: PHILLIPS DRISCOPIPE INC. (226139-001)
ATTN: TRAFFIC DEPT
P.O. BOX 83-3866
RICHARDSON TX 75083

If required by 49 C.F.R. § 172.204 — THIS IS TO CERTIFY THAT THE ABOVE-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION.

CARRIER HEREBY CERTIFIES THAT THE CARGO TANK USED FOR THIS SHIPMENT IS A PROPER CONTAINER FOR THE COMMODITY LOADED THEREIN AND COMPLIES WITH DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.

TRANSPORTATION CO.

SUBJECT TO SECTION 7 OF CONDITIONS OF APPLICABLE BILL OF LADING, IF THE SHIPMENT IS TO BE DELIVERED TO THE CONSIGNEE WITHOUT RECOURSE ON THE CONSIGNOR, THE CONSIGNOR SHALL SIGN THE FOLLOWING STATEMENT: THE CARRIER SHALL NOT MAKE DELIVERY OF THIS SHIPMENT WITHOUT PAYMENT OF FREIGHT AND ALL OTHER LAWFUL CHARGES. SIGNTURE OF CONSIGNOR:

Shipper or Delivering Party:

PER PHILLIPS DRISCOPIPE INC. A SUBSIDIARY OF PHILLIPS PETCO. SOUTH CAROLINA 29385

PER _____ CARRIER AGENT

PERMANENT POST OFFICE ADDRESS OF SHIPPER

DELIVERY RECEIPT

FIFE PIPE

P.O. BOX 751 - BRANDON, FLORIDA 33509
(813) 681-3765 or Bartow (813) 533-9068

DATE	SHIPPED VIA	
11-12-93	Packard	
CUSTOMER ORDER NO.	OUR ORDER NO.	DEL. RCPT. NO.
1116	013731	

DELIVERED TO
Barnhill Contracting Co
Cell 1 Ash Nonofill Halifax County
Solid W.D Halifax N.C 27839

✓	QUANTITY	ITEM NO.	DESCRIPTION
	2		HDPE Sumps Per Drawing
	3		HDPE Riser Per Drawing
	2	12"	Fuse on End Cap
	6	Pieces	of HDPE Sheet material
			For Bottom Riser

NO. OF PACKAGES	WEIGHT

RECEIVED IN GOOD ORDER BY ▶ DATE

FORM 5423-A
MATRICK FORMS
[illegible]

Stacey Smith

SECTION 5
OPERATIONAL COVER

5.0 OPERATIONAL COVER

Operational Cover placement began on the North perimeter berm at the cell entrance. A section of Cushion Geotextile was first placed on the cell sideslope in the ramp area. Soil was pushed by a Caterpillar D6 dozer over the crest of the slope to construct a working pad. The dozer worked its way into the cell until the working pad was large enough for a Caterpillar 615 scraper to drive onto the pad and turn around. The pad was then pushed eastward along the North perimeter berm until it sloped into a three foot thick road approximately 40 feet wide.

Placement of Operational Cover on the base of the cell began on December 8, 1993. It began at the base of the access ramp and proceeded to the east across the toe of the Northern perimeter berm slope. The Operational Cover soils were recovered from Stockpile "B" located adjacent to the North perimeter berm, as shown on Drawing G5, Section 7. Soils from this stockpile consisted of cohesive clayey silts. A representative of Geotechnologies, Inc. visually examined the soil for any unsuitable materials such as roots, rocks, and other deleterious objects. All unsuitable materials were removed and placed outside the cell area. During the placement of the Operational Cover, laborers worked with each dozer to identify and work out liner wrinkles to prevent creases from folding over.

An initial three foot lift was placed over the geomembrane and a Caterpillar D6 dozer and Caterpillar 615 scraper were used to place soil. The cover was then "fingered" across the cell in a North - South direction in a three foot lift. Once a substantial amount of soil was placed in the cell, a Caterpillar D4 Low Ground Pressure (LGP $<$ 6psi) dozer was used to push the cover across the cell in a one foot lift. The Operational Cover was placed in only the bottom one foot of the cell due to 2H:1V sideslopes of the perimeter berms. Operations were constantly monitored to assure that

only the LGP dozers were allowed to operate on the one foot thick layer of Operational Cover. Any type of equipment not classified as LGP was not allowed on Operational Cover less than three foot in thickness.

As the LGP dozers spread the one foot lift, a 25′ wide access road and tipping area were constructed along the North perimeter berm, as shown on Drawing G5. The tipping area was made as a turnaround approximately 100′ in diameter to allow hauling vehicles easy access into and out of the cell. The access road includes an 8" lift of ABC stone on top of a Separator Geotextile. In addition, the LGP dozers fine graded the Operational cover to prevent accumulation of runoff.

The surface of the Operational Cover was tracked in with the LGP dozers. Hazen and Sawyer and Geotechnologies, Inc. monitored the placement of the Operational Cover material to observe any signs of damage to the geomembrane. During placement, a section of the liner east of the access ramp was punctured by the dozer blade on the North slope. Landsavers, Inc., a subcontractor of Barnhill Contracting, patched the area. A Hazen and Sawyer representative was on site to observe the patching process to assure that it was done in accordance with the project specifications.

SECTION 6
MONITORING WELLS

6.0 WATER QUALITY MONITORING

A total of seven monitoring wells were installed for water quality monitoring for Cell 1. Two wells, MW13 and MW14 are temporary wells which will be abandoned during construction of Cell 2. In addition to the monitoring wells, two stream locations and the Internal Stormwater System Settling Basin were sampled on January 20, 1994 by Environment One, Inc., under contract with the County in accordance with the Construction permit.

The Water Quality Monitoring Plan and the report describing well construction, including well construction diagrams, were prepared by Armstrong Geological and Engineering Services. Their report is provided in Appendix 6.1. Coordinates and ground surface elevations for each monitoring well location are provided on Drawing G5, Section 7.

Environment 1, Incorporated

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (919) 756-6208
FAX (919) 756-0633

January 20, 1994

Mr. John Bove
Hazen and Sawyer
4011 Westchase Boulevard
Suite 500
Raleigh, NC 27607

Dear Mr. Bove:

Samples were collected on the above date at the Halifax County Coal Ash Landfill. Seven (7) monitoring wells, two (2) surface water locations, one (1) basin location, and one (1) off-site drinking water well were sampled. Total Suspended Residue, total metals, and dissolved metals will be analyzed on all locations, except for the drinking water location, along with all other requested parameters. The drinking water location will be analyzed for total metals and TOX only.

If you have any questions please give me a call.

Sincerely,

Steve Jones

cc: Jerry Williams

SECTION 6.1
WELL COMPLETION RECORDS

January 20, 1994

Division of Solid Waste Management
Department of Environment, health, and Natural Resources
401 Oberlin Road
Post Office Box 27687
Raleigh, North Carolina 27611-7687

Reference: Well Construction Logs / Well Completion Records
Halifax County Ash Monofill
Halifax County, North Carolina

Dear Mr. Lutfy:

Enclosed are well construction logs and well completion records for the new ground water monitoring wells constructed for the Halifax County Ash Monofill. These monitoring wells, MW-9, MW-10, MW-11, MW-12, MW-13, and MW-14, as shown on the attached Hazen and Sawyer figure, were constructed under the supervision of a North Carolina Registered Geologist. A ground water monitoring plan is being provided separately and the first sampling round is scheduled for January 20, 1994. The previously existing monitoring well MW-8, which is also part of the monitoring well system for the landfill, is also scheduled to be sampled during the first sampling round.

Please contact us or Hazen and Sawyer if you have any questions.

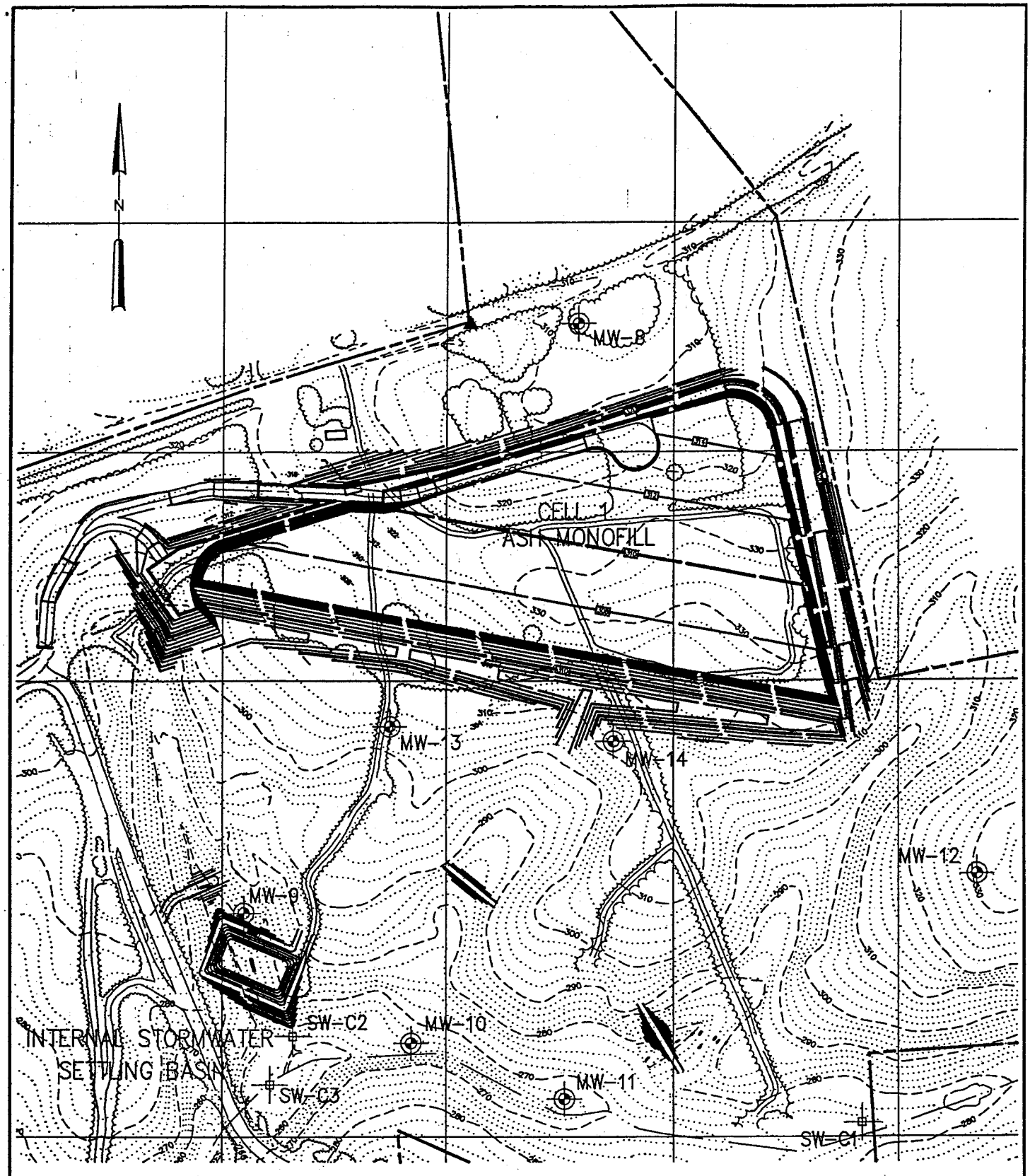
Sincerely,

Macklin M. Armstrong

Macklin M. Armstrong, P.G.
Principal Geologist

Enclosures

Armstrong Geological & Engineering Services, P.C. | 8200 Brownleigh Drive Suite B | Raleigh North Carolina 27612 | Tel 919/571-8818 Fax 919/571-4238



PLAN

1"=300'

HALIFAX COUNTY
ASH MONOFILL

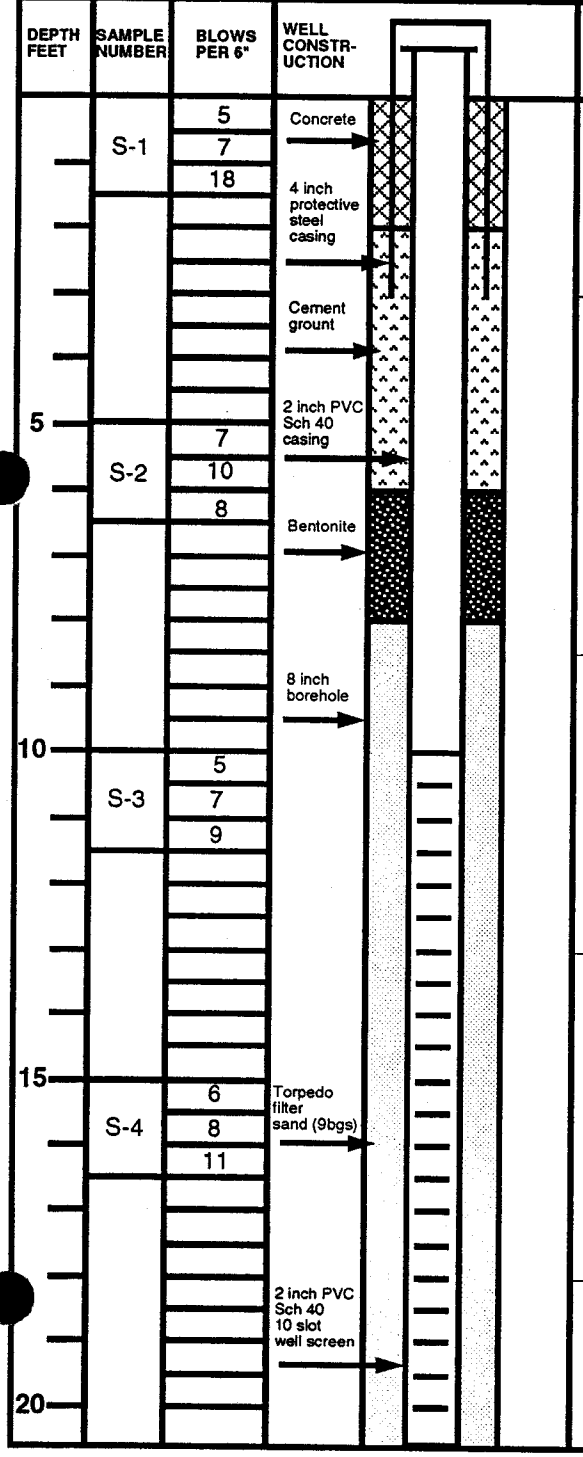
FIGURE 1
MONITORING WELL LAYOUT

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill	**WELL NO.**	MW-9
CLIENT	Halifax County	**SHEET 1 OF**	2
DRILLING CONTRACTOR	Parratt Wolff, Inc.	**JOB NO.**	931210
PURPOSE	Monitoring Well for Ash Landfill	**ELEV.** MP / GR	

GROUND WATER					CASING	SAMPLE	CORE	WELL	DATUM	
DATE	TIME	DEPTH	CASING	TYPE					STARTED	1/5/94
1-10-94	1015	9.31'		DIAMETER					COMPLETED	1/6/94
				WEIGHT				DRILLER	Dave Stratton	
				FALL				GEOLOGIST	Mac Armstrong	



IDENTIFICATION	REMARKS
Red brown sandy clayey silt (ML) dry	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers
Red brown sandy silt to sandy silty clay with pieces of rock (ML to CL) dry	Well casing and screen installed through augers
Red brown silty clayey sand to sandy clay (SM to CL) moist (partially weathered rock)	Water at 9.31 feet after 5 days
Tan to brown silty clayey sand (SM) moist (partially weathered rock)	Water at 16 feet after one hour

TEST BORING - WELL CONSTRUCTION LOG

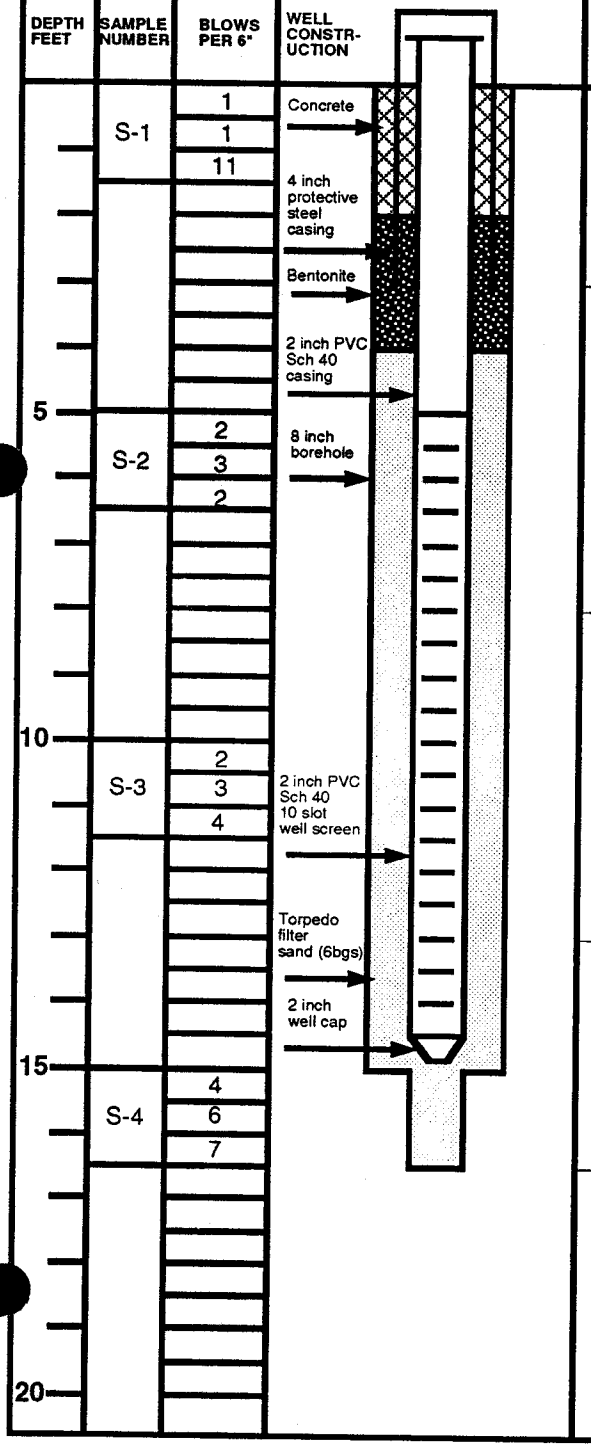
PROJECT	Halifax County Ash Landfill		**WELL NO.** MW-9
CLIENT	Halifax County	**JOB NO.** 931210	**SHEET 2 OF** 2

DEPTH FEET	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
	S-5	9 16 11	8 inch borehole 2 inch PVC Sch 40 10 slot well screen Torpedo filter sand (9bgs) 2 inch well cap	Tan, brown, pink weathered rock	
25				Total depth at 25 feet	
30					
35					
40					
45					

TEST BORING - WELL CONSTRUCTION LOG

PROJECT Halifax County Ash Landfill	**WELL NO.** MW-10
CLIENT Halifax County	**SHEET 1 OF** 1
DRILLING CONTRACTOR Parratt Wolff, Inc.	**JOB NO.** 931210
PURPOSE Monitoring Well for Ash Landfill	**ELEV.** MP / GR

GROUND WATER					CASING	SAMPLE	CORE	WELL	
DATE	TIME	DEPTH	CASING	TYPE					**DATUM**
									STARTED 1/10/94
1-11-94	1315	3.75'		DIAMETER					**COMPLETED** 1/10/94
				WEIGHT					**DRILLER** Dave Stratton
				FALL					**GEOLOGIST** Mac Armstrong

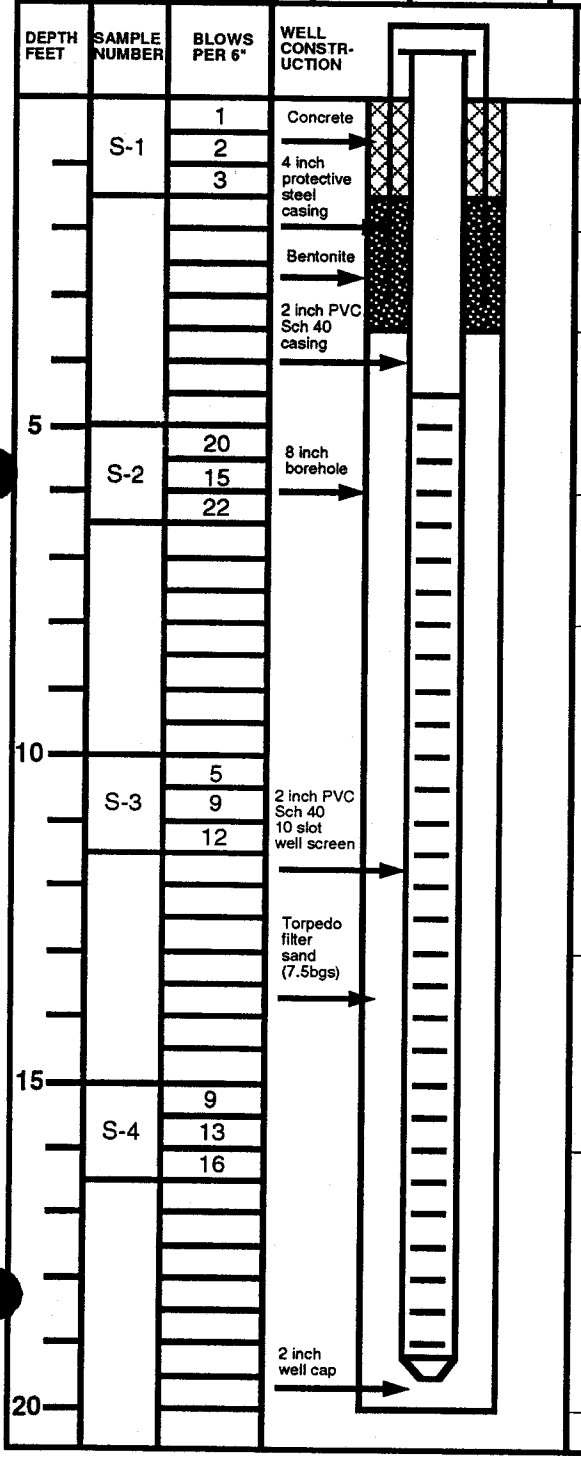


IDENTIFICATION	REMARKS
Brown sandy clayey silt (ML) wet	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers
Brown silty sand with pieces of rock (SM) wet	Water at 3.75 feet after 26 hours
Brown to pink silty sand (SM) wet (partially weathered rock)	Well casing and screen installed through augers
Partially weathered rock	
Total depth at 16.5 feet	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT Halifax County Ash Landfill	**WELL NO.** MW-11
CLIENT Halifax County	**SHEET 1 OF** 1
DRILLING CONTRACTOR Parratt Wolff, Inc.	**JOB NO.** 931210
PURPOSE Monitoring Well for Ash Landfill	**ELEV.** MP / GR

GROUND WATER					CASING	SAMPLE	CORE	WELL	
DATE	TIME	DEPTH	CASING	TYPE					**DATUM**
1-10-94	1545	2.16'		DIAMETER					**STARTED** 1/7/94
				WEIGHT					**COMPLETED** 1/7/94
				FALL					**DRILLER** Dave Stratton
									GEOLOGIST Mac Armstrong



IDENTIFICATION	REMARKS
Tan to light brown silty sand (SM) dry	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers
Yellow brown silty clay (CL) dry	Water at 2.16 feet after 3 days
Tan to brown clayey sandy silt (ML) moist	Well casing and screen installed through augers
Tan to brown clayey sand (SC) moist	Water at 6 feet immediately after drilling
Yellow brown clayey silt (ML) moist	
Yellow brown clayey silt (ML) wet	
Tan, brown, black silty clayey sand (SM) wet with partially weathered rock	
Total depth at 20 feet	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill	**WELL NO.**	MW-12
CLIENT	Halifax County	**SHEET 1 OF**	3
DRILLING CONTRACTOR	Parratt Wolff, Inc.	**JOB NO.**	931210
PURPOSE	Monitoring Well for Ash Landfill	**ELEV.** MP / GR	

GROUND WATER					**CASING**	**SAMPLE**	**CORE**	**WELL**	**DATUM**	
DATE	**TIME**	**DEPTH**	**CASING**	**TYPE**					**STARTED**	1/6/94
1-7-94	0700	40.0'		**DIAMETER**					**COMPLETED**	1/7/94
1-10-94	1430	39.31'		**WEIGHT**				**DRILLER**	Dave Stratton	
				FALL				**GEOLOGIST**	Mac Armstrong	

DEPTH FEET	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTR-UCTION	IDENTIFICATION	REMARKS
0	S-1	1, 1, 3	Concrete; 4 inch protective steel casing; 2 inch PVC Sch 40 casing; 8 inch borehole; Cement grout	Red brown clayey silt (ML) dry	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers
5	S-2	5, 8, 10		Yellow brown clayey silt (ML) dry	Well casing and screen installed through augers
10	S-3	6, 6, 8		Yellow brown clayey silt (ML) dry	
15	S-4	6, 6, 8		Yellow brown clayey silt (ML) dry	
20				Yellow brown clayey silt (ML) dry	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill		**WELL NO.** MW-12
CLIENT	Halifax County	**JOB NO.** 931210	**SHEET 2 OF** 3

DEPTH FEET	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
	S-5	6, 6, 8	Cement grout	Yellow brown clayey silt (ML) moist	
			8 inch borehole		
25	S-6	3, 4, 9		Light brown clayey silt to silty clay (ML to CL) moist	
			2 inch PVC Sch 40 casing		
30	S-7	4, 4, 6	Benonite	Yellow brown clayey micaceous silt (ML) moist	
35	S-8	4, 4, 5	2 inch PVC Sch 40 10 slot well screen	Brown micaceous silt (ML) moist	Water at 39.31 feet after 3 days
40	S-9	9, 12, 15	Torpedo filter sand (9bgs)	Brown to yellow brown micaceous silt (ML) moist	Water at 40 feet after 14 hours
45					

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill	**WELL NO.**	MW-12
CLIENT	Halifax County	**JOB NO.** 931210	**SHEET 3 OF** 3

DEPTH FEET	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
	S-10	9 12 15	Torpedo filter sand (9bgs) 2 inch PVC Sch 40 casing 2 inch well cap	Yellow brown clayey silt (ML) wet	
50	S-11	5 6 10		Yellow brown clayey silt (ML) wet White fine silty sand (SM) wet	
				Total depth at 51.5 feet	
55					
60					
65					
70					

TEST BORING - WELL CONSTRUCTION LOG

PROJECT Halifax County Ash Landfill	**WELL NO.** MW-13
CLIENT Halifax County	**SHEET 1 OF** 2
DRILLING CONTRACTOR Parratt Wolff, Inc.	**JOB NO.** 931210
PURPOSE Monitoring Well for Ash Landfill	**ELEV.** MP / GR

GROUND WATER					CASING	SAMPLE	CORE	WELL
DATE	TIME	DEPTH	CASING	TYPE				
1-6-94	0700	35.0'		DIAMETER				
1-10-94	1300	27.39'		WEIGHT				
				FALL				

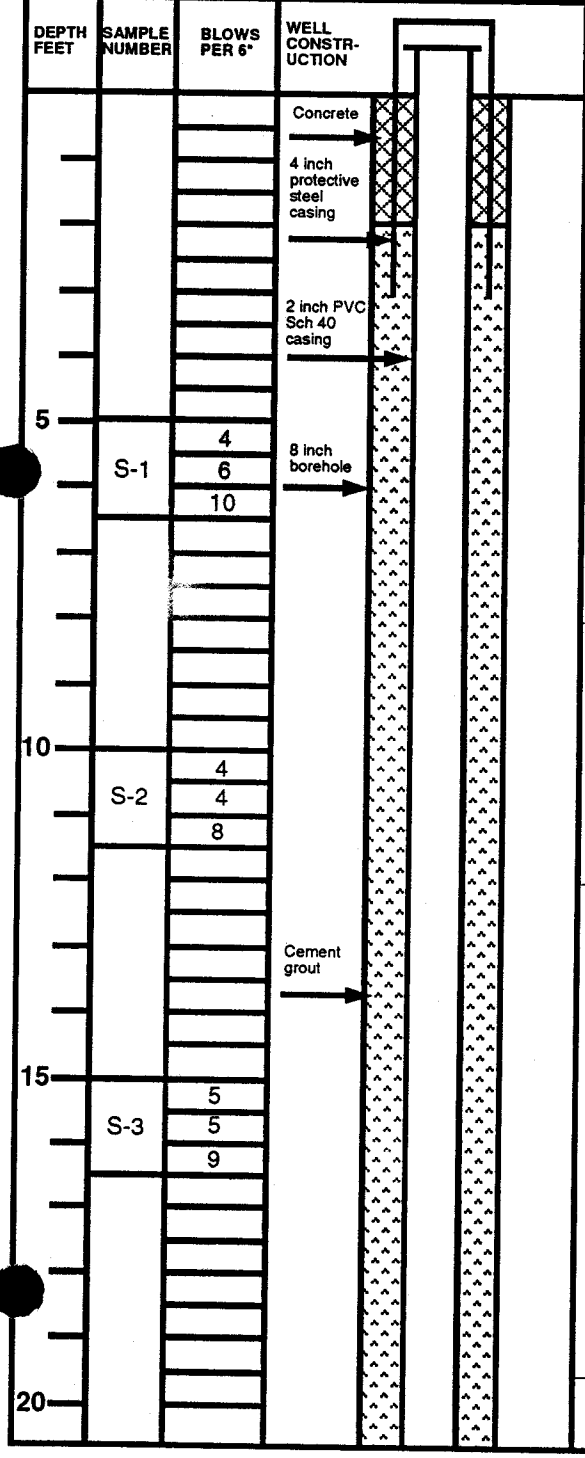
DATUM

STARTED 1/5/94

COMPLETED 1/6/94

DRILLER Dave Stratton

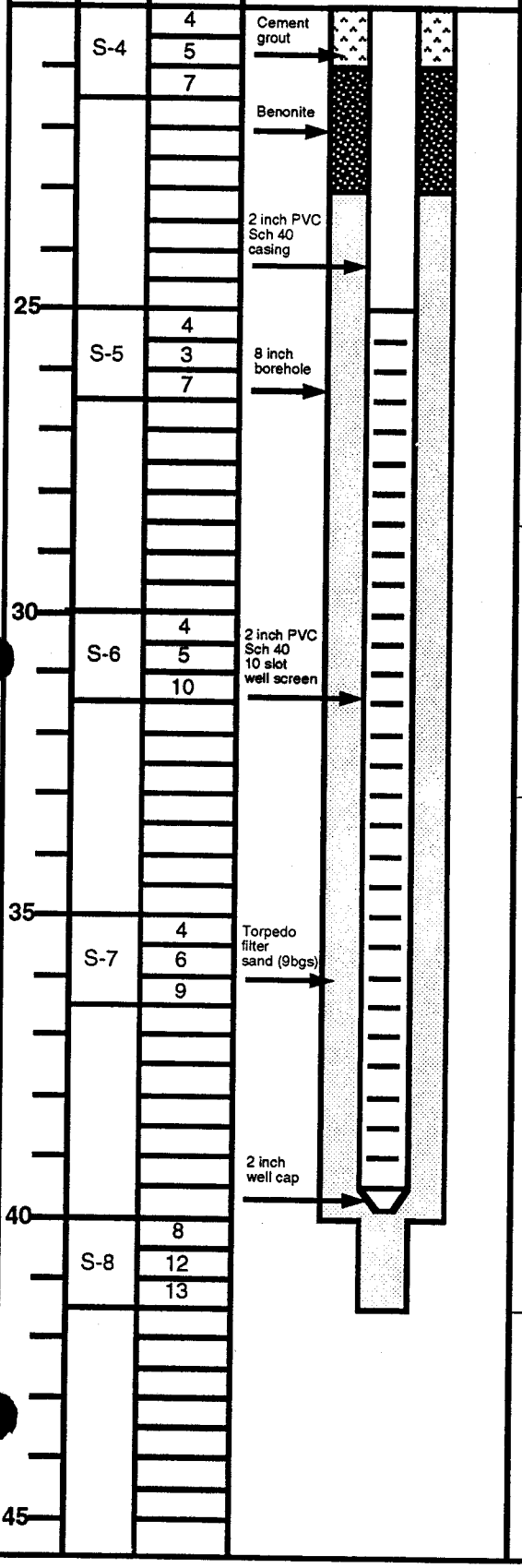
GEOLOGIST Mac Armstrong



IDENTIFICATION	REMARKS
Red brown clayey silt (ML) dry	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers Well casing and screen installed through augers
Red brown clayey silt (ML) dry	
Brown to orange clayey silt (ML) moist	
Brown to red brown clayey silt to silty clay (ML to CL) moist	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill		**WELL NO.** MW-13
CLIENT	Halifax County	**JOB NO.** 931210	**SHEET 2 OF** 2



IDENTIFICATION	REMARKS
Brown to yellow brown clayey silt (ML) moist	
Tan, white, brown clay to clayey silt (CL to ML) moist	Water at 27.39 feet after 5 days
Tan to brown silty clay to clayey silt (CL to ML) moist	
Tan, brown, white silty clay (CL) moist	Water at 35 feet after 14 hours
Tan, brown, white silty clay (CL) moist to wet	
Total depth at 41.5 feet	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT Halifax County Ash Landfill	**WELL NO.** MW-14
CLIENT Halifax County	**SHEET 1 OF** 2
DRILLING CONTRACTOR Parratt Wolff, Inc.	**JOB NO.** 931210
PURPOSE Monitoring Well for Ash Landfill	**ELEV.** MP / GR

GROUND WATER					CASING	SAMPLE	CORE	WELL
DATE	TIME	DEPTH	CASING	TYPE				
1-11-94	1300	23.21		DIAMETER				
				WEIGHT				
				FALL				

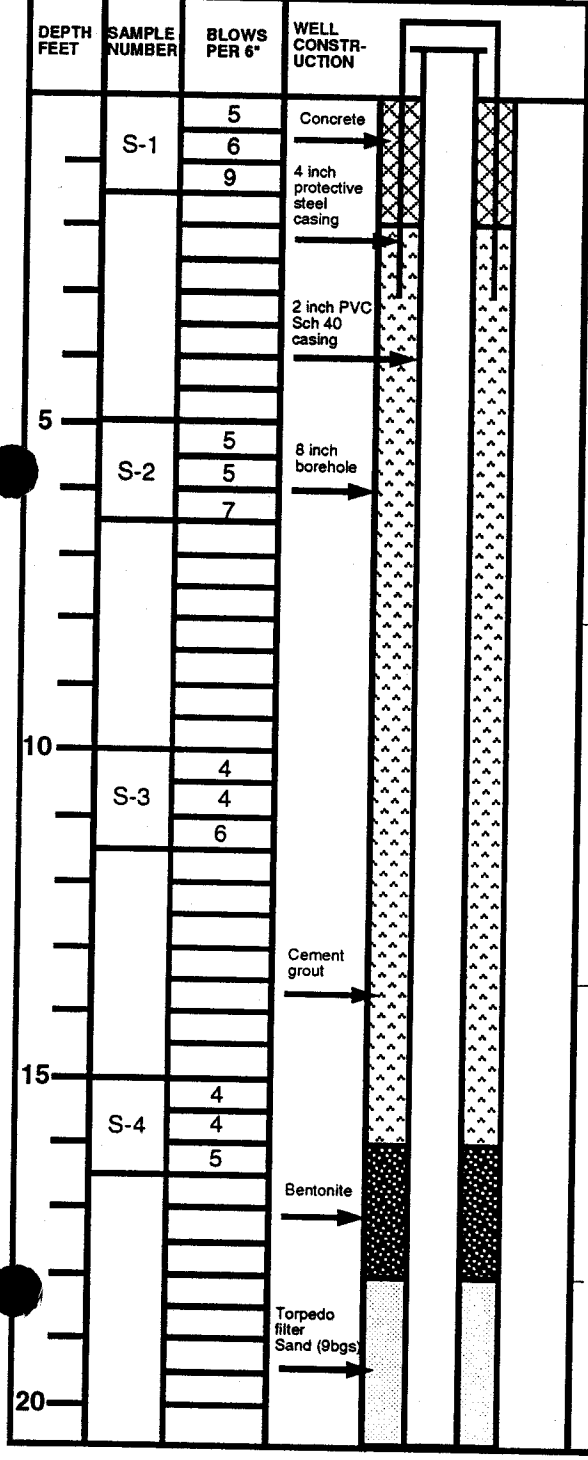
DATUM

STARTED 1/10/94

COMPLETED 1/11/94

DRILLER Dave Stratton

GEOLOGIST Mac Armstrong



IDENTIFICATION	REMARKS
Brown to red brown clayey silt to silty clay (ML to CL) dry	CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers
Brown to red brown clayey silt (ML) dry	Well casing and screen installed through augers
Brown to red brown clayey silt with some sand (ML) dry	
Brown, tan, pink silty clay to clayey silt (CL to ML) moist	

TEST BORING - WELL CONSTRUCTION LOG

PROJECT	Halifax County Ash Landfill		**BORING NO.** MW-14
CLIENT	Halifax County	**JOB NO.** 931210	**SHEET 2 OF** 2

DEPTH FEET	SAMPLE NUMBER	BLOWS PER 6"	WELL CONSTRUCTION	IDENTIFICATION	REMARKS
	S-5	4 5 9	Torpedo filter sand (9bgs)	Red brown to brown clayey silt (ML) moist	
					Water at 23.21 feet after 20.5 hours
25	S-6	5 6 12	8 inch borehole	Brown, pink, black clayey sandy silt (ML) moist	
30	S-7	5 5 9	2 inch PVC Sch 40 10 slot well screen	Pink, tan, white, brown clayey sandy silt (ML) wet	
			2 inch well cap		
35	S-8	8 12 13		Pink, tank, white clayey sandy silt to silty clayey sand (ML to SM) wet	
				Total depth at 36.5 feet	
40					
45					

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-9

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327) Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: Sch 40 PVC dia. 2 in. | Grout Depth: from Sur to 6 ft. - dia. 8 in.
Casing Depth: from +1.83 to 10 ft. - dia. ____ in. | Bentonite Seal: from 6 to 8 ft. - dia. 8 in.
Screen Type: Sch 40 PVC 0.010" dia. 2 in. | Sand/Gravel PK: from 8 to 25 ft. - dia. 8 in.
Screen Depth: from 10 to 25 ft. - dia. ____ in. | Total Well Depth: from Sur to 25 ft. - dia. 8 in.

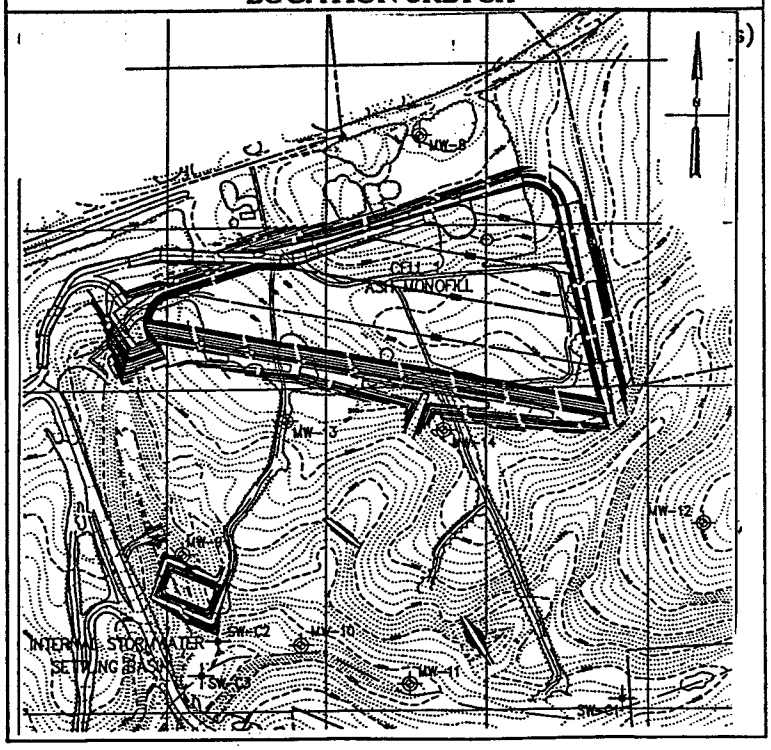
Static Water Level: 9.31 feet from top of casing — Date Measured 1 / 10 / 94

Yield (gpm): NA Method of Testing: NA Casing is 1.83 feet above land surface

DRILLING LOG

DEPTH FROM	TO	FORMATION DESCRIPTION
Surface	3.0'	Red brown sandy clayey silt(ML)dry
3.0'	8.5'	Red brown sandy silt to sandy silty clay (ML to CL)dry
8.5'	13.0'	Red brown silty clayey sand to sandy clay (SM to CL)moist
13.0'	18.0'	Tan to brown silty clayey sand(SM)moist partially weathered rock (con't on back)

LOCATION SKETCH



REMARKS: CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Macklin M. Armstrong

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-10

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327) Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: Sch 40 PVC dia. 2 in.
Casing Depth: from +2.15 to 5 ft. - dia. ____ in.
Screen Type: Sch 40 PVC 0.010 dia. 2 in.
Screen Depth: from 5 to 15 ft. - dia. ____ in.

Grout Depth: from Sur to 2 ft. - dia. 8 in.
Bentonite Seal: from 2 to 4 ft. - dia. 8 in.
Sand/Gravel PK: from 4 to 16.5 ft. - dia. 8 in.
Total Well Depth: from Sur to 15 ft. - dia. 8 in.

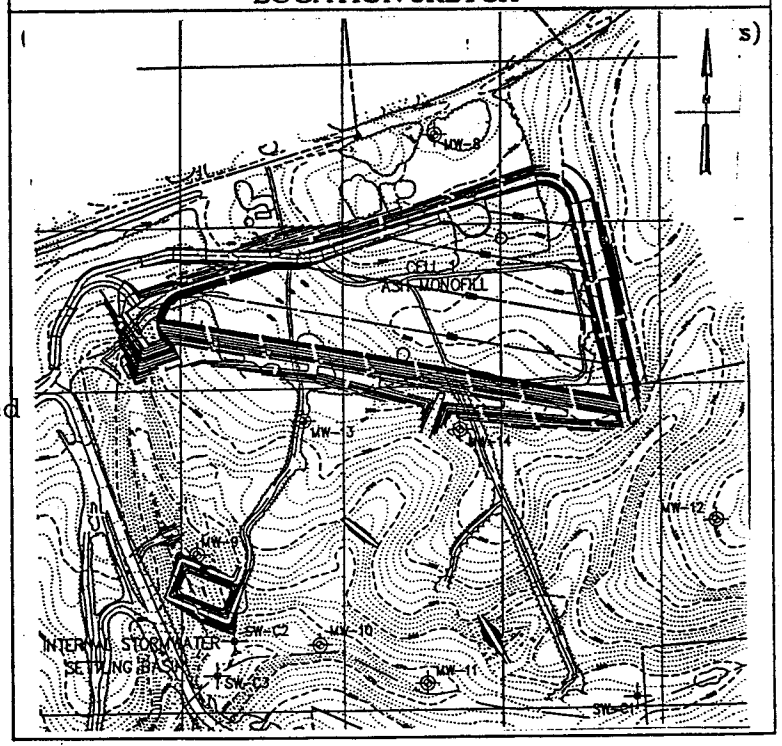
Static Water Level: 3.75 feet from top of casing — Date Measured 1 / 11 / 94

Yield (gpm): NA Method of Testing: NA — Casing is 2.15 feet above land surface

DRILLING LOG

DEPTH FROM	TO	FORMATION DESCRIPTION
Surface	3.0'	Brown sandy clayey silt(ML)wet
3.0'	8.0'	Brown silty sand with pieces of rock(SM)wet
8.0'	13.0'	Brown to pink sand(SM) wet(partially weathered rock)
13.0'	16.5'	Partially weathered rock

LOCATION SKETCH



REMARKS: CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Macklin M. Armstrong

DHS 3342 (6/85)
Solid & Hazardous Waste Management Branch

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-11

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327) Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: SCH 40 PVC dia. 2 in.
Casing Depth: from +2.78 to 4.5 ft. - dia. ____ in.
Screen Type: Sch 40 PVC 0.010" dia. 2 in.
Screen Depth: from 4.5 to 19.5 ft. - dia. ____ in.

Grout Depth: from Sur to 1.5 ft. - dia. 8 in.
Bentonite Seal: from 1.5 to 3.5 ft. - dia. 8 in.
Sand/Gravel PK: from 3.5 to 20 ft. - dia. 8 in.
Total Well Depth: from Sur to 20 ft. - dia. 8 in.

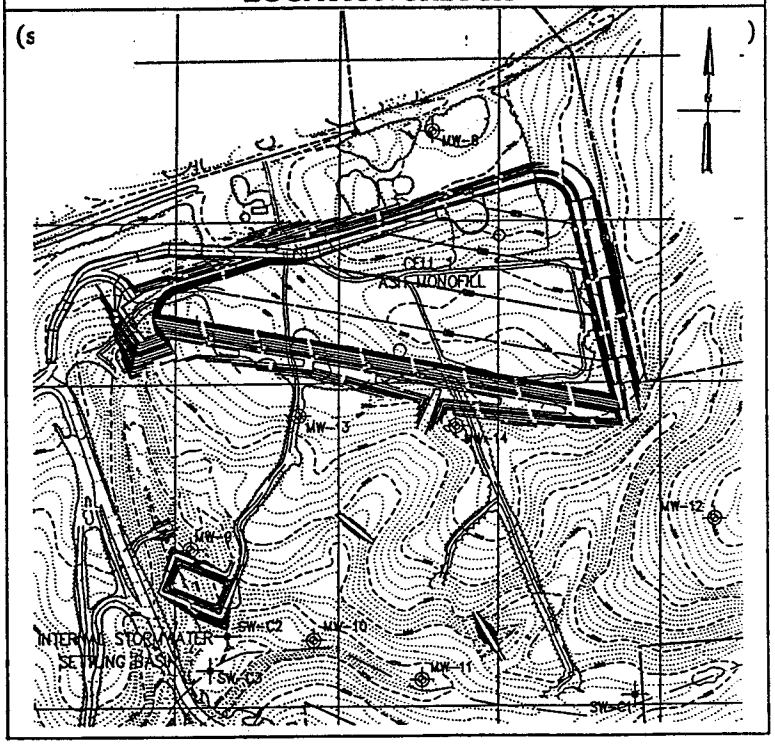
Static Water Level: 2.16 feet from top of casing — Date Measured 1 / 10 / 94

Yield (gpm): NA Method of Testing: NA — Casing is 2.78 feet above land surface

DRILLING LOG

DEPTH FROM	TO	FORMATION DESCRIPTION
Surface	2.0'	Tan to light brown silty sand(SM)dry
2.0'	3.5'	Yellow brown silty clay(CL)dry
3.5'	6.0'	Tan to brown clayey sandy silt(ML)moist
6.0'	8.0'	Tan to brown clayey sand(SC)moist
8.0'	13.0'	Yellow brown clayey silt(ML)moist
13.0'	16.0'	Yellow brown clayey silt(ML)wet

LOCATION SKETCH



REMARKS: CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Macklin M. Armstrong

DHS 3342 (6/85)
Solid & Hazardous Waste Management Branch

Drilling Log(Continued)

Depth		
From	To	Formation Description
16.0'	20.0'	Tan, brown, black silty clayey sand(SM)wet with partially weathered rock

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-12

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327)Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: Sch 40 PVC dia. 2 in. — Grout Depth: from Sur to 31 ft. - dia. 8 in.
Casing Depth: from +1.95 to 4.5 ft. - dia. ____ in. — Bentonite Seal: from 31 to 33 ft. - dia. 8 in.
Screen Type: Sch 40 PVC 0.010" dia. 2 in. — Sand/Gravel PK: from 33 to 51.5 ft. - dia. 8 in.
Screen Depth: from 35 to 50 ft. - dia. ____ in. — Total Well Depth: from Sur to 50 ft. - dia. 8 in.

Static Water Level: 39.31 feet from top of casing — Date Measured 1 / 10 / 94

Yield (gpm): NA Method of Testing: NA — Casing is 1.95 feet above land surface

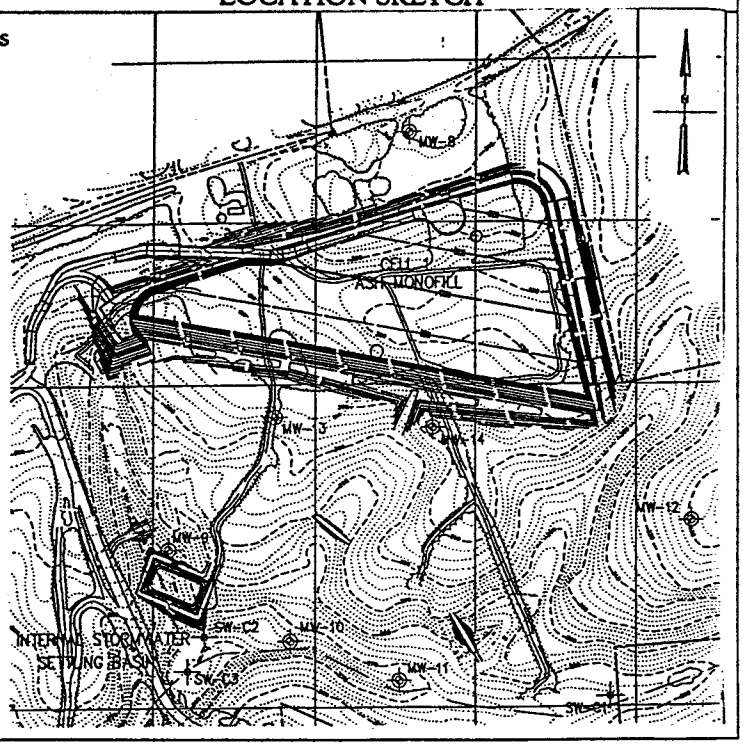
DRILLING LOG

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
Surface	3.0'	Red brown clayey silt (ML)dry
3.0'	18.5'	Yellow brown clayey silt(ML)dry
18.5'	23.0'	Yellow brown clayey silt(ML)moist
23.0'	28.0'	Light brown clayey silt to silty clay(ML to CL)moist
28.0'	33.0'	Yellow brown clayey micaceous silt(ML)moist

(con't on back)

LOCATION SKETCH

(s



REMARKS: CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Macklin M. Armstrong

DHS 3342 (6/85)
Solid & Hazardous Waste Management Branch

Drilling Log(Continued)

Depth		
From	To	Formation Description
33.0'	38.5'	Brown micaceous silt(ML) moist
38.5'	43.5'	Brown to yellow brown micaceous silt(ML)moist
43.5'	51.0'	Yellow brown clayey silt(ML)wet
51.0'	51.5'	White fine silty sand(SM)wet

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-13

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327) Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: Sch 40 PVC dia. 2 in.
Casing Depth: from +1.78 to 25 ft. - dia. ____ in.
Screen Type: Sch 40 PVC 0.010" dia. 2 in.
Screen Depth: from 25 to 40 ft. - dia. ____ in.

Grout Depth: from Sur to 21 ft. - dia. 8 in.
Bentonite Seal: from 21 to 23 ft. - dia. 8 in.
Sand/Gravel PK: from 23 to 41.5 ft. - dia. 8 in.
Total Well Depth: from Sur to 40 ft. - dia. 8 in.

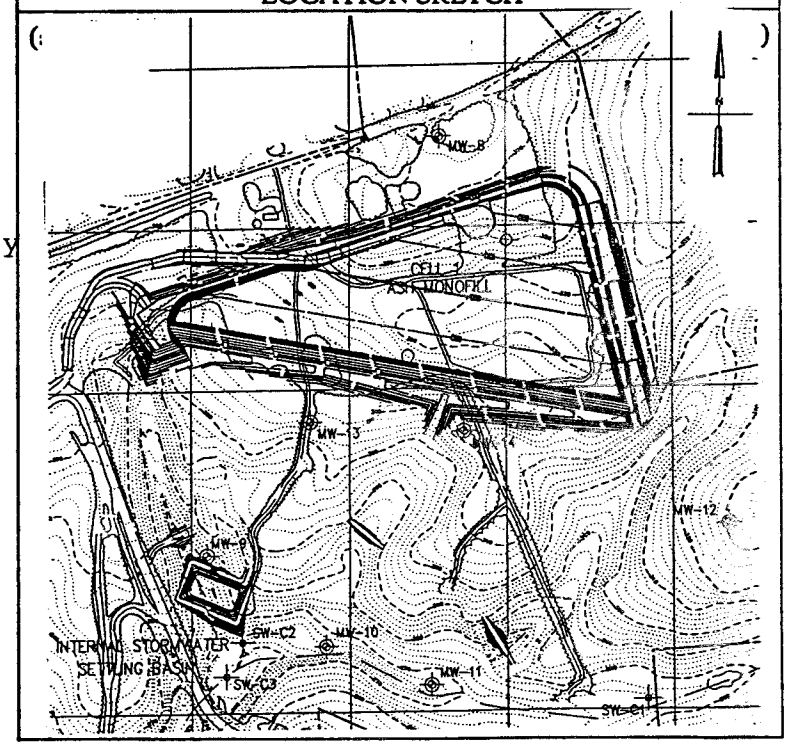
Static Water Level: 27.39 feet from top of casing Date Measured 1 / 10 / 94

Yield (gpm): NA Method of Testing: NA Casing is 1.78 feet above land surface

DRILLING LOG

DEPTH FROM	DEPTH TO	FORMATION DESCRIPTION
Surface	8.0'	Red brown clayey silt (ML)dry
8.0'	12.0'	Brown to orange clayey silt(ML)moist
12.0'	19.5'	Brown to red brown clayey silt to silty clay(ML to CL)moist
19.5'	23.0'	Brown to yellow brown clayey silt(ML)moist
23.0'	28.5'	Tan,white,brown clay to clayey silt(CL to ML)moist

LOCATION SKETCH



REMARKS: CME 55 rig drilled borehole using 8inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Macklin M. Armstrong

DHS 3342 (6/85)
Solid & Hazardous Waste Management Branch

Drilling Log(Continued)

Depth		
From	To	Formation Description
28.5'	33.0'	Tan to brown silty clay to clayey silt(CL to ML)moist
33.0'	41.5'	Tan,brown,white silty clay(CL)moist

N. C. Department of Human Resources
Division of Health Services

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-14

NAME OF SITE:	PERMIT NO.:
Halifax County Ash Landfill	
ADDRESS:	**OWNER (print):**
State Road 1417(P.O. Box 327) Halifax, NC 27839	Halifax County
DRILLING CONTRACTOR:	**REGISTRATION NO.:**
Parratt Wolff, Inc.	1446

Casing Type: Sch 40 PVC dia. 2 in.
Casing Depth: from +1.59 to 20 ft. - dia. ____ in.
Screen Type: Sch 40 PVC 0.010" dia. 2 in.
Screen Depth: from 20 to 35 ft. - dia. ____ in.

Grout Depth: from Sur to 16 ft. - dia. 8 in.
Bentonite Seal: from 16 to 18 ft. - dia. 8 in.
Sand/Gravel PK: from 18 to 36.5 ft. - dia. 8 in.
Total Well Depth: from Sur to 35.0 ft. - dia. 8 in.

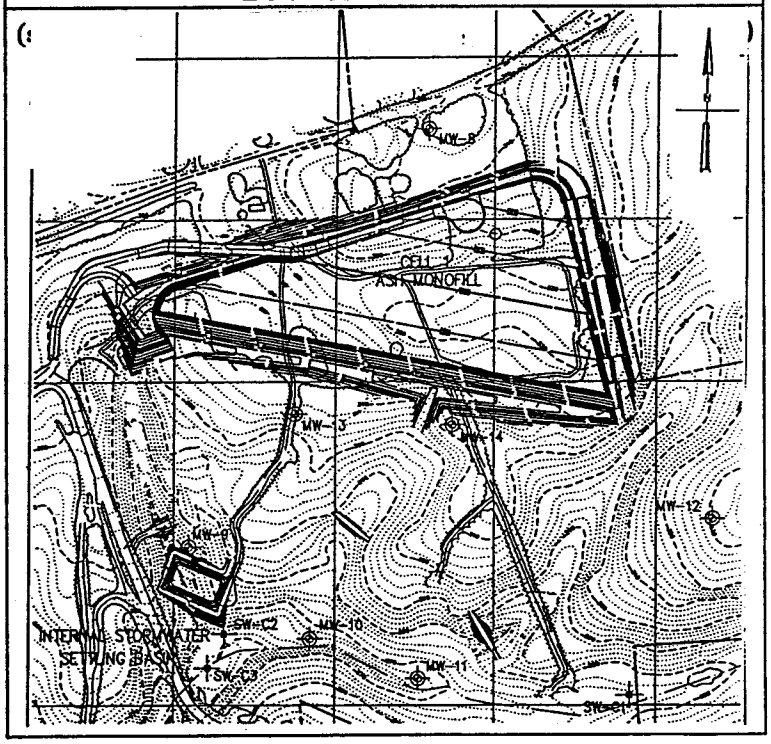
Static Water Level: 23.21 feet from top of casing — Date Measured 1 / 11 / 94

Yield (gpm): NA Method of Testing: NA — Casing is 1.59 feet above land surface

DRILLING LOG

DEPTH FROM	TO	FORMATION DESCRIPTION
0.0'	3.0'	Brown to red brown clayey silt to silty clay(ML to CL)dry
3.0'	8.0'	Brown to red brown clayey silt(ML)dry
8.0'	13.5'	Brown to red brown clayey silt with some sand(ML)dry
13.5'	18.0'	Brown,tan,pink silty clay to clayey silt (CL to ML)moist
(con't on back)		

LOCATION SKETCH



REMARKS: CME 55 rig drilled borehole using 8 inch outside diameter 4 1/4 inch inside diameter hollow stem augers. Well casing and screen installed through augers.

DATE: 1-20-94 SIGNATURE: Marklin M. Armstrong

DHS 3342 (6/85)
Solid & Hazardous Waste Management Branch

Drilling Log(Continued)

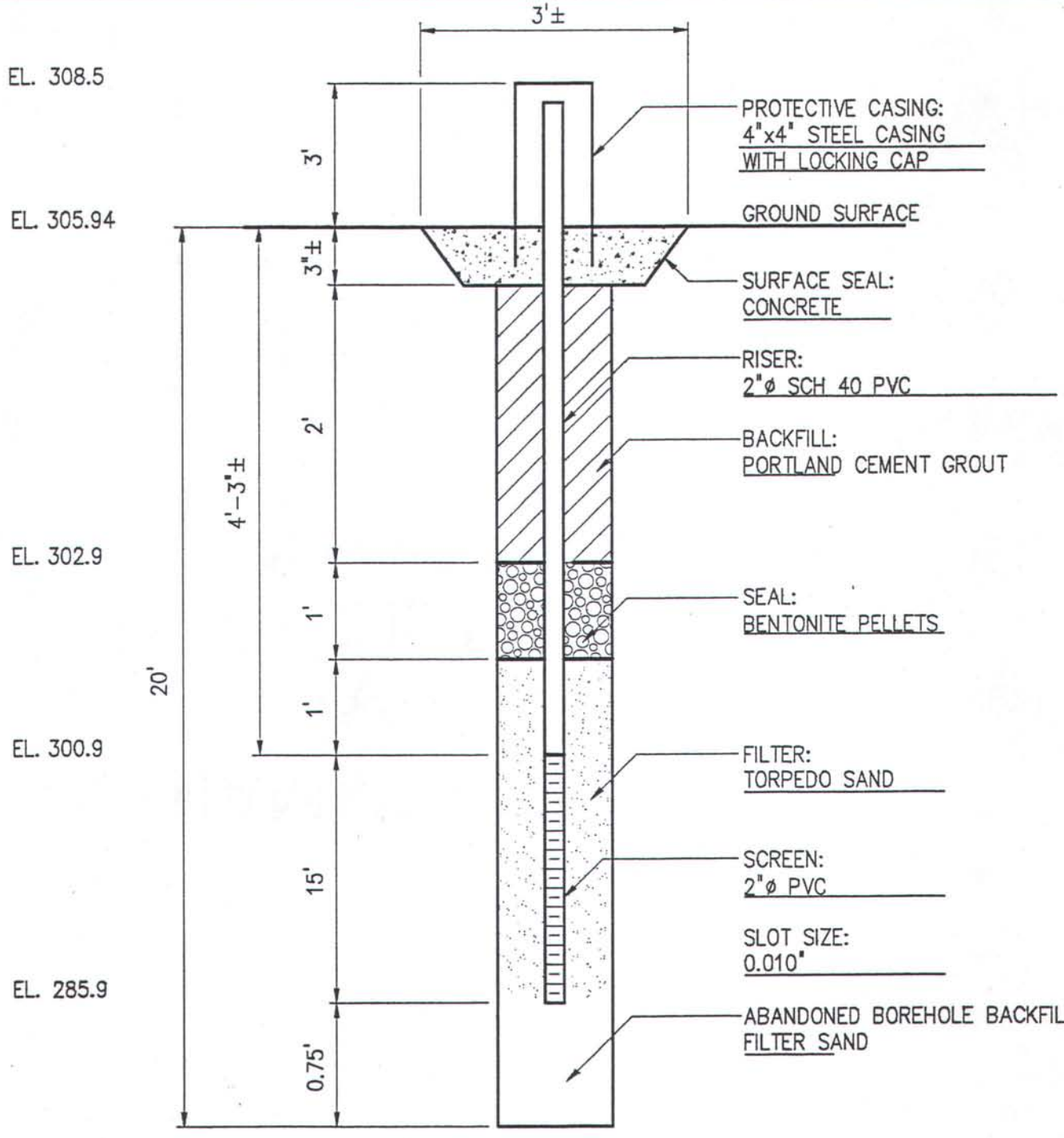
Depth From	To	Formation Description
18.0'	23.0'	Red brown to brown clayey silt(ML) moist
18.0'	28.0'	Brown,pink,black clayey sandy silt (ML)moist
28.0'	33.0'	Pink,tan,white,brown clayey sandy silt(ML)wet
33.0'	36.5'	Pink,tan,white clayey sandy silt to silty clayey sand(ML to SM)wet

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

WELL COMPLETION RECORD

Well No: MW-8
Project: HALIFAX CO. COAL ASH MONOFILL
Monitoring Well No: MW-8
Water Depth: 3.0'

Installation Date: 3/5/92
Project No: 3716
Ground Surface El: 305.94
Measured: AT TERMINATION



01/21/94 PLOT SCALE = 1:1 CAD FILE = H:\DRAWINGS\3720ASH\GEN\MW-8LOG by PWS

HALIFAX COUNTY SOLID WASTE LANDFILL
LOCATION OF MONITORING WELLS, DETERMINATION OF ELEVATION
20 JANUARY 1994 MURPHY HOBSON SACKS, REGISTERED LAND SURVEYORS

WELL	NORTHING	EASTING	RISER	CASE OPEN	REF NAIL
MW01	959366.34	2349008.18	---.--	---.--	322.87
MW08	959780.42	2350290.39	308.57	308.49	305.94
MW09	958513.06	2349565.75	277.35	277.23	275.52
MW10	958207.25	2349910.05	258.77	258.63	256.62
MW11	958068.28	2350328.38	265.96	265.91	263.18
MW12	958581.23	2351172.80	329.52	329.43	327.57
MW13	959014.90	2349834.46	308.08	308.00	306.30
MW14	958939.24	2350334.95	306.99	306.87	305.40

General Notes:

Horizontal and vertical control adopted from Benchmark 1 and Benchmark 3 as shown on Sheet 3 of 11 by Hazen and Sawyer, Job # 3716.

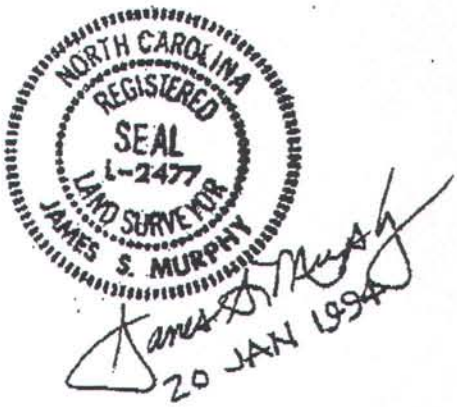
Traverse closure: Angles exceed class "AA", 1/26,552 precision.

All elevations from closed loops from referenced benchmarks.

MW01 was not in original scope. Well was locked and no H&S personnel were on site when this well was surveyed.

CASE OPEN: This represents the top of the outer protective casing when the well is opened and the cover is hinged away.

RISER: Inner wells were capped and locked. These elevations are on top of protective PVC cap.



SECTION 6.2
GROUNDWATER MONITORING PLAN

SOLID WASTE SECTION
FEB - 8 1994

GROUND WATER MONITORING PLAN
HALIFAX COUNTY ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

As part of the Coal Ash Monofill Permit Application for the Halifax County Solid Waste Department, the following ground water and surface water monitoring plan is proposed for the landfill in accordance with 15A NCAC 13B rules in order to monitor the effects of the facility on the surrounding and underlying water. The plan shall consist of semi-annual testing of ground water monitoring wells and surface water sampling in adjacent waterways.

The ground water monitoring system consists of five permanent monitoring wells, MW-8, MW-9, MW-10, MW-11, MW-12, and two temporary monitoring wells, MW-13 and MW-14. Monitoring well MW-12 will serve as the upgradient background well and the other wells will serve as dowgradient wells. The locations of the monitoring wells are shown in the Hazen and Sawyer figure (Figure 1) attached to this plan. Screen depths for the wells are summarized in Table 1. All monitoring wells were constructed in accordance with 15 NCAC 2C Section .0100. The wells were constructed such that a water sample can be obtained at each monitoring well location throughout the year. All monitoring wells are protected from impact by mechanized equipment by a protective steel casing. The locations and depths of the monitoring wells are such to allow early detection of ground water contaminants within the upper most aquifer(s) in the principle down gradient directions.

The surface water monitoring system is designed to monitor any contaminants entering the stream to the south of the ash landfill. One upstream monitoring point, SW-C1, and one downstream monitoring point, SW-C3, will be established along the stream as shown on the attached figure. In addition, outfall at the internal stormwater basin, SW-C2, will be tested during the initial sampling round.

Testing methods will be in accordance with accepted industrial protocol and North Carolina Solid Waste Section (SWS) rules and policy. For baseline sampling, ground water testing shall be conducted for the parameters set forth in "North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities," prescribed by NC-DSWM, and SWS rules and policies. After the first baseline sampling round, the parameters BOD, COD, TOX, TOC, iron, and manganese will not be tested. Unfiltered samples will be collected in the field for total metals analysis. Total suspended solids (TSS) will also be tested during all sampling rounds.

In accordance with 15A NCAC 13B Rule .1623 (b) (3) (c), this monitoring plan has been prepared under the responsible charge of a duly Licensed Geologist, authorized to practice under North Carolina General Statute 89E. This plan should be reasonably effective in providing early detection of a release of a hazardous constituent(s) from the ash landfill into the upper most aquifer(s), which would constitute a risk to public health and the environment.

Macklin M. Armstrong

Macklin M. Armstrong, P.G.
Principal Geologist

NORTH CAROLINA LICENSED SEAL 743 GEOLOGIST MACKLIN M. ARMSTRONG

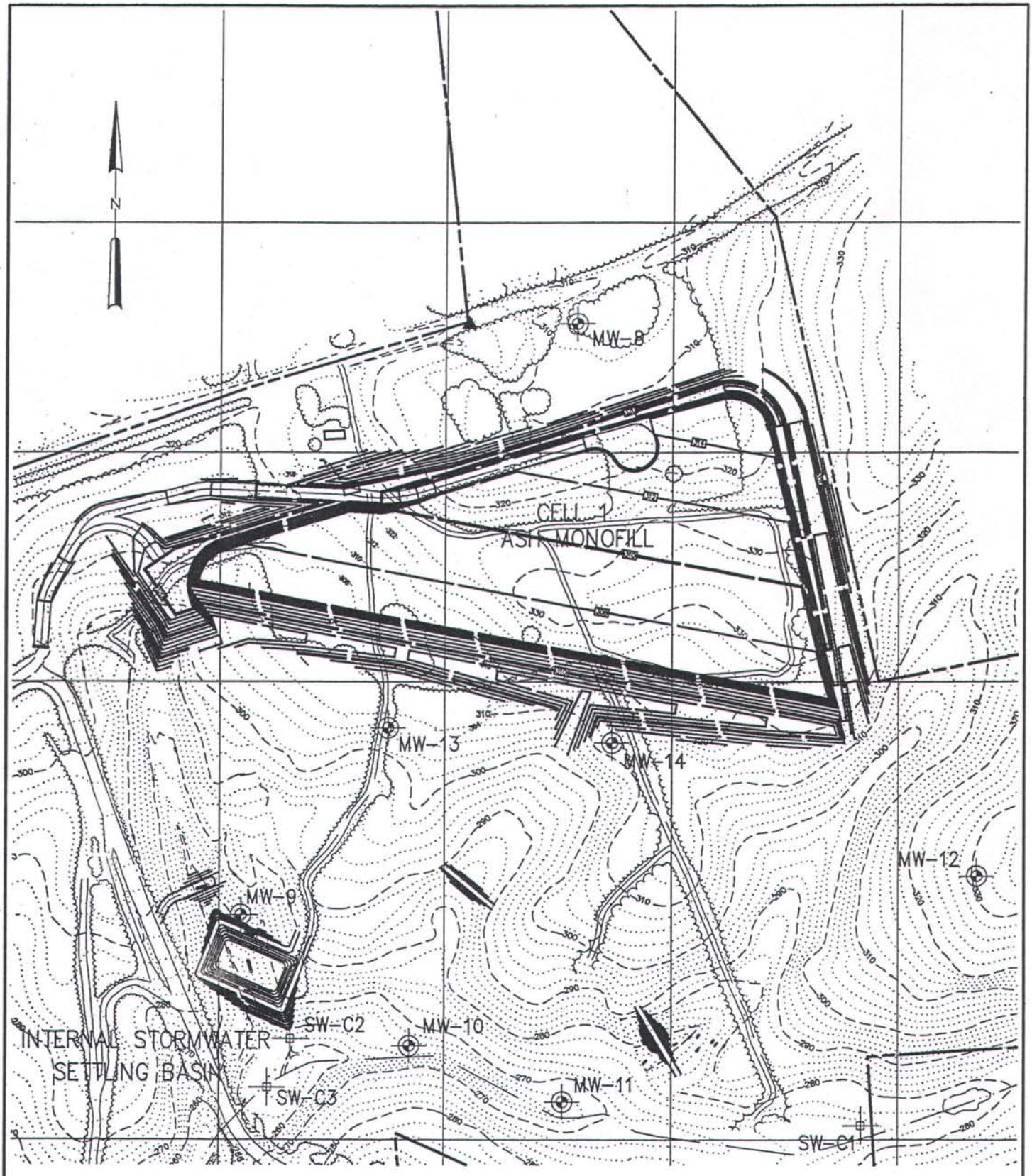
Armstrong Geological & Engineering Services, P.C.
8200 Brownleigh Drive Suite B
Raleigh North Carolina 27612
Tel 919/571-8818
Fax 919/571-4238

SOLID WASTE SECTION
FEB - 8 1994

TABLE 1

Monitoring Well Data

Monitoring Well	Ground Surface Elevation (feet)	Depth of Well (feet)	Screen Interval	Top of Screen Elevation (feet)	Bottom of Screen Elevation (feet)
MW-8	305.94	20	5 to 20	308.57	288.57
MW-9	275.52	25	10 to 25	277.35	252.35
MW-10	256.62	15	5 to 15	258.77	243.77
MW-11	263.18	20	5 to 20	265.96	245.96
MW-12	327.57	50	35 to 50	329.52	279.52
MW-13	306.30	40	25 to 40	308.08	268.08
MW-14	305.40	36.5	20 to 35	306.99	271.99



PLAN

1"=300'

HALIFAX COUNTY
ASH MONOFILL

FIGURE 1
MONITORING WELL LAYOUT

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

SECTION 7
RECORD DRAWINGS

HALIFAX COUNTY ASH MONOFILL - CELL 1
RECORD DRAWINGS INDEX
JANUARY 21, 1994

DRAWING NUMBER	DRAWING TITLE	SHEET NUMBER
G1	FACILITY PLAN	1
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HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

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Project: HALIFAX CO. COAL ASH MONOFILL
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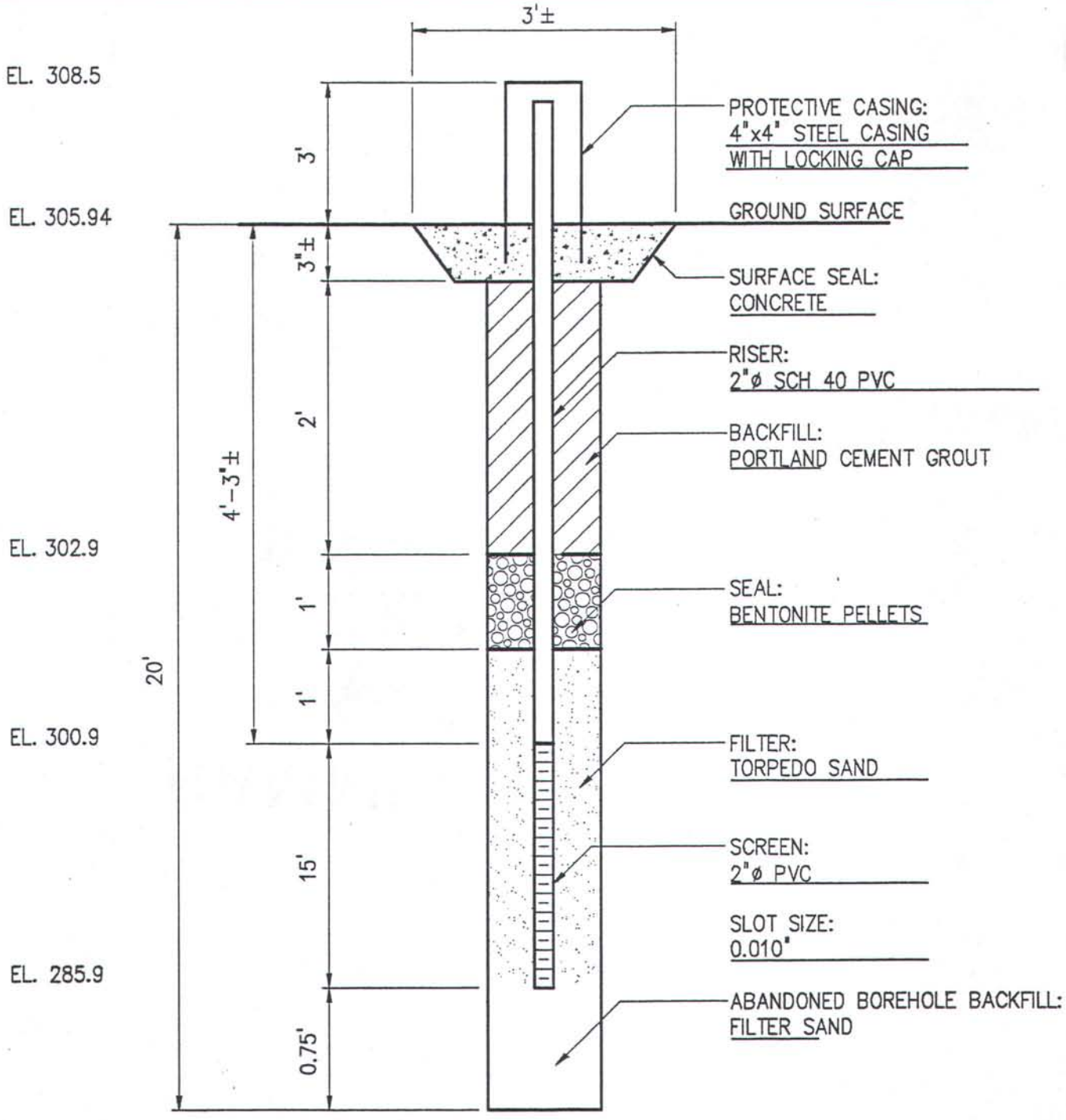

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GROUNDWATER MONITORING PLAN

SOLID WASTE SECTION
FEB - 8 1994

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HALIFAX COUNTY ASH MONOFILL
HALIFAX COUNTY, NORTH CAROLINA

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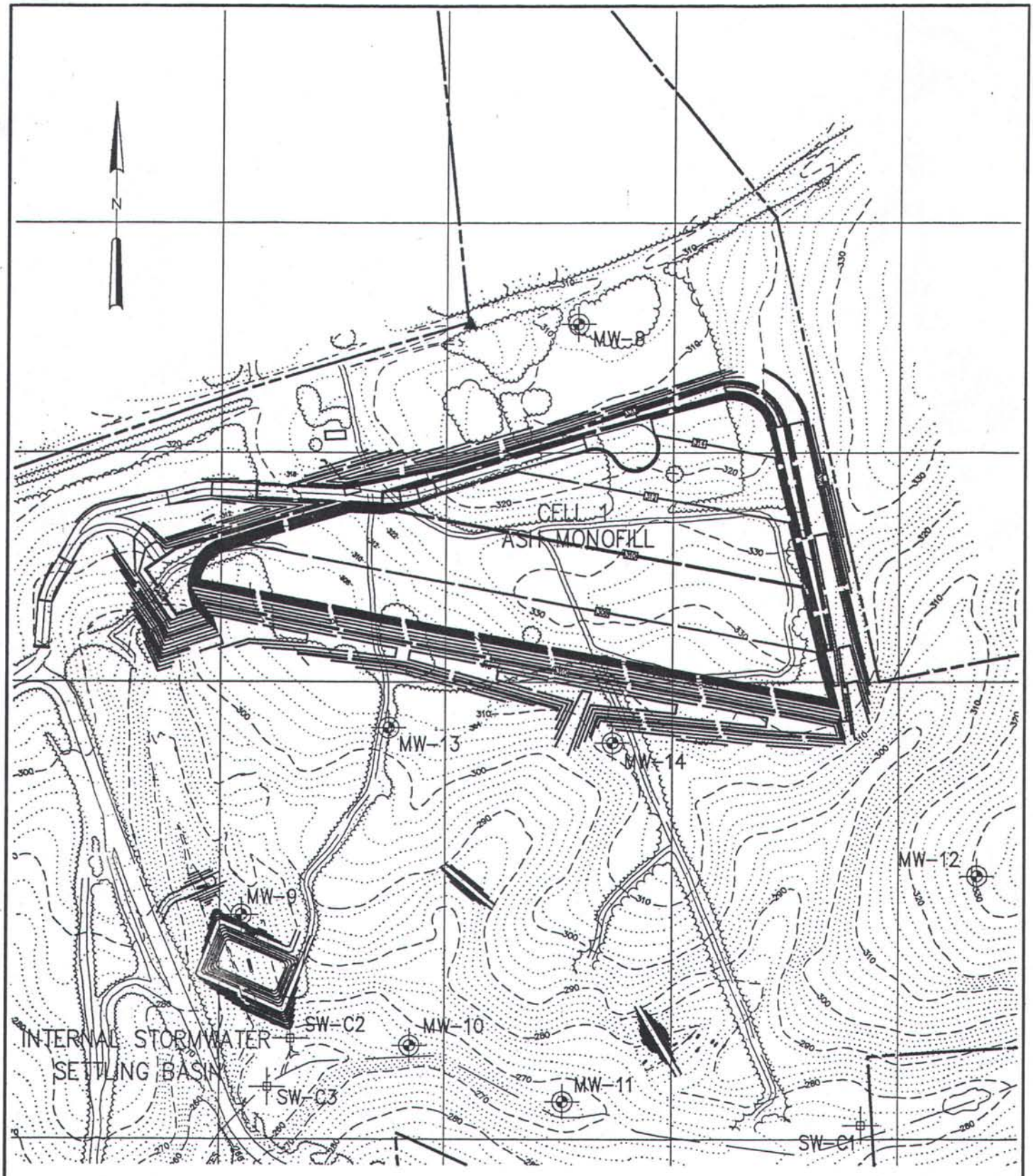

PLAN

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HALIFAX COUNTY
ASH MONOFILL

FIGURE 1
MONITORING WELL LAYOUT

HAZEN AND SAWYER
Environmental Engineers & Scientists
RALEIGH, NORTH CAROLINA

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HALIFAX COUNTY ASH MONOFILL - CELL 1
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