3R - 48

REPORTS

DATE:
JUNE 1992

PROPOSED REMEDIAL ACTION PLAN
AMOCO PRODUCTION CORPORATION
SAN JUAN GRAVEL A-1E
PRODUCTION TANK PIT AREA
SE/4, NE/4 (H) SECTION 21, T29N, R13W, NMPM
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

PREPARED FOR:
MR. BUDDY SHAW
ENVIRONMENTAL COORDINATOR
AMOCO PRODUCTION COMPANY

PROJECT/PIT NO.: 92140/C4012

JUNE 1992

ENVIROTECH, INC.
Environmental Scientist & Engineers
5796 U.S. Highway 64-3014
Farmington, New Mexico

(505) 632-0615

TABLE OF CONTENTS

PROPOSED REMEDIAL ACTION PLAN
AMOCO PRODUCTION CORPORATION
SAN JUAN GRAVEL A-1E
PRODUCTION TANK PIT AREA
SE/4, NE/4 (H) SECTION 21, T29N, R13W, NMPM
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

PROJECT NO: 92140/C4012

SECTION 1

SECTION 2

SECTION 3

SECTION 4

APPENDIX

June 1992 PROJECT/PIT NO: 92140/C4012

PROPOSED REMEDIAL ACTION PLAN
AMOCO PRODUCTION CORPORATION
SAN JUAN GRAVEL A-1E
PRODUCTION TANK PIT AREA
SE/4, NE/4 (H) SECTION 21, T29N, R13W, NMPM
FARMINGTON, SAN JUAN COUNTY, NEW MEXICO

Amoco Production Company proposes to remediate soil and groundwater contamination associated with the production equipment and storage system associated with the subject well located south of Farmington, in the Southeast 1/4 of the Northeast 1/4 of Section 21, Township 29N, Range 13W, NMPM, San Juan County, New Mexico. This remedial action plan was developed by Amoco Production Company and Envirotech, Inc. based on the findings of field pit assessments of the production overflow pit and an abandoned separator pit, and the draft "Guidelines to Surface Impoundment Closure" (October 29, 1991), State of New Mexico, Oil Conservation Division (NMOCD).

Full implementation of this Remedial Action Plan will be contingent on the approval of NMOCD.

PURPOSE & SCOPE OF SERVICES

This purpose of the proposed remediation is to abate soil and groundwater contamination caused by discharge during the normal operation of the subject oil/gas production well initially operated by Tenneco Oil and presently operated by Amoco Production. The New Mexico Oil Conservation Division's guidelines and protocol will be followed.

The proposed scope of work for this remediation and abatement will consists of:

A. Notification of the NMOCD and any other appropriate authorities of the intent to remediate the referenced site.

B. Review of the pit assessments which were conducted to determine if hydrocarbon contamination was present in previous unlined pit areas and to define the extent of the hydrocarbon contaminated areas.

C. Abatement of the contaminated areas by excavation, removal and treatment of the highly contaminated soils in the area of the separator pit and installation of a groundwater treatment system to abate the spill incidents.

D. Field assessment during the abatement for closure of the site.

E. Documentation of the abatement and closure.

SITE DESCRIPTION

The San Juan Gravel A-1E well site is located in the south central portion of Farmington, New Mexico off Murray Drive. Refer to the attached vicinity map (Sheet 1).

The well is adjacent to an active gravel pit. The site is an active crude oil well producing from the Dakota Formation. Surface equipment at the site consists of a sucker rod pumping unit, two above ground production storage tanks (approximately 300 bbl) and a steel production overflow pit (approximately 100 bbl). The storage tanks and pit were surrounded by an earthen berm.

Abandoned piping, a concrete foundation, and covered pit, believed to belong to a separator, was evident south of the storage complex and east of the wellhead.

Refer to the attached site plan for the approximate location of the referenced wellsite processing equipment (Sheet 2).

Access to the site is available by Curtis Road off Murray Drive.

The site was originally constructed and the well drilled by Tenneco Oil. The date of completion was not available as of this writing. The site appeared to be build using normal cut/fill methods. The entire site appears to be have been built above the original floodplain. The depth of fill is estimated to be four feet (4') over the west portion of the site and cut at the northeast portion of the site. The soils appear to be dense, well graded gravel and sand with large cobbles and minor silt and clay.

The site is located east approximately 1/4 mile east of the intersection of the Animas and the San Juan Rivers. The depth to groundwater is on the order of ten feet and the gradient is toward the southeast.

SITE ASSESSMENT SUMMARY

Preliminary pit assessments were performed to the screen those areas suspect as having hydrocarbon contamination from previous unlined earthen pits, to estimate the vertical and horizontal extent of the contamination, to establish if there are additional areas of concern, to characterize the contamination if present, and to develop remedial action for successful abatement of the site.

Assessments were done by advancing test holes in all areas where spills or soil contamination was suspected. Backhoe equipment was utilized. Test holes were placed to adequately estimate the vertical and lateral extent of contamination.

Soil samples will be collected from the test holes and surface following US EPA SW-846 protocol. Soil and groundwater samples were field tested for volatile hydrocarbons following the Headspace Field Method [Guidelines For Surface Impoundment Closure, New Mexico Oil Conservation Division, Part 1 (IA.2a), October 29, 1991] using a photoionization detector (PID). Additionally, soil and groundwater samples were submitted to the laboratory for analysis of recoverable total petroleum hydrocarbons (TPH) per US EPA Method 418.1, and/or screened for target volatile organics [benzene, toluene, ethyl-benzene and total xylenes (BTEX)] by headspace (following a modified EPA Method 3810) or following EPA Method 8020.

Two pit areas were assessed. The area around the existing above grade steel production overflow pit and an area north of the abandoned separator. The production pit assessment was initiated on April 13, 1992 and completed May 11, 1992. The pit assessment for the separator pit was conducted on May 21, 1992.

Assessment of the production pit area indicated that significant hydrocarbon contamination of soil and groundwater was present. The plume encompassed the entire area of the storage complex, extends east of the berm approximately 10 feet (up gradient) and west 60 feet (down gradient). Free product was observed on the groundwater.

Assessment of the separator pit indicated that significant hydrocarbon contamination of soil and groundwater was present. The soil contamination appeared to be limited to the previous pit area. The highly contaminated soils were excavated for treatment and the excavation backfilled with clean imported soils.

Monitor wells were installed during the construction of the groundwater treatment system. The monitor wells were constructed using two inch (2") diameter threaded-coupling schedule 40 PVC casing. The top of the screen section (0.020" slot size) was set approximately on foot (1') above the groundwater level encountered during excavation. The screened interval was gravel packed to a minimum of one foot (1') above the slotted interval with 8-12 gradation silica sand and sealed with 200 mesh bentonite. Blank PVC casing was used to complete the wells to eighteen inches (18") above site grade. Each Monitor well was secured with a locking cap.

The depth to groundwater was measure during the development and sampling of the monitor wells. The groundwater slope is estimated to be to the southeast and groundwater contours are plotted on the Site Plan.

Results of the available laboratory analyses of soil and groundwater samples are attached. Additional lab results will be reported upon completion.

Refer to the Appendix for copies of the "Field Report: Site Assessment" forms, Site Plan (Sheet 2), and available laboratory results.

ABATEMENT & MONITORING PLAN

Based on the previously cited information in the site description, we proposed to abate the soil and groundwater contamination at subject site by the installation of a groundwater collection and treatment system. The collection system will consist of an intercept trench (down gradient) constructed with crushed washed gravel, perforated PVC pipe and a recovery collection tank. The collected hydrocarbon contaminated groundwater will be skimmed of free product by flowing through a 50 to 100 bbl tank , and then routed to an air stripper to treat the effluent to New Mexico Groundwater Standards for BTEX compounds. The treated effluent will be pumped as per the diagram (Sheet 3) to an injection gallery (up-gradient) of the contamination plume.
The monitor wells have been placed at locations identified on the Site Plan to monitor the progress of the cleanup effort.

The groundwater collection system is currently under construction and being installed. This is to prevent any additional hydrocarbon movement on the water table. Installation of the balance of the treatment system will be completed upon receipt of the NMOCD approval of the remedial action plan.

CLOSURE & LIMITATIONS

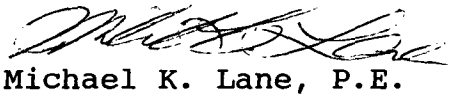
This remedial action plan is based on the preliminary site assessments, available laboratory data, and information provided by Amoco Production Company.

All soil and groundwater contamination is believed to be caused by petroleum discharges associated with hydrocarbon products at typical oil field service and production facilities. No hazardous wastes are believe to be present as defined per RCRA (40 CFR 261).

All work will be performed in accordance with generally accepted professional practices in construction/excavation and geotechnical/environmental/petroleum engineering.

This remedial action plan has been prepared for the exclusive use of Amoco Production Company as it pertains to their San Juan Gravel A-1E facility located on the Southeast 1/4 of the Northeast 1/4 of Section 21, Township 29N, Range 13W, NMPM, San Juan County, New Mexico.

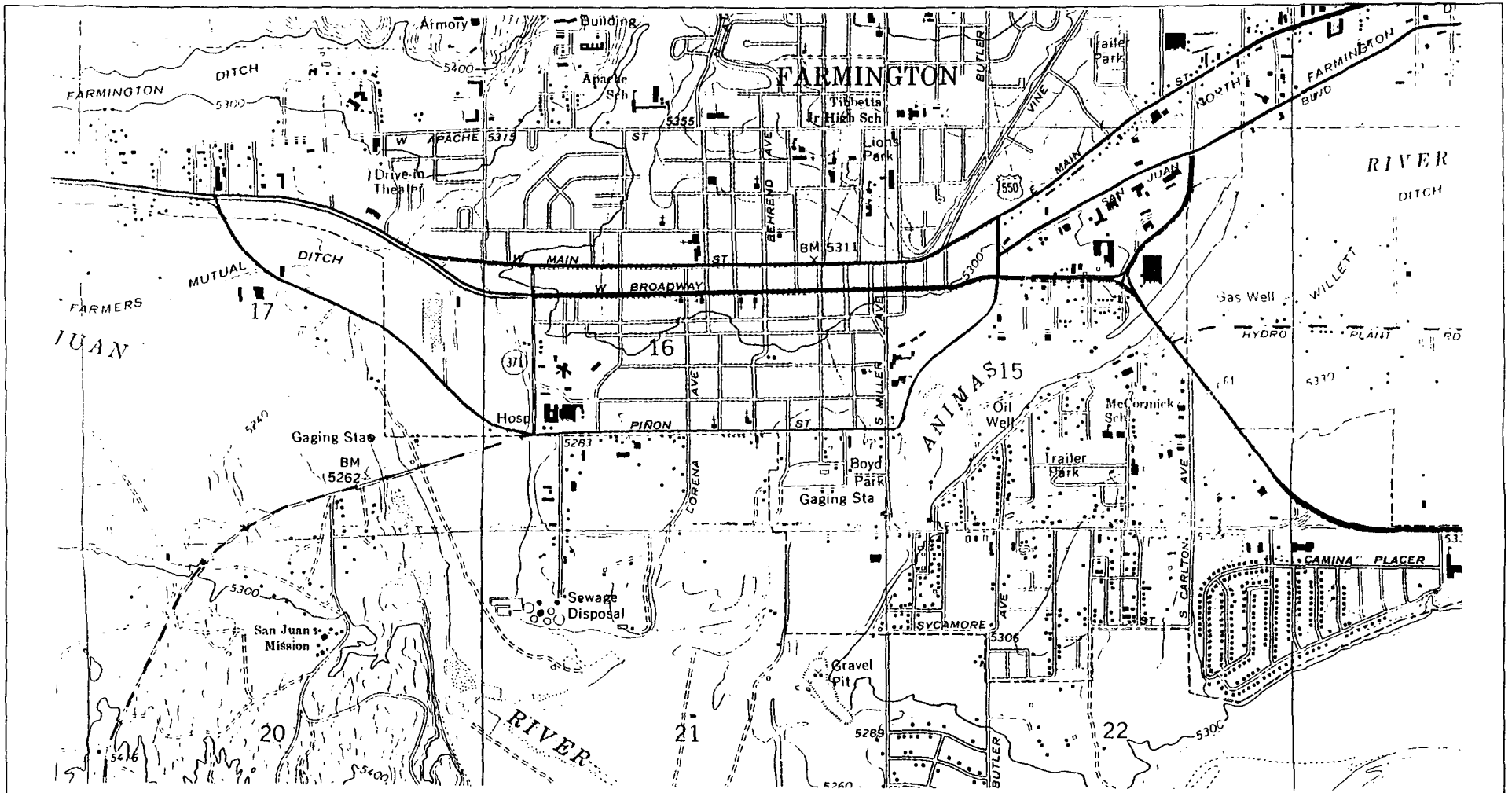
Respectfully Submitted,
ENVIROTECH, INC.



Michael K. Lane, P.E.
Geological Engineer

APPENDIX

AMCRMD.PLN



REFERENCE: USGS FARMINGTON SOUTH QUADRANGLE, SAN JUAN COUNTY, NM 7.5" SERIES

AMOCO PRODUCTION COMPANY
SAN JUAN GRAVEL A-1E
SEC 21, TWP 29N, RNG 13W
SAN JUAN COUNTY, NEW MEXICO
PRODUCTION TANK PIT AREA

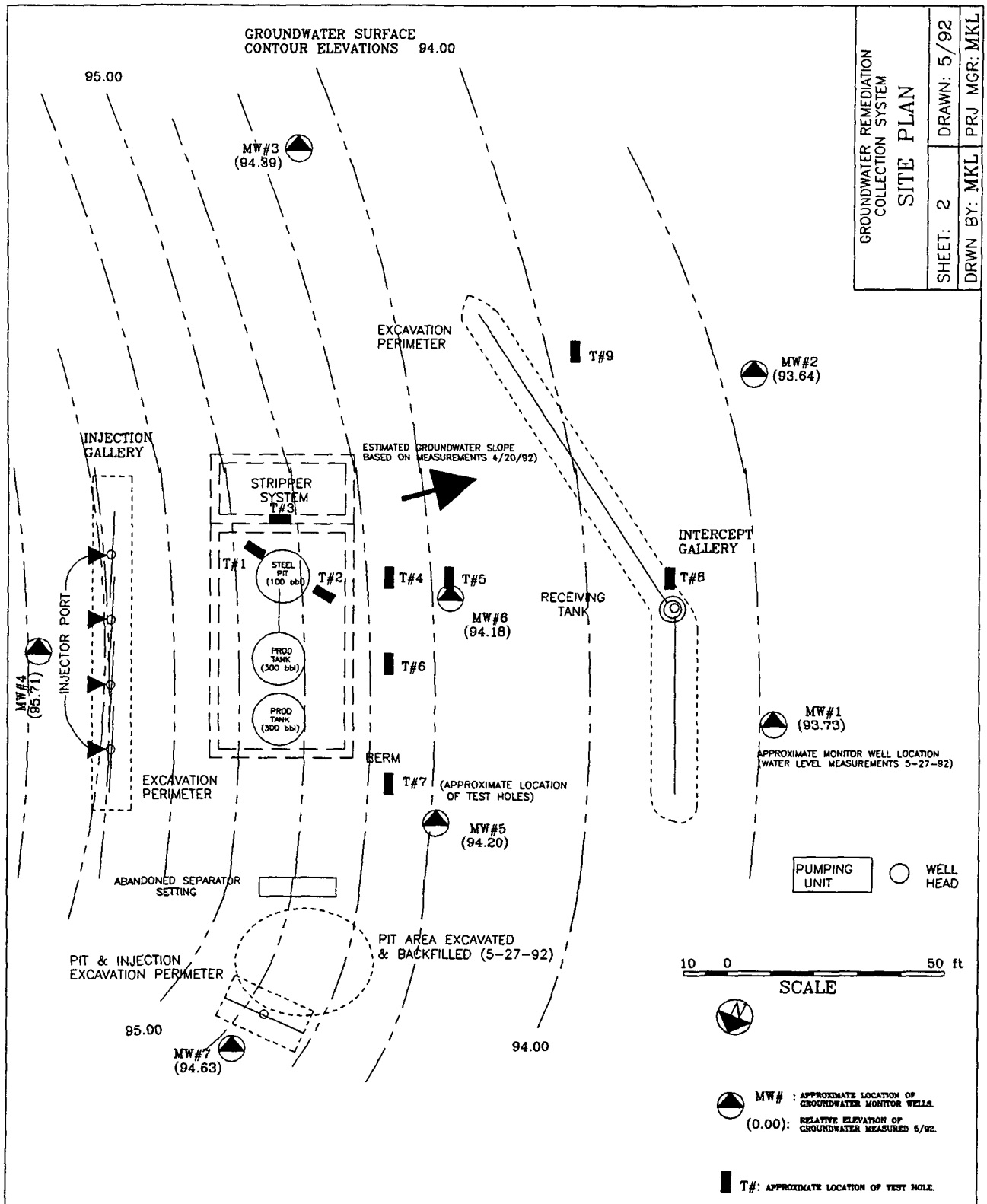
REMEDIATION PLAN PROJECT NO: 92140/94012

ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, MEW MEXICO 87401
PHONE: (505) 632-0615

GROUNDWATER REMEDIATION
COLLECTION SYSTEM
VICINITY MAP

SHEET: 1	DRAWN: 5/92
DRWN BY: MKL	PRJ MGR: MKL



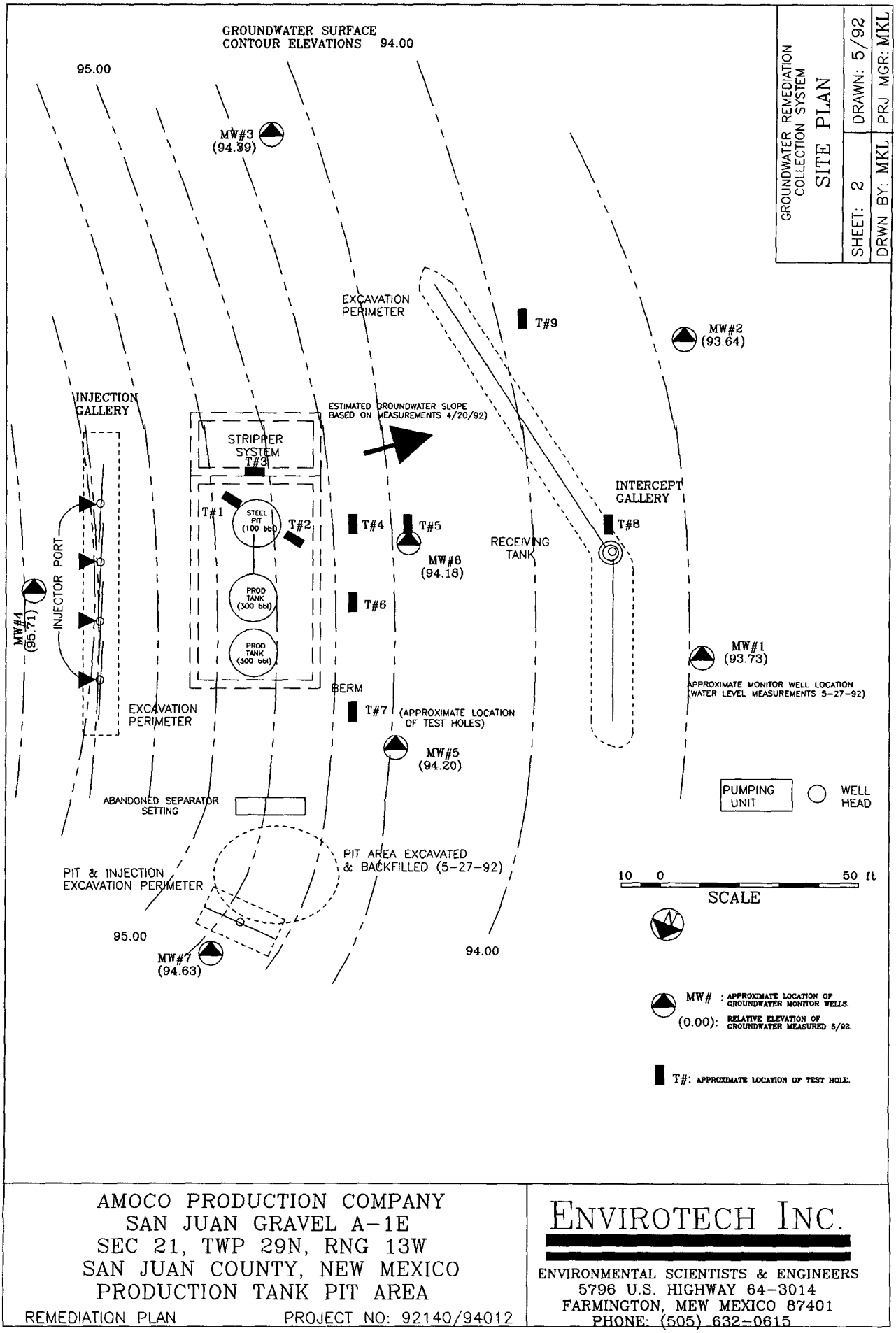
GROUNDWATER REMEDIATION
COLLECTION SYSTEM
SITE PLAN

SHEET: 2 | DRAWN: 5/92
DRWN BY: MKL | PRJ MGR: MKL

AMOCO PRODUCTION COMPANY
SAN JUAN GRAVEL A-1E
SEC 21, TWP 29N, RNG 13W
SAN JUAN COUNTY, NEW MEXICO
PRODUCTION TANK PIT AREA

REMEDIATION PLAN PROJECT NO: 92140/94012

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, MEW MEXICO 87401
PHONE: (505) 632-0615



GROUNDWATER REMEDIATION
COLLECTION SYSTEM
SITE PLAN

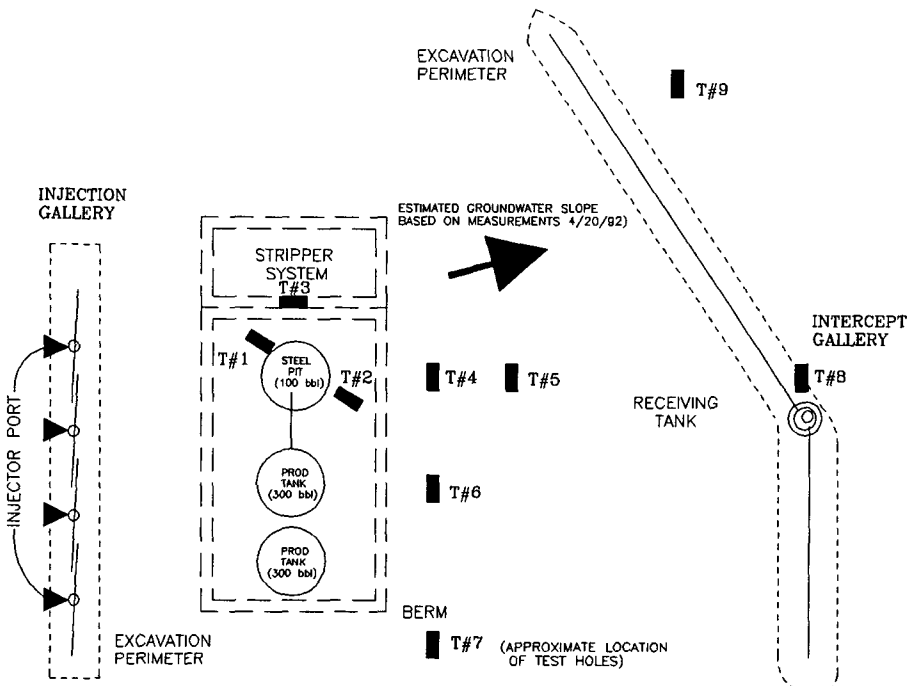
SHEET: 2 | DRAWN: 5/92
DRWN BY: MKL | PRJ MGR: MKL

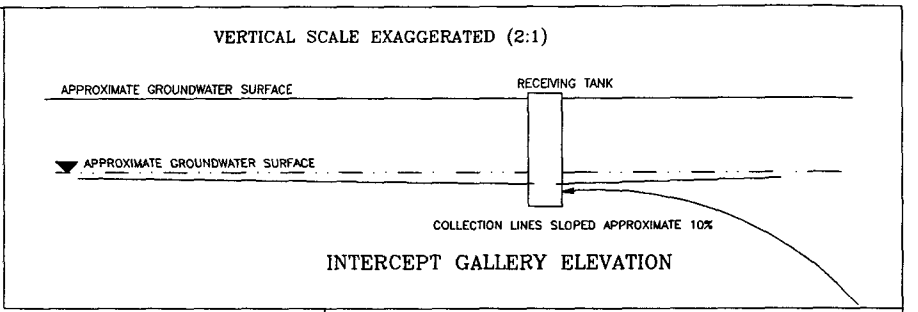
AMOCO PRODUCTION COMPANY
SAN JUAN GRAVEL A-1E
SEC 21, TWP 29N, RNG 13W
SAN JUAN COUNTY, NEW MEXICO
PRODUCTION TANK PIT AREA

REMEDIATION PLAN PROJECT NO: 92140/94012

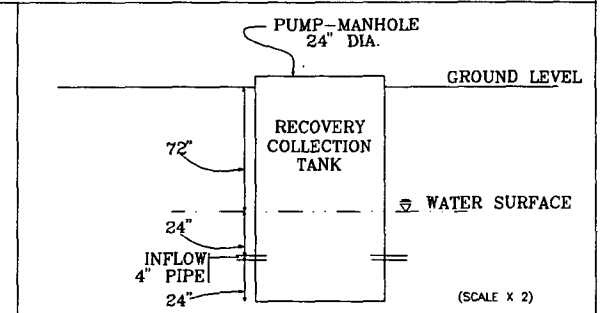
ENVIROTECH INC.

ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, MEW MEXICO 87401
PHONE: (505) 632-0615

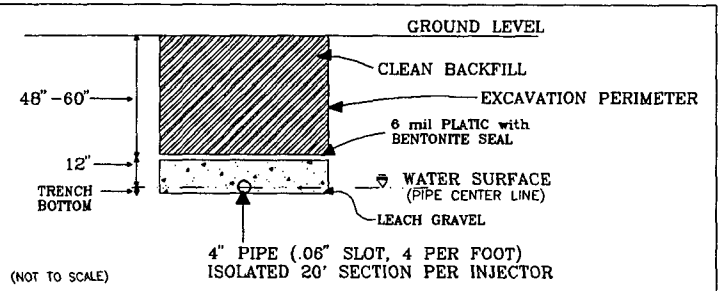




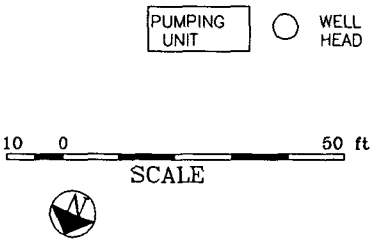
INTERCEPT GALLERY ELEVATION

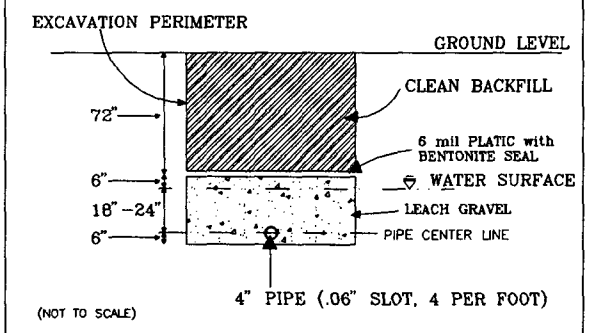


RECEIVING TANK DETAIL



INJECTION TRENCH DETAIL





INTERCEPT TRENCH DETAIL

AMOCO PRODUCTION COMPANY
SAN JUAN GRAVEL A-1E
SEC 21, TWP 29N, RNG 13W
SAN JUAN COUNTY, NEW MEXICO
PRODUCTION TANK PIT AREA

REMEDIATION PLAN PROJECT NO: 92140/94012

ENVIROTECH INC.
ENVIRONMENTAL SCIENTISTS & ENGINEERS
5796 U.S. HIGHWAY 64-3014
FARMINGTON, MEW MEXICO 87401
PHONE: (505) 632-0615

GROUNDWATER REMEDIATION
COLLECTION SYSTEM

SYSTEM DETAILS

SHEET: 3	DRAWN: 5/92
DRWN BY: MKL	PRJ MGR: MKL

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0815

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 1 of 3

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: BACKHOE W/ 24" BUCKET

DATE STARTED: 4-13-92
DATE FINISHED: 4-13-92
ENVIRO. SPCLT: MKL
OPERATOR: DB
ASSISTANT: LT

LOCATION: LEASE: SJ GUL WELL: A-1E QD: 800' FEL & 1540' FNL
SEC: 21 TWP: 29N RNG: 13W BM: NMPM CNTY: SJ ST: NM PIT: PROD. TANK PIT
LAND USE: LEASE No: 94-000067 (DK/PC) / ACTIVE GRAVEL PIT
SURFACE CONDITIONS: STEEL TANK IN PLACE (8'DIA x 4') ABOVE GRADE

FIELD NOTES & REMARKS: IMPOUNDMENT SOUTH OF STORAGE TANKS @ EAST SIDE OF LOCATION. APPROXIMATELY 65'S & 125'W OF WELLHEAD. GROUND WATER ENCOUNTERED @ 5.5'-6.2' BELOW GROUND SURFACE. SOILS PREDOMINATELY: SANDY GRAVEL TO GRAVELLY SAND, MODERATE BROWN TO GREY BLACK (IN CONTAMINATION), LOOSE TO MEDIUM, MOIST.

FREE PRODUCT NOTED ON GROUNDWATER IN T#2, T#4, T#5 & T#6.

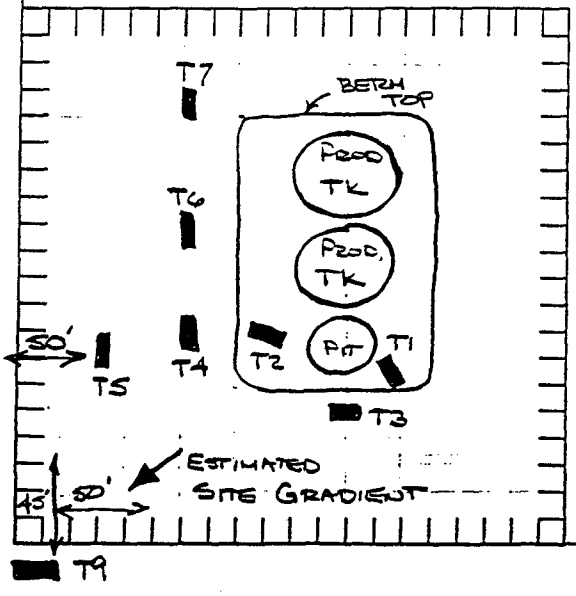
SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
T2@5'	SOIL	HEAD
T4@5'	SOIL	HEAD
T5@6'	SOIL	HEAD
T2@G	WATER	8020
T5@G	WATER	8020

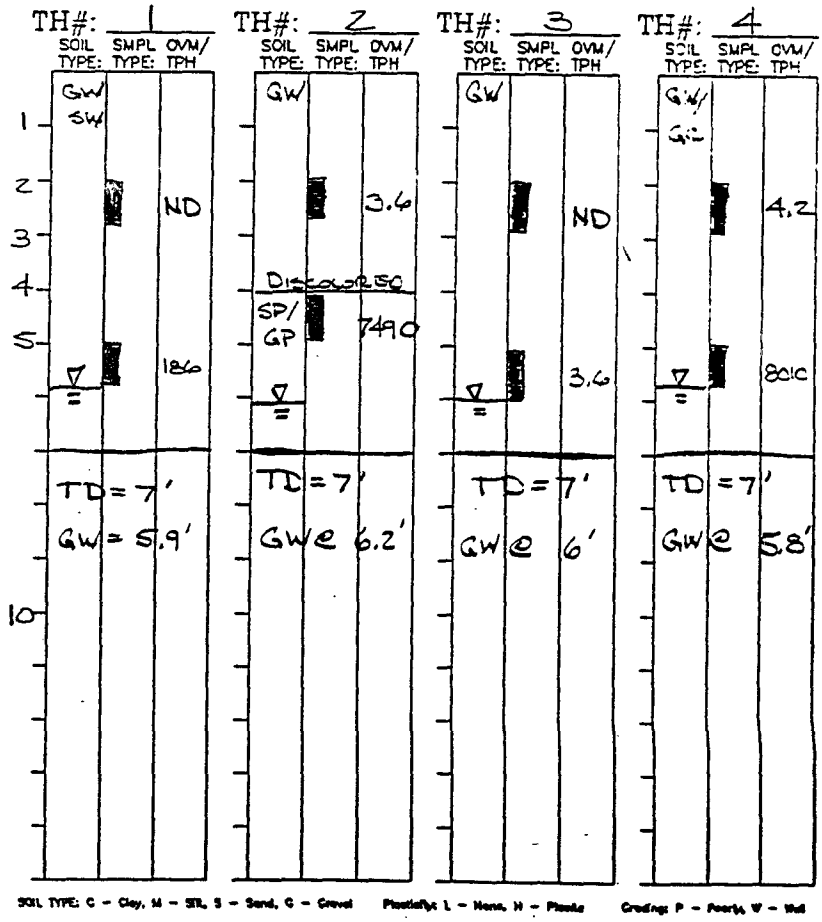
SCALE
0 10 20 FEET

N

SITE DIAGRAM



TEST HOLE LOGS:



ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 2 of 3

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED:

DATE STARTED: 4-13-92
DATE FINISHED: 4-13-92
ENVIRO. SPCLT: HKL
OPERATOR:
ASSISTANT:

LOCATION: LEASE: SJ GRAVEL WELL: A-1E QD: 800' FEL & 1540' FNL
SEC: 21 TWP: 29N RNG: 13W BM: NMPM CNTY: SJ ST: NM PIT: PROD. TK PIT
LAND USE:
SURFACE CONDITIONS:

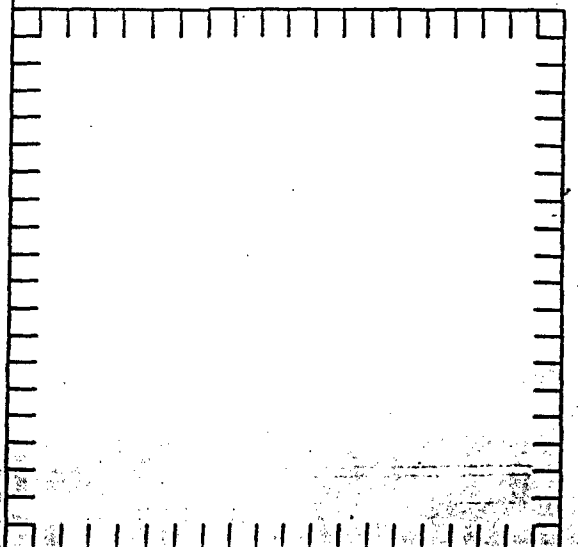
FIELD NOTES & REMARKS: CONTINUED SITE ASSESSMENT

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:
TH#6'	Soil	TPH
TH#GW	Soil	TPH/8020
TH#GW	WTR	TPH
TH#GW	WTR	8020 (x2)

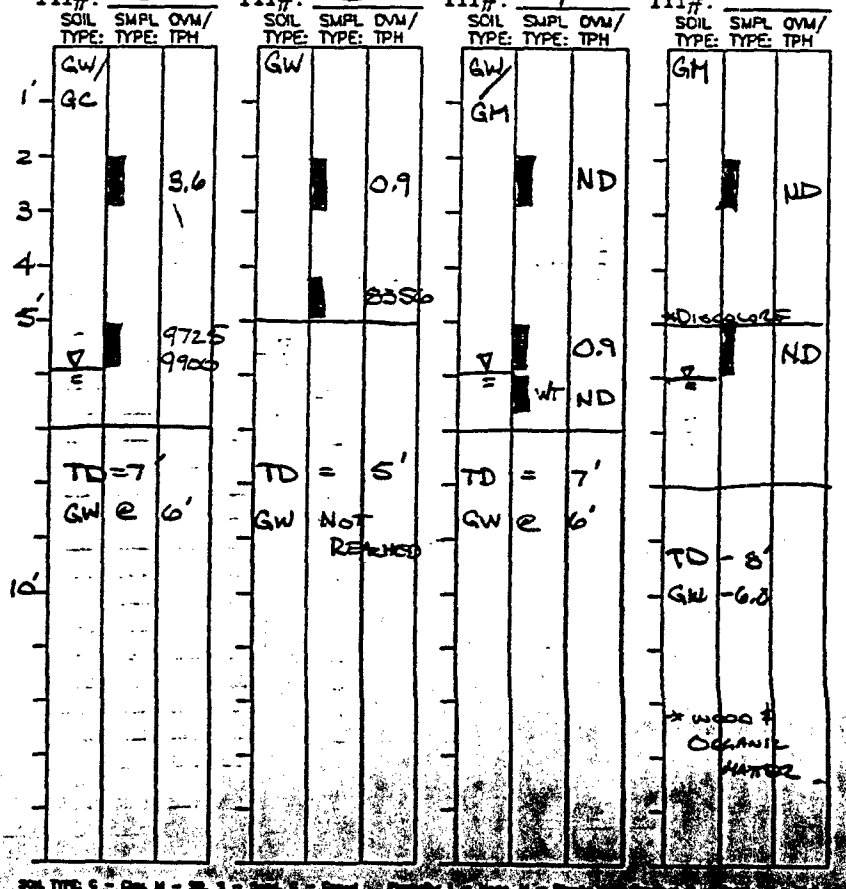
SCALE
0 FEET

SITE DIAGRAM



4/20/92

TEST HOLE LOGS:



ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

FIELD REPORT: SITE ASSESSMENT

JOB No: 92140
PAGE No: 3 of 3

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: BACKHOE

DATE STARTED: 4-20-92
DATE FINISHED: 4-20-92
ENVIRO. SPCLT: MKL
OPERATOR: MS
ASSISTANT: PV

LOCATION: LSE: SAN JUAN GVL. WELL: A-1E QD:
SEC: TWP: RNG: PM: CNTY: ST: PIT:
LAND USE:
SURFACE CONDITIONS:

FIELD NOTES & REMARKS:

SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:

SCALE
0 FEET

SITE DIAGRAM

TEST HOLE LOGS:

TH#: 9

SOIL TYPE:	SMPL TYPE:	OVM/TPH
SP/SM		
		ND
QW		
		ND
WTR		ND

LOCATION GRADE
GRND ELEV.
1
2
3
4
5
6
TD - 7'
QW - 6'

TH#: ____ TH#: ____ TH#: ____

SOIL TYPE: C – Clay, M – Silt, S – Sand, G – Gravel Plasticity: L – None, H – Plastic Gradings: P – Poorly, W – Well

ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0815

94199

FIELD REPORT: SITE ASSESSMENT

JOB No: 9140
PAGE No: 1 of 1

PROJECT: PIT ASSESSMENTS & CLOSURE
CLIENT: AMOCO PRODUCTION COMPANY
CONTRACTOR: ENVIROTECH, INC.
EQUIPMENT USED: EXCAVATION

DATE STARTED: 5/21/92
DATE FINISHED: 5/21/92
ENVIRO. SPCLT: RB/ML
OPERATOR: MS
ASSISTANT: TJ

LOCATION: LSE: SAN JUAN GAS WELL: A-1E QD: 800'FEL & 1540'FNL
SEC: 21 TWP: 29N RNG: 13W PM: NM CNTY: SJ ST: NM PIT: SEP.
LAND USE: LEASE No: 94-000067 (DK/PC) ACTIVE GAS PIT
SURFACE CONDITIONS: ABANDONED SEPARATOR & PIT AREA BACKFILLED

FIELD NOTES & REMARKS: LOCATED APPROXIMATELY 130' EAST OF WELL HEAD. SOILS: SANDY GRAVEL TO GRAVELLY SAND, MODERATE BROWN (GREY BLACK IN CONTAMINATION) TO MEDIUM GREY BELOW WATER LEVEL, MOIST TO SATURATED, DENSE. MINOR FREE PRODUCT FILM ON WATER.

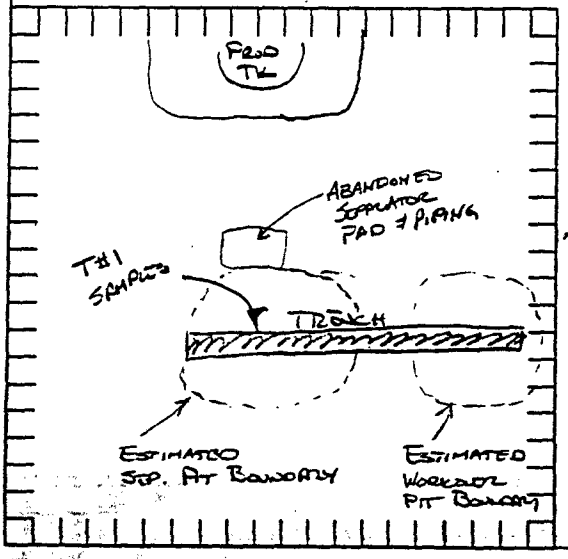
SAMPLE INVENTORY:

SMPL ID:	SMPL TYPE:	LABORATORY ANALYSIS:

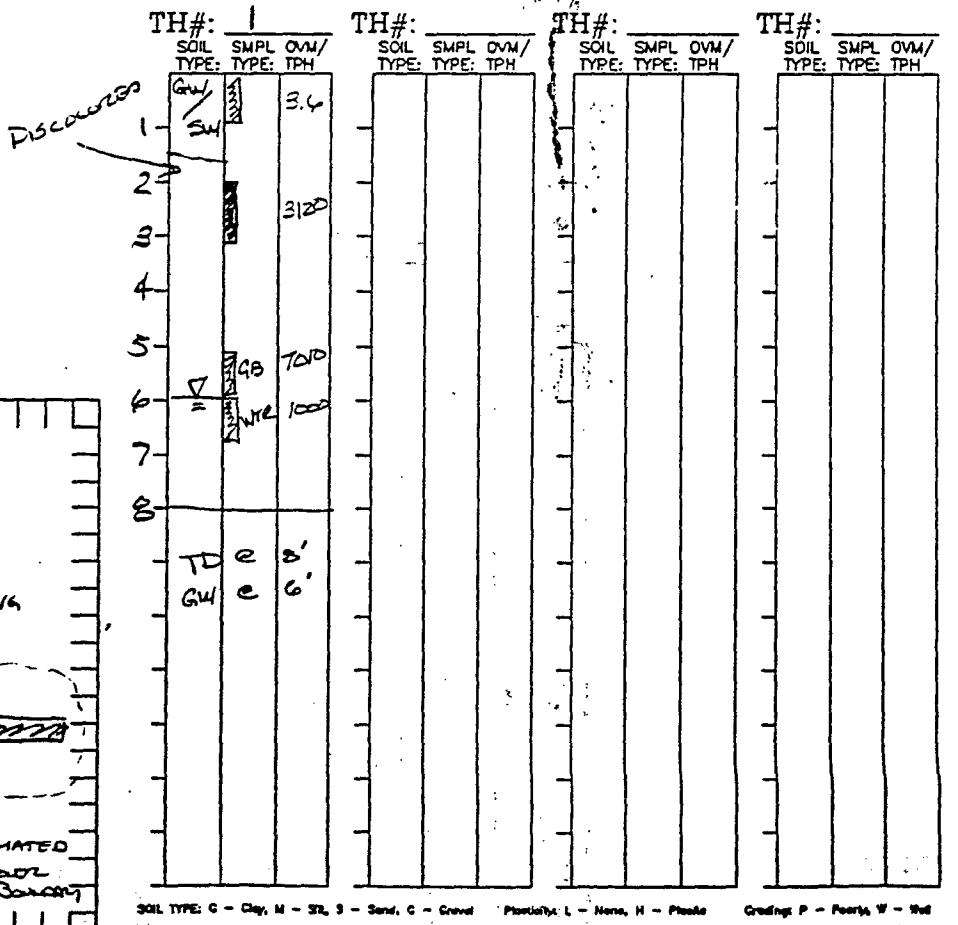
SCALE
0 10 20 FEET

N

SITE DIAGRAM



TEST HOLE LOGS:



ENVIROTECH Inc.

5796 US HWY. 64, FARMINGTON, NM 87401
(505) 632-0615

FIELD REPORT: CLOSURE VERIFICATION

JOB No: 92140
PAGE No: 1 of 1

LOCATION: LEASE: SAN JUAN GUL WELL: A-1E QD: 800' FEL & 1540' FNL
SEC: 21 TWP: 29N RNG: 13W BM: NM CNTY: SJ ST: NM PIT: SEP.
CONTRACTOR: ENVIROTECH
EQUIPMENT USED: TRK HOE

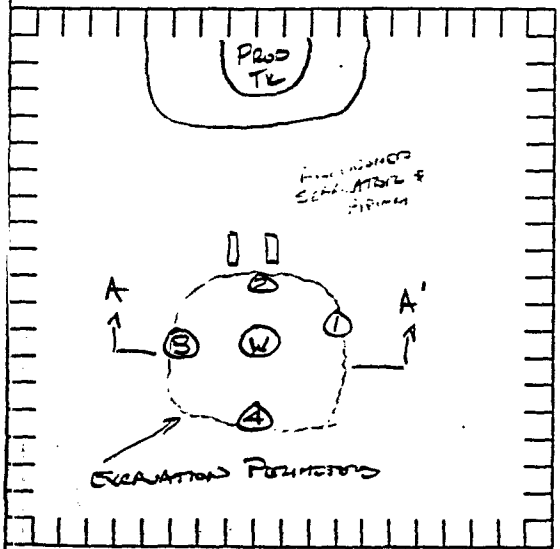
DATE STARTED: 5-26-92
DATE FINISHED: 5-27-92
ENVIRONMENTAL SPECIALIST: MKL

SOIL REMEDIATION: QUANTITY: 127 CY IN PLACE (~150 CY W/BOULDERS)
DISPOSAL FACILITY: STOCKPILED ON SITE ON 6MIL PLASTIC
LAND USE: ACTIVE GUL PIT
SURFACE CONDITIONS:

FIELD NOTES & REMARKS: EXCAVATED TO GROUNDWATER, ~27' DIAMETER MOSTLY TO WEST OF SEPARATOR SETTING. APPEARS TO HAVE REMOVED HIGHLY CONTAMINATED SOILS ASSOCIATED WITH ABANDONED SEPARATOR PIT. CONTAMINATED GROUNDWATER EXPECTED TO BE TREATED WITH PUMP & TREAT SYSTEM FOR PRODUCTION PIT CLEAN UP.

SCALE
0 10 20 FEET
N

PIT PERIMETER

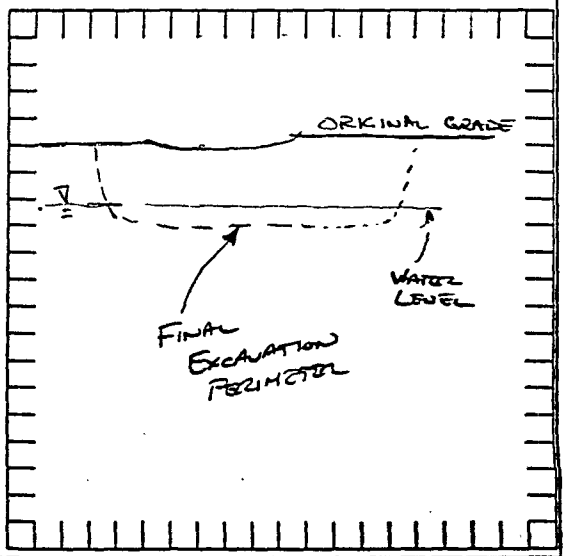


SAMPLE RESULTS

SMPL No:	ANALYTICAL RESULTS	
1	ND	ppm
2	81.2	ppm
3	ND	ppm
4	ND	ppm
W	ND	ppm
W	BTEX & TPH	

SCALE
0 5 10 FEET

PIT PROFILE



TRAVEL NOTES: CALLOUT: 8:00AM 5/27/92 ONSITE: 9:00 5/27/92 - OFFSITE @ 10:30AM

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T2 @ 4.5'	Date Reported:	04-21-92
Laboratory Number:	041392140-7	Date Sampled:	04-13-92
Sample Matrix:	Soil	Date Received:	04-13-92
Preservative:	Cool	Date Analyzed:	04-15-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	423	1
Toluene	2,530	1
Ethylbenzene	1,310	1
p,m-Xylene	264	1
o-Xylene	359	1

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: This sample was taken from the San Juan Gravel A-1-E Prod. Tk. Pit.

Tony Tristano
Analyst

David Young
Review

94012

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T4 @ 4'	Date Reported:	04-21-92
Laboratory Number:	041392140-8	Date Sampled:	04-13-92
Sample Matrix:	Soil	Date Received:	04-13-92
Preservative:	Cool	Date Analyzed:	04-15-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	600	1
Toluene	426	1
Ethylbenzene	442	1
p,m-Xylene	2,920	1
o-Xylene	1,060	1

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: This sample was taken from the San Juan Gravel A-1-E Prod. Tk. Pit.

Tony Tristano
Analyst

David Young
Review

94012

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T5 @ 4-5'	Date Reported:	04-21-92
Laboratory Number:	041392140-9	Date Sampled:	04-13-92
Sample Matrix:	Soil	Date Received:	04-13-92
Preservative:	Cool	Date Analyzed:	04-15-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	2,400	1
Toluene	325	1
Ethylbenzene	1,430	1
p,m-Xylene	8,100	1
o-Xylene	2,820	1

Method: Method 3810, Headspace, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: This sample was taken from the San Juan Gravel A-1-E Prod. Tk. Pit.

Tony Tristano
Analyst

Review

94012

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 8020
AROMATIC VOLATILE ORGANICS

Client:	Amoco	Project #:	92140
Sample ID:	T5 @ GW	Date Reported:	04-28-92
Laboratory Number:	041392140-10	Date Sampled:	04-13-92
Sample Matrix:	Water	Date Received:	04-13-92
Preservative:	Cool & HgCl2	Date Analyzed:	04-16-92
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/L)	Det. Limit (ug/L)
Benzene	3,130	10
Toluene	143	15
Ethylbenzene	920	10
p,m-Xylene	10,000	35
o-Xylene	1,940	10

SURROGATE RECOVERIES:

Parameter	Percent Recovery
Trifluorotoluene	96.4 %

Method: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

Method 8020, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986

ND - Parameter not detected at the stated detection limit.

Comments: This sample was taken from San Juan Gravel A-1-E Prod. Tk. Pit.

Tony Tristano
Analyst

Review

94012

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Client:	Amoco	Report Date:	5-4-92
Sample ID:	T5 @GW	Date Sampled:	4-20-92
Laboratory Number:	0069	Date Received:	4-20-92
Analysis Requested:	418.1	Date Extracted:	4-30-92
Sample Matrix:	Water	Date Analyzed:	4-30-92
Condition:	Received on Ice	Preservative:	Cool

Parameter	Concentration (mg/l)	Det. Limit (mg/l)
Total Recoverable Petroleum Hydrocarbons	180400	10.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

ND - Parameter not detected at the stated detection limit.

Comments: San Juan Gravel A-1E - Product Pit 94012

Analyst

Review

ENVIROTECH LABS

5796 US HIGHWAY 64-3014 • FARMINGTON, NEW MEXICO 87401
PHONE: (505) 632-0615 • FAX: (505) 632-1865

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Client:	Ameco	Report Date:	5-5-92
Sample ID:	T8 @6'	Date Sampled:	4-20-92
Laboratory Number:	0070	Date Received:	4-20-92
Analysis Requested:	418.1	Date Extracted:	4-28-92
Sample Matrix:	Soil	Date Analyzed:	4-28-92
Condition:	Received on Ice	Preservative:	Cool

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Total Recoverable Petroleum Hydrocarbons	ND	10.0

Method: Method 418.1, Petroleum Hydrocarbons, Total Recoverable, Chemical Analysis of Water and Waste, USEPA Storer No.4551, 1978.

ND - Parameter not detected at the stated detection limit.

Comments: SUG A-1E - Product Tank Pit 94012

Analyst

Review