GW - 190

GENERAL CORRESPONDENCE

YEAR(S):

1996 - 1995

APPLICATIONS

1 OF 4

District I - (505) 393-6161
P. O. Box 1980
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 S. First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

New Mexico
Energy Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Revised 12/1/95

RECEIVED
SEP 16 1996
Environmental Bureau
Oil Conservation Division

Submit Original Plus 1 Copies to Santa Fe
1 Copy to appropriate District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES, GAS PLANTS, REFINERIES, COMPRESSOR, AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New ☐ Renewal ☒ Modification

1. Type: BJ Services Company provides oil field services, including cementing, acidizing, and fracturing services at oil and gas well sites.
2. Operator: BJ SERVICES COMPANY, USA

   Address: 2401 Sivley, Artesia, Eddy County, NM 88210

   Contact Person: Mr. Joe Greenwood Phone: (505) 746-3140
3. Location: SE /4 SE /4 Section 32 Township 16 S Range 26 E

   Submit large scale topographic map showing exact location.
4. Attach the name, telephone number and address of the landowner of the facility site.
5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
6. Attach a description of all materials stored or used at the facility.
7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
10. Attach a routine inspection and maintenance plan to ensure permit compliance.
11. Attach a contingency plan for reporting and clean-up of spills or releases.
12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
14. CERTIFICATION

I herby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: Ms. Jo Ann Cobb Title: Manager, Environmental Services

Signature: Jo Ann Cobb Date: 9-13-96

BJ Services Company
Discharge Plan – Artesia, New Mexico

I. Type of Operation

BJ Services Company provides oilfield services, including cementing, acidizing, and fracturing services at oil and gas well sites.

II. Operator

BJ Services Company, U.S.A.
2410 Sivley
Artesia, Eddy County, New Mexico 88210
(505) 746-3140
Contact: Mr. Joe Greenwood

III. Location

Southeast Quarter of Section 32
Township 16 South
Range 26 East
N.M.P.M.
Eddy County, New Mexico

See Figure 1, Site Location Map.

IV. Landowner of Facility Site

BJ Services Company
5500 Northwest Central Drive
Houston, Texas 77092
(713) 363-7528
Contact: Ms. Jo Ann Cobb, R.E.M.

V. Facility Description

See Figure 2, Site Plan.

VI. Materials Stored or Used at the Facility

Material	General Makeup (includes additives)	Form	Type of Container (tank, drum, can, etc.)	Estimated Volume Stored (gallons, barrels,	Location (yard, shop, drum storage, wash bay, etc.)
Drilling Fluids	Not Applicable (N/A)	N/A	N/A	N/A	N/A
Brines	N/A	N/A	N/A	N/A	N/A
Acids	Hydrochloric Glacial Acetic	Liquid Liquid	Tank Drums	25,000 gallons 110 gallons	Acid Facility Warehouse
Detergents	Detergent	Liquid	Drum	55 gallons	Truck Wash Bay
Solvents	Aliphatic Degreasing Solvent	Liquid	Drum	60 gallons	Shop
Paraffin Treatment, Emulsion Breakers	Various products serve this function	Liquid	Drums	550 gallons	Warehouse
Biocides	Bactericide for treating water	Solid	Jug	6 pounds	Warehouse
Others	Cement Sand	Solid Solid	Silos Silos	4,800 sacks 500 tons	Yard Rail spur

VII. Sources of Effluent and Waste Solids

Waste Type	Source and Composition	Volume per Month	Major Additives
Truck Wastes (e.g. brine, produced water, drilling fluids, off-spec and reclaim cement, oil wastes, etc.)	Off-spec cement and cement or water not used on the job	Cement: 500 sacks Water: 2000 gallons	N/A
Washing Operations	Waste water from truck wash bay	20,000 gallons	Detergent
Steam Cleaning	N/A	N/A	N/A
Solvent Use	Degreasing solvent from cleaning truck parts in the shop	30 gallons	Grease, oil
Spent Fluids	N/A	N/A	N/A
Waste Slop Oil	N/A	N/A	N/A
Waste Motor Oil	Shop	500 gallons	None
Oil Filters	Shop	5 drums	None
Solids and Sludges	Wash Bay Dirt	200 gallons	None
Painting Wastes	N/A	N/A	N/A
Sewage	Domestic sewage Truck wash water	Unknown 20,000 gallons	Soap Detergent
Other Waste Solids	N/A	N/A	N/A
Other Waste Solids	Tires Batteries	10 5	None None

VIII. Current Liquid and Solid Waste Collection/Treatment/Disposal Procedures

Waste Type	On-site Handling	Disposal
1. Truck Wastes	Cement is transferred to the reclaim silo	Off-site
2. Truck, Tank and Drum Washing	Wash water currently flows through a line and is pumped to an aboveground holding tank.	Hauled off-site by truck for disposal at the City wastewater receiving facility
3. Steam cleaning of parts	N/A	N/A.
4. Solvent/Degreaser Use	Drum	Hauled off-site
5. Spent acids	N/A	N/A
6. Waste Slop Oil	N/A	N/A
7. Waste Lubrication and Motor Oils	Inside the shop, oil pans are dumped into a receptacle. A pump transfers waste oil from the receptacle, to a 400-gallon holding tank located outside of the shop.	Picked up one or two times per month and hauled off-site for processing.
8. Oil Filters	Stored in drums	Hauled off-site for incineration
9. Sludges from Tanks	Dirt from the truck wash is caught in a trap.	A vacuum truck picks up the accumulated sludge and takes it to an off-site landfill for disposal.
10. Painting Wastes	N/A	N/A
11. Sewage	On-site septic system	Treated water flows into a leach field
12. Other Waste Liquids	N/A	N/A
13. Other Waste Solids	Tires - a local tire company comes on-site, changes tires, and hauls off the old tire for disposal. Batteries - a local company comes to the facility, replaces old batteries, then takes the old one away.	Off-site disposal by local tire and battery service companies.

IX. Proposed Modifications

Additions/Modifications:

1. Install new truck wash bay facility with primary collection sump system with secondary containment, and upgrade separator (See Plan Drawings, Figure 3 Bundle). *February, 1997.*
2. Install a new acid loading facility, including tank, tank containment, and fume scrubber (See Plan Drawings, Figure Bundle 4). *February, 1997.*
3. Upgrade cement blending facility, including installation of two batch blenders, one admix blender, an admix cut pod, and a reclaim holding tank. Two baghouse dust collectors will be utilized (See Figure 5). *February, 1997.*

Removals:

1. Truck wash drain system was removed and the excavation backfilled (see Site Assessment Report, Attachment 1).
2. Northwest Septic Field was investigated and closed (see Site Assessment Report, Attachment 2).
3. Fuel Island AST, dispensers, and underlying soils were removed as requested (see Notification Letter, Attachment 3).
4. Field Waste Tank System was removed and the excavation backfilled (see Site Assessment Report, Attachment 4).
5. Acid loading facility will be removed. A new acid facility will be constructed approximately 250 feet north of the current acid facility location as discussed in Additions/Modifications above.

X. Inspection and Maintenance

See Attachment 5, Safety and Environmental Inspection Checklists

XI. Contingency Plan

See Attachment 6, Facility Emergency Response Plan

XII. Site Characteristics

Bodies of Water: A seasonal creek bed is located approximately 1 mile away. The Pecos River is the nearest body of water.

Arroyos: None.

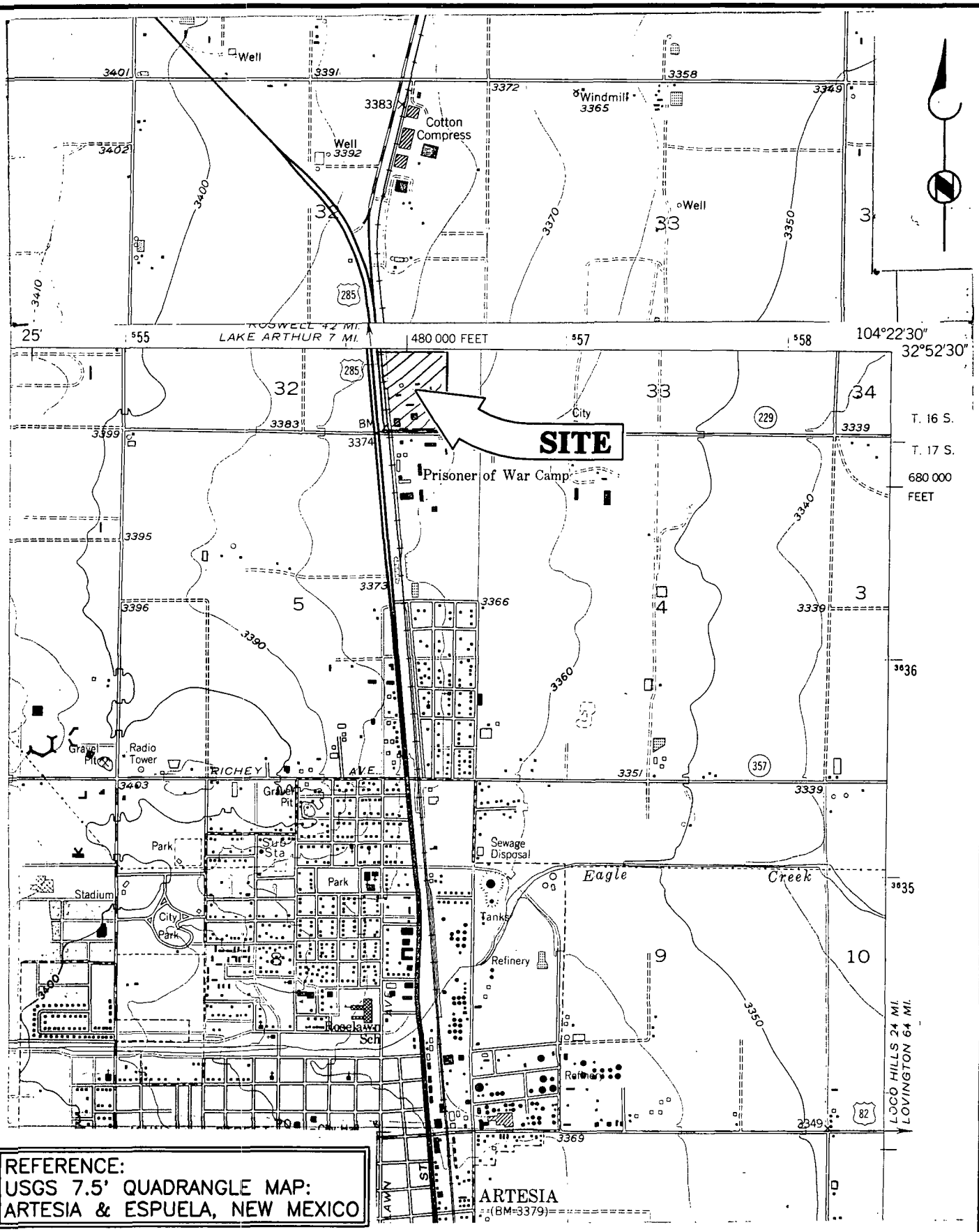
Groundwater Characteristics:

Depth to: Approximately 25 feet (see boring logs in Attachment 7)

TDS Concentration: Unknown.

Flooding Potential: None.

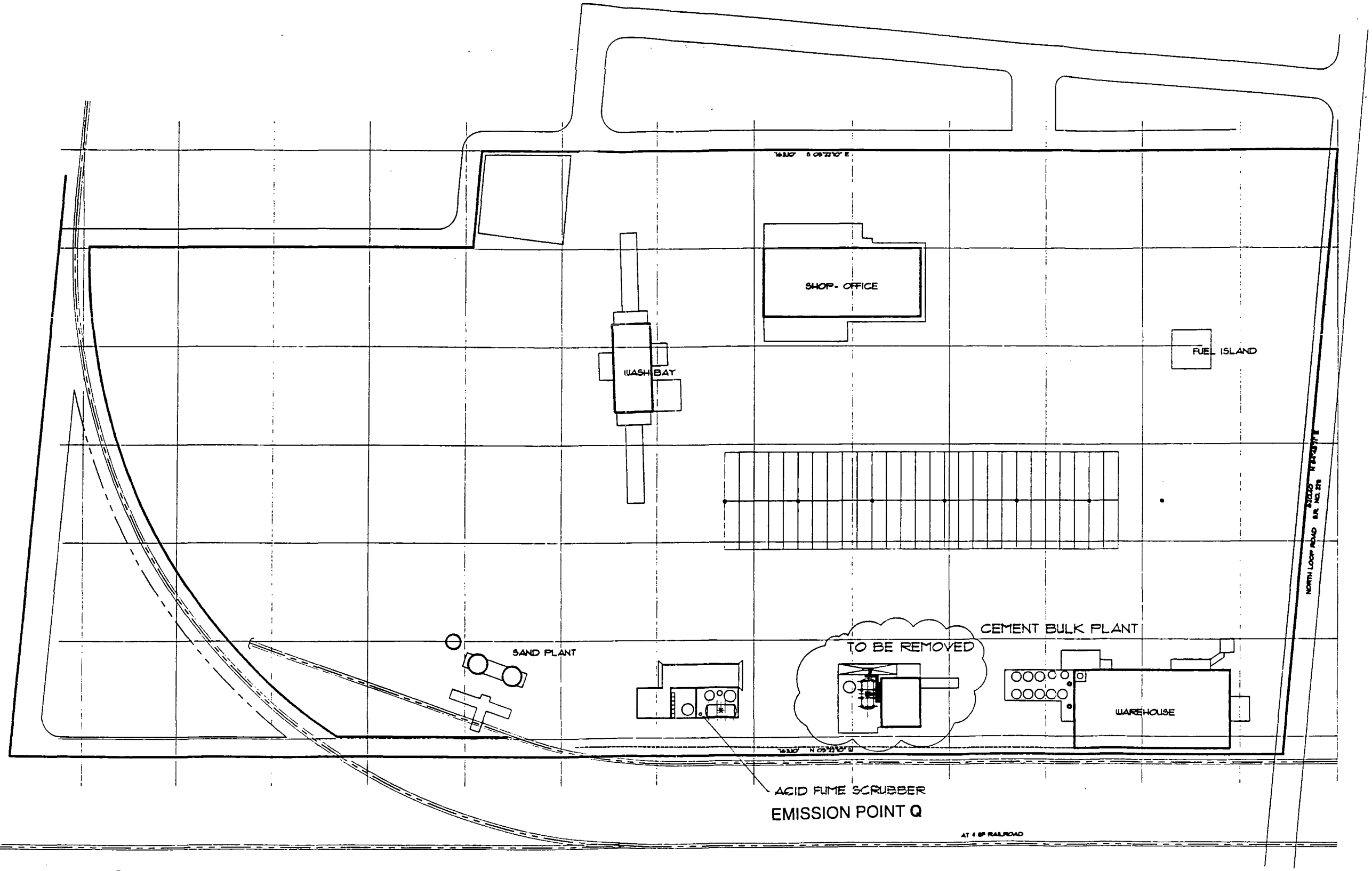
FIGURES



REFERENCE:
USGS 7.5' QUADRANGLE MAP:
ARTESIA & ESPUELA, NEW MEXICO

T:\2830\5\VICIN 1/25/96 DHD

BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: _____ DATE: _____ PROJECT MANAGER APPROVED: _____ DATE: _____ BROWN AND CALDWELL	0 1000 2000 SCALE: 1" = 2000' DRAWN BY: DHD DATE 1/25 CHK'D BY: _____ DATE _____ APPROVED: _____ DATE _____	TITLE: SITE LOCATION MAP CLIENT: BJ SERVICES COMPANY, U.S.A. SITE LOCATION: ARTESIA, NEW MEXICO	DATE: 1/26/96 PROJECT NUMBER: 2830-20 FIGURE NUMBER: 1



TRUE NORTH ROTATION

PLAN NORTH

INFORMATION SHOWN ON THIS DRAWING IS A CORRELATION OF INFORMATION TAKEN FROM SITE PLANS PREPARED BY DORLAND CAROL SHELTON, ARCHITECTS SHEET NO 1, DATED 22 JAN 1982 , PROJECT NO. 80360 AND SHEET NO. 1, DATED 14 MAY 1982, PROJECT NO. 80360 AND UNNAMED SKETCH IDENTIFIED ONLY AS DRG. 62385. NO SURVEY HAS BEEN MADE TO AUTHENTICATE THE ACCURACY OF THIS DRAWING.

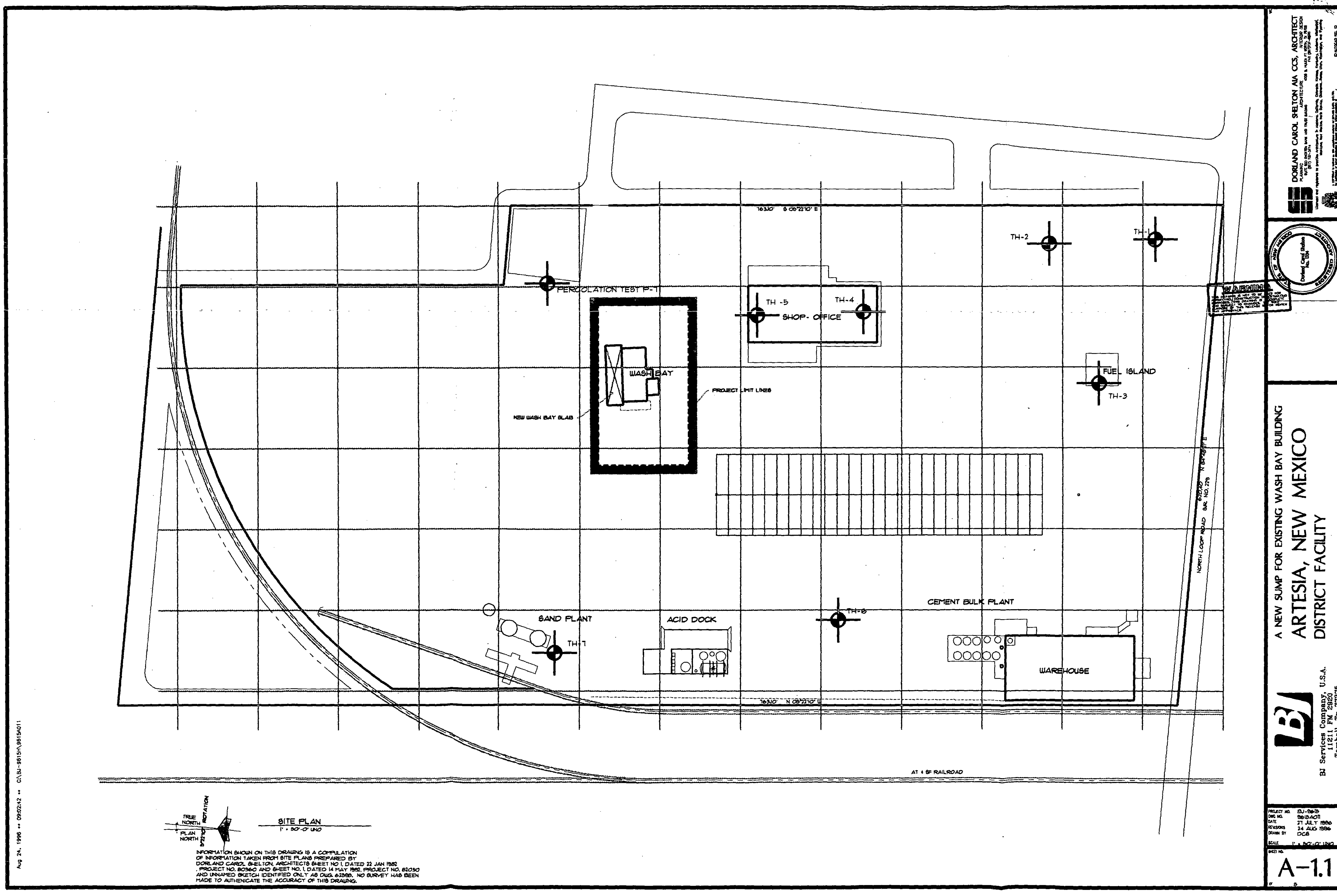
BROWN AND CALDWELL

28J05F2 01-29-96 BLH

FIGURE 2
SITE PLAN
ARTESIA, NEW MEXICO
BJ SERVICES

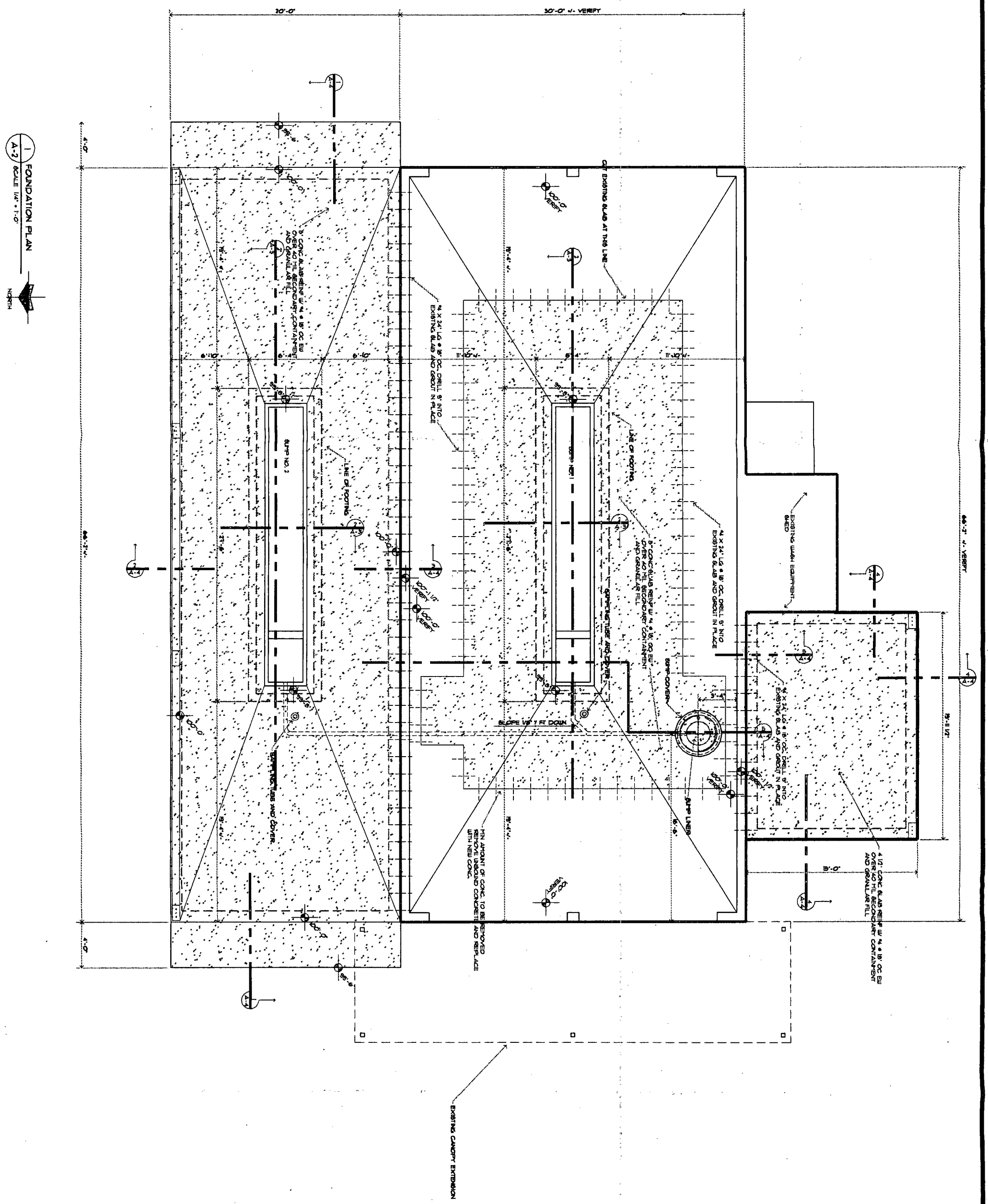
FIGURE BUNDLE 3

PLAN DRAWINGS: TRUCK WASHBAY



PERCOLATION TEST P-1
TH-5
TH-4
SHOP- OFFICE
TH-2
TH-1
FUEL ISLAND
TH-3
WASH BAY
PROJECT LIMIT LINES
NEW WASH BAY SLAB
163.10' S 08°22'10" E
163.10' N 08°22'10" W
NORTH LOOP ROAD
SAND PLANT
TH-7
ACID DOCK
TH-6
CEMENT BULK PLANT
WAREHOUSE
AT & SF RAILROAD
TRUE NORTH
PLAN NORTH
ROTATION
SITE PLAN
1" = 50'-0" UNO
INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION
OF INFORMATION TAKEN FROM SITE PLANS PREPARED BY
DORLAND CAROL SHELTON, ARCHITECTS SHEET NO 1, DATED 22 JAN 1982
, PROJECT NO. 80360 AND SHEET NO. 1, DATED 14 MAY 1982, PROJECT NO. 82030
AND UNNAMED SKETCH IDENTIFIED ONLY AS DWG. 62888. NO SURVEY HAS BEEN
MADE TO AUTHENICATE THE ACCURACY OF THIS DRAWING.
Aug 24, 1996 ** 09:02:42 ** C:\BJ-9615H\9615A011
WARNING
DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING
ARCHITECTURE
INTERIOR DESIGN
A NEW SUMP FOR EXISTING WASH BAY BUILDING
ARTESIA, NEW MEXICO
DISTRICT FACILITY
BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375
PROJECT NO. BJ-9615
DWG NO. 9615A011
DATE 27 JULY 1996
REVISIONS 24 AUG 1996
DRAWN BY DCS
SCALE 1" = 50'-0" UNO
SHEET NO.
A-1.1

Jul 27, 1996 •• 17:19:17 •• C:\BJ-9615H\9615A020



1 / A-2 FOUNDATION PLAN
SCALE 1/4" = 1'-0"

NORTH

A-2.0

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

A NEW SUMP FOR EXISTING WASH BAY BUILDING

ARTESIA, NEW MEXICO
DISTRICT FACILITY

PROJECT NO. BJ-9615
DWG NO. 9615A020
DATE 27 JULY 1996
REVISIONS
DRAWN BY DCS
SCALE 1/4" = 1'-0" UNO
SHEET NO. A-2.0

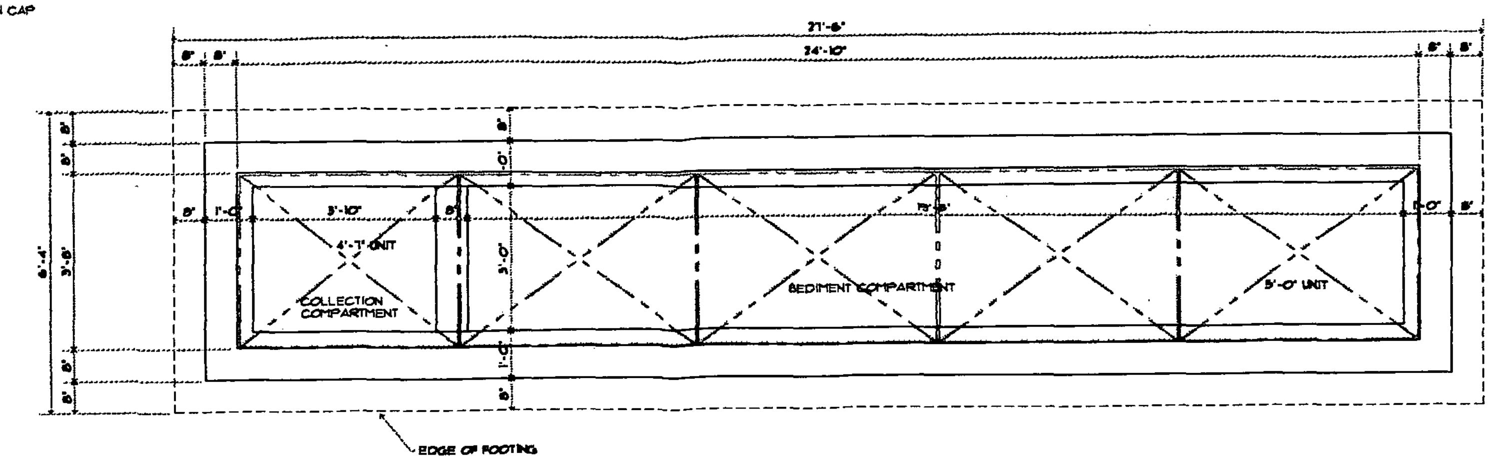
Dorland Carol Shelton
No. 1334
REGISTERED ARCHITECT
STATE OF NEW MEXICO

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
ARCHITECTURE INTERIOR DESIGN PLANNING
SUITE 883 OVERTON BANK AND TRUST BUILDING
4200 S. HULEN FT WORTH, TX 76109
(817) 737-977 FAX (817)737-6870

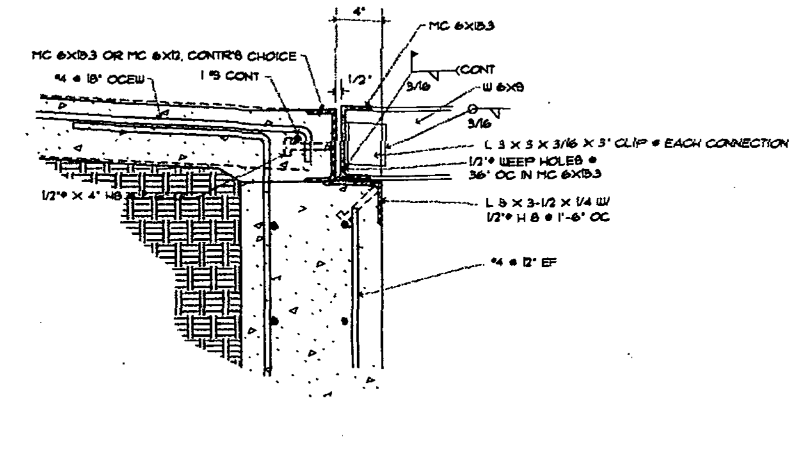
Licensed and registered to practice Architecture in Alabama, California, Colorado, Kansas, Kentucky, Louisiana, Mississippi, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah, Washington, and Wyoming

KEY NOTES

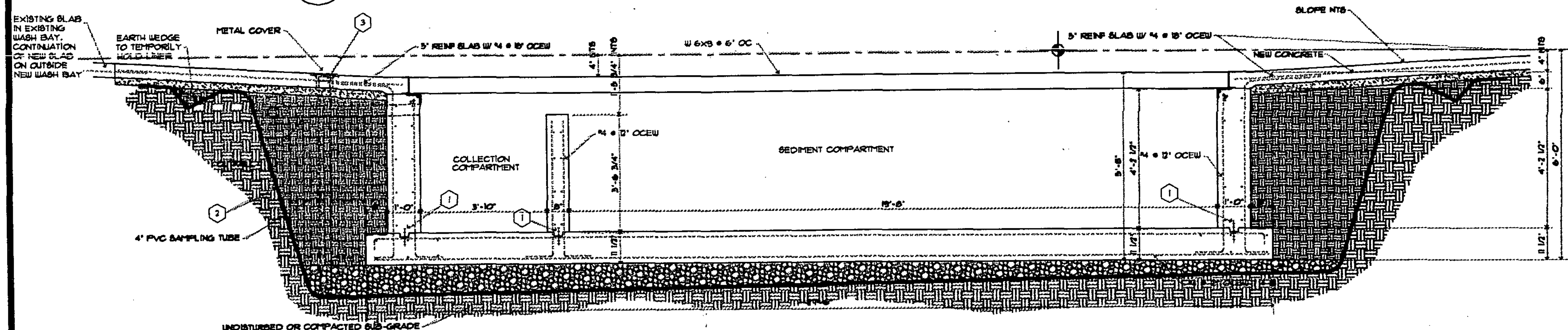
1. WATERSTOP
2. 40 MIL LINER
3. 4" PVC TUBE SAMPLER W/ SCREW ON CAP
4. 1/2"ø X 4' HS @ 16" OC



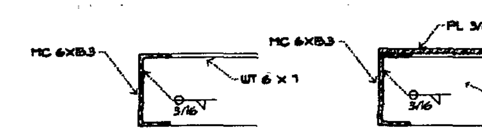
1 A-3 DETAIL PLAN OF SAND TRAP
SCALE 1/2" = 1'-0"



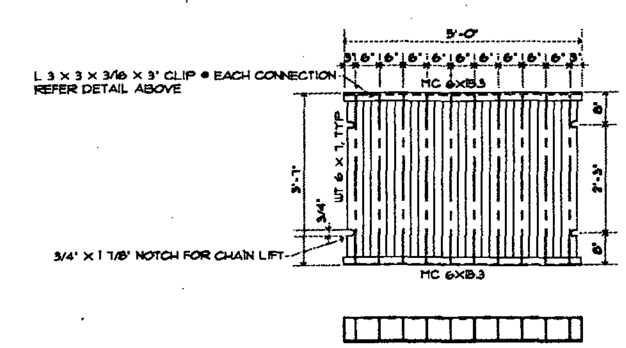
5 A-3 DETAIL
SCALE 1 1/2" = 1'-0"



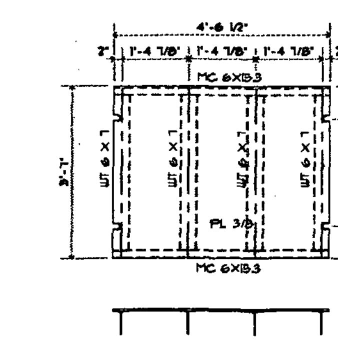
2 A-3 LONGITUDINAL SECTION THRU SAND TRAP
SCALE 1/2" = 1'-0"



8 A-5 DETAIL OF CONNECTION OF GRATES AND COVERS
SCALE 1 1/2" = 1'-0"



6 A-3 DETAIL OF GRATES (4 REQD)
SCALE 1/2" = 1'-0"



7 A-3 DETAIL OF COLLECTION COVER
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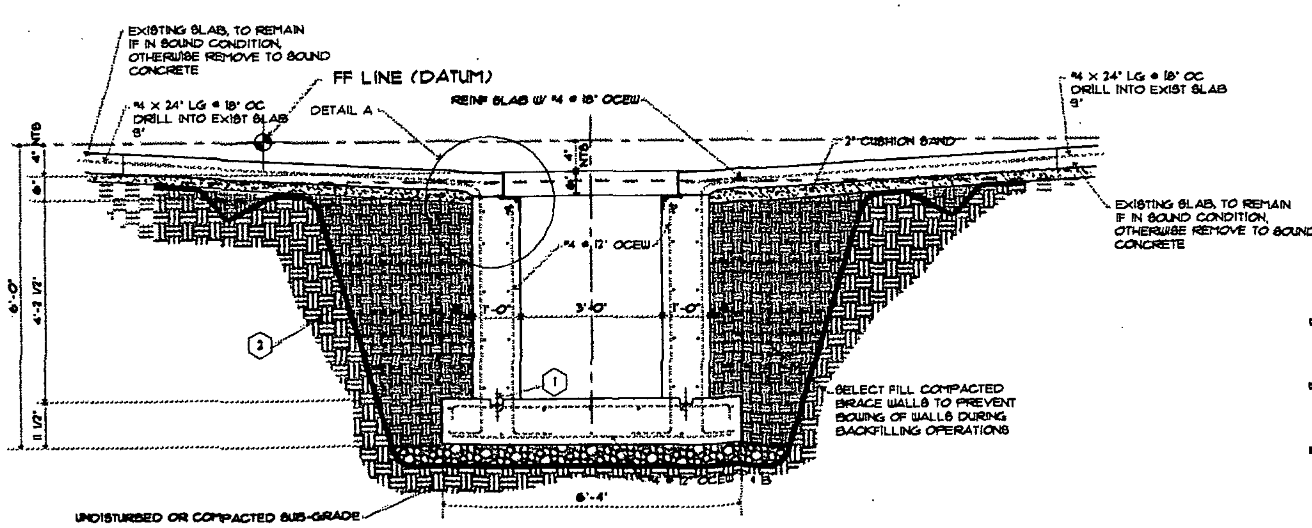

3 A-3 TRANSVERSE SECTION THRU SAND TRAP SUMP NO. 1, NO. 2 SIMILAR
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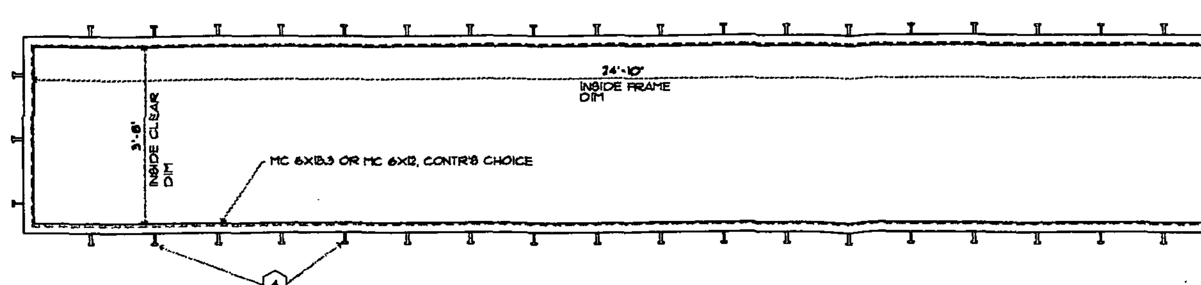

4 A-3 DETAIL OF GRATE AND COVER FRAMES
SCALE 1/2" = 1'-0"

Jul 28, 1998 @ 22:03:44 C:\BJ-9815H\9815A030

DORLAND CAROL SHELTON AIA CCS, ARCHITECT

A NEW SUMP FOR EXISTING WASH BAY BUILDING

ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

PROJECT NO.	BJ-9815
DWG NO.	9815A030
DATE	21 JULY 1998
REVISIONS	
DRAWN BY	DCS
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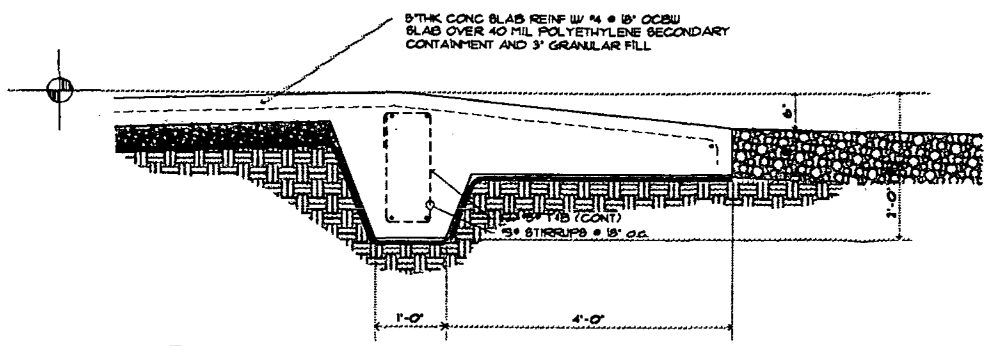
SHEET NO.	A-3.0



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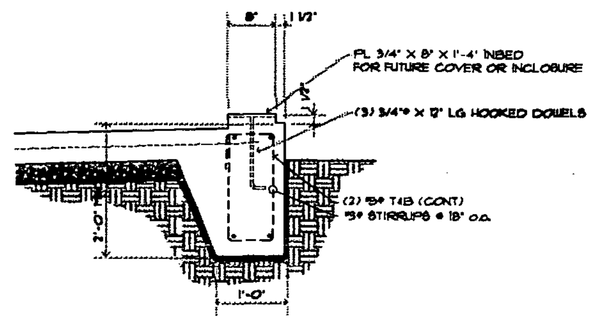

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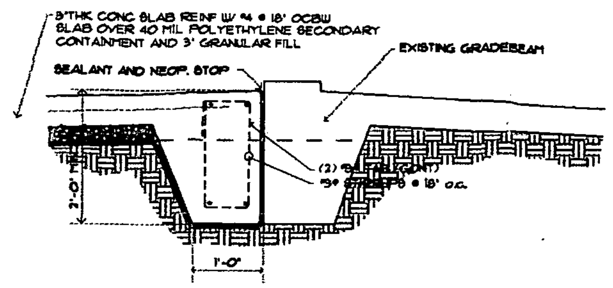

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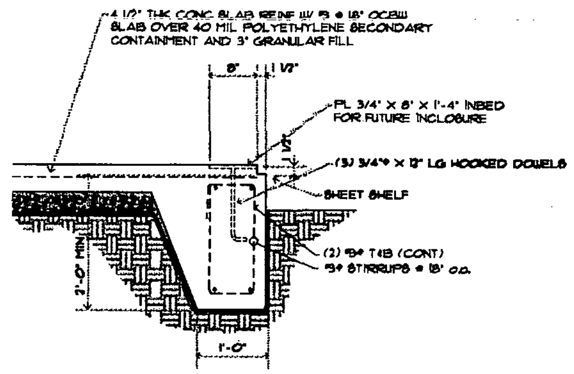

4 SECTION
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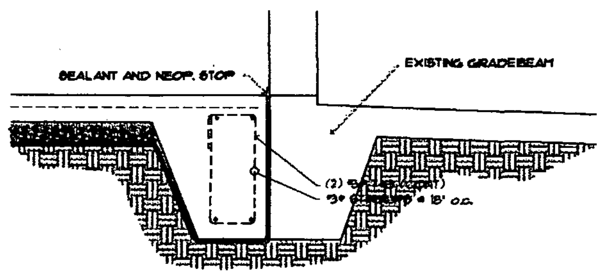


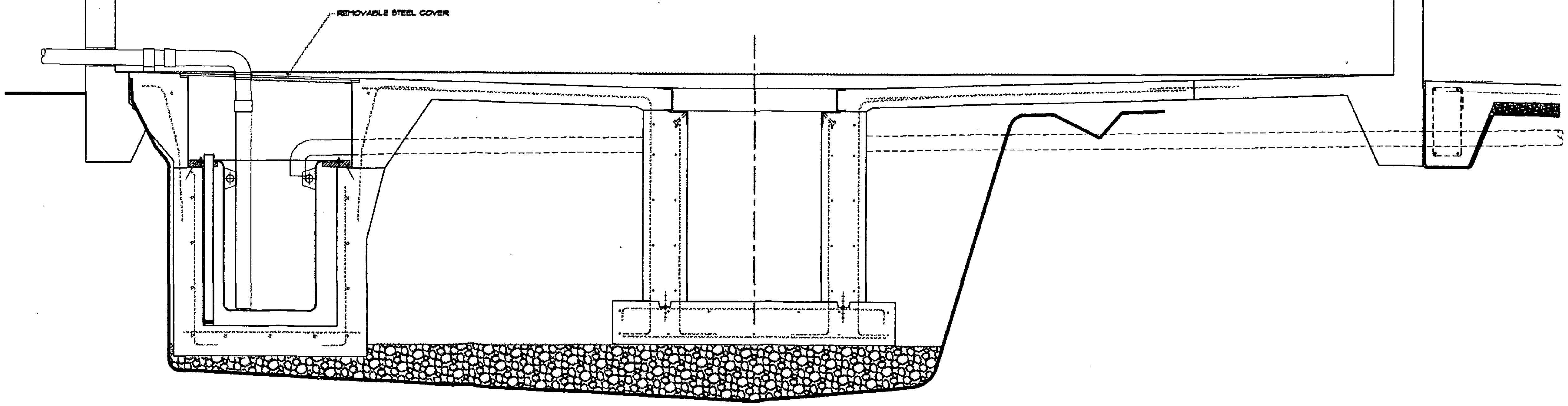
5 SECTION
A-4 SCALE 3/4" = 1'-0"

CONCRETE NOTES

1. ALL CONCRETE WORK SHALL CONFORM TO ACI 318-89.
2. ALL STRUCTURAL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE (AIR-ENTRAINED) AND OF 3500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
3. REINFORCING BARS SHALL BE GRADE 60 AND CONFORM TO ASTM A615.
4. ALL REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH 'ACI DETAILING MANUAL - 1988'.
5. LAP ALL REINFORCING BARS 30 DIAMETERS UNLESS NOTED OTHERWISE.
6. NO REINFORCING BARS SHALL BE WELDED OR BENT IN THE FIELD UNLESS SPECIFICALLY NOTED.
7. ALL CONCRETE FLATWORK SHALL BE CURED PROPERLY TO PREVENT SHRINKAGE CRACKS.

FOUNDATION NOTES

1. THE FOUNDATIONS ARE DESIGNED BASED ON RECOMMENDATIONS CONTAINED IN A SUBSURFACE INVESTIGATION REPORT, PREPARED BY SOUTHWESTERN LABORATORIES, ARLINGTON, TX REPORT NO. 81-1302, DATED DEC 15, 1981 FOR THE WESTERN COMPANY.
2. THE ALLOWABLE BEARING PRESSURE FOR FOOTING DESIGN SHALL BE 4,000 PSF AT 15 FEET DEPTH BELOW THE EXISTING GRADE.
3. SLAB ON GRADE SHALL BE PLACED OVER 3" SAND CUSHION AND SELECT FILL. SELECT FILL SHALL BE COMPACTED TO A MINIMUM OF 95% DENSITY IAW ASTM D-698. THE MATERIAL USED FOR SELECT FILL SHALL BE SANDY CLAY OR CLAYEY SAND WITH A LIQUID LIMIT OF LESS THAN 30 AND A PLASTICITY INDEX BETWEEN 4 AND 12.
4. THE EXTERIOR FACE OF PERIMETER GRADE BEAMS SHALL BE FORMED WITH FULL-DEPTH PLYWOOD FORMS. THE INTERIOR FACE MAY BE FORMED WITH EARTH.



6 SECTION THRU SUMP
A-4 SCALE 3/4" = 1'-0"

Jul 27, 1998 ** 15:36:55 ** C:\BJ-9615\9615A040

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
ARCHITECTURE INTERIOR DESIGN PLANNING

A NEW SUMP FOR EXISTING WASH BAY BUILDING
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

PROJECT NO.	BJ-9615
DWG NO.	9615A040
DATE	27 JULY 1996
REVISIONS	
DRAWN BY	DCS
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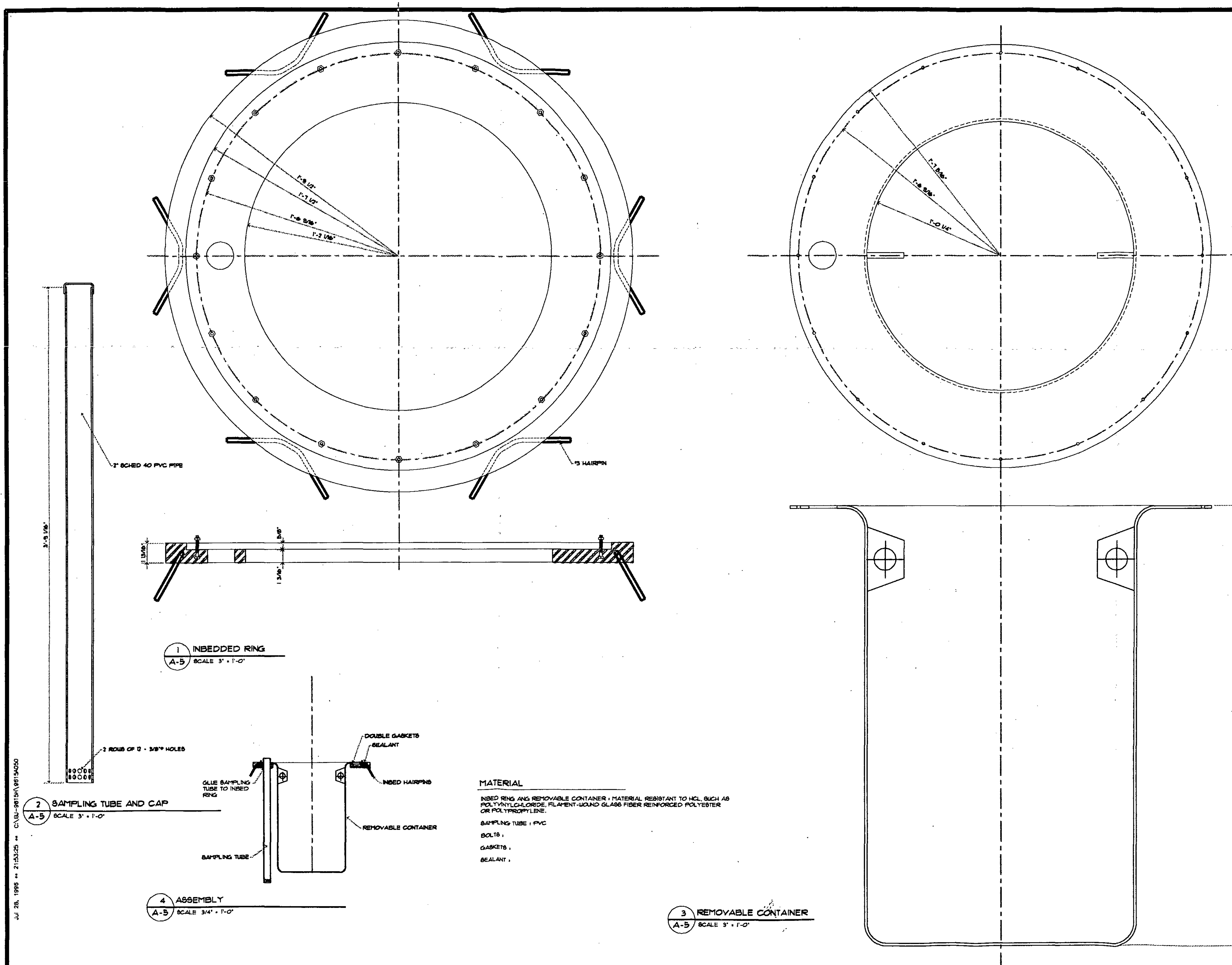
SHEET NO.	A-4.0



1 / A-5 INBEDDED RING
SCALE 3" = 1'-0"

2 / A-5 SAMPLING TUBE AND CAP
SCALE 3" = 1'-0"

4 / A-5 ASSEMBLY
SCALE 3/4" = 1'-0"

3 / A-5 REMOVABLE CONTAINER
SCALE 3" = 1'-0"

MATERIAL

INBED RING ANG REMOVABLE CONTAINER : MATERIAL RESISTANT TO HCL, SUCH AS POLYVINYLCHLORIDE, FILAMENT-WOUND GLASS FIBER REINFORCED POLYESTER OR POLYPROPYLENE.

SAMPLING TUBE : PVC

BOLTS ,

GASKETS ,

SEALANT ,

JUL 28, 1996 ** 21:53:25 ** C:\BJ-9615H\9615A050

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING · ARCHITECTURE · INTERIOR DESIGN

STATE OF NEW MEXICO · REGISTERED ARCHITECT · Dorland Carol Shelton · No. 1334

WARNING: THIS DRAWING IS NOT TO BE USED FOR PERMITTING, CONSTRUCTION OR ESTIMATING PURPOSES. THIS DRAWING IS INCOMPLETE AND SUBJECT TO CHANGE. THE SOLE PURPOSE OF THIS RELEASE IS FOR REVIEW AND APPROVAL.

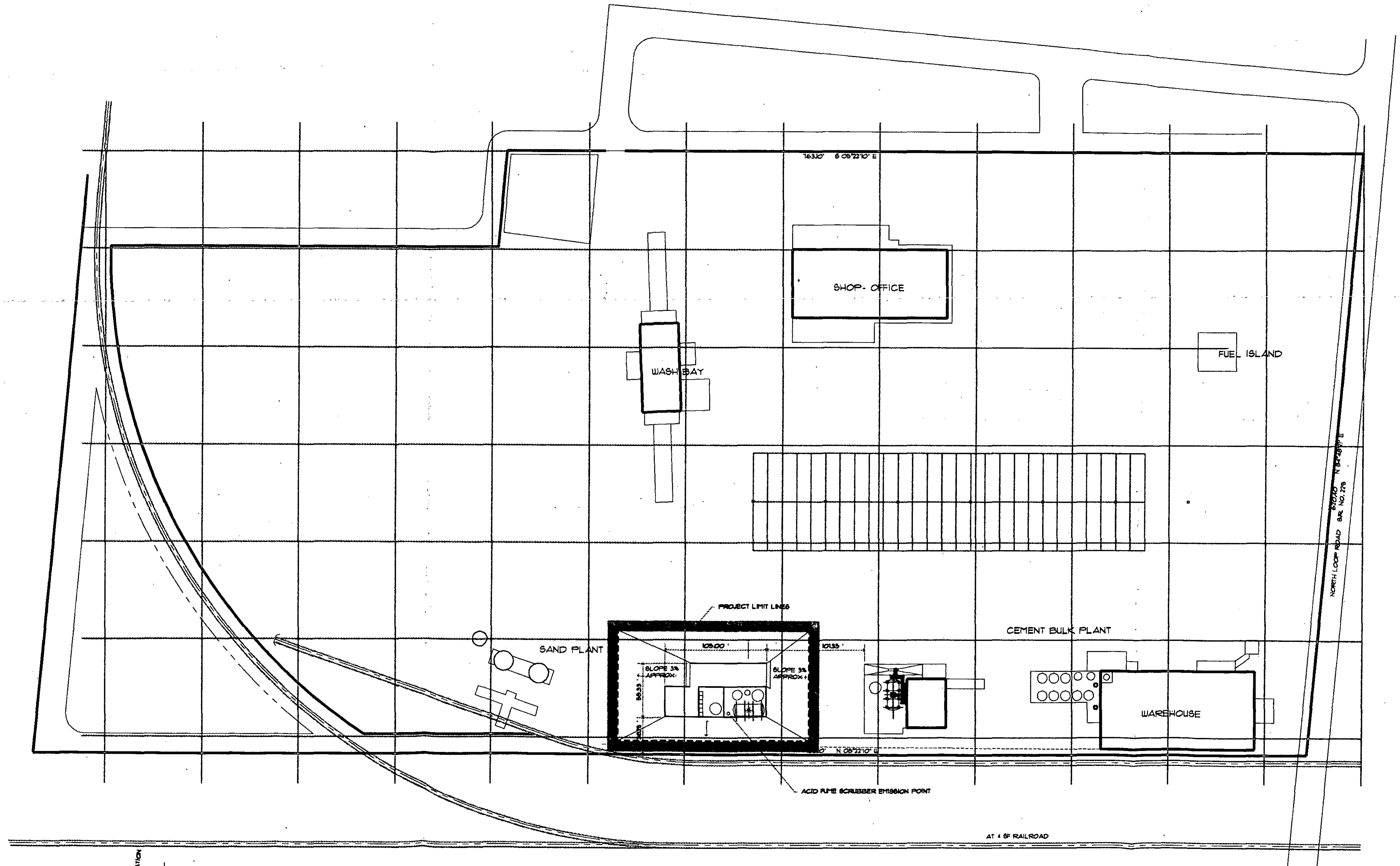
A NEW SUMP FOR EXISTING WASH BAY BUILDING
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

PROJECT NO.	BJ-9615
DWG NO.	9615A050
DATE	21 JULY 1996
REVISIONS	
DRAWN BY	DCS / VDH
SCALE	3" = 1'-0" UNO
SHEET NO.	A-5.0

FIGURE BUNDLE 4

PLAN DRAWINGS: ACID LOADING FACILITY



SITE PLAN
1" = 30'-0" UNO

INFORMATION SHOWN ON THIS DRAWING IS A COMPILATION OF INFORMATION TAKEN FROM SITE PLANS PREPARED BY DORLAND CAROL SHELTON, ARCHITECTS SHEET NO 1, DATED 22 JAN 1982, PROJECT NO. 80360 AND SHEET NO. 1, DATED 14 MAY 1982, PROJECT NO. 82030 AND UNNAMED SKETCH IDENTIFIED ONLY AS DWG. 62959. NO SURVEY HAS BEEN MADE TO AUTHENICATE THE ACCURACY OF THIS DRAWING.

Apr 25, 1996 •• 14:23:14 •• C:\BJ-9521K\9521A010

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING ARCHITECTURE INTERIOR DESIGN

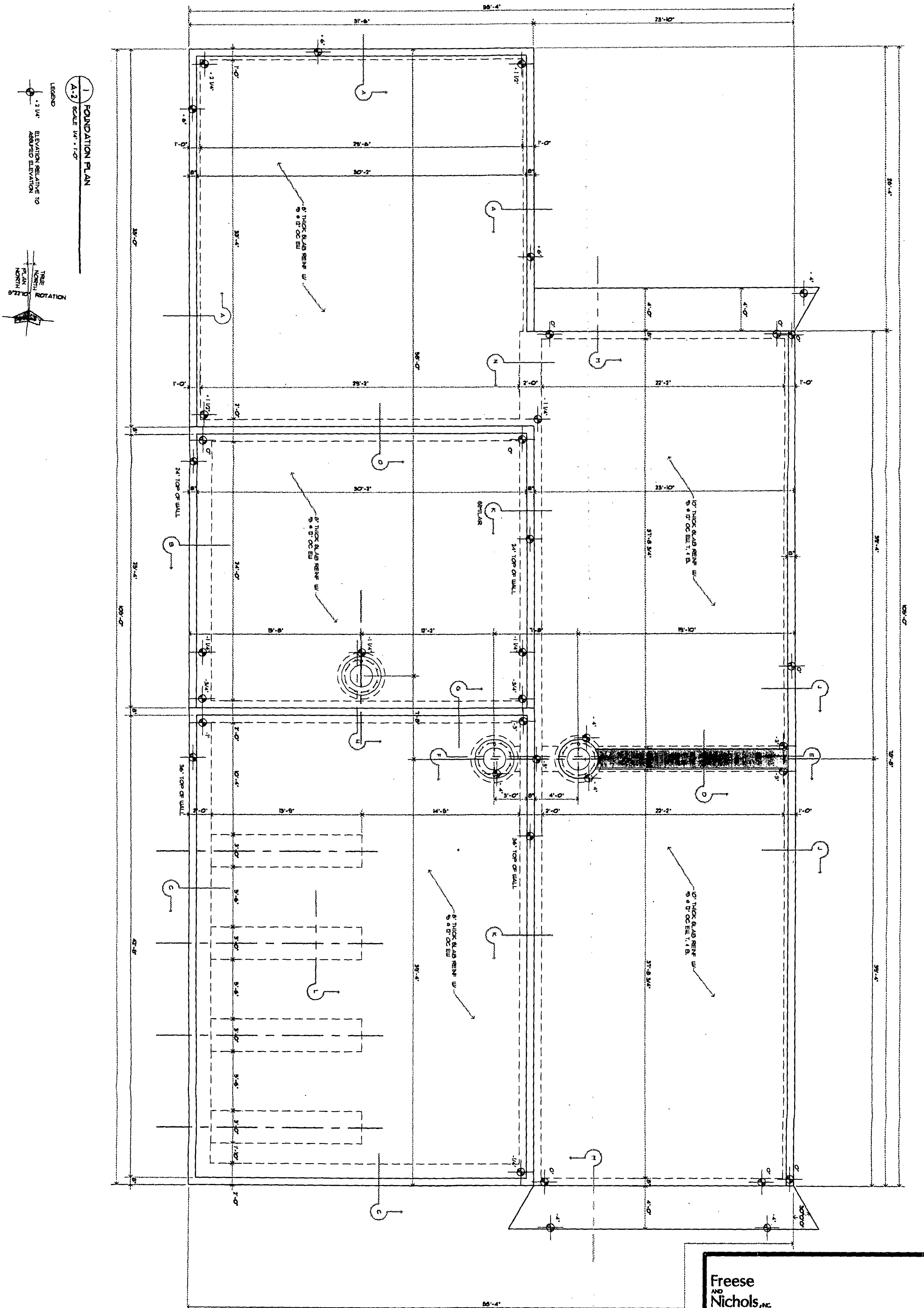
STATE OF NEW MEXICO — REGISTERED ARCHITECT — Dorland Carol Shelton No. 1334

MODERIZATION OF THE ACID DOCK FOR
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

PROJECT NO.	BJ-9521
DWG NO.	9521A010
DATE	17 APR 1996
REVISIONS	
DRAWN BY	DCS / VDH
SCALE	1" = 30'-0" UNO
SHEET NO.	A-1.0

May 13, 1996 •• 13:43:57 •• C:\BJ-ARTCD\9521A020



Freese and Nichols, Inc.
CONSULTING ENGINEERS

MODERIZATION OF THE ACID DOCK FOR
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

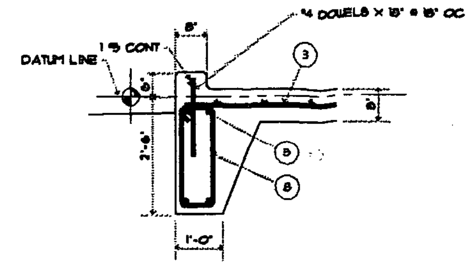
PROJECT NO.	BJ-9521
DWG NO.	9521A020
DATE	29 APR 1996
REVISIONS	
DRAWN BY	DCS / VDH
SCALE	1/4" = 1'-0" UNO
SHEET NO.	A-2.0

STATE OF NEW MEXICO — Dorland Carol Shelton No. 1334 — REGISTERED ARCHITECT

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING ARCHITECTURE INTERIOR DESIGN

KEY NOTES

MARK	DESCRIPTION
1	NEENAH HEAVY DUTY TRENCH FRAME R-4990-FX WITH TYPE C GRATE
2	PREFAB SUMP LINER AND FLANGE
3	SLAB REINFORCING #5 @ 12" OC EW
4	SLAB REINFORCING (2 MATS) #5 @ 12" OC EW T&B
5	BEAM REINFORCING 2 #5 T & B
6	BEAM REINFORCING 3 #5 T & B
7	BEAM REINFORCING 4 #5 T & B
8	STIRRUPS #4 @ 18" OC
9	WALL REINFORCING #4 @ 12" OC VERT AND #4 @ 12" OC HORZ
10	6" PVC WATERSTOP



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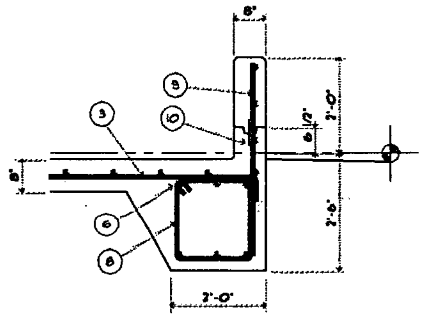

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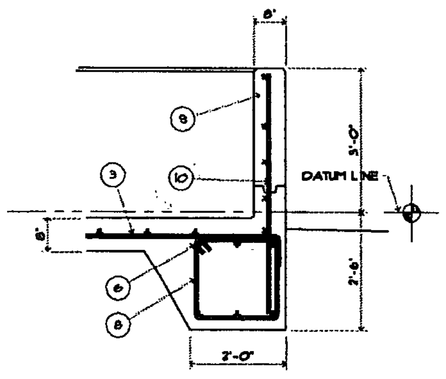

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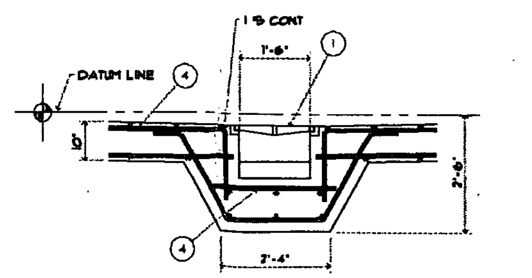

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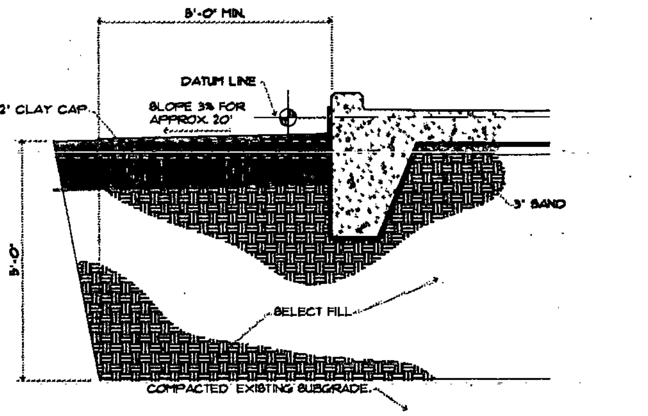

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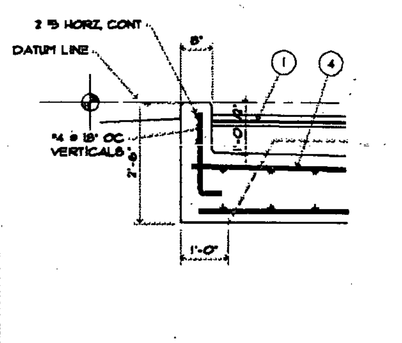

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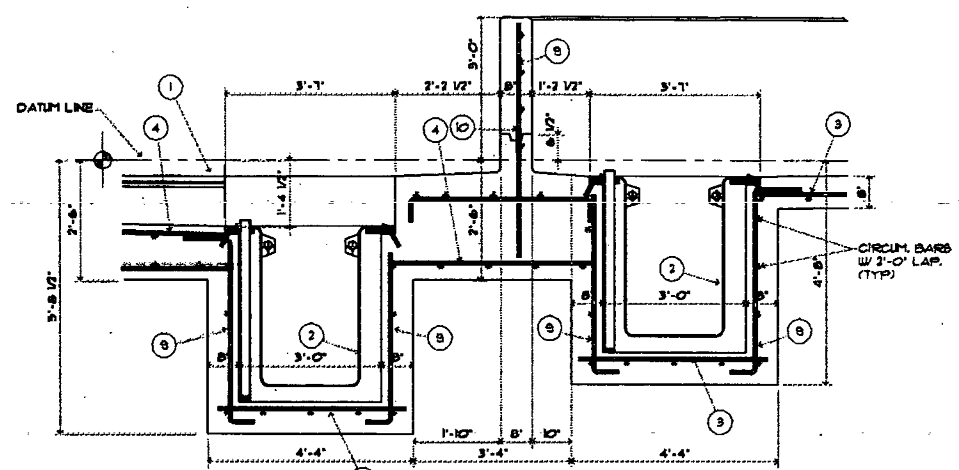

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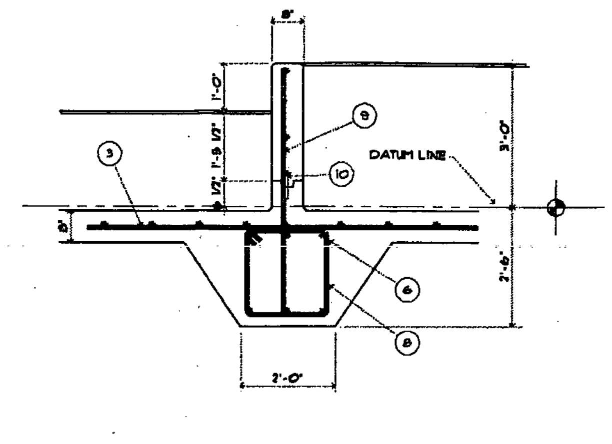

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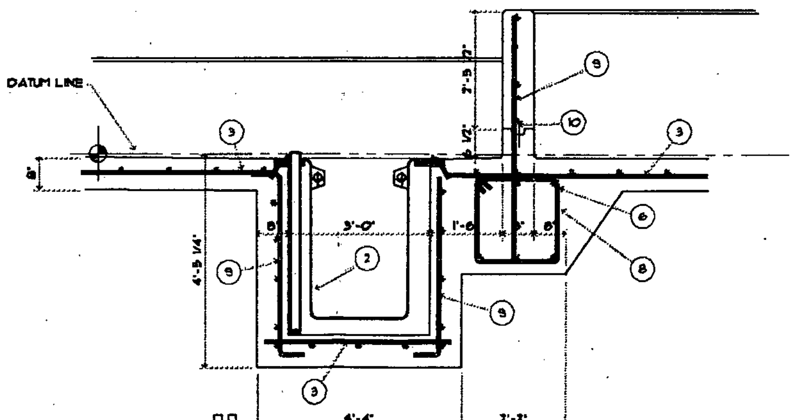

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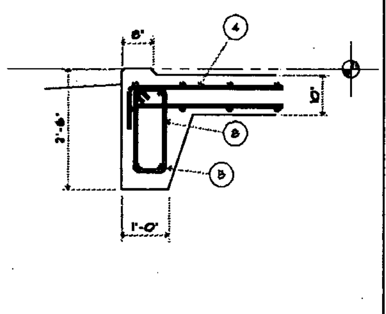

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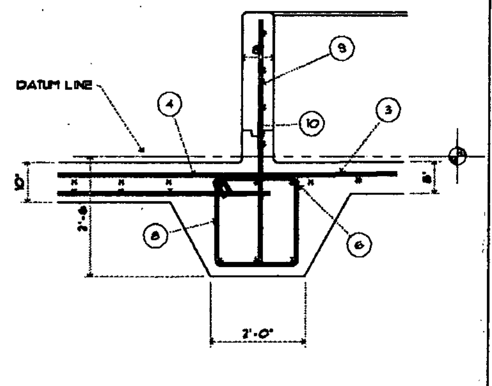

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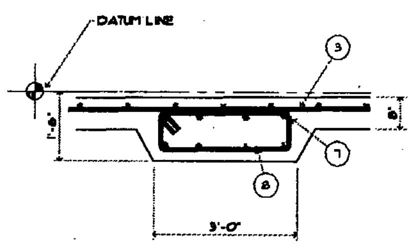


SECTION L

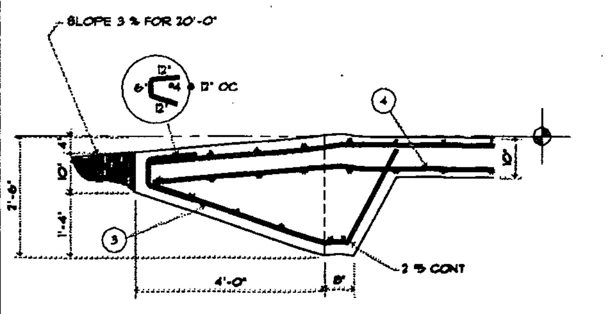
EARTHWORK NOTES

1. DESIGNED SOIL BEARING CAPACITY IS 3000 PSF.
2. REPLACE TOP 5 FEET OF EXISTING SOIL WITH SELECT FILL AS SPECIFIED BELOW AT PROPOSED CONCRETE PAD LOCATION. THE FILL SHALL EXTEND FULL DEPTH AT LEAST FIVE FEET BEYOND THE PERIMETER OF THE SLAB. AT CONCRETE PAD LOCATION, PIPING OR U.G. TANKS MAY HAVE BEEN REMOVED. AFTER EXCAVATION TO 5 FEET DEPTH, IF FILL IS DETECTED ON THE EXPOSED SUBGRADE, THE DENSITY OF THE FILL SHALL BE VERIFIED BY A TESTING LABORTORY. THE EXISTING FILL, IF FOUND TO BE DEFICIENT, SHALL BE RECOMPACTED TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698.
3. PLACEMENT OF SELECT FILL SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   A. PRIOR TO PLACING THE SELECT FILL, THE UPPER SIX (6) INCHES OF THE SUBGRADE SOILS SHOULD BE LOOSENED AND RECOMPACTED TO A MINIMUM OF 95 % OF THE MAXIMUM DRY DENSITY, SLIGHTLY ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-698.
   B. THE SELECT MATERIAL SHOULD BE PLACED AS SOON AS PRACTICAL AFTER COMPACTION OF THE EXISTING SOILS. CARE SHOULD BE TAKEN PARTICULARLY DURING HOT PERIODS, TO INSURE THAT THE SUB-SOILS HAVE NOT BECOME DRY.
   C. THE MATERIAL USED AS SELECT FILL SHOULD BE A VERY SANDY CLAY OR CLAYEY SAND WITH A LIQUID LIMIT OF LESS THAN THIRTY (30) AND A PLASTICITY INDEX PREFERABLY BETWEEN FOUR (4) AND TWELVE (12). SPREAD IN LOOSE LIFTS, LESS THAN NINE (9) INCHES THICK, AND UNIFORMLY COMPACTED TO A MINIMUM OF NINETY-FIVE (95) PERCENT DENSITY NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D-698.
4. THE TESTING LABORATORY SHALL MAKE TESTS OF IN-PLACE DENSITY IN ACCORDANCE WITH ASTM STANDARDS. THE TESTING LABORATORY SHALL BE PAID BY THE OWNER AND ANY NECESSARY RETESTING SHALL BE PAID BY THE CONTRACTOR.

CONCRETE NOTES

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS, (USE AIR ENTRAINED CONCRETE).
2. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
3. LAP ALL REINFORCING SPLICES 30X BAR DIAMETER UNLESS NOTED OTHERWISE.
4. ALL REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL.
5. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS, CONDUIT AND EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT.
6. CONCRETE CURING PROCEDURES MUST BE APPROVED AND IMPLEMENTED TO REDUCE SHRINKAGE CRACKING TO A MINIMUM. MINIMUM COVERAGE OF REINFORCING SHALL BE 1 1/2" AND 3" ADJACENT TO SOIL FOR SLABS AND GRADE BEAMS. WALL REINFORCING SHALL BE PLACED AT MID-DEPTH OF WALLS. NO CONTROL JOINTS PERMITTED IN SLABS, AND CONSTRUCTION JOINTS PERMITTED ONLY WHERE INDICATED.
7. EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS.

Apr 29, 1996 •• 18:15:42 •• C:\BJ-ARTCO\9521A030



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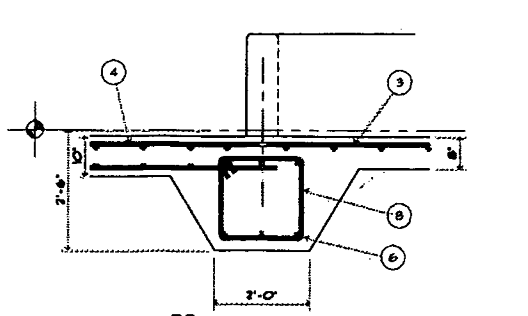

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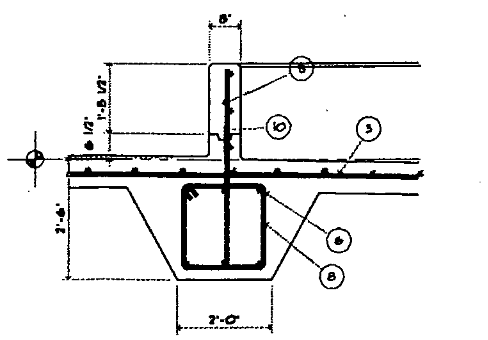

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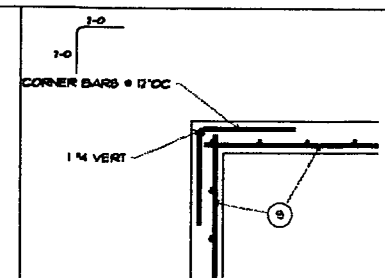


TYPICAL WALL CORNER

CONCRETE CONSTRUCTION DETAILS

SCALE 1/2" = 1'-0"

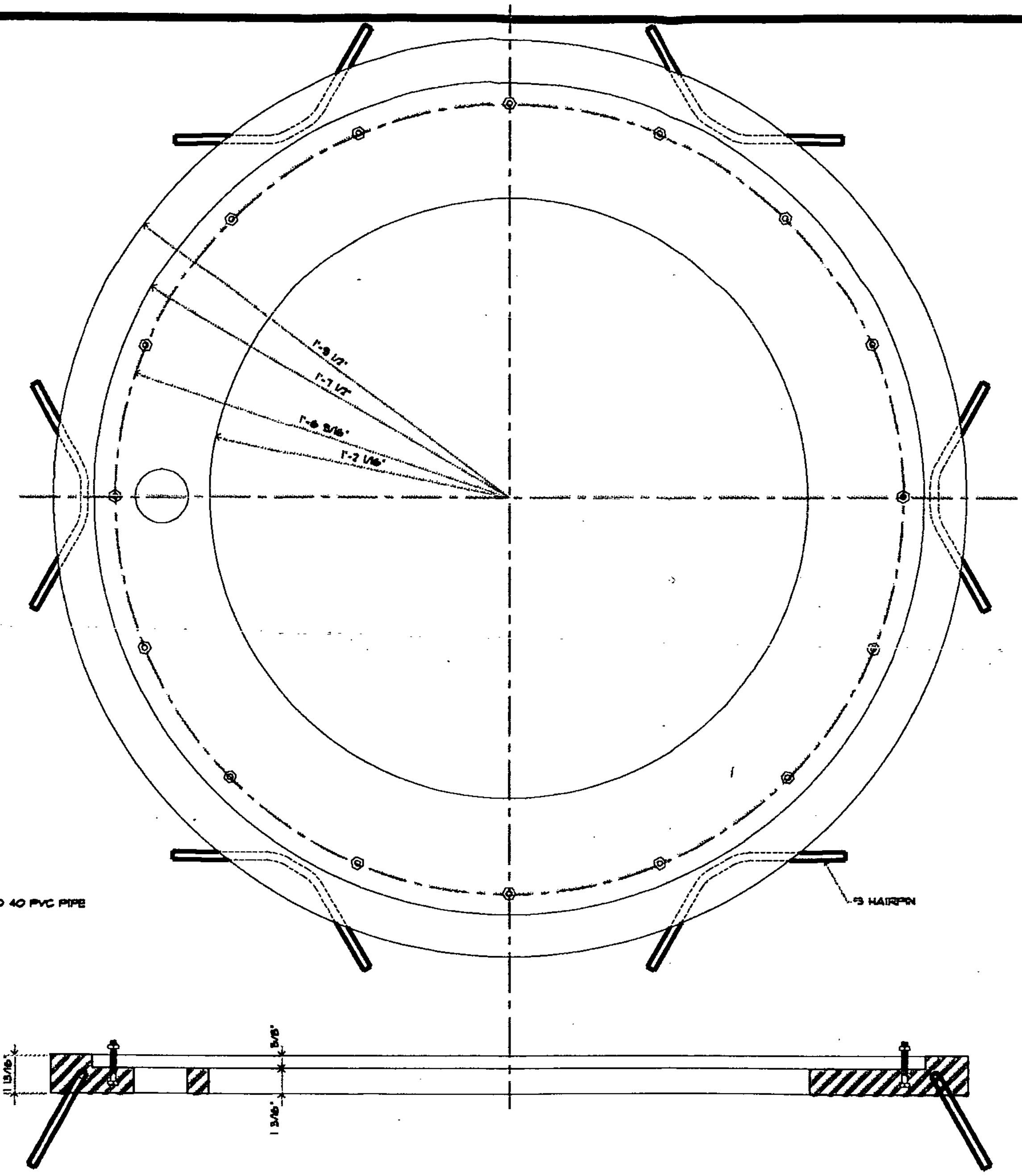
Freese and Nichols, Inc.
CONSULTING ENGINEERS

DORLAND CAROL SHELTON AIA CCS, ARCHITECT

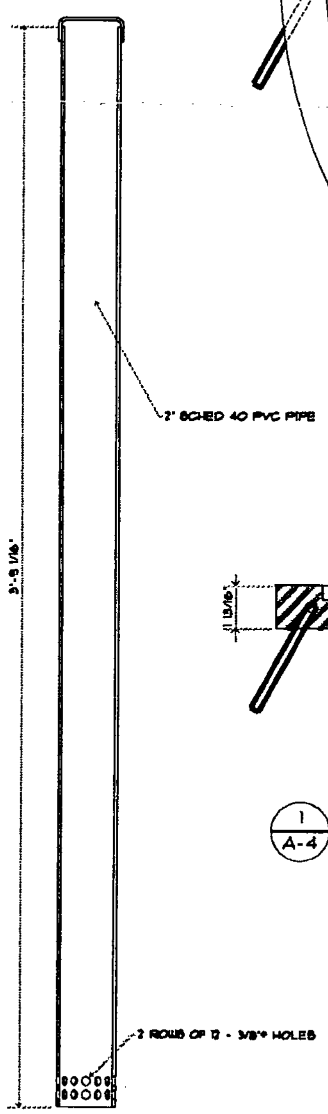
MODERIZATION OF THE ACID DOCK FOR
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

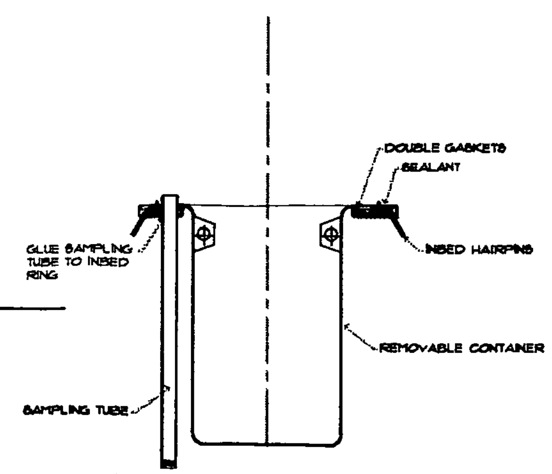
PROJECT NO.	BJ-9521
DWG NO.	9521A030
DATE	29 APR 1996
REVISIONS	
DRAWN BY	DCS / VDH
SCALE	1/2" = 1'-0" UNO
SHEET NO.	A-3.0



1 A-4 INBEDDED RING
SCALE 3" = 1'-0"



2 A-4 SAMPLING TUBE AND CAP
SCALE 3" = 1'-0"



4 A-4 ASSEMBLY
SCALE 3/4" = 1'-0"

MATERIAL

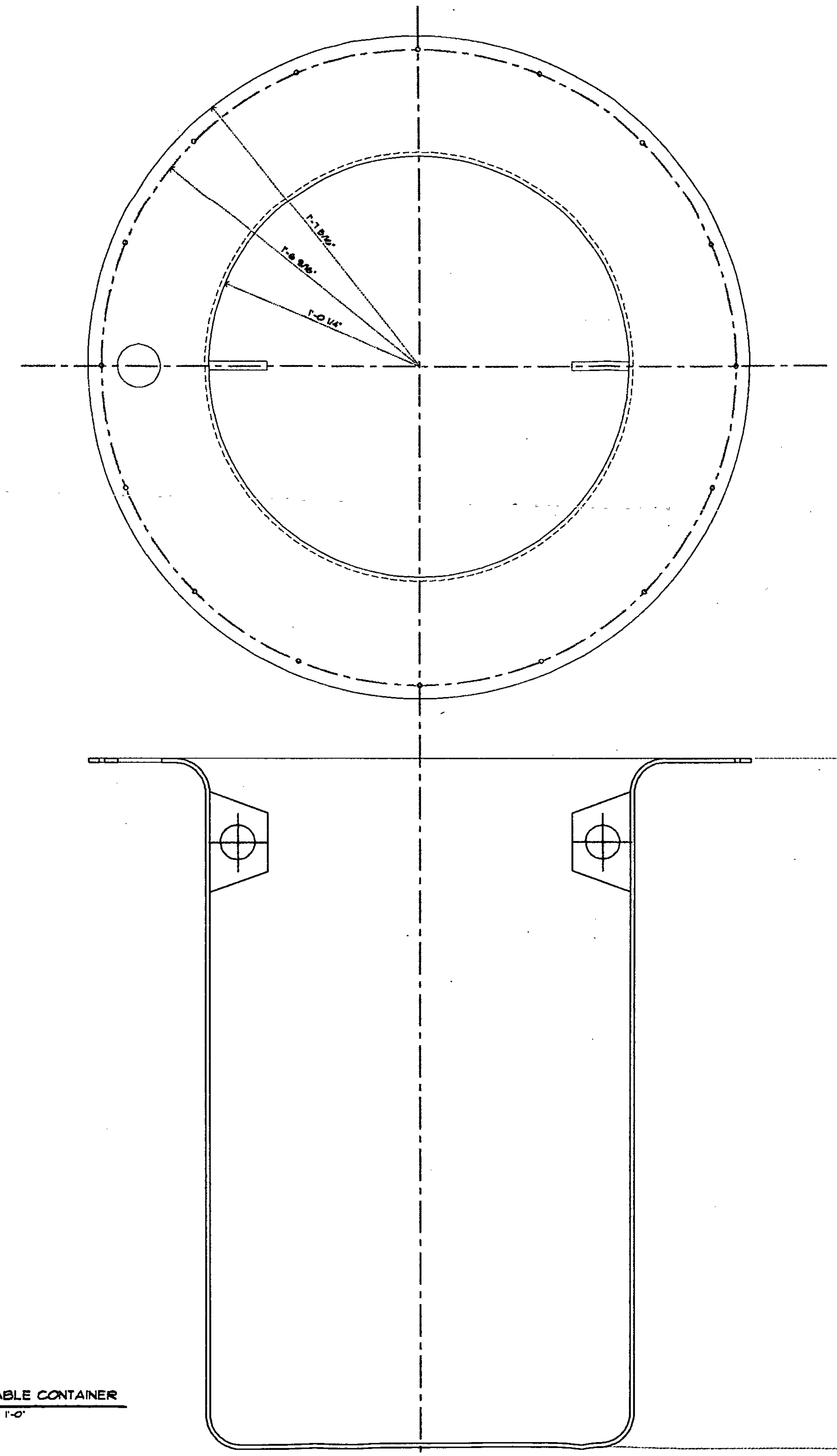
INBED RING ANG REMOVABLE CONTAINER : MATERIAL RESISTANT TO HCO, SUCH AS POLYVINYLCHLORIDE, FILAMENT-WOUND GLASS FIBER REINFORCED POLYESTER OR POLYPROPYLENE.

SAMPLING TUBE : PVC

BOLTS :

GASKETS :

SEALANT :



3 A-4 REMOVABLE CONTAINER
SCALE 3" = 1'-0"

May 14, 1998 ** 14:18:03 ** C:\BJ-ARTCD\9521A040

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING ARCHITECTURE INTERIOR DESIGN

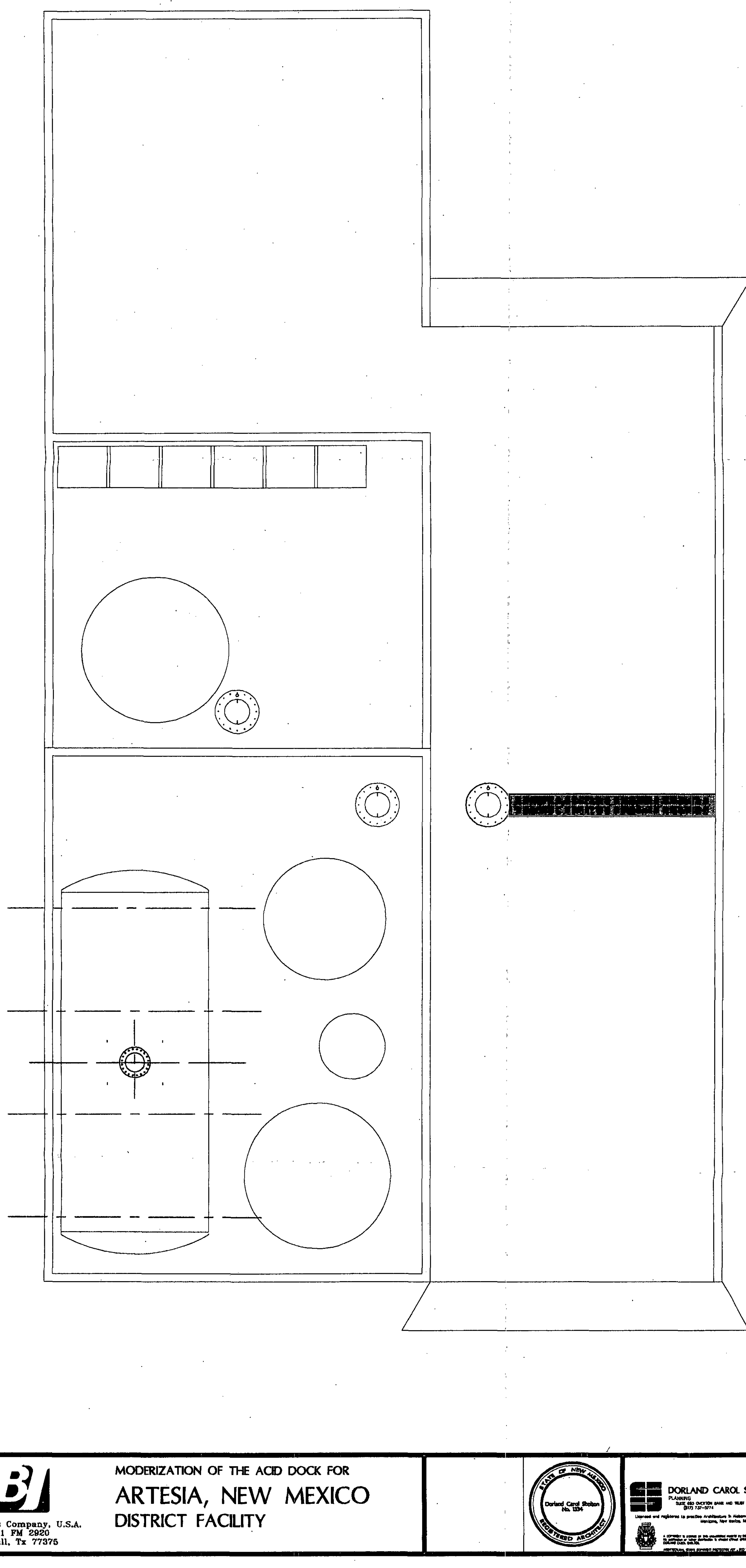
STATE OF NEW MEXICO
Dorland Carol Shelton No. 1304
REGISTERED ARCHITECT

MODERIZATION OF THE ACID DOCK FOR
ARTESIA, NEW MEXICO
DISTRICT FACILITY

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

PROJECT NO.	BJ-9521
DWG NO.	9521A040
DATE	25 APR 1996
REVISIONS	
DRAWN BY	DCS / VDH
SCALE	3" = 1'-0" UNO
SHEET NO.	A-4.0

Apr 02, 1996 ** 14:41:32 ** C:\BJ-ARTCO\9521A040



1 / A-5 PIPING AND EQUIPMENT PLAN
SCALE 1/4" = 1'-0"

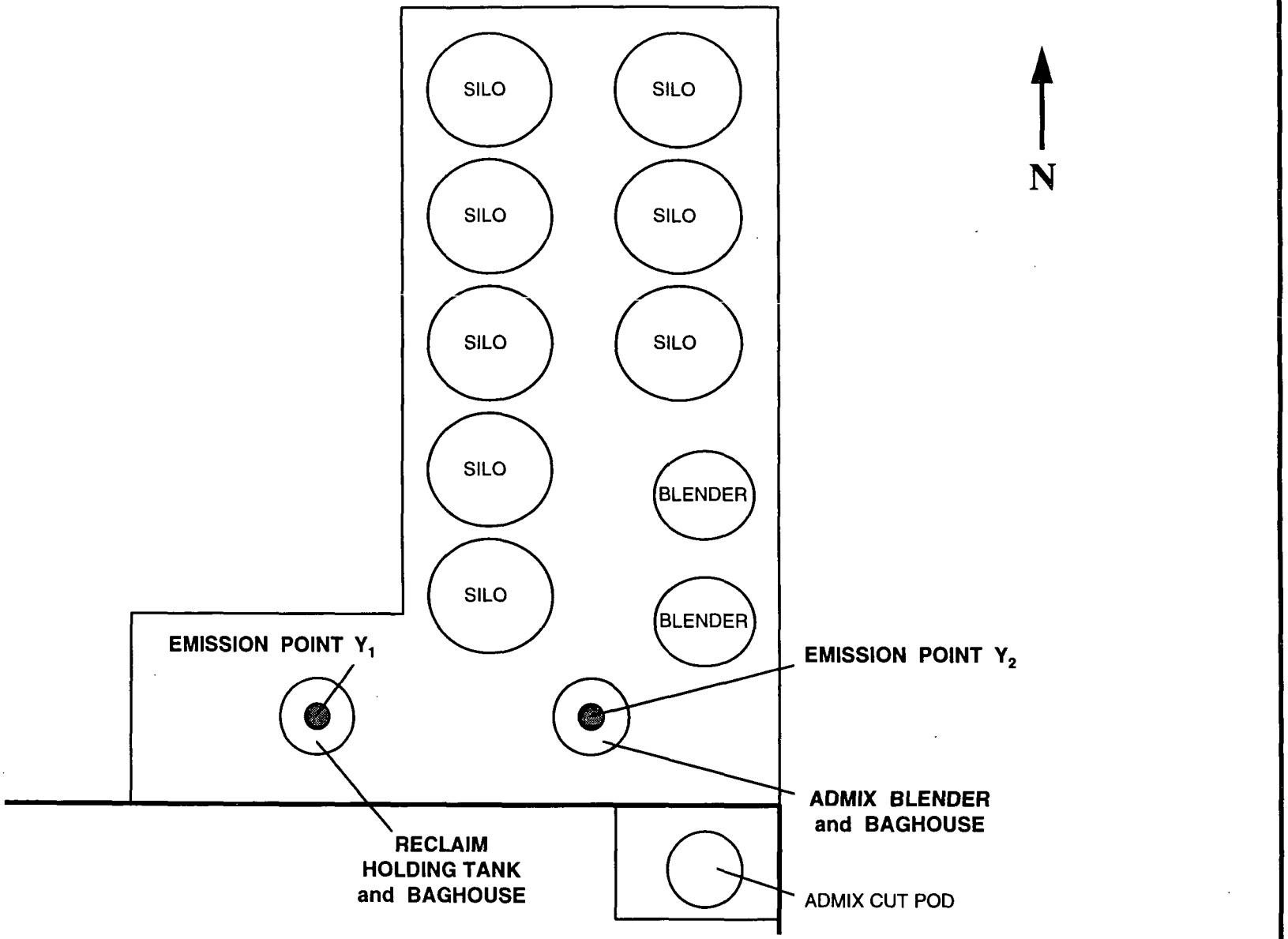
PROJECT NO.	BJ-9521
DWG NO.	9521A050
DATE	2 APR 1996
REVISIONS	
DRAWN BY	DCS
SCALE	1/4" = 1'-0" UNO
SHEET NO.	A-5.0

BJ Services Company, U.S.A.
11211 FM 2920
Tomball, Tx 77375

MODERIZATION OF THE ACID DOCK FOR
ARTESIA, NEW MEXICO
DISTRICT FACILITY

STATE OF NEW MEXICO
Dorland Carol Shelton
No. 1334
REGISTERED ARCHITECT

DORLAND CAROL SHELTON AIA CCS, ARCHITECT
PLANNING ARCHITECTURE INTERIOR DESIGN
SUITE 683 OVERTON BANK AND TRUST BUILDING
(817) 737-5774
4200 S. HULEN FT WORTH, TX 76109
FAX (817)737-8870
Licensed and registered to practice Architecture in Alabama, California, Colorado, Kansas, Kentucky, Louisiana, Mississippi, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah, Washington, and Wyoming



BROWN AND CALDWELL HOUSTON, TEXAS	NOT TO SCALE	TITLE: CEMENT BLENDING FACILITY UPGRADE	DATE: 09/04/96
		CLIENT: BJ SERVICES COMPANY, U.S.A.	PROJECT NO.: 2988-08
		SITE LOCATION: ARTESIA, NEW MEXICO	FIGURE NO.: 5

g:\2988\task-08\FIG5-ART.ppt

ATTACHMENTS

ATTACHMENT 1

SITE ASSESSMENT REPORT: TRUCK WASH DRAIN SYSTEM

FINAL
SITE ASSESSMENT REPORT
TRUCK WASH DRAIN SYSTEM

ARTESIA, NEW MEXICO

BJ SERVICES COMPANY, U.S.A.

AUGUST 9, 1996

FINAL
SITE ASSESSMENT REPORT
TRUCK WASH DRAIN SYSTEM
ARTESIA, NEW MEXICO FACILITY

Prepared for

BJ Services Company, U.S.A.
8701 New Trials Drive
The Woodlands, Texas 77381

BC Project Number: 2988-27

Timothy Jenkins
Associate Engineer

August 9, 1996

Brown and Caldwell
1415 Louisiana, Suite 2500
Houston, Texas 77002 - (713) 759-0999

CONTENTS

1.0 INTRODUCTION

Brown and Caldwell, under contract to BJ Services Company, U.S.A., conducted a site assessment for the closure of the Truck Wash Drain System (TWDS) from February 2 through February 6, 1996. The site assessment was conducted in accordance with the "Closure Plan Summary: Truck Wash Drain Line and Tank" (Closure Plan), submitted to the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) on January 10, 1996. The Closure Plan is found in Appendix A. Changes have been made to the figure in this appendix to reflect current facility operations. The Artesia facility is located in Eddy County, in the SE/4, Section 32, Township 16 South, Range 26 East. The facility address is 2401 Sivley, Artesia, New Mexico, 88210. A site location map and site plan are attached as Figures 1 and 2, respectively.

Between February 2 and February 6, 1996, Brown and Caldwell supervised the permanent removal of the TWDS, consisting of a single underground storage tank, approximately 25 feet of drain line, and two 95 foot leaching lines. The TWDS was located northeast of the Artesia District facility's Truck Wash Bay (see Figure 3). Brown and Caldwell also provided field oversight for the land spreading of excavated soils and confirmation sampling, which occurred on March 14, 1996. A letter report, "Land Spreading of Excavated Soils: Truck Wash Drain System", was submitted to the OCD on February 26, 1996, and is included as Appendix B. Changes have been made to the figures in this appendix to reflect current facility operations. Closure activities were conducted in accordance with Brown and Caldwell's Closure Plan. The objectives were: (1) to remove potential sources for hydrocarbon-affected soil, and (2) to achieve clean closure of the TWDS.

The following sections summarize the site activities, site assessment and scoring, closure verification methods utilized, and the results of both field and laboratory analyses. Section 3 requests approval for final closure based on the results of the site assessment.

2.0 SITE ASSESSMENT

BJ Services performed the site assessment to determine the potential for site soils/groundwater to have been impacted by the operation of the Truck Wash Drain System (TWDS). The results of the site assessment were used for evaluating the need for remediation and the type of closure best suited for the site.

2.1 General Site Characteristics

BJ Services determined the depth to groundwater to be approximately 20 to 25 feet below the ground surface based on previous groundwater investigations conducted at the site.

Depth to Groundwater	Ranking Score
< 50 feet	Yes - 20

Brown and Caldwell personnel conducted a water well search at the State Engineer's office in Roswell, New Mexico on February 21, 1993. This search determined that no water wells were identified within a one-half mile radius of the facility.

Wellhead Protection Area	Ranking Score
< 1000 feet from a water source, or	No - 0
< 200 feet from a private domestic water source:	No - 0

The distance from the site to the Pecos River (nearest downgradient surface water body), was determined to be more than 1,000 feet by reviewing a USGS topographic map for the area.

Distance to Surface Water Body	Ranking Score
> 1,000 feet	Yes - 0

2.2 Site Scoring

Groundwater is present at a depth of less than 50 feet below grade. Flow direction is east-southeast, as determined from wells previously installed at the facility. Therefore, the site scoring procedure outlined above calls for a depth to groundwater Ranking Score of 20. No water wells were identified within a 2,000 ft. radius of the site. Therefore, the wellhead protection Ranking Score is 0. A review of a USGS map indicates the nearest water body (Eagle Creek) is approximately 7,000 ft. south of the site. The Pecos River is several miles from the facility. Therefore, the distance to surface water body Ranking Score is 0.

The site ranking score of 20 is greater than 19. This determination was made based on physical site characteristics as described above. According to the OCD guidance document attached as Appendix C, "Unlined Surface Impoundment Closure Guidelines, 2/93", a total ranking score of greater than 19 yields action levels as outlined in Table 1.

2.3 Excavation Activities

The TWDS received effluent water from an in-ground oil/water separator connected to the Truck Wash Bay as shown in Figure 3. This separator, which is still in operation, handles water used for truck cleaning. The TWDS consisted of a drain line leading from the truck wash oil/water separator to a single underground tank. Two leaching lines which were connected to the tank spanned 95 feet in length.

The TWDS tank, drain line, and leach lines were removed based on the Closure Plan (Appendix A). Using field TPH screening, overexcavation and stockpiling of potentially affected soils were accomplished concurrent with the removal of the tank and lines. Field screening results are listed in Table 1. Approximately 350 cubic yards of soil were excavated and stockpiled for laboratory testing and eventual disposal. The excavation was then backfilled with imported fill material similar to existing site soil and compacted using rubber-tired machinery. The stockpiled soil was

later land spread on-site after receiving OCD approval of the land spreading plan (see Appendix B). The land spreading activities were accomplished on March 14, 1996.

2.3.1 Removal of Drain Line, Tank, and Leach Lines

Closure activities for the TWDS tank, drain line, and leach lines began on February 2, 1996. Rhino Environmental Services, Inc. (Rhino) removed the underground tank, the drain line leading from the oil/water separator, and two previously unknown leaching lines leading from the tank. The two leaching lines were approximately 95 feet in length, ran east from the tank at approximately 4 feet below grade, and were spaced about 10 feet apart. These lines and the surrounding soils were removed after receiving approval from the OCD.

Confirmation samples were collected from the center point of the drain line and from beneath the tank footprint. These samples were collected in plastic bags, and then transferred to a labeled, laboratory-supplied glass jar and immediately placed in an ice chest. Upon completion of sampling activities, the samples were delivered via overnight delivery service to ERMI Environmental Laboratories in Allen, Texas, using chain-of-custody procedures and analyzed as described in the Closure Plan. An additional sample was composited from the mid-point of the leach line excavations in a plastic bag. This sample was also transferred to a laboratory-supplied glass jar, placed on ice in an ice chest, and delivered via overnight delivery service to ERMI Environmental Laboratories in Allen, Texas, using chain-of-custody procedures.

Confirmation samples were analyzed for TPH, BTEX, total benzene, and Total RCRA metals, as required by the Closure Plan. Both field-analyzed and laboratory-analyzed TPH concentrations were below the OCD action levels as shown in Table 1. Total BTEX and total benzene concentrations were also below the OCD guidelines. Some metals were detected in the samples, but did not exceed RCRA Toxicity Characteristic Leaching Procedure (TCLP) standards, assuming that 5% of the total metal concentration is leachable using TCLP methods. Analytical results for metals analyses are listed in Table 2.

2.3.2 Stockpiling of Excavated Soils

A total of 350 cubic yards of soil was excavated and stockpiled on-site. The stockpile consisted of soil generated during the removal of the tank, drain line, and leaching lines that were part of the drain system, as described above. Soil excavated from around the leaching lines constituted the majority of the material that was stockpiled. Tank concrete and drain line piping were disposed separately from the stockpiled soil material.

A composite sample of the stockpiled material was collected by Brown and Caldwell personnel to determine which, if any, hazardous constituents were present. Laboratory results of the composite sample indicated that the material was non-hazardous based on a full TCLP and R.C.I. analysis, that TPH levels were non-detect, and that BTEX levels were also below OCD action levels. Tables 1 and 3 present the stockpile analytical results along with a comparison to OCD action levels for this facility.

2.3.3 Land Spreading of Stockpiled Soils

Based on the stockpile analytical results, Brown and Caldwell requested a one time land spread of stockpiled soil to BJ Services and to the OCD in a letter dated February 26, 1996 (Appendix B). This disposal option is described in the OCD guidance document for unlined surface impoundments, page 12 (see Appendix C). The area along the eastern property line, as shown in Figure 3, was selected as the location for the land spreading of stockpiled soils. Upon receiving OCD approval, Brown and Caldwell coordinated the land spreading of stockpiled material, with Rhino performing the work. The soil was moved using belly dumps, and was spread into an approximately six inch thick layer of loosely compacted soil using a grader. The final dimensions of the land spread area were roughly 50 feet by 330 feet.

Once the land spread area was established, a sampling grid was placed at 30 feet intervals both north and east. Twenty samples were collected, and a composite sample was created using approximately equal volumes of soil from each sample location. The composite sample was then placed in laboratory supplied jars and submitted to a laboratory for TPH, total BTEX, and total benzene analysis. The results are summarized in Table 1. The results were below OCD action levels, and no further action was required.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

The site assessment report has demonstrated that:

- Field and laboratory analyses of the soil samples obtained during the site investigation indicate that soils potentially impacted by TPH constituents and associated with the Truck Wash Drain System (TWDS) have been removed, based on confirmation sampling and analysis, as well as field TPH analysis.

- The TWDS has been sufficiently remediated to meet or exceed the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division requirements for TPH, benzene, and total BTEX concentrations. By this comparison, the TWDS now meets the requirements for a clean, final closure.

- The land spread facility, as indicated by laboratory analyses, has been sufficiently remediated to meet or exceed OCD requirements for TPH, benzene, and total BTEX concentrations. By this comparison, the land spread area now meets the requirements for a clean, final closure.

3.2 Recommendations

Based on the findings of the Site Assessment, no further remediation is necessary, and that no further remedial action is required to meet OCD action levels. This status applies to the TWDS and to the land spread area. BJ Services, under the advisement of Brown and Caldwell, requests the final closure of both facilities.

DISTRIBUTION

Final
Site Assessment Report
Truck Wash Drain System
Artesia, New Mexico Facility

August 9, 1996

1 copy to: New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mark Ashley

1 copy to: BJ Services Company, U.S.A.
8701 New Trails Drive
The Woodlands, Texas 77381

Attention: Ms. Jo Ann Cobb

1 copy to: BJ Services Company, U.S.A.
2401 Sivley
Artesia, New Mexico 88210

Attention: Mr. Mike Wiggins

1 copy to: Brown and Caldwell
File

QUALITY CONTROL REVIEWER

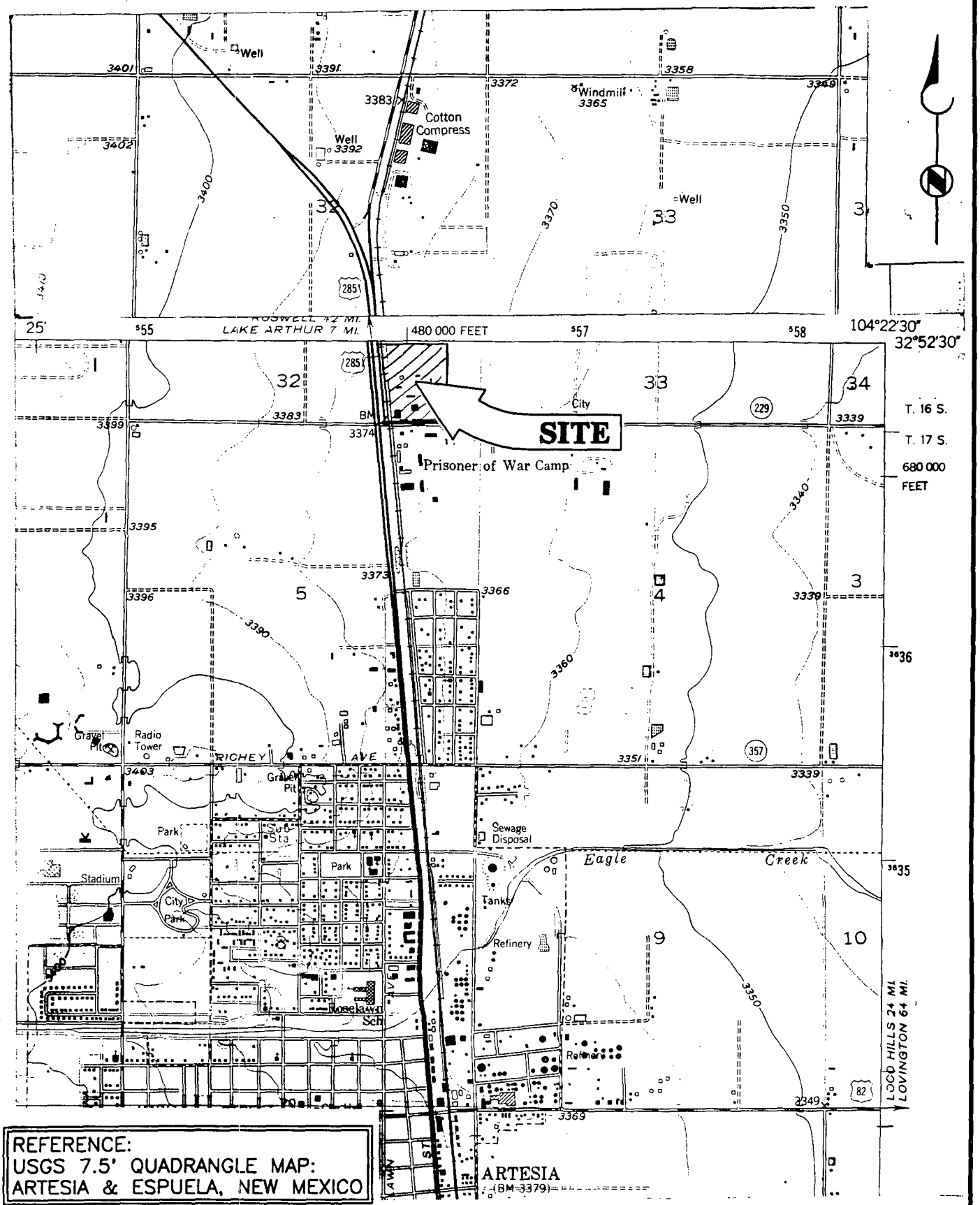
Robert N. Jennings, P.E.
Vice President

TJ:elg

FIGURES

FIGURE 1

Site Location Map



REFERENCE:
USGS 7.5' QUADRANGLE MAP:
ARTESIA & ESPUELA, NEW MEXICO

T:\2988\05VICIN (1=1) 08-09-96 DaveD

BROWN AND CALDWELL
HOUSTON, TEXAS

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

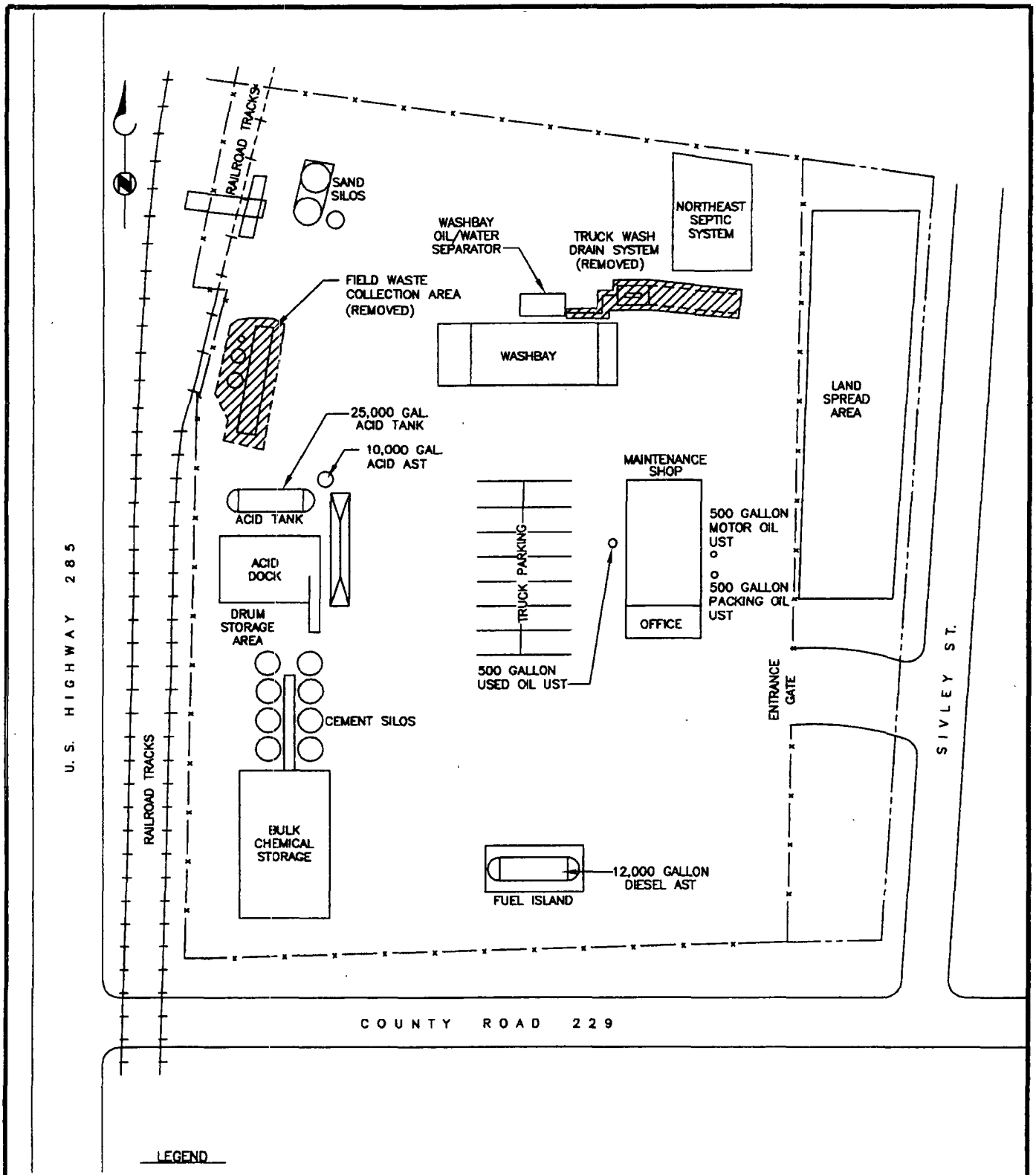
APPROVED: _____ DATE: _____
BROWN AND CALDWELL

0 1000 2000
SCALE: 1" = 2000'
DRAWN BY: DMD DATE 8/9
CHK'D BY: _____ DATE _____
APPROVED: _____ DATE _____

TITLE: SITE LOCATION MAP	DATE: 8/9/96
CLIENT: BJ SERVICES COMPANY, U.S.A.	PROJECT NUMBER: 2988.27
SITE LOCATION: ARTESIA, NEW MEXICO	FIGURE NUMBER: 1

FIGURE 2

Site Plan



LEGEND

- BJ SERVICES FENCE LINE
- RAILROAD TRACKS
- BJ SERVICES PROPERTY LINE

BROWN AND CALDWELL
HOUSTON, TEXAS

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

APPROVED: _____ DATE: _____
BROWN AND CALDWELL

0 0 0
NOT TO SCALE

DRAWN BY: DHD DATE 10/22
CHK'D BY: ____ DATE ____
APPROVED: ____ DATE ____

TITLE: SITE PLAN

CLIENT: BJ SERVICES COMPANY, U.S.A.

SITE LOCATION: ARTESIA, NEW MEXICO

DATE: 5/7/96

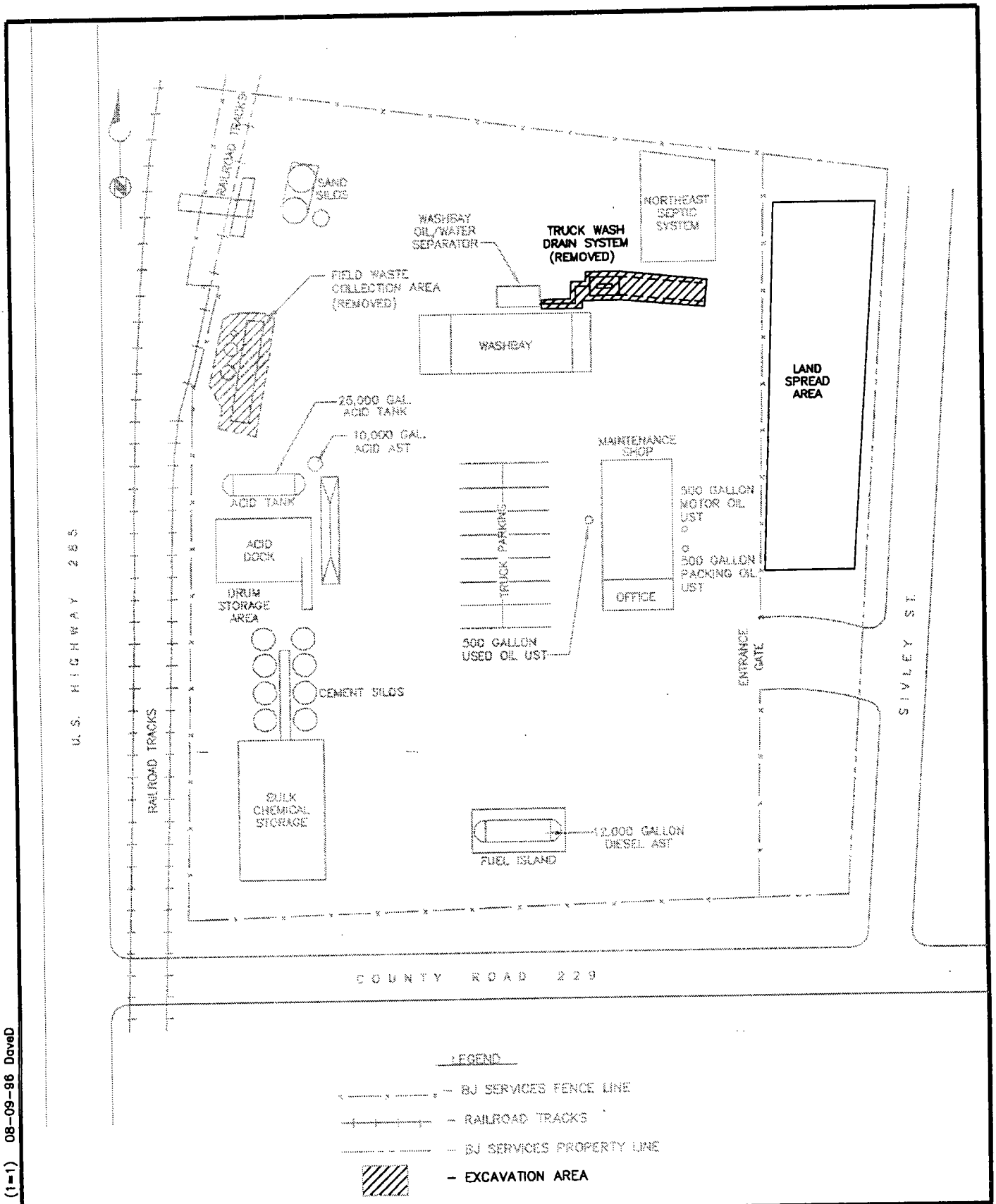
PROJECT NUMBER: 2988-27

FIGURE NUMBER: 2

T:\2988\EXCAVLOC (1=1) 05-01-96 DaveD

FIGURE 3

Excavation Location and Land Spread Area



T:\2988\EXCAVLOC (1=1) 08-09-96 DaveD

BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: PROJECT MANAGER DATE: APPROVED: BROWN AND CALDWELL DATE:	0 0 0 NOT TO SCALE DRAWN BY: DMD DATE 10/22 CHK'D BY: DATE APPROVED: DATE	TITLE: EXCAVATION LOCATION AND LAND SPREAD AREA CLIENT: BJ SERVICES COMPANY, U.S.A. SITE LOCATION: ARTESIA, NEW MEXICO	DATE: 8/9/96 PROJECT NUMBER: 2988-27 FIGURE NUMBER: 3

TABLES

TABLE 1

TWDS - Analytical Results and OCD Action Levels

Sample I.D.	TPH Diesel mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylene mg/kg	Total BTEX (Calculated) mg/kg
LABORATORY ANALYSES:						
Tank Footprint	6.3	< 0.010	< 0.010	< 0.010	< 0.030	<0.060
Midpoint of Drain Line	6.2	< 0.010	< 0.010	< 0.010	< 0.030	<0.060
Midpoint of Leach Lines	45	< 0.010	< 0.010	< 0.010	0.069	0.069
Stockpile Composite	< 5.0	< 0.010	0.016	< 0.010	< 0.010	0.016
Land Spread Composite	< 5.0	0.010	0.016	0.010	0.041	0.077
FIELD ANALYSES:						
Tank Footprint	26	NA	NA	NA	NA	NA
Midpoint of Drain Line	5	NA	NA	NA	NA	NA
Midpoint of Leach Lines - North Sidewall	70	NA	NA	NA	NA	NA
Midpoint of Leach Lines - South Sidewall	81	NA	NA	NA	NA	NA
OCD ACTION LEVEL	**100**	**10**	**NS**	**NS**	**NS**	**50**

NA = Not Analyzed
NS = Not Specified

TABLE 2

TWDS - Metals Results

Sample I.D.	Arsenic mg/kg	Barium mg/kg	Cadmium mg/kg	Chromium mg/kg	Lead mg/kg	Mercury mg/kg	Selenium mg/kg	Silver mg/kg
Tank Footprint	< 1.0	13	0.54	6.7	2.8	< 0.02	< 0.75	< 0.35
Midpoint Drain Line	2.0	130	0.55	5.6	3.6	< 0.02	< 0.75	< 0.35
Midpoint Leach Lines	< 1.0	138	0.91	6.7	2.6	< 0.02	< 0.75	< 0.35

TABLE 3
RCRA Analytical Results - TWDS-Stockpile

Parameter	Observed Concentration	Units	Regulatory Limits
RCI			
Flashpoint	Not Ignitable	°C	< 60
pH	7.9	standard units	2.0≤pH≤12.5
Cyanides	< 1.0	mg/kg	≤ 250
Sulfides	< 4.0	mg/kg	≤ 500
TCLP Metals			
Arsenic	< 0.20	mg/L	< 5.0
Barium	0.43	mg/L	< 100.0
Cadmium	< 0.04	mg/L	< 1.0
Chromium	< 0.05	mg/L	< 5.0
Lead	< 0.10	mg/L	< 5.0
Mercury	< 0.004	mg/L	< 0.2
Selenium	< 0.15	mg/L	< 1.0
Silver	< 0.07	mg/L	< 5.0
TCLP Volatiles			
Benzene	< 0.003	mg/L	< 0.5
Carbon Tetrachloride	< 0.003	mg/L	< 0.5
Chlorobenzene	< 0.003	mg/L	< 100.0
Chloroform	< 0.003	mg/L	< 6.0
1,4-Dichlorobenzene	< 0.003	mg/L	< 7.5
1,2-Dichloroethane	< 0.003	mg/L	< 0.5
1,1-Dichloroethylene	< 0.003	mg/L	< 0.7
Methyl ethyl ketone	< 0.010	mg/L	< 200.0
Tetrachloroethylene	< 0.003	mg/L	< 0.7
Trichloroethylene	< 0.003	mg/L	< 0.5
Vinyl Chloride	< 0.005	mg/L	< 0.2
TCLP Semivolatiles			
2,4-Dinitrotoluene	< 0.003	mg/L	< 0.13
o-Cresol	< 0.003	mg/L	< 200.0
m-Cresol	< 0.003	mg/L	< 200.0
p-Cresol	< 0.003	mg/L	< 200.0
Cresol	< 0.003	mg/L	< 200.0
Hexachlorobenzene	< 0.003	mg/L	< 0.13
Hexachlorobutadiene	< 0.003	mg/L	< 0.5
Hexachloroethane	< 0.003	mg/L	< 3.0
Nitrobenzene	< 0.003	mg/L	< 2.0
Pentachlorophenol	< 0.003	mg/L	< 100.0
Pyridine	< 0.003	mg/L	< 5.0
2,4,5-Trichlorophenol	< 0.003	mg/L	< 400.0
2,4,6-Trichlorophenol	< 0.003	mg/L	< 2.0

ATTACHMENT 2

SITE ASSESSMENT REPORT: NORTHEAST SEPTIC SYSTEM

FINAL
SITE ASSESSMENT REPORT
NORTHEAST SEPTIC SYSTEM

ARTESIA, NEW MEXICO

BJ SERVICES COMPANY, U.S.A.

JULY 9, 1996

FINAL
SITE ASSESSMENT REPORT
NORTHEAST SEPTIC SYSTEM
ARTESIA, NEW MEXICO FACILITY

Prepared for:

BJ Services Company, U.S.A.
8701 New Trials Drive
The Woodlands, Texas 77381

BC Project Number: 2988-25

Timothy Jenkins
Associate Engineer

July 9, 1996

Brown and Caldwell
1415 Louisiana, Suite 2500
Houston, Texas 77002 (713) 759-0999

W:\BJSERV\2988\016R.DOC

CONTENTS

1.0 INTRODUCTION

Brown and Caldwell, under the authority of BJ Services Company, U.S.A., conducted a site assessment for the closure of the northeast septic system on November 14, 1995. Site assessment activities were conducted in accordance with the site-specific "Closure Plan for the Septic System" (Closure Plan), and the conditions for approval of same set forth by the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) on November 1, 1995. The Closure Plan and OCD approval notice are found as Appendices A and B, respectively. BJ Services Artesia District facility is located in Eddy County, in the SE/4, Section 32, Township 16 South, Range 26 East. The facility address is 2401 Sivley, Artesia, New Mexico, 88210. A site location map and site plan are included as Figures 1 and 2, respectively.

The northeast septic system, located in the northeast corner of the facility, consists of an eight-inch sanitary line, a holding tank, and a septic field approximately 100 ft. square. The septic system received wastewater from the floor drains in the truck maintenance area, and from sanitary wastewater sources such as sinks, showers and restrooms from the main offices and maintenance area. The maintenance area floor drain sources are no longer tied into the northeast septic system. The facility continues to receive water from the main building sanitary sources.

The following sections summarize the site activities, site assessment and scoring, closure verification methods utilized, and the results of both field and laboratory analyses. As stated in Section 3.0, BJ Services requests OCD approval for closure of the northeast septic system, as used for receipt of wastewater from the truck maintenance and truck wash areas.

2.0 SITE ASSESSMENT

BJ Services performed the site assessment to determine the potential that site soils/groundwater may have been impacted by the operation of the northeast septic system. The results of the site assessment were used for evaluating the need for remediation and the type of closure best suited for the site.

2.1 General Site Characteristics

BJ Services determined the depth to groundwater to be approximately 20 to 25 feet below the ground surface based on previous groundwater investigations conducted at the site.

Depth to Groundwater	Ranking Score
< 50 feet	Yes - 20

Brown and Caldwell personnel conducted a water well search at the State Engineer's office in Roswell, New Mexico on February 21, 1993. This search determined that no water wells were identified within a one-half mile radius of the facility.

Wellhead Protection Area	Ranking Score
< 1000 feet from a water source, or	No - 0
< 200 feet from a private domestic water source:	No - 0

The distance from the site to the Pecos River (nearest downgradient surface water body) was determined to be more than 1,000 feet by reviewing a USGS topographic map for the area. A tributary of the Pecos River (Eagle Creek) is the nearest surface water body, and is located approximately 7,000 ft. south of site.

Distance to Surface Water Body	Ranking Score
> 1,000 feet	Yes - 0

2.2 Site Scoring

Groundwater is present at a depth of less than 50 feet below grade. Flow direction is east-southeast, as determined from wells previously installed at the facility. Therefore, the site scoring procedure outlined above calls for a depth to groundwater Ranking Score of 20. No water wells were identified within a 2,000 ft. radius of the site. Therefore, the wellhead protection Ranking Score is 0. A review of a USGS map indicates the nearest water body (Eagle Creek) is approximately 7,000 ft. south of the site. The Pecos River is several miles from the facility. Therefore, the distance to surface water body Ranking Score is 0.

The site ranking score of 20 is greater than 19. This determination was made based on physical site characteristics as described above. According to the OCD guidance documents, a total ranking score of greater than 19 yields action levels as outlined in Table 2.

2.3 Field Investigation Activities

BJ Services tested the soils/wastes within and beneath the northeast septic system drain field to evaluate the nature and extent of impacted soil. Testing was accomplished by drilling soil borings at the locations indicated in Figure 3. The two borings located outside of the northeast septic system boundary are downgradient, based on historical groundwater flow in the east-southeast direction. Brown and Caldwell personnel confirmed groundwater flow direction by measuring water levels in existing wells on-site. A water table elevation map is shown in Figure 4.

Samples from each boring were collected continuously for the first six feet and then every five feet in two foot sample intervals, starting at the surface and ending five feet below the deepest depth at which impacted soil was detected (0-2 ft, 2-4 ft, 4-6 ft, 8-10 ft, 13-15 ft, etc.). Since there was no evident staining, and non-detect PID readings, sampling was terminated at a depth of

21 ft., 20 ft., and 32 ft. for borings B-1, B-2, and B-3, respectively. Boring B-3 was drilled to a depth of 32 ft. at a downgradient location to determine the lateral and vertical extent of impact. Although this boring was drilled below the water table, the boring was not completed as a monitor well since there was no "reasonable probability of ground water contamination based upon the level of contaminants in the soils" (See Appendix C, Unlined Surface Impoundment Closure Guidelines, NMOCD, 2/93; page 4).

Soil borings were drilled to a depth of at least 5 feet below the deepest depth at which contamination was detected by visual observations (staining) and headspace analysis for organic vapors using a photoionization device (PID). Headspace analysis was performed in accordance with the procedures outlined in the OCD guidance document. Table 1 shows the PID readings, as reflected in the boring logs in Appendix D. No PID reading was above 5.0 ppm. Visual staining was not observed in any of the soil borings. According to the OCD guidance document, these observations indicate that highly contaminated/saturated or unsaturated contaminated soils were not present in the borings.

2.4 Sampling Locations and Methodology

Three samples from each boring were sent to an off-site laboratory for analysis. Due to the lack of evident staining and low PID detections, soil samples were not selected according to screening criteria as described in the Closure Plan. Instead, samples from the three borings were collected from depths corresponding to:

1. Depth to the top of the septic system (B-1, B-2);
2. Depth to the bottom of the septic system (B-1, B-2, B-3);
3. Depth to the vadose zone, immediately above groundwater (B-1, B-2, B-3); and/or;
4. Depth to ten feet below groundwater (B-3).

Soil samples were analyzed for BTEX by EPA Method 8020 and TPH by EPA Method 418.1. A single sample from the boring B-1 drilled within the northeast septic system drain field boundary was also analyzed for RCRA metals, volatiles, and semivolatiles, using the toxicity characteristic leaching procedure (TCLP). This RCRA sample, collected from the 13-15 ft. interval from this boring based on its organic vapor reading (PID = 3.5 ppm), was also analyzed for Reactivity, Corrosivity, and Ignitability (RCI). Analytical results are summarized in Tables 2 and 3. Laboratory analytical reports are included as Appendix E.

All samples were collected with decontaminated sampling equipment, placed in labeled jars, and shipped on ice overnight using chain of custody procedures to the off-site laboratory. Decontamination fluid (soapy water) was collected and decanted into the truck washbay oil/water separator for subsequent disposal in the truck wash drain system. Decontamination solids and drill cuttings were placed near the northeast septic system on plastic and covered. As a precautionary measure, drill cuttings were disposed of at an OCD approved facility along with TPH impacted soils generated during other on-site activities.

Upon completion of sampling activities, all boreholes were grouted to the surface with a cement slurry containing 5% bentonite. Boring B-3, which had been drilled below the water table, was grouted in the saturated zone using bentonite chips, and was then grouted to the surface with a 5% bentonite/cement slurry.

TPH compounds detected in the laboratory analysis were of the heavier, non-volatile fraction hydrocarbons, and therefore were not detected by headspace analysis using the PID. The OCD action level for TPH is 100 ppm for this site, as determined by the site scoring in the previous section. The TPH concentration of 150 mg/kg in the 20-22 ft. interval sample for boring B-3 does not sufficiently warrant further investigation or remedial activity for the following reasons:

- Samples taken above and below the 20-22 ft. interval do not exceed the OCD action level for TPH;
- Benzene and total BTEX concentrations are below the OCD action levels;

- Heavy, non-volatile fractions of TPH do not pose a significant threat to groundwater quality, especially with the same sample showing non-detectable levels of benzene, and low total BTEX;
- Boring B-1 taken from within the septic system drain field did not indicate sufficient concentrations of TPH in the soil to be considered the source of the TPH; and
- Visual field observations and PID readings did not indicate significant hydrocarbon levels in the soil for boring B-3.

3.0 CONCLUSIONS AND REQUEST FOR CLOSURE

The field observations and analytical results presented in this Site Assessment Report indicate that no additional investigation or remediation is necessary. Therefore, BJ Services proposes no further action and requests OCD approval for the closure of the northeast septic system, as used for receipt of wastewater from truck maintenance and truck wash areas.

BJ Services will continue to use the northeast septic system for discharge of sanitary wastewater.

This Site Assessment Report concludes the following:

- Field and laboratory analyses of the soil samples obtained during the site assessment indicate that soils within the northeast septic system and associated drain field were not impacted by the operation of the northeast septic system, as defined by the OCD action levels for TPH, benzene, and total BTEX.
- Field and laboratory analyses of the soil samples obtained during the site assessment are not indicative of potential groundwater impact.

DISTRIBUTION

Final
Site Assessment Report
Northeast Septic System
Artesia, New Mexico Facility

July 9, 1996

1 copy to: New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mark Ashley

1 copy to: New Mexico Energy, Minerals, and Natural Resources Department
Oil Conservation Division
811 South 1st Street
Artesia, New Mexico 88210

Attention: Mr. Tim Gumm

1 copy to: BJ Services Company, U.S.A.
8701 New Trails Drive
The Woodlands, Texas 77381

Attention: Ms. Jo Ann Cobb

1 copy to: Brown and Caldwell
File

QUALITY CONTROL REVIEWER:

Robert N. Jennings, P.E.
Vice President

RNJ:elg

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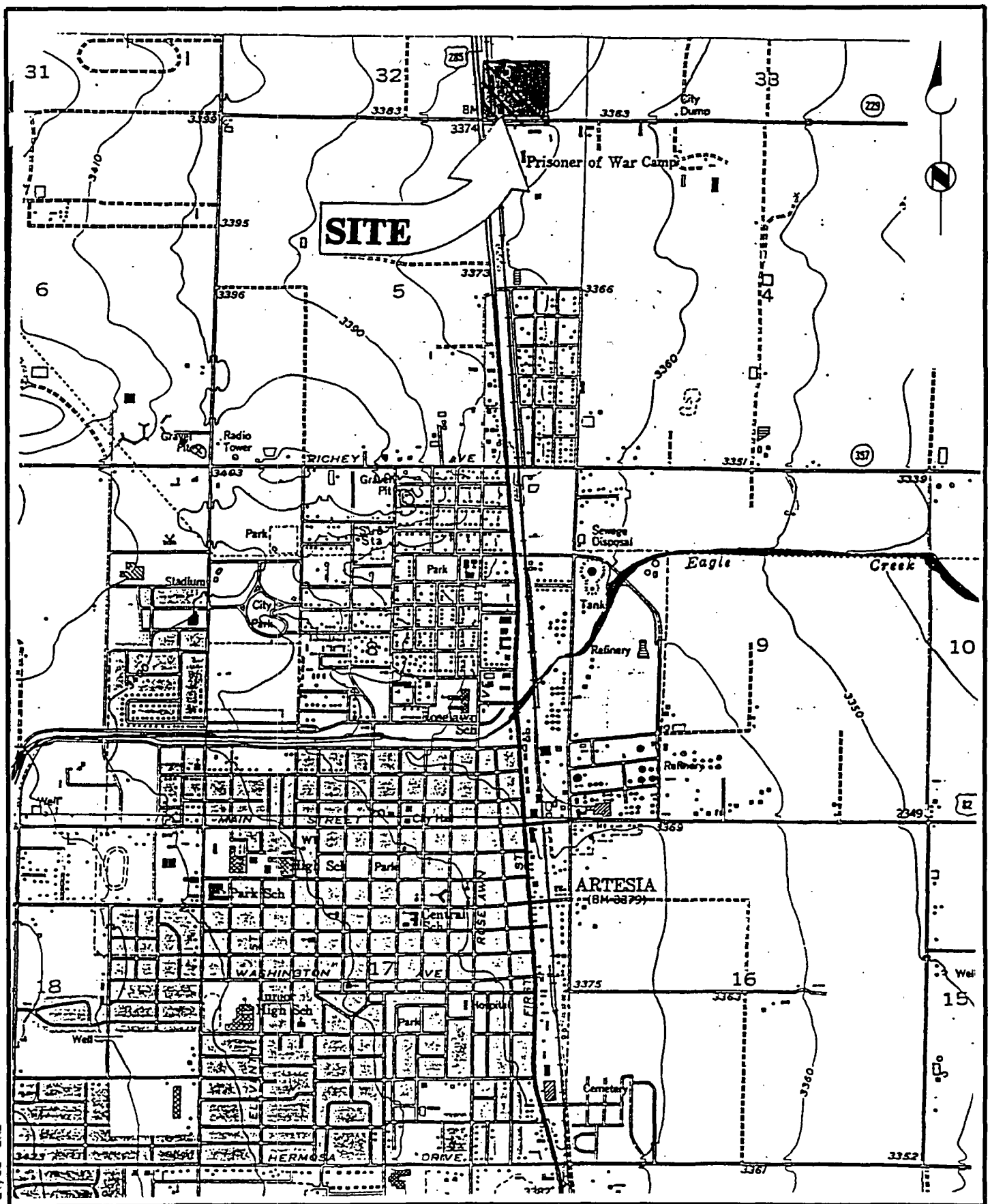
FIGURES



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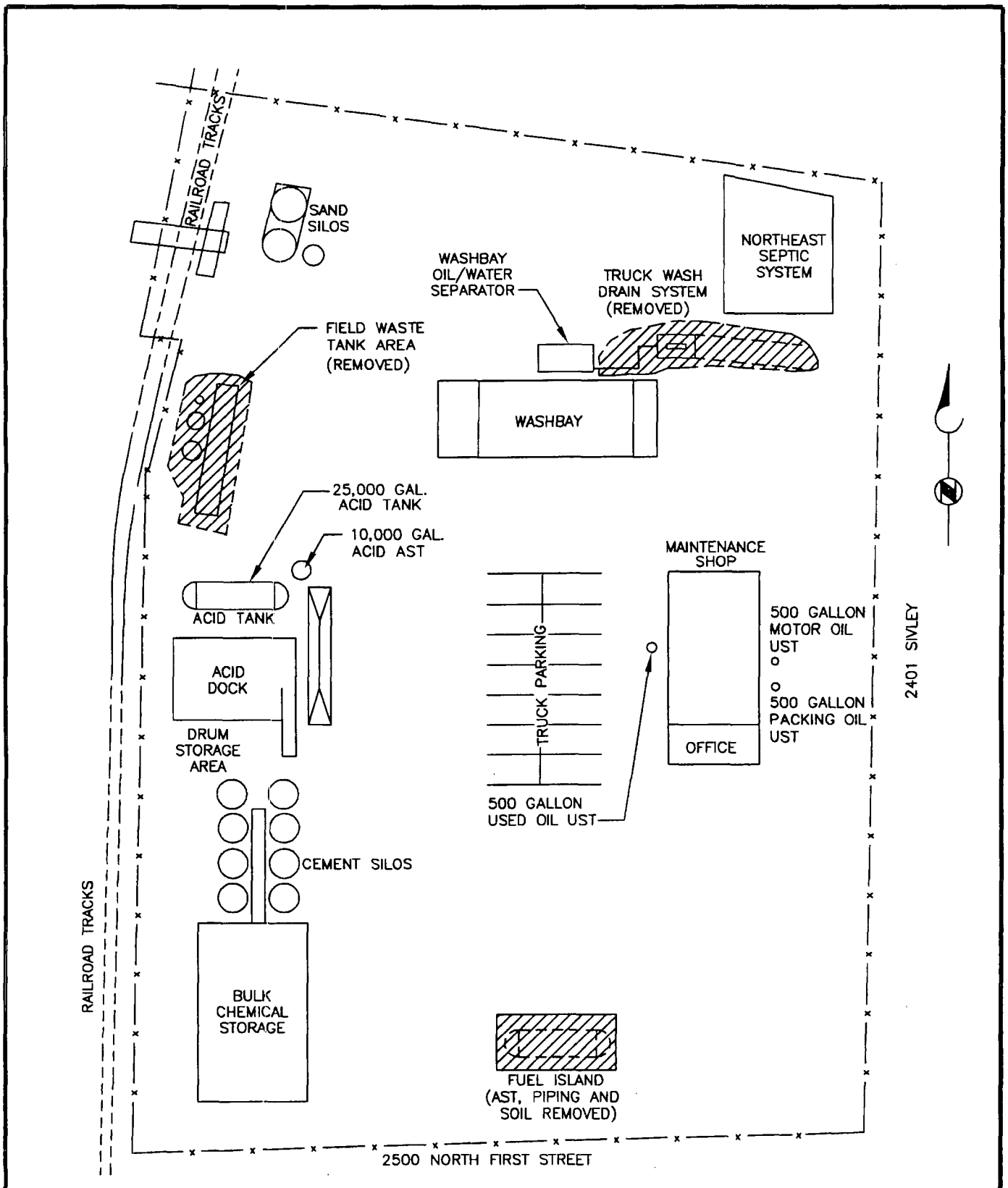

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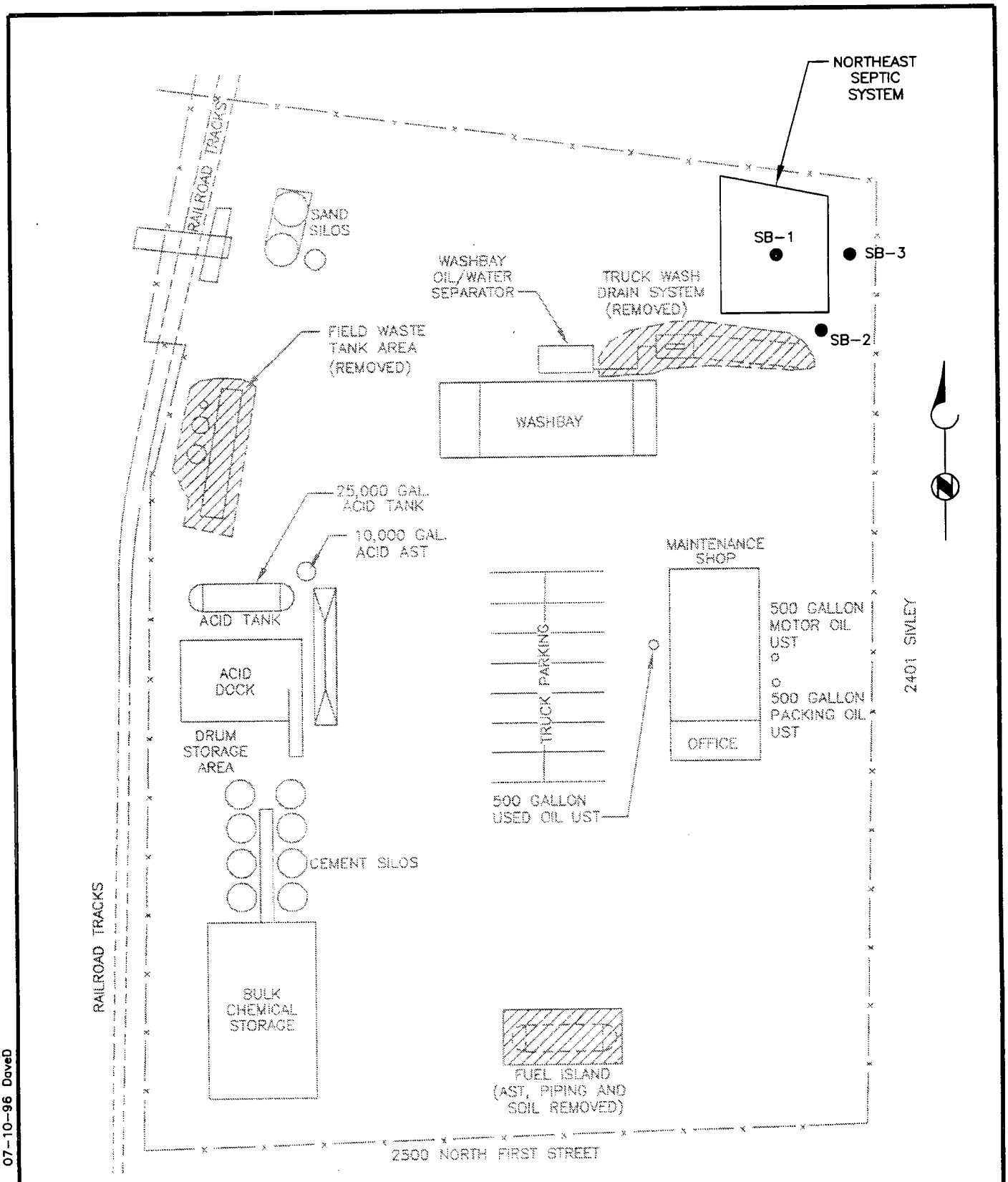

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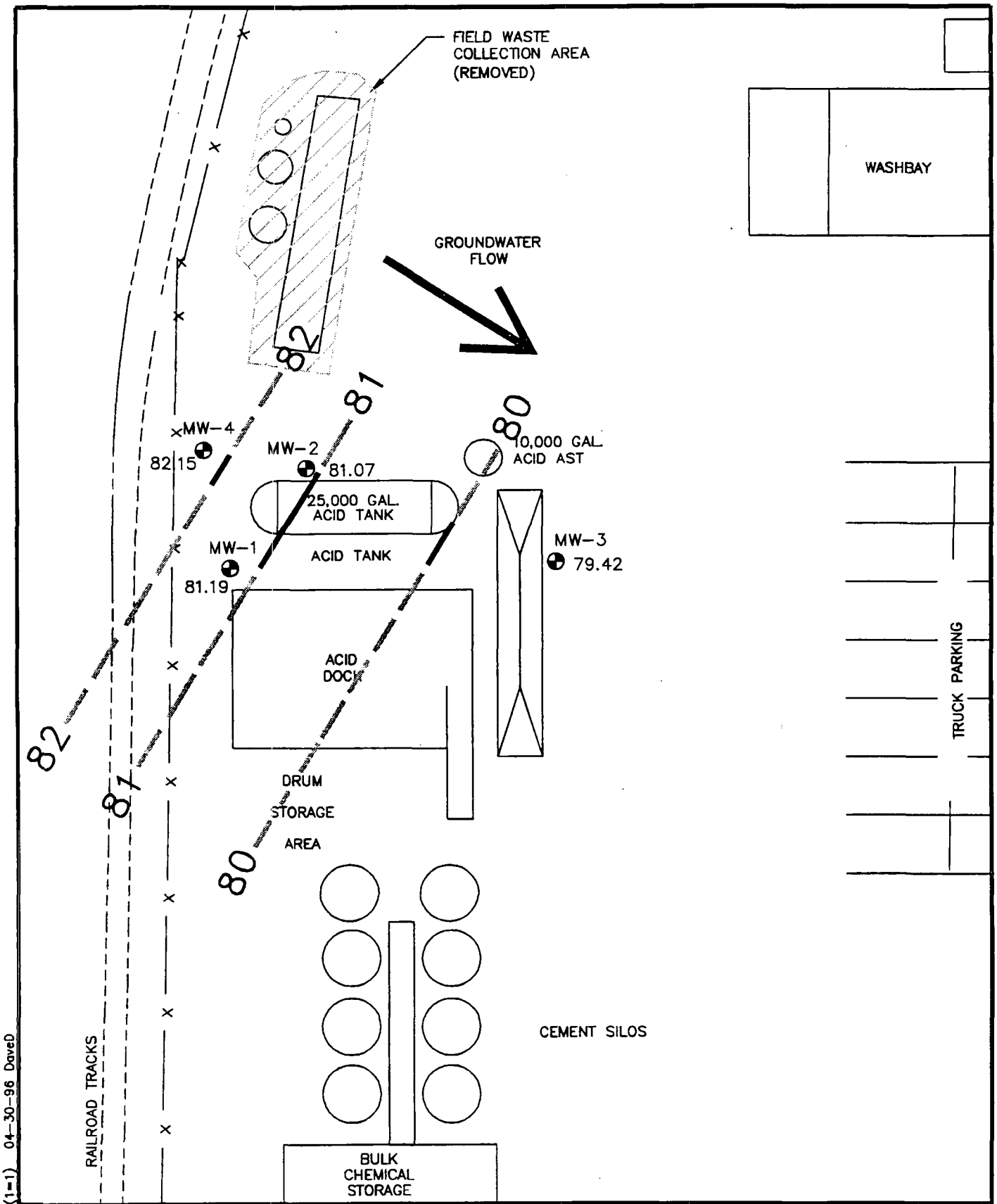
T:\2988\EXCAVNEW (1=1) 07-10-96 DaveD



T:\2988\GWELEV (1=1) 04-30-96 DaveD

BROWN AND CALDWELL
HOUSTON, TEXAS

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

APPROVED: _____ DATE: _____
BROWN AND CALDWELL

0 0 0
NOT TO SCALE

DRAWN BY: DMD DATE 4/29

CHK'D BY: ____ DATE ____

APPROVED: ____ DATE ____

TITLE: WATER TABLE ELEVATION MAP

CLIENT: BJ SERVICES COMPANY, U.S.A.

SITE LOCATION: ARTESIA, NEW MEXICO

DATE: 4/29/96

PROJECT NUMBER: 2988-25

FIGURE NUMBER: 4

TABLES

TABLE 1

Field PID Readings

Boring	Interval	PID Reading (ppm)
B-1	0-2 ft.	0.0
	2-4 ft.	0.0
	4-6 ft.	0.0
	8-10 ft.	0.0
	13-15 ft.	3.5
	18-20 ft.	2.4
	20-21 ft.	0.5
B-2	0-2 ft.	0.0
	2-4 ft.	0.0
	4-6 ft.	0.0
	8-10 ft.	0.0
	13-15 ft.	0.0
	18-20 ft.	0.0
B-3	0-2 ft.	0.0
	2-4 ft.	0.0
	4-6 ft.	0.0
	10-12 ft.	0.0
	15-17 ft.	0.0
	20-22 ft.	0.0
	25-27 ft.	0.0
	30-32 ft.	0.0

TABLE 2

TPH and BTEX Results

		TPH (mg/kg)	Total BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylene (mg/kg)
OCD Action Level		**100**	**50**	**10**			
Boring	**Interval**						
B-1	8-10 ft.	17	ND	< 0.010	< 0.010	< 0.010	< 0.030
	13-15 ft.	< 10	ND	< 0.010	< 0.010	< 0.010	< 0.030
	20-21 ft.	87	ND	< 0.010	< 0.010	< 0.010	< 0.030
B-2	8-10 ft.	37	ND	< 0.010	< 0.010	< 0.010	< 0.030
	13-15 ft.	26	ND	< 0.010	< 0.010	< 0.010	< 0.030
	18-20 ft.	15	ND	< 0.010	< 0.010	< 0.010	< 0.030
B-3	15-17 ft.	60	ND	< 0.010	< 0.010	< 0.010	< 0.030
	20-22 ft.	150	ND	< 0.010	< 0.010	< 0.010	< 0.030
	30-32 ft.	46	0.149	< 0.010	< 0.010	0.026	0.123

ND = Concentrations not detected above the method detection limit.

TABLE 3
RCRA Analytical Results - Boring B-1 (13'-15' Interval)

Parameter	Observed Concentration	Units	Regulatory Limits
RCI			
Flashpoint	Not Ignitable	°C	< 60
pH	7.8	std. units	2.0≤pH≤12.5
Cyanides	< 1.0	mg/kg	≤ 250
Sulfides	< 4.0	mg/kg	≤ 500
TCLP Metals			
Arsenic	< 0.20	mg/L	< 5.0
Barium	0.44	mg/L	< 100.0
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TCLP Semivolatiles			
2,4-Dinitrotoluene	< 0.003	mg/L	< 0.13
o-Cresol	< 0.003	mg/L	< 200.0
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Cresol	< 0.003	mg/L	< 200.0
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Hexachlorobutadiene	< 0.003	mg/L	< 0.5
Hexachloroethane	< 0.003	mg/L	< 3.0
Nitrobenzene	< 0.003	mg/L	< 2.0
Pentachlorophenol	< 0.003	mg/L	< 100.0
Pyridine	< 0.003	mg/L	< 5.0
2,4,5-Trichlorophenol	< 0.003	mg/L	< 400.0
2,4,6-Trichlorophenol	< 0.003	mg/L	< 2.0

ATTACHMENT 3

LETTER NOTIFICATION: CLOSURE OF FUEL ISLAND AREA

2988

July 29, 1996

Mr. Mark Ashley
State of New Mexico
Energy, Minerals, and Natural Resources Department
2040 South Pacheco
Santa Fe, New Mexico 87505

Subject: BJ Services Artesia District Facility
Closure of Fuel Island Area

Dear Mr. Ashley:

During a conversation with an operator at the above referenced facility, it was brought to my attention that they have recently removed all fueling operations and residual soil and gravel from the facility's fuel island area, as referenced in the Discharge Plan currently approved by the State. A 12,000 gallon AST storing diesel fuel, and related piping are no longer on site. The tank and the piping were removed in late May, 1996. Gravel and soil underlying the tank, and within the containment area, were removed spread around the yard as road base. The reported 10 inch deep excavation was backfilled with a cement slurry.

The fuel island has been closed without confirmation sampling from within the excavated area. BJ Services realizes that some contamination may remain in this area, but does not believe that conditions pose a threat to groundwater.

As BJ Services has made every effort to comply with the Facility Discharge Plan for the Artesia District Facility, we intend to consult with the Oil Conservation District regarding future activities as they may relate to this plan. Thank you for your understanding of the activities concerning the closure of the fuel island area. If you have any questions concerning this closure request, please do not hesitate to contact me at (713) 363-7528.

Very truly yours,

Jo Ann Cobb

Jo Ann Cobb
Manager Environmental Services

c: Mike Wiggins, BJ, Artesia
Bob Jennings, B&C, Houston

ATTACHMENT 4

SITE ASSESSMENT REPORT: FIELD WASTE COLLECTION SYSTEM

FINAL
SITE ASSESSMENT REPORT
FIELD WASTE COLLECTION SYSTEM AND
BRINE STORAGE TANKS

ARTESIA, NEW MEXICO

BJ SERVICES COMPANY, U.S.A.

APRIL 2, 1996

A Report Prepared for:

BJ Services Company, U.S.A.
8701 New Trials Drive
The Woodlands, Texas 77381

FINAL
SITE ASSESSMENT REPORT
FIELD WASTE COLLECTION SYSTEM
AND BRINE STORAGE TANKS
ARTESIA, NEW MEXICO FACILITY

Project Number: 2988-26

Timothy Jenkins
Associate Engineer

Brown and Caldwell
1415 Louisiana, Suite 2500
Houston, Texas 77002

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1.0 INTRODUCTION

Brown and Caldwell, under the authority of BJ Services Company, U.S.A., conducted a site assessment for the closure of the existing field waste collection system (field waste tank [FWT] area), the associated spinout bay, and the adjacent brine storage tanks from November 14 to November 16, 1995. A second investigation to delineate the extent of total petroleum hydrocarbons (TPH) impacted soils was performed on December 27, 1995, with final overexcavation and confirmation sampling occurring from January 31 through February 2, 1996.

Site assessment activities were conducted in accordance with the site-specific "Closure Plan: Field Waste Tanks and Old Steel Brine Tanks" (Closure Plan), and the conditions for approval of same set forth by the New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division (OCD) on November 2, 1995. The Closure Plan and OCD approval notice are found as Appendices A and B, respectively. BJ Services Artesia District facility is located in Eddy County, in the SE/4, Section 32, Township 16 South, Range 26 East. The facility address is 2401 Sivley, Artesia, New Mexico, 88210. A site location map and site plan are included as Figures 1 and 2, respectively.

Between November 14 and November 16, 1995, Brown and Caldwell observed the removal of three underground storage tanks, a concrete spinout bay, and two brine storage tanks located at the Artesia District facility's FWT area. These activities were conducted in accordance with Brown and Caldwell's Closure Plan.

The following sections summarize the site activities, site assessment and scoring, closure verification methods utilized, and the results of both field and laboratory analyses. Section 3 will request approval for final closure based on the results of the Site Assessment Report.

2.0 SITE ASSESSMENT

BJ Services performed the site assessment to determine the potential that site soils/groundwater may have been impacted by the operation of the field waste collection system. The results of the site assessment were used for evaluating the need for remediation and the type of closure best suited for the site.

2.1 General Site Characteristics

BJ Services determined the depth to groundwater to be approximately 20 to 25 feet below the ground surface based on previous groundwater investigations conducted at the site.

Depth to Groundwater	Ranking Score
< 50 feet	Yes - 20

Brown and Caldwell personnel conducted a water well search at the State Engineer's office in Roswell, New Mexico on February 21, 1993. This search determined that no water wells were identified within a one-half mile radius of the facility.

Wellhead Protection Area	Ranking Score
< 1000 feet from a water source, or	No - 0
< 200 feet from a private domestic water source:	No - 0

The distance from the site to the Pecos River (nearest downgradient surface water body) was determined to be more than 1,000 feet by reviewing a USGS topographic map for the area. A tributary of the Pecos River (Eagle Creek) is the nearest surface water body, and is located approximately 7,000 ft. south of site.

Distance to Surface Water Body	Ranking Score
> 1,000 feet	Yes - 0

2.2 Site Scoring

Groundwater is present at a depth of less than 50 feet below grade. Flow direction is east-southeast, as determined from wells previously installed at the facility. Therefore, the site scoring procedure outlined above calls for a depth to groundwater Ranking Score of 20. No water wells were identified within a 2,000 ft. radius of the site. Therefore, the wellhead protection Ranking Score is 0. A review of a USGS map indicates the nearest water body (Eagle Creek) is approximately 7,000 ft. south of the site. The Pecos River is several miles from the facility. Therefore, the distance to surface water body Ranking Score is 0.

The site ranking score of 20 is greater than 19. This determination was made based on physical site characteristics as described above. According to the OCD guidance documents, a total ranking score of greater than 19 yields action levels as outlined in Table 1.

2.3 Field Investigation Activities

The Field Waste Tank (FWT) area (see Figure 3) received waste from activities associated with oil and gas well servicing. The system, closed to operation for several years, consisted of a concrete, drive-through dump station (spinout bay) with an enclosed sump (see CS-1 on Figure 4), three in-ground field waste tanks (FWT-1, FWT-2, and FWT-3), and two brine storage tanks (BST-1, and BST-2). During its operation, waste entered the spinout bay sump, and was transferred via underground PVC pipe to FWT-1, the first of three tanks connected in series. FWT-1, acting as a sand trap, was a fiberglass-lined steel tank with an estimated capacity of 1,000 gallons. Tanks FWT-2 and FWT-3 were large, vertical underground tanks piped together with HDPE piping. The estimated capacity of the second and third field waste tanks was 10,000 gallons each. The two brine tanks (BST-1 and BST-2) were above-ground steel tanks, and received brine water associated with oil and gas well servicing. The estimated volume of each brine storage tanks was 5,000 gallons each.

The removal of the FWT was accomplished in three phases. Phase 1 involved the removal of the two brine storage tanks and residual crystalline material, and the removal of the residual material from within the three field waste tanks. Phase 2 consisted of the destruction and removal of the concrete spinout bay, and the removal of the in-ground field waste tanks. Once the tanks were removed, approximately 350 cubic yards of potentially impacted soil was excavated and stockpiled for testing and eventual disposal. Phase 3 involved the delineation and overexcavation of TPH-impacted soils from the excavation sidewalls and bottom. The stockpile, totaling approximately 700 cubic yards of excavated TPH-affected soils was disposed at an OCD approved facility.

Phase 1

Closure activities at the FWT area began on November 14, 1995. Rhino Environmental Services, Inc. (Rhino) removed the brine storage tanks and their contents (BST-1 and BST-2). The sand from within the three in-ground field waste tanks (FWT-1, FWT-2, and FWT-3) was tested for TPH and benzene, toluene, ethylbenzene, and xylene (BTEX) prior to commencing excavation of the FWT system. The results are shown in Table 1. FWT-1 contents were also analyzed for metals, and appeared to have an elevated concentration for total barium. An additional analysis of FWT-1 solids showed a barium concentration in the Toxicity Characteristic Leaching Procedure (TCLP) extract to be below Resource Conservation and Recovery Act (RCRA) guidelines. Metals results are shown on Table 2. The waste sand from within all of the tanks was disposed of during Phase 3 activities as Class I non-hazardous waste.

Phase 2

The fiberglass field waste tanks FWT-1, FWT-2 and FWT-3 were excavated and removed. The tanks were stockpiled separately from the excavated soil and tank contents, and were disposed at an OCD approved facility.

The concrete pad for the old spinout bay was broken into large pieces and removed for eventual disposal from November 14 to November 17, 1995. Approximately 200 cubic yards of concrete were disposed in a nearby construction debris landfill.

Excavation of potentially impacted soils was performed following tank removal. Soils approximately 2 to 3 ft. beyond the tank dimensions were excavated. Hydrocarbon staining was observed around tank FWT-1 on the north end of the excavation. An exploratory hole was advanced in the area of FWT-1. Water was apparently encountered at a nominal depth of 20 feet. The general grade of the main excavation varied from approximately 12 to 14 feet below grade.

Phase 3

A test trench was excavated on the north side of the FWT area to determine the extent of overexcavation which may be required. The trench was excavated to a depth of approximately ten feet and extended north approximately ten feet from the original north excavation sidewall. Soil samples were collected from the bottom of the trench, split with a laboratory, and analyzed using a field TPH analyzer. The field TPH results were then used to determine extent of the TPH impacted soil. These results, as listed in Table 3, were below the agreed OCD action level for field analyzed TPH of 200 parts per million (ppm).

Overexcavation proceeded approximately 10 feet to the north, as delineated in the field investigation. The south wall was also overexcavated at the request of the OCD an additional 5 feet to the south end to a depth of approximately 14 feet below the ground surface. A soil sample was collected on each new face of the excavation, both north and south, and field analyzed for TPH. As requested by the OCD, a sample collected from the FWT-1 tank footprint was also analyzed for field TPH. These results are summarized in Table 3. The nominal dimensions of the excavation and soil sampling locations for the FWT area removal are shown on Figure 4.

Upon completion of tank removal, overexcavation, and soil sampling and confirmation activities, the excavation was backfilled with native material from an off-site source beginning February 2, 1996. Starting at approximately 10 feet below grade the backfill was compacted in nominal eight to twelve inch lifts using a vibratory sheepsfoot roller. As requested by the OCD, the backfill was mounded slightly above grade.

Approximately 900 tons of excavated soil was trucked to the Goo-Yea Landfarm in Lea County, a facility owned and operated by Rhino Environmental Services, Inc. The permit

for the disposal of this soil was obtained February 5, 1996, and is included as Appendix C. Waste disposal manifests are included as Appendix D.

2.4 Soil/Waste Characterization

ERMI Environmental Laboratories tested the soil/waste samples collected by Brown and Caldwell from the former location of the field waste tanks to evaluate the nature and extent of contamination. Brown and Caldwell personnel coordinated excavation activities using the field screening procedures as outlined in the closure plan.

2.4.1 Sampling Locations and Methodology

On November 15, 1995, composite samples were collected from locations within the excavation, as required by the Closure Plan. Brown and Caldwell personnel collected soil samples from each of the four walls and from the excavation floor within each of the tank footprints. Each soil sample collected from the side walls was composited from the depth that appeared to be most impacted by hydrocarbons (as indicated by visual and field photoionization detector [PID] readings). Soil samples collected from the bottom of the excavation were composited from five grab samples retrieved using the back-hoe from each of the tank footprints (total of three). Brown and Caldwell personnel field measured volatile organic compound (VOC) levels using a PID. Based on PID readings and visual staining the FWT-1 floor composite and the north sidewall composite samples were selected for TCLP metals analysis, as required in the Closure Plan.

Soil samples from the three phases of the FWT removal were collected with the assistance of a back-hoe, and deposited in plastic bags. Once composited, a sufficient quantity of sample was transferred to a labeled, laboratory-supplied glass jar and immediately placed in an ice chest. Upon completion of sampling activities, the samples were delivered via overnight delivery service to ERMI Environmental Laboratories in Allen, Texas, using chain-of-custody procedures.

2.4.2 Laboratory Analytical Results

The seven composite samples collected were analyzed for BTEX using EPA Method 8020 and TPH using EPA Method 8015 modified for diesel range organics, as indicated in the Closure Plan. These results are summarized in Table 1. Analytical results for both total metals and TCLP metals are summarized in Table 2. Please note that all TCLP analyses other than metals were non-detect, and, therefore, are not listed. Complete analytical reports and chain-of-custody forms are included in Appendix E.

3.0 CLOSURE REPORT

3.1 Conclusions

The site assessment report has demonstrated that:

- Field and laboratory analyses of the soil samples obtained during the site investigation indicate that TPH impacted soils associated with the FWT area have been removed, based on confirmation sampling and field TPH analysis.

- The facility has been sufficiently remediated to meet or exceed New Mexico Energy, Minerals and Natural Resources Department, Oil Conservation Division requirements for TPH, benzene, and total BTEX concentrations. By this comparison, the FWT facility now meets the requirements for a clean, final closure.

3.2 Request for Closure

Based on the findings of the Site Assessment, Section 2, this Site Assessment Report for the closure of the field waste tank (FWT) area has indicated that no further remediation is necessary, and that no further remedial action is required to meet OCD action levels. BJ Services, under the advisement of Brown and Caldwell, requests the final closure of FWT area. It has been the goal of BJ Services to meet and exceed the requirements set forth by the New Mexico Energy, Minerals and Natural Resources Department for remediation of this facility. Therefore, BJ Services Company, U.S.A. requests that the status of clean closure be assessed to the FWT area.

DISTRIBUTION

1 copy to: New Mexico Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

Attention: Mr. Mark Ashley

1 copy to: BJ Services Company, U.S.A.
8701 New Trails Drive
The Woodlands, Texas 77381

Attention: Ms. Jo Ann Cobb

1 copy to: BJ Services Company, U.S.A.
2401 Sivley
Artesia, New Mexico 88210

Attention: Mr. Mike Wiggins

1 copy to: Brown and Caldwell
File

QUALITY CONTROL REVIEWER

Robert N. Jennings, P.E.
Vice President

TJ:elg

TABLES

TABLE 1

FWT - Analytical Results and OCD Action Levels

Sample I.D.	TPH Diesel mg/kg	Benzene mg/kg	Toluene mg/kg	Ethylbenzene mg/kg	Xylene mg/kg	Total BTEX (Calculated) mg/kg
North Tank, Contents	1,902	0.120	0.920	1.1	5.5	7.6
Middle Tank, Contents	8.0	< 0.010	< 0.010	< 0.010	< 0.030	< 0.060
South Tank, Contents	128	< 0.010	< 0.010	< 0.010	0.044	0.059
North Tank, Floor	1,059	< 0.050	< 0.050	0.145	1.3	1.5
Middle Tank, Floor	276	< 0.050	< 0.050	< 0.050	0.28	0.36
South Tank, Floor	213	< 0.050	< 0.050	< 0.050	0.465	0.54
North Sidewall	5,045	< 0.500	< 0.500	< 0.500	9.2	9.95
South Sidewall	652	< 0.250	< 0.250	< 0.250	0.825	1.2
East Sidewall	52	< 0.050	< 0.050	<0.050	< 0.150	< 0.30
West Sidewall	81	< 0.050	< 0.050	< 0.050	< 0.150	< 0.30
North Delineation- 10'	16	NA	NA	NA	NA	NA
Stockpile Sample	54	NA	NA	NA	NA	NA
OCD Action Levels	**100**	**10**	**NS**	**NS**	**NS**	**50**

NA = Not Analyzed
NS = Not Specified

TABLE 2

FWT - Metals Results

Sample I.D.	Arsenic mg/kg	Barium mg/kg	Cadmium mg/kg	Chromium mg/kg	Lead mg/kg	Mercury mg/kg	Selenium mg/kg	Silver mg/kg
North Tank, Contents	< 1.0	2300	< 0.20	0.71	1.2	< 0.020	< 0.75	< 0.35
North Tank, Floor	1.5	210	0.87	7.2	4.3	< 0.020	< 0.75	< 0.35
North Sidewall	1.7	210	0.57	7.8	9.5	< 0.020	< 0.75	< 0.35
	TCLP Arsenic mg/L	**TCLP Barium mg/L**	**TCLP Cadmium mg/L**	**TCLP Chromium mg/L**	**TCLP Lead mg/L**	**TCLP Mercury mg/L**	**TCLP Selenium mg/L**	**TCLP Silver mg/L**
North Sidewall	< 0.20	0.40	< 0.04	< 0.05	< 0.10	< 0.004	< 0.15	< 0.07
Stockpile Sample	< 0.20	1.0	< 0.04	< 0.05	< 0.10	< 0.004	< 0.15	< 0.07

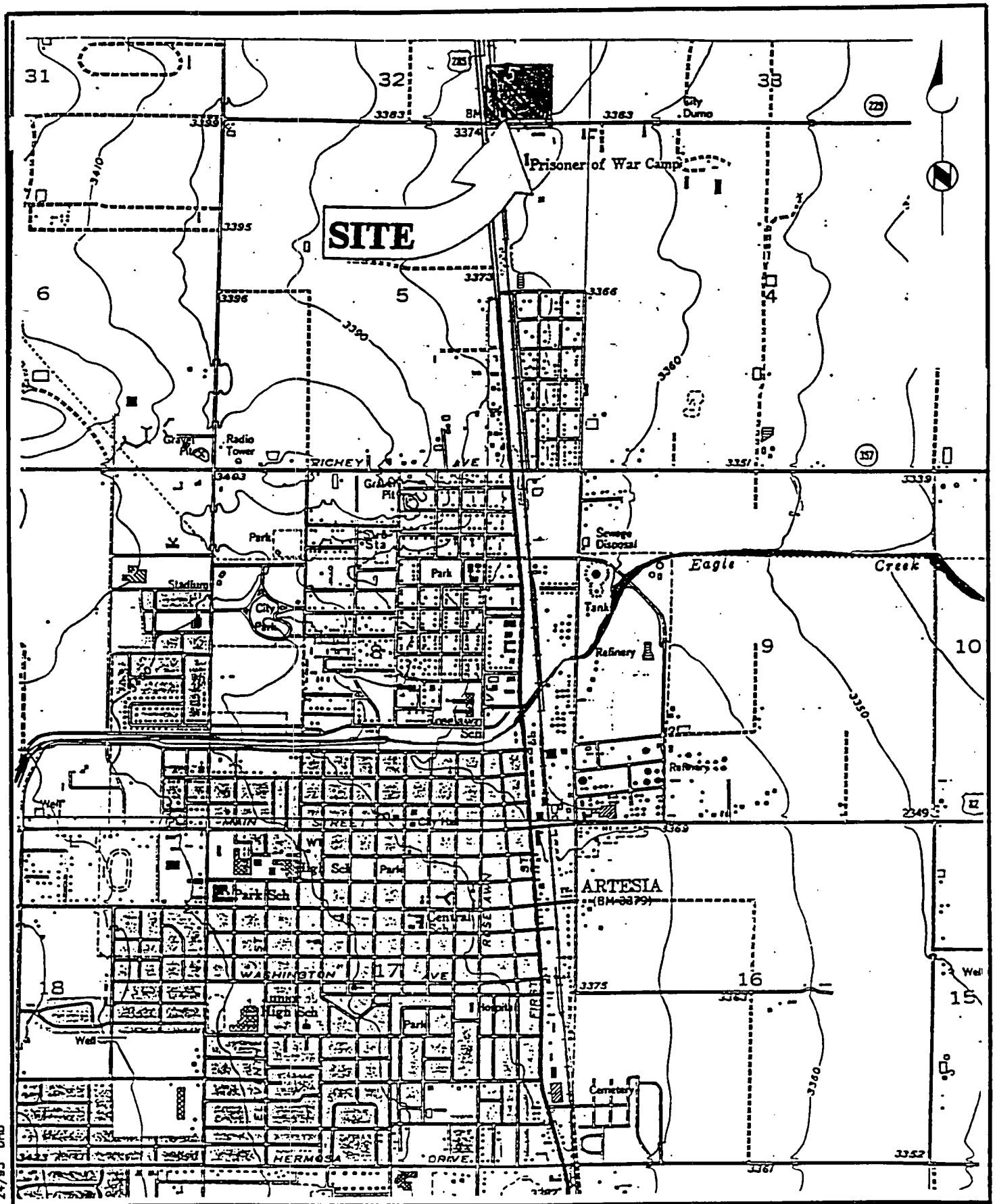
TABLE 3

FWT - Field Analytical Results and Approved OCD Field Closure Levels

Sample I.D.	Field TPH Analysis mg/kg	Laboratory TPH mg/kg
North Delineation- 10'	27	16
Stockpile Sample	89	54
North Sidewall	54	NA
South Sidewall	176	NA
North Footing	187	NA
OCD Approved Action Levels	**200**	**100**

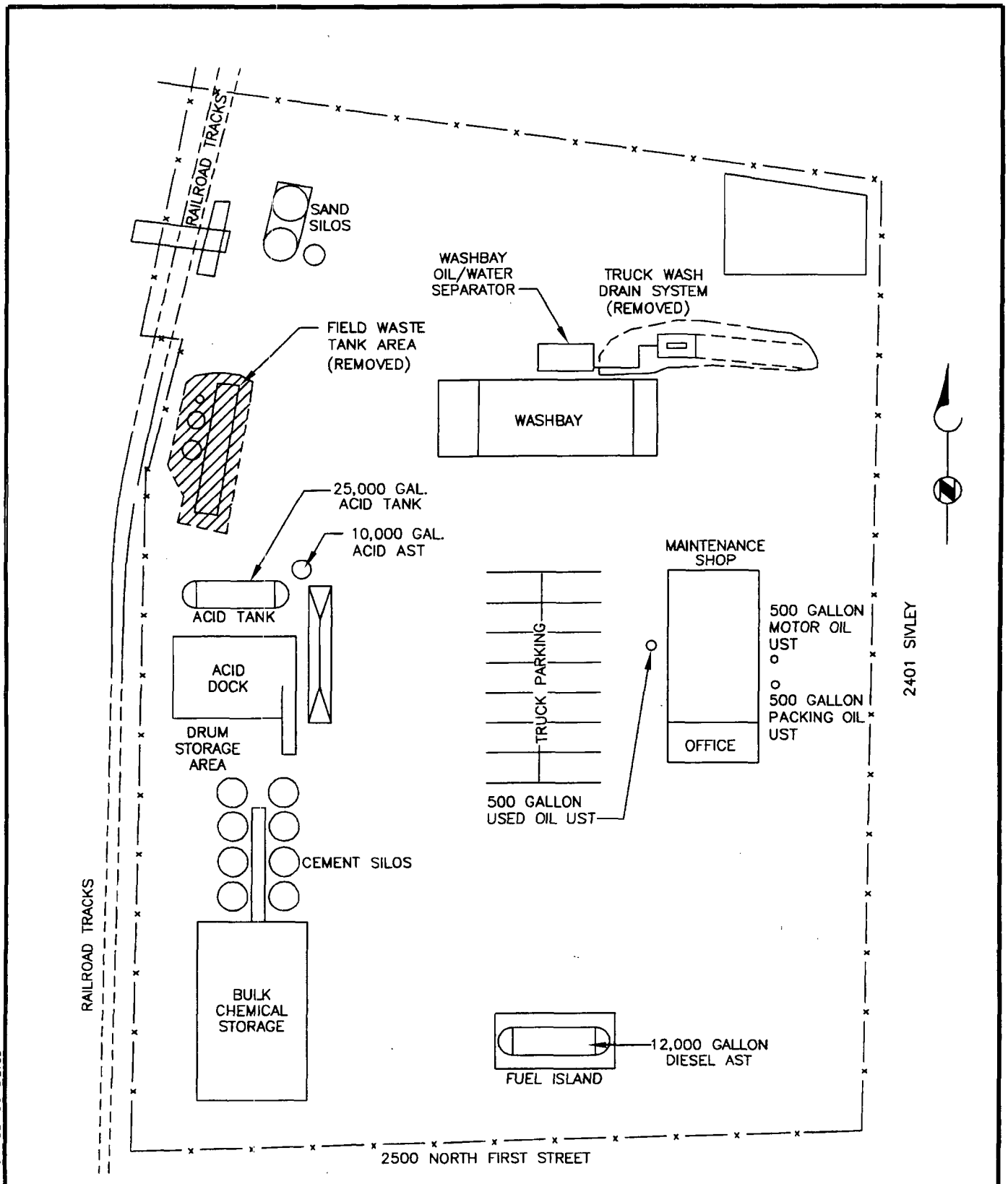
NA = Not Analyzed

FIGURES



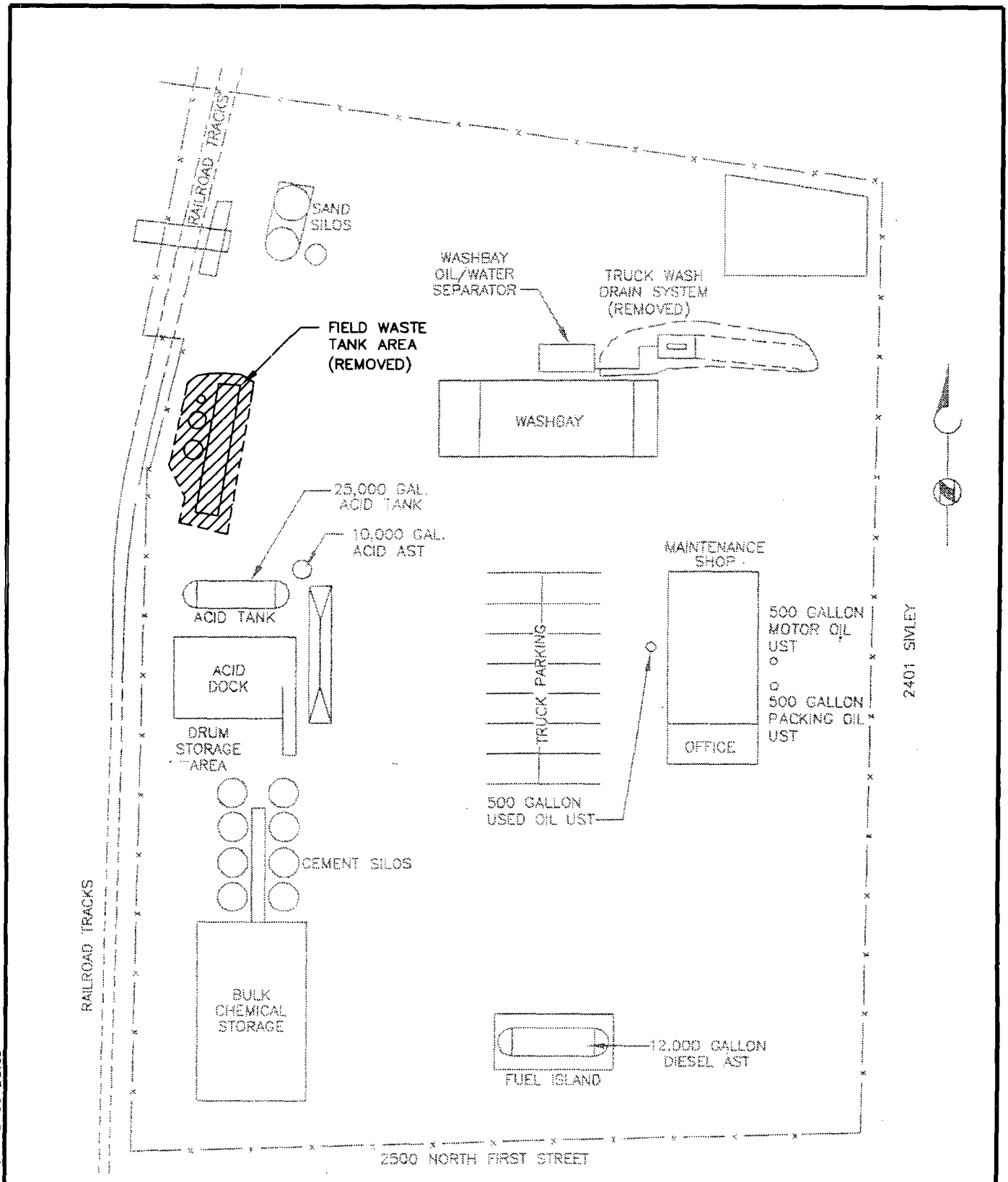
BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: _____ DATE: _____ PROJECT MANAGER APPROVED: _____ DATE: _____ BROWN AND CALDWELL	0 1000 2000 SCALE: 1" = 2000' DRAWN BY: DMD DATE 10/25 CHK'D BY: _____ DATE _____ APPROVED: _____ DATE _____	TITLE SITE LOCATION MAP CLIENT BJ SERVICES COMPANY, U.S.A. SITE LOCATION ARTESIA, NEW MEXICO	DATE 10/25/95 PROJECT NUMBER 2988-06 FIGURE NUMBER 1

T:\2988\VICINITY 10/24/95 DRD



BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: _____ DATE: _____ PROJECT MANAGER APPROVED: _____ DATE: _____ BROWN AND CALDWELL	0 0 0 NOT TO SCALE DRAWN BY: DMD DATE 10/25 CHK'D BY: _____ DATE _____ APPROVED: _____ DATE _____	TITLE SITE PLAN CLIENT BJ SERVICES COMPANY, U.S.A. SITE LOCATION ARTESIA, NEW MEXICO	DATE 3/5/96 PROJECT NUMBER 2988-26 FIGURE NUMBER 2

T:\2988\EXCAVLOC (1=1) 04-08-96 DgvsD



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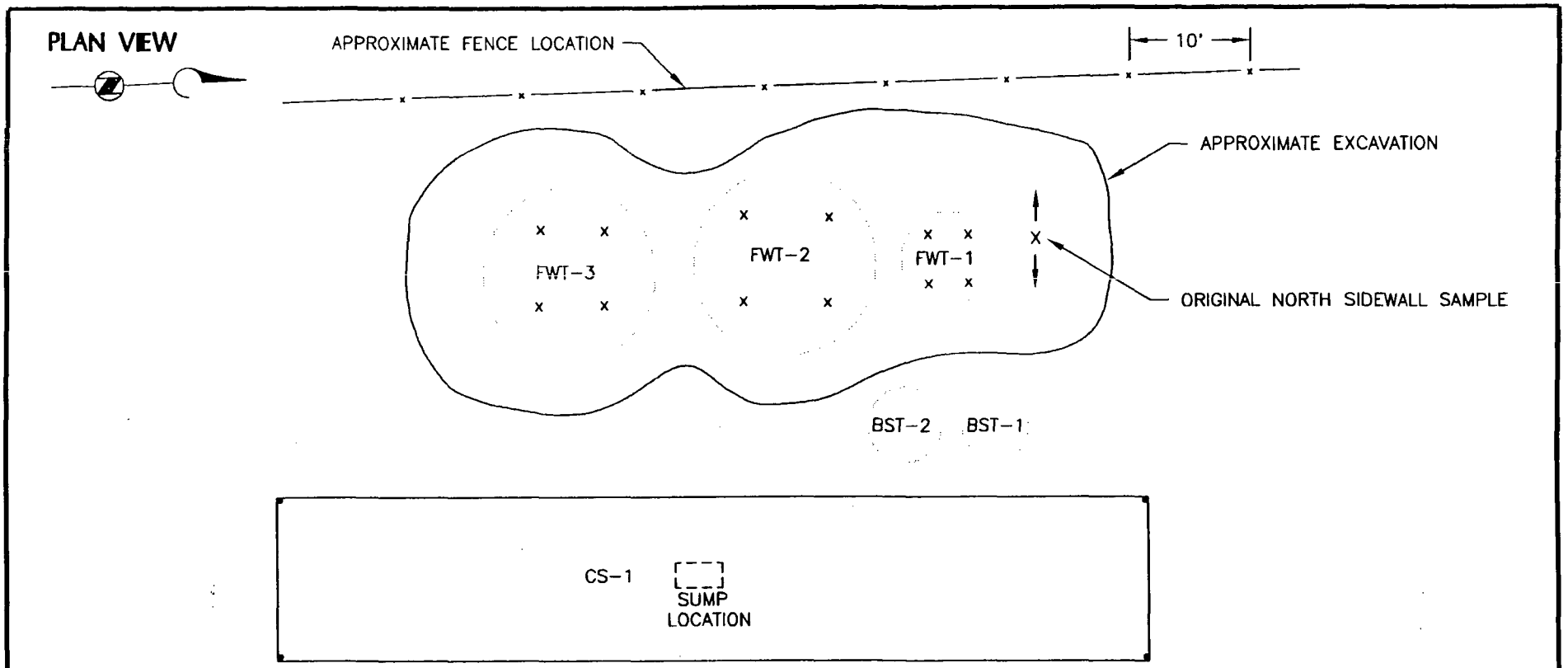
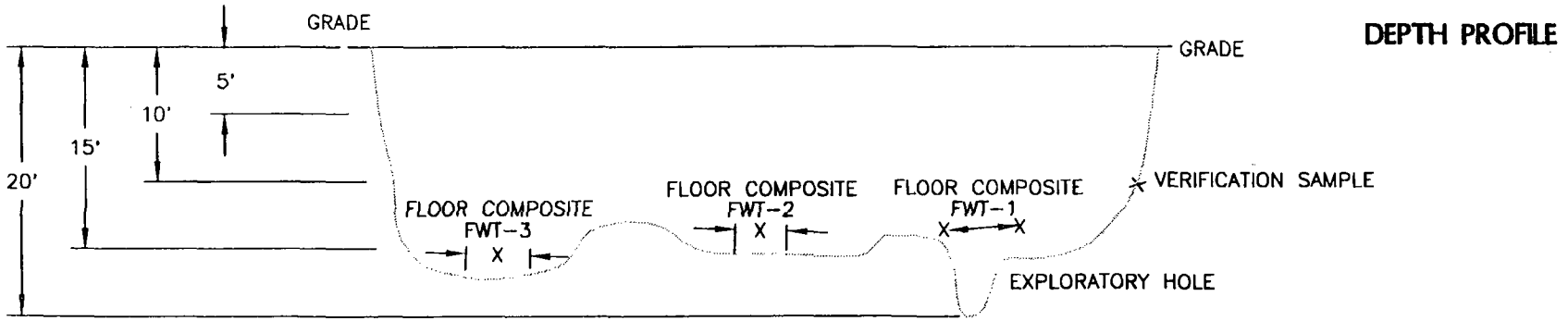
BROWN AND CALDWELL HOUSTON, TEXAS SUBMITTED: PROJECT MANAGER DATE: APPROVED: BROWN AND CALDWELL DATE:	0 0 0 NOT TO SCALE DRAWN BY: DMD DATE 10/25 CHK'D BY: DATE APPROVED: DATE	TITLE: SITE PLAN WITH EXCAVATION LOCATION CLIENT: BJ SERVICES COMPANY, U.S.A. SITE LOCATION: ARTESIA, NEW MEXICO	DATE: 3/5/96 PROJECT NUMBER: 2988-26 FIGURE NUMBER: 3





BROWN AND CALDWELL
HOUSTON, TEXAS

SUBMITTED: _____ DATE: _____
PROJECT MANAGER

APPROVED: _____ DATE: _____
BROWN AND CALDWELL

REV.	DESCRIPTION	BY	DATE

0 5 10
SCALE: ~0.8" = 10'
DRAWN BY: DHD DATE 3/5
CHK'D BY: ____ DATE ____
APPROVED: ____ DATE ____

TITLE: FWT-EXCAVATION
CLIENT: BJ SERVICES COMPANY, U.S.A.
SITE LOCATION: ARTESIA, NEW MEXICO

DATE: 3/5/96
PROJECT NUMBER: 2988-26
FIGURE NUMBER: 4

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ATTACHMENT 5

SAFETY AND ENVIRONMENTAL INSPECTION CHECKLISTS

QUARTERLY STATION SAFETY REVIEW

DISTRICT _____ DATE _____

STATION MANAGER _____ SAFETY REVIEWER _____

POINTS: TWO (2) POINTS - MEETS STANDARDS/SATISFACTORY (OR NOT APPLICABLE)
ONE (1) POINT - BELOW STANDARDS, REQUIRES ATTENTION OR IMPROVEMENT
ZERO (0) POINTS - REQUIRES IMMEDIATE ATTENTION

1. GENERAL CONDITIONS

	AREA REQUIRED	
A. Current OSHA poster	Office	
B. OSHA 200 records	Office	
C. Fire extinguishers - operable and inspected	All areas	
D. Personal protective equipment available	All areas (except office)	
E. Personal protective equipment used as required	All areas (except office)	
F. First aid kit	Offices, shops	
G. Material Safety Data Sheets	Office, chemical warehouse	
H. Safety signs and notices	All areas	
I. Trained first aider at facility	Facility	
J. Emergency phone number for fire, injury, police, ambulance, doctor, chemical spills	All telephones	
	All areas	
K. Safety bulletin board	Office, change room	
L. Emergency plan for fire, injury or chemical spill	Facility	
M. Safety equipment for visitors or vendors	Office	
		TOTAL ____

2. PREMISES

A. General housekeeping and appearance	
B. Entryway	
C. Parking	
D. Lighting	
E. Landscape	
F. Company sign	
G. Prohibited articles and substances sign	
H. Safety sign (scoreboard)	
I. Notice to visitors and vendors	
J. Security fence	
	TOTAL ____

3. OFFICE

A. Housekeeping and appearance	
B. Heating and cooling system checked annually	
C. Adequacy and cleanliness of toilet facilities	
D. Floors clean and free of obstructions	
E. Doorways and passageways unobstructed	
F. Exits clearly marked	
	TOTAL ____

4. LABORATORY

A. Housekeeping and appearance	
B. Chemical containers identified	
C. Only required chemicals on hand	
D. Vent hood installed and operable	
	TOTAL ____

5. SHOP

A. Housekeeping and appearance	
B. Condition of hand tools	
C. Grinding equipment and signs	
D. Welding and cutting equipment	
E. Cranes, hoist and jacks	
F. Lubrication area	
G. Electrical panels and wiring	
H. Parts storage	
I. Overhead storage posted for capacity	
J. Heating and cooling system	
K. Fixed stairs and railings	
L. Battery charging and storage	
M. Washbay, sump and truck washer	
N. Painting and paint storage	
O. Cleaning agents and solvents	
P. Work platforms	
Q. Oily rag containers	
R. Confined space permit system	
S. Hot work permit system	
T. Lockout/tagout procedures	
U. Ladders	
V. Sandblasting	
	TOTAL ____

6. LOCKER ROOM

A. Housekeeping and appearance	
B. Ventilation	
C. Shower and sinks	
D. Toilets	
E. Lockers	
F. Water fountain	
	TOTAL ____

7. HEAD RACK

A. Housekeeping and appearance _____
B. Heads, manifolds, swages stored safely _____
C. Thread protectors in use _____
D. Baker vise or better _____
E. Hoist adequate _____
F. Pick up chains safe _____
G. Adequate pipe wrenches _____
H. Pinpullers to standard _____
TOTAL_____

8. CHEMICAL WAREHOUSE

A. Housekeeping and appearance _____
B. Chemicals identified _____
C. Proper stacking, storage and handling _____
D. Gates, railing, walkways, ladders and stairs _____
E. Hoses, piping and valves _____
F. All drives guarded _____
G. Personal protective equipment used _____
H. Electrical panels and wiring _____
I. Safety shower and eyewash _____
TOTAL_____

9. CEMENT BULK PLANT AND SAND STORAGE

A. Housekeeping _____
B. Electrical adequate with lights _____
C. Gates, walkways, railings and ladders satisfactory _____
D. Climbing safety devices and procedures _____
E. All drives guarded _____
TOTAL_____

10. ACID STORAGE

A. Housekeeping _____
B. Walkways and stairs _____
C. Pump, fittings, valves, piping and hoses _____
D. Vent line and fume scrubber _____
E. Containment walls _____
F. Eyewash and shower _____
G. Tanks identified _____
TOTAL_____

11. FORKLIFT

A. Rated capacity shown _____
B. Backup alarm or flashing light _____
C. Trained operators _____
D. Controls operate properly _____
E. Brakes _____
TOTAL_____

12. FUEL ISLAND

A. Guarded pumps _____
B. Guarded fuel storage _____
C. Fire extinguisher _____
D. Hoses and pumps _____
E. Trash container _____
TOTAL_____

FACILITY TOTAL _____

COMMENTS

MANAGERS SIGNATURE: _____

BJ SERVICES - WAREHOUSES

ENVIRONMENTAL REVIEW

REGION: SUPPORT	DATE:
LOCATION:	MANAGER:
FORM REVISED 8-94	REVIEWER:

ALL EVALUATIONS RATED ON THE FOLLOWING SCALE:

Points		Category	Facility Total Points
2	=	Immediate Action Necessary	= 36 - 45
3	=	Could Use Some Improvement	= 46 - 74
5	=	Up To Standard or "Not Applicable"	= 75 - 90

1. PRODUCT INVENTORY

_____ A. BJ LABELS ON ALL DRUMS

_____ B. DRUMS ON PALLETS OR SAFELY STACKED

_____ C. BUNGS IN DRUMS

_____ D. DRUM INVENTORY BEING ROTATED

_____ E. CONDITION OF DRUMS

_____ F. INVENTORY ACCESSIBLE

_____ G. CONDITION OF DRY CHEMICAL STORAGE

_____ H. PRODUCTS WITH SAME CODE STORED TOGETHER

_____ TOTAL

2. GENERAL CONDITIONS

_____ A. SPILL CONTROL AND CLEAN UP EQUIPMENT AVAILABLE

_____ B. PRESENCE AND KNOWLEDGE OF SPILL REPORTING PROCEDURES

_____ C. PRESENCE AND KNOWLEDGE OF USING OVERPACK DRUMS

_____ D. PRESENCE AND CONDITION OF TRUCK WASH BAY SUMPS

_____ E. CONDITION OF YARD

_____ F. CONDITION OF PROPERTY INCLUDING VEGETATION SURROUNDING BJ PROPERTY

_____ G. NO OPEN CONTAINERS OUTSIDE COLLECTING WATER

ATTACHMENT 6

FACILITY EMERGENCY RESPONSE PLAN

ATTACHMENT 6

FACILITY EMERGENCY RESPONSE PLAN

BJ SERVICES COMPANY, USA

ARTESIA DISTRICT

EMERGENCY RESPONSE PLAN

NOVEMBER 8, 1995

ARTESIA DISTRICT

EMERGENCY RESPONSE PLAN

This Emergency Plan is necessary for the District and its personnel to minimize personal injury, property damage and business interruptions caused by any catastrophe, such as fire, storm, tornado, etc.

I. Emergency Telephone Numbers

A. Emergency Number - 911
B. Hospital - 784-3333
C. Ambulance - 911 or 746-2701
D. Fire Department - 911 or 746-2701
E. Police - 911 or 746-2704
F. District Manager - 396-5064
G. Oper. Supv. - 622-5126
H. Dispatch - 392-5556

II. Action Team Members

A. ACTION TEAM MAKE-UP AND DUTIES: All operations concerning evacuation, rescue, spill containment, fire fighting procedures, securing utilities, medical (First Aid), public relations, clean-up and all clear to re-enter areas, will be handled by the district action team. This team will be made up of the operations supervisor, trainer, sr. mechanic, and sr. bulk plant operator. They will coordinate all operations and assign qualified personnel to perform whatever necessary actions or precautions that should be taken. This team will be the only authority when it comes to any operation that involves the district security and protection. The "All Clear" signal to re-enter areas will come from them and only after inspecting those areas personally for safety and secured condition of each one. The team members will assign their standbys in the event of absence. Dispatch will be notified of these personnel and their location.

B. Central control area will be by Main Gate, unless conditions permit the use of the dispatch office.

III. Fire Fighting Procedures

A. HAZARDOUS MATERIALS HANDLING: Check hazardous material list of chemicals before attempting to fight any fires in bulk plant or acid dock area. Knowledgeable people such as facilities manager and bulk plant operators should be consulted before any fire fighting is attempted. Radio-active area is clearly marked on the back of the yard and should not be entered without contacting district engineer or lab personnel.

B. FIRE EXTINGUISHER LOCATIONS: Location of all fire extinguishers is on map of yard facilities. Consult this reference before attempting to enter an area to fight a fire. All mobile equipment have a fire extinguisher mounted behind the cab.

C. SECURING UTILITIES: Electricity for the entire district facility can be secured by throwing switches on power panels located on east side of bulk plant outside. The gas shut off is located at meter north end of bulk plant and east of main building outside fence.

D. FIRE FIGHTING WATER AVAILABLE: Fire hydrant is located at northeast corner of wash bay. A 1" water hose on the acid dock. The fire extinguisher locations are noted on the facility maps. All rolling equipment has a fire extinguisher located behind the cab on the drivers side.

IV. Evacuation of Personnel and Equipment

A. PERSONNEL: All personnel on the district facility will meet in front of main office after given the order to evacuate. From that point, all personnel will go to the nearest safe point near the district to receive information on rescue, recovery and control measure to be taken. All clear signal will be given from this point as well.

B. EQUIPMENT: Only equipment that is to be used in control and containment will be removed from the facility. Also any equipment that could be in immediate danger that can be removed without risking any personal harm or injury to personnel in the area should be removed. Equipment used to contain hazardous material spills will be moved to a safe place on the facility until ready for use.

V. Security

A. ALL SITUATIONS AND INCIDENCE: All outside persons, except fire fighting personnel, will be kept off of the facility until the all clear has been given. The District Manager will assign all those in charge of this duty. All outsiders must be kept out of the dangerous areas. The possibility of explosion, fumes, radioactive materials, etc., may be present and complete measures must be taken to control its confinement.

VI. Radioactive Material Handling

A. Review BJ Services Radiation Manual for emergency procedures involving radioactive materials. Manuals for both Western and the State can be found in the front office, in the lab and the Safety & Training Supervisors. Only qualified personnel should be involved in clean-up and containment procedures.

VII. Public Relation

A. The district policy is to cooperate fully with members of the press as representatives of the public. District policy is to provide all possible factual information as quickly as possible within the normal limits of safety and security. The District Manager will designate the person or persons responsible for this activity.

VIII. Serious Injuries and Fatalities

A. Responsibility - a personal visit by the Manager and any other personnel assigned by the Manager is recommended when informing the family of the circumstances. This should be done as soon as possible and in a manner in line with Western philosophy and procedure.

IX. Medical

A. All operating field personnel will be qualified in basic first aid and will help with the injuries on the scene until qualified medical help arrives. These personnel will be designated by the District Manager or any other personnel assigned by the Manager. First aid supplies will be supplied using facility and mobile kits available at the time.

B. In case of chemical poisoning and help cannot be obtained from the Houston office, you should call the nearest poison control center available. Consult Material Safety Data Sheets Manual to find information on first aid measures to be taken until qualified help can be reached. Manuals can be found in district Safety & Training Supervisors office.

X. Acid Tank Failure

A. SPILL CONTROL AND CONTAINMENT: First, clear area of all personnel and give aid to the injured. Establish security measures and keep all personnel clear of the area. An action team comprised of District Manager, Facilities Manager and Safety & Training Supervisors will select personnel to start clean-up and containment procedures. A forklift will be activated and utilized to move soda ash and lime to the lowest point in the facilities to dam up fluid flow and neutralize strong acid on the surface. Construction companies in the area will be contacted to bring in materials to strengthen the dam so as to contain all fluid within the facilities. Next, will be the ordering of clean-up equipment, ie: front loader, dump trucks, fill material, vacuum trucks, etc. Western (district) transports will be positioned by the main gate. There the vacuum trucks will meet with transports to begin pulling fluid off the ground and washing down with fresh water to force the strong fluid to the low point in the yard where all fluid on the ground will be pulled into the vacuum trucks and moved to a disposal well or area.

After all fluid is picked up off of the ground, clean-up and repair operations will commence using all district personnel available. Action team will coordinate all operations.

XI. Procedures for Search and Rescue

A. Emergency Response Plan Supervisor will appoint personnel for search and rescue team. This team is assigned the job of assuring the evacuation of all persons in the emergency area. They will search all areas to be sure that all personnel are evacuated to the Central Control Area.

LOCKOUT

Lockout procedure for BJ Services Company

PURPOSE

This procedure establishes the minimum requirements for lockout of energy sources that could cause injury to personnel. All employees shall comply with the procedure.

RESPOSIBILITY

The responsibility for seeing that this procedure is followed is binding upon all employees. All employees shall be instructed in the safety significance of the lockout procedure (designate individual). Each new or transferred affected employee shall be instructed by (designate individuals) in the purpose and use of the lockout procedure.

PREPARATION FOR LOCKOUT

Employees authorized to perform lockout shall be certain as to which switch, valve or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, or others) may be involved. Any questionable indetification of sources shall be cleared by the employees with their supervisors. Before lockout commences, job authorization should be obtained.

SEQUENCE OF LOCKOUT PROCEDURE

(1) Notify all affected employees that a lockout is required and the reason therefore.

(2) If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch.

(3) Operate the switch, valve, or other energy isolating device that the energy source(s) (electrical, mechanical, hydraulic, etc) is disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc, must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

(4) Lockout the energy isolating devices with an assigned

indiviual lock.

(5) After ensuring that no personnel are eqxposed and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating controls to neutral position after the test.

(6) The equipment is now locked.

RESTORING EQUIPMENT TO SERVICE

(1) When the job is complete and equipment is ready for testing or normal service, check the equipment area to see that no one is exposed.

(2) When equipment is all clear, remove all locks. The energy isolating devices may be operated to restore energy to equipment.

PROCEDURE INVOLVING MORE THAN ONE PERSON

In the preceding steps, if more than one individual is required lock out equipment, each shall place his own personal lock on the energy isolating device(s). One designated individual of a work crew or a supervisor, with the knowledge of the crew, make out equipment for the whole crew. In such cases, it shall be the individual to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the designated individual shall not remove a crew lock until it has been verified that all individuals are clear.

RULES FOR USING LOCKOUT PRECEDURE

All equipment shall be locked out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device bearing a lock.

ACTION PLAN

Spill Prevention Control Countermeasure
SPCC Book Is In Book Case In DISTRICT MANAGERS OFFICE, In Green Book.
Action Plan (Suggested Plan Outline To Be Used If Your
Spill Should Reach Water.)

A. Action Center (the location or center that direction for the cleanup and containment operation will issue from.)

NAME B.J Services Company, USA STREET 2401 Sivley

CITY Artesia STATE New Mexico

TELEPHONE 505 - 746 - 3140 OR 746 - 3569

B. Communication

(A) Federal E.P.A. - Region VI, Dallas , Texas 214 - 749 - 3840

(B) Local Fire Department - 911

C. Immediate Work Force

(A) List names and telephone numbers of your own people that would be immediately available to you on a 24 hour basis.

Mike Wiggins 746-7199 Terry Dosher 625-1686

James Boling 392 - 2423 748-3321

Joe Greenwood 746-2059 Rex Glenn 622-5126

Larry Van Hoosebeke 746-4189

(B) List men and equipment that a sub-contractor could make immediately available to you on a 24 hour basis ; also list the telephone numbers of the people to call.

EQUIPMENT : Jim's Water Service 748-1352
Wilbank's Trucking, INC. 746-6318

D Standby Work Force

List additional or standby men and eqipment , along with telephone numbers in the event that additional service is needed.

Real Well Service 746-4326

E CLEAN UP MATERIALS

List the availability of materials that may be needed in clean-up operation such as straw, sawdust, sand, emulsifiers, detergents foams, etc.

SAND 300,000 pounds
50 gals. Frac Foam 1

LAW ENFORCEMENT :

Artesia Police Department Located @ 305 N. 7th - Artesia	911
Roswell Police Department Located @ 425 N. Richardson- Roswell	911
Carlsbad Police Department - Carlsbad Located @ 405 S. Halagueno	885-2111
Eddy County Sheriff,s Office Located @ 305 N. 7th - Artesia	746 - 2704
New Mexico State Police Located @ 305 N. 7th - Artesia	746 - 2704

FIRE :

Artesia Fire Department Located @ 309 N. 7th - Artesia	911
Roswell Fire Department Located @ 425 N. Richardson - Roswell	911
Carlsbad Fire Department Located @ 412 S. Alameda - Carlsbad	885 - 2111

AMBULANCE :

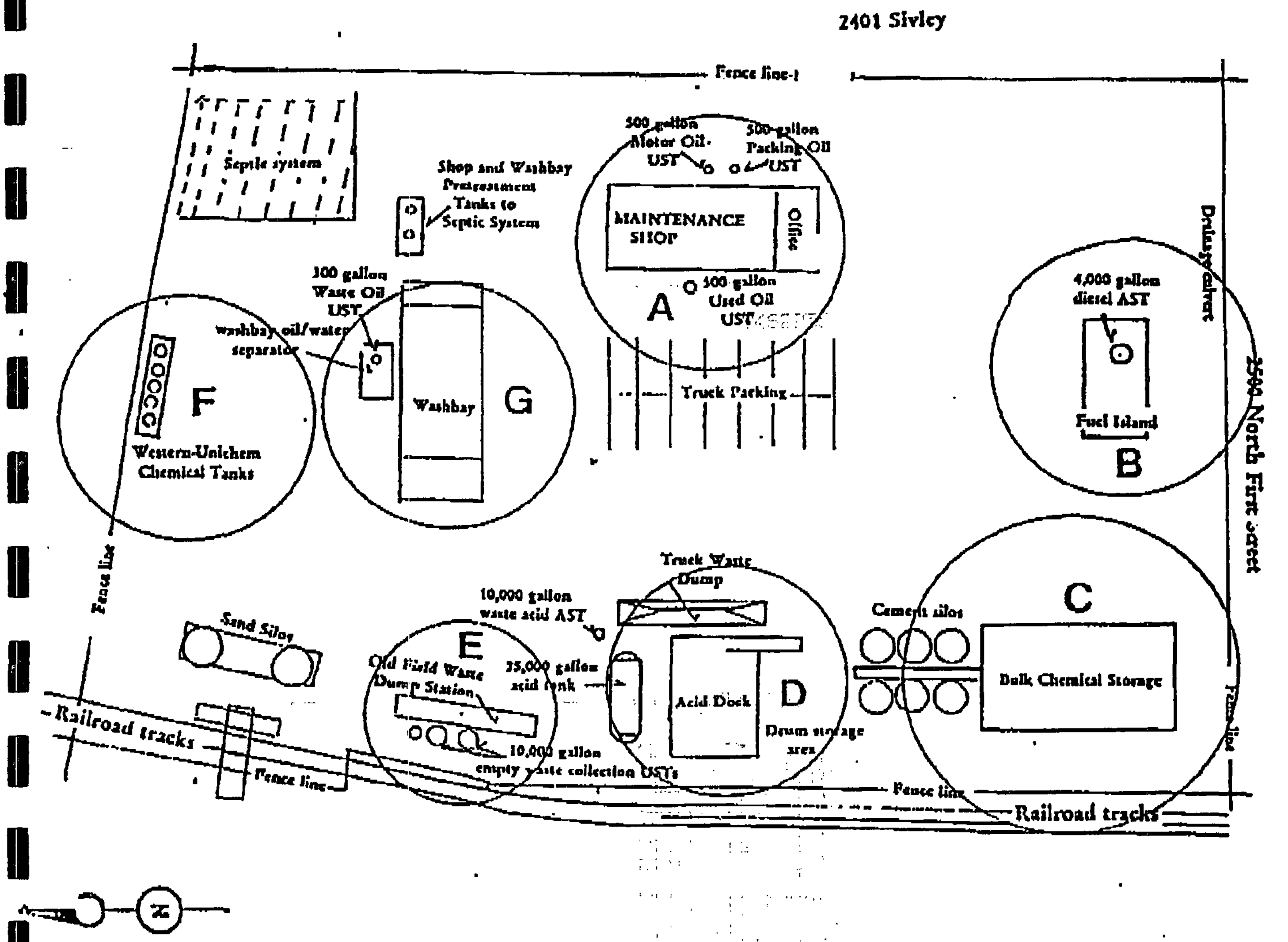
Artesia Ambulance Service Located @ 309 N. 7th - Artesia	911

MEDICAL :

Doctor - Owen C. Taylor Office @ 612 N. 13th - Artesia	746 - 2521
Residence	746 - 4582
Artesia General Hospital Located @ 702 N. 13th	748 - 3333
Poison Control	1-800-432-6866

OTHER:

Artesia Civil Defense	
Located @ 305 N. 7th- Artesia	746-2704
Central Valley Electric CO-OP	
Located @ North 13th - Artesia	746-3571
Telephone Company	622-0896
If no answer	"0" operator


2401 Sivley
Fence line
Septic system
Shop and Washbay Pretreatment Tanks to Septic System
500 gallon Motor Oil UST
500 gallon Packing Oil UST
MAINTENANCE SHOP
Office
A
500 gallon Used Oil UST
Drainage culvert
4,000 gallon diesel AST
Fuel Island
B
2500 North First street
300 gallon Waste Oil UST
washbay oil/water separator
Washbay
G
F
Western-Unichem Chemical Tanks
Truck Parking
Fence line
Truck Waste Dump
10,000 gallon waste acid AST
Cement silos
C
Bulk Chemical Storage
Sand Silos
E
Old Field Waste Dump Station
25,000 gallon acid tank
Acid Dock
D
Drum storage area
10,000 gallon empty waste collection USTs
Railroad tracks
Fence line
Railroad tracks

ATTACHMENT 7

BORING LOGS

BROWN AND CALDWELL

Soil Boring: B-1

Project Name: **BJ-Artesia/NE Septic System** Project Number: **2988-25** Sheet **1** of **1**

Project Location: **Artesia, New Mexico**		Logged By: **T. Jenkins**	Approved: **T. Jenkins**
Drilling Contractor: **Harrison Drilling**		Date Started: **11/14/95**	Date Finished: **11/14/95**
Drilling Equipment: **NA**	Driller: **Harrison Drilling**	Total Boring Depth: (feet) **21.0**	Depth to Static Water: (feet)
Drilling Method: **Hollow Stem Auger**	Borehole Diameter: **3.25"**	TOC Elevation:	Ground Elevation: **NA**
Sampling Method: **Split Spoon**		Diameter and Type of Well Casing: **NA**	
Comments: ***Center of septic system drain field.***		Slot Size: **NA**	Filter Material: **NA**
		Development Method: **NA**	

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Soil Boring Remarks
0		GC		FILL-brown sandy clay w/ small gravel(GC)	0.0		2	1	
2					0.0		2	2	dry; no odor; no staining
4		GM		SILTY CLAY-some sand & small gravel(GM) white to tan	0.0		2	3	slightly moist; no odor; no staining
6							2		
8					0.0		2	4	
10							2		
12					3.5		2	5	moist; no odor; no staining
14							2		
16		CL		CLAY-interbedded white silty clay(CL)			2		
18					2.4		2	6	moist; very slight odor; strange spotted staing
20				-gravel layer	0.5		1	7	moist; silty clay; no staining
				End of boring at 21.0 feet.					

BROWN AND CALDWELL

Soil Boring: B-2

Project Name: **BJ-Artesia/NE Septic System** Project Number: **2988-25** Sheet **1** of **1**

Project Location: **Artesia, New Mexico**		Logged By: **T. Jenkins**	Approved: **T. Jenkins**
Drilling Contractor: **Harrison Drilling**		Date Started: **11/14/95**	Date Finished: **11/14/95**
Drilling Equipment: **NA**	Driller: **Harrison Drilling**	Total Boring Depth: (feet) **20.0**	Depth to Static Water: (feet)
Drilling Method: **Hollow Stem Auger**	Borehole Diameter: **3.25"**	TOC Elevation: **NA**	Ground Elevation: **NA**
Sampling Method: **Split Spoon**		Diameter and Type of Well Casing: **NA**	
Comments: **10' South of drain field boundary.**		Slot Size: **NA**	Filter Material: **NA**
		Development Method: **NA**	

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Soil Boring Remarks
		SW		FILL 1-sand w/ small gravel(GW)	0.0		2	1	
2		GC		FILL 2-sandy clay w/ small gravel(GC)	0.0		2	2	dry; no odor; no staining
4					0.0		2	3	
		CL		SILTY CLAY-w/ silt(CL)			2		
6									
8					0.0		2	4	
							2		
10									
12					0.0		2	5	
									slightly moist; no odor; no staining
14							2		
16		SC		SANDY CLAY- w/ silt(SC)			2		
18					0.0		2	6	moist; no odor; no staing
20				End of boring at 20.0 feet.					

BROWN AND CALDWELL

Soil Boring: B-3

Project Name: **BJ-Artesia/NE Septic System** Project Number: **2988-25** Sheet **1** of **1**

Project Location: **Artesia, New Mexico**		Logged By: **T. Jenkins**	Approved: **T. Jenkins**
Drilling Contractor: **Harrison Drilling**		Date Started: **11/14/95**	Date Finished: **11/14/95**
Drilling Equipment: **NA**	Driller: **Harrison Drilling**	Total Boring Depth: (feet) **32.0**	Depth to Static Water: (feet) **25.0**
Drilling Method: **Hollow Stem Auger**	Borehole Diameter: **3.25"**	TOC Elevation: **NA**	Ground Elevation: **NA**
Sampling Method: **Split Spoon**		Diameter and Type of Well Casing: **NA**	
Comments: **East of septic system drain field.**		Slot Size: **NA**	Filter Material: **NA**
		Development Method: **NA**	

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Soil Boring Remarks
0		GC		FILL-brown sandy clay w/ small gravel(GC)	0.0		2	1	
2					0.0		2	2	dry; no odor; no staining
4		GM		SANDY/SILTY CLAY-w/ small gravel(GC)	0.0		2	3	
6							2		
8							2		
10					0.0		2	4	
12							2		slightly moist; no odor; no staining
14					0.0		2	5	
16		CL		SILTY CLAY(CL) -reddishish in color, w/ some sand			2		slightly moist; no odor; no staining
18							2		
20					0.0		2	6	
22	▽			-Approximate GW level measured after augers were removed			2		moist; no odor; no staining
24	▼				0.0		2	7	
26							2		moist; no odor; no staining
28							2		
30					0.0		2	8	
32				End of boring at 32.0 feet.					moist; no odor; no staining

THE WESTERN COMPANY OF NORTH AMERICA
ARTESIA, NEW MEXICO FACILITY

DISCHARGE PLAN
APPLICATION FOR
OIL FIELD SERVICE FACILITIES