District
P.O. Box 1980, Abbs, NM
District II
P.O. Drawer DD, Artesia, NM 88211
District III
io Brazos Rd, Aztec, NM 87410

State of New Mexico Energy, Minerals and Natural Resources Department

SEP SUBMIT 1 COPY TO
APPROPRIATE
DISTRICT OFFICE
AND 1 COPY TO
SANTA FE OFFICE

OIL CONSERVATION DIVISION

P.O. Box 2088 Santa Fe, New Mexico 87504-2088

PIT REMEDIATION AND CLOSURE REPORT

Operators	Amaca Production Company	Telephone: (505) - 326-9200
operator:	Amoco froduction company	rerebuone: (202) 250 3500
Address:	20C Amoco Court, Farmington	, New Mexico 87401
Facility Or:	6 ERH 6 C B #1	
		c 30 TZ9NR 9W County SAN JUAN
Pit Type: Sepa	rator Dehydrator O	ther Blow
Land Type: BL	M, State, Fee	, Other Con A6mT.
Pit Location: Attach diagram)	·	35', width 35', depth 13'
	Footage from reference:	
	Direction from reference	e: 45 Degrees East North X
Depth To Groun (Vertical distance contaminants to s high water elevate ground water)	ce from seasonal	Less than 50 feet (20 points) 50 feet to 99 feet (10 points) Greater than 100 feet (0 Points)
domestic water so	ection Area: eet from a private ource, or; less than ll other water sources)	Yes (20 points) No (0 points)
	ance to perennial vers, streams, creeks,	Less than 200 feet (20 points) 200 feet to 1000 feet (10 points) Greater than 1000 feet (0 points)
		RANKING SCORE (TOTAL POINTS):

Date Remediation St.	arted:	Date : Completed:	4 /28/94 28/8
Remediation Method:	Excavation <u>V</u>	Approx. cubic yards	590
(Check all appropriate sections)	Landfarmed X	Insitu Bioremediation	
	Other		
		or was	
Remediation Location (ie. landfarmed onsite, name and location of	n: Onsite X Of	fsite	· All and the second
offsite facility)			± 2 ± 3 € 3
General Description		1	- 2v
Excavatio	on, SEOROCK	BOTTOM LISK ASSESS	ED. "
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			S COS Services 100 St 20
			· · · · · · · · · · · · · · · · · · ·
		And the second s	A Section of the Control of the Cont
Ground Water Encoun	tered: No X	Yes Depth	
Final Pit: Closure Sampling: (if multiple samples,	Sample location _	see Attached Documents	
attach sample results and diagram of sample	Sample depth	3′	
locations and depths)	Sample date $\frac{4}{4}$	28.99 Sample time	
	Sample Results	entagen en e	e e en
	Benzene(ppm)		
	Total BTEX(p	pm)	
	Field headsp	pace(ppm) <u>1265</u>	·
	TPH <u>620</u> P		
Ground Water Sample	: Yes No _	X (If yes, attach sample	e results)
I HEREBY CERTIFY THOOF MY KNOWLEDGE AND		N ABOVE IS TRUE AND COMPLE	ETE TO THE BEST
11	Z3/98 PRINTE	NAME RILL DS	Laul
SIGNATURE (3)	AND TIT	PLE Environmental	Coordinator

PESULTS TO PAUL U. 4-28-94

	RESULTS to PAUL U. 4-20	7 /
CLIENT: AMOCO	ENVIROTECH Inc.	PIT NO: <u>C4978</u>
5796	US HWY 64, FARMINGTON, NM 87401 (505) 632-0615	C.O.C. NO:
FIELD REPORT: CLO	SURE VERIFICATION	JOB No: 92140 PAGE No: of
LOCATION: LEASE: BERK GC B	WELL #: PIT: BLOW	DATE STARTED: 4-28-99
UNIT: G SEC: 30 TWP: 29 N RNG CONTRACTOR: PAIL VELASOUEZ	: 9 W BM: MM CNTY: SJ ST: NM	ENVIRONMENTAL REG
FIELD NOTES & REMARKS: PIT LOCATED THE TO GROUNDWATER: 250 NEAREST SUNNING RANKING SCORE: 10 NMOCD TPH	ATED APPROXIMATELY <u>ISS</u> FEET <u>I</u> URFACE WATER: <u>>1000</u> NEAREST WATER H CLOSURE STD: <u>1000</u> PPM	145 4 FROM WELLHEAD. Source: >1000
OUT AND EVOLUTION DESCRIPTION	PIT EXCAUTED IN SITALE/BEDAUCH	CALLICTRUE
SUIL AND EXCAVAITUN DESCRIPTION.	THE EXCHANGE IN STRUCTURE OF PL	T LATE - RITTOR
-		27/2/2 20/107
ł	ALLS + BOTOM ARE HARD.	
	O ADDITIONAL EL CAUATION POS	
CONTAMINATION BENAMI IN RO	ch FARTURES / BODACK SANDST	ME ONLY,
	FIELE 4181 CALCULATIONS	
BEDRUCK SAMPLE I.D. LAB NO:	WEIGHT (g) ML. FREON DILUTION READING CAL	C. ppm
RSX ASSSED 4) C3@ 13' GAC 425	10.00 20 - 310	620
AV		
SCALE		
SCALE		
O 10 PEET	OVM	
PIT PERIMETER	RESULTS PIT	PROFILE
	SAMPLE FIELD HEADSPACE	
SURFACE NA -		
Genoiert N/	(1) NSO10 1126 (2) ES@ 9 191 (3) Susce 9 16 (4) CB@13 1265	
-	3 56089 6 9 6803 1265 A	A
E LAC O PAR.		/ ⊢
	- SH	the/shadstone
[] (4) (2) ·		· —
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TRAVEL NOTES: CALLOUT: 4-28-94	ONSITE: 4-28-99	1230
CALLOUI:		

Sw/4 ME/4 Well Name:

Well Site location:

Pit Type:

Producing Formation:

Pit Category:

Horizonal Distance to Surface Water:

Vicinity Groundwater Depth:

Gerk GC B #1
Unit G, Sec. 30, T29N, R9W
Blow Pit
Basin Dakota
Vulnerable
> 1000 ft.
< 100 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered shale/sandstone bedrock at 13 feet below grade.

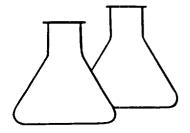
No past or future threat to surface water or groundwater is likely based on the following considerations:

- Past production fluids were contained locally by a relatively shallow shale/sandstone bedrock located 13 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone bedrock.
- 2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
- Daily discharge into the earthen pit has been terminated (double sidewall steel tank installed).
 Prior discharge into the pit is believed to be under 5 barrels per day.
- 4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
Frost, Jack B 1E	1100	0.011	5.889
Berger A1	482	0.084	0.681
Mudge Com B 1E	684	0.017	16.438
L.C. Kelly #5	1235	0.643	13.908

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the shale/sandstone bottom creates enough of a impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995", with cover letter dated November 30, 1995). AMOCO therefore request pit closure approval on this location.



Envirotech Labs

5796 US Highway 64-3014 • FARMINGTON, New Mexico 87401 PHONE: (505) 632-0615 • FAX: (505) 632-1865

FIELD MODIFIED EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client: Sample ID: Project Location:

Laboratory Number:

Amoco CB @ 13' Gerk GC B 1 GAC0435 Project #:
Date Analyzed:

92140 4-28-94

Date Reported:

4-28-94

Sample Matrix:

Soil

Parameter

Result, mg/kg

Detection Limit, mg/kg

Total Recoverable

Petroleum Hydrocarbons

620

10

ND = Not Detectable at stated detection limits.

QA/QC:

QA/QC Sample TPH mg/kg Duplicate
TPH mg/kg

% *Diff.

750

820

9

Method:

Modified Method 418.1, Petroleum Hydrocarbons, Total

Recoverable, Chemical Analysis of Water and Waste,

USEPA Storet No.4551, 1978

Comments:

Blow Pit C4978

R. E. O row

Review

^{*}Administrative Acceptance limits set at 30%.

PO Box 1980, Hobbs, NM

DISTRICT II

PO Prawer DD, Aricsa, NM 88211

LICT III

1000 Rio Brazos Rd, Azzec, NM 87410

District I State of New Mexico Po Box 1980, Hobbs, NM Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

PIT REMEDIATION AND CLOSURE REPORT

Operator:	Amoco Production Company		Telephone:	(505) - 326-9	200
Address:	200 Amoco Court, Farmington	, New Mexico	87401		
	GERK GC B1				
Location: Unit	or Qt::/Qtr Sec Se	c <u>30</u> <u>129</u> 2 <u>R</u>	9W County	SAN JUAN	
Pit Type: Sepa:	rator $\overline{ imes}$ Dehydrator 0 $^\circ$	ther			
Land Type: BL	M, State, Fee	, Other (Com. Abmt.	,	
t Location: (Attach diagram)	Pit dimensions: length Reference: wellhead X Footage from reference:	, other			1
	Direction from reference		grees $oxed{\times}$ Ea	of South	
Depth To Ground (Vertical distance contaminants to some high water elevate ground water)	e from easonal	Less than 5 50 feet to Greater tha	50 feet 99 feet an 100 feet	<pre>(20 points) (10 points) (0 Points)</pre>	<u>/o</u>
				(20 points) (0 points)	
.stance To Su (Horizontal dista lakes, ponds, riv irrigation canals	nce to perennial ers, streams, creeks,	200 feet to	1000 feet	(20 points) (10 points) (0 points)	
		RANKING SCO	ORE (TOTAL E	POINTS):	10

Date Remediation Sta	art 1:	Date Completed:	5/2/94
Remediation Method:		Approx. cubic yards _	
Remediation Method: (Check all appropriate sections)	Landfarmed X	Insitu Bioremediation	
secusons;	Other		
		Control Manager Co	
		Ssite	AND AND THE PROPERTY OF THE PR
Remediation Location (ie. landfarmed onsits,	n: Onsite <u>x</u> Off	3166	•
name and location of offsite facility)			2
General Description	or namedial Action	: EXCAUATION. B	EDROCK COM
Bonom. 1	Go, ASSESSED	AU	70000

			14 () 42 (43 (44 (44 (44 (44 (44 (44 (
			100 mg (100 mg)
			La super services and the services are services and the services and the services and the services are services and the services and the services are services are services and the services are services and the services are services are services are services and the services are services are services and the services are services are services are services are services and the services are servi
Ground Water Encoun	ter: 1: No X	Yes Depth	27
			San
Final Pit:	Sample location R	EFER TO CLOSURE VERIFIC	CATION" SHEET
Closure Sampling: (if multiple samples,			
attach sample results and diagram of sample	Sample depth	7'	
locations and depths)	Sarple date 5-	2-94 Sample time	·
	Sample Results		mula vinni liu inna <mark>nazi avaeta u.</mark>
	Benzene(ppm)		. 1974.
	Total BTEX(p		
		ace(ppm) 1356	1 to
	трн <u>53 рр</u>		1
			S. A. Maria Straight
Ground Water Sample	a: Yes No \geq	imes (If yes, attach samp)	le results) 5756
			10.00 10.00 10.00
I HEREBY CERTIFY THE	HAT THE INFORMATION	ABOVE IS TRUE AND COMP	The Control of the Co
OF MY KNOWLEDGE ANI	HAT THE INFORMATION		The state of the s
OF MY KNOWLEDGE ANI	HAT THE INFORMATION	DIIN	LETE TO THE BEST
OF MY KNOWLEDGE ANI	HAT THE INFORMATION D BELIEF 73/78	NAME Buddy D.	LETE TO THE BEST

CLIENT: AMOCO ENVIROTECH Inc.	PIT NO: <u>C498</u>]
5796 US HWY. 64, FARMINGTON, NM 87401 (505) 632-0615	C.O.C. NO: 3556
FIELD REPORT: CLOSURE VERIFICATION	JOB No: 92/40 PAGE No: 1 of 1
UNIT: G SEC: 30 TWP29N RNG: 9W BM: NM CNTY: SAN JURAST: NM CONTRACTOR: P. VELTSPUEZ	DATE STARTED: 5/2/94 DATE FINISHED: 5/2/94 ENVIRONMENTAL SPECIALIST: NV
SOIL REMEDIATION: EXCAVATION APPROX20 FT. x _45 FT. x	
DISPOSAL FACILITY: LANDFARMED ON-SITE	
FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 150 FEET	SDURCE: >1000
SOIL AND EXCAVATION DESCRIPTION: ALL DUM READINGS COMPOSED TO SELECTED GROWN STRONGS COMPOSED TO SOUTH TO THE EXTENT OF EQUIP. I MADERICATION PIPELAGE. BOTTOM & BEDDOCK BOTTOM & BEDDOCK BOTTOM & SEMPLE TOR TPH (418.1) (S) COSK ASSESSED IN FIELD 418.1 CALCULATIONS	
SCALE	C. ppm
SAMPLE FIELD HEADSPACE ID PID (ppm)	PROFILE
20e y 6.3 30e 5 1334 40e y 536 50e 7 1356 50e 7 1356	STORCK AND
TRAVEL NOTES: CALLOJT: 4/29/94 - FR) CNS.TE: 5/2/94 - M.	

Well Name:
Well Site location:
Pit Type:
Producing Formation:
Pit Category:
Horizonal Distance to Surface Water:
Vicinity Groundwater Depth:

Gerk GC B #1
Unit G, Sec. 30, T29N, R9W
Separator Pit
Basin Dakota
Vulnerable
> 1000 ft.
< 100 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered shale/sandstone bedrock at 7 feet below grade.

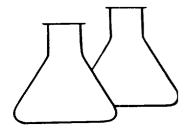
No past or future threat to surface water or groundwater is likely based on the following considerations:

- 1. Past production fluids were contained locally by a relatively shallow shale/sandstone bedrock located 7 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone bedrock.
- 2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
- Daily discharge into the earthen pit has been terminated (double sidewall steel tank installed). Prior discharge into the pit is believed to be under 5 barrels per day.
- 4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
Frost, Jack B 1E	1100	0.011	5.889
Berger A1	482	0.084	0.681
Mudge Com B 1E	684	0.017	16.438
L.C. Kelly #5	1235	0.643	13.908

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the shale/sandstone bottom creates enough of a impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995", with cover letter dated November 30, 1995). AMOCO therefore request pit closure approval on this location.



ENVIROTECH LABS

5796 US Highway 64-3014 • FARMINGTON, New Mexico 87401 PHONE: (505) 632-0615 • FAX: (505) 632-1865

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Project #: 92140 Client: Amoco 05-02-94 Date Sampled: 5 @ 7' Sample ID: 05-03-94 Date Received: 7333 Laboratory Number: Date Analyzed: 05-03-94 Soil Sample Matrix: 05-03-94 Date Reported: Cool Preservative: Analysis Needed: TPH Cool & Intact Condition:

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	53	10.0

 ${
m ND}$ = Parameter not detected at the stated detection limit. ${
m N/A}$ = Not applicable

Method: Method 418.1, Petroleum Hydrocarbons, Total

Recoverable, Chemical Analysis of Water and

Waste, USEPA Storet No.4551, 1978

Comments: Gerk GC Bl Sep Pit C4981

Analyst

Review Journa

04981		Bemarks							Date Time	5-3-24 0720			san juan repro Form 578-81
3	ANALYSIS/PARAMETERS									. (house			
DY RECORD			of Liners	Sir)	> -				Received by: (Signature)	Lan d	Received by: (Signature)	Received by: (Signature)	CH INC. ay 64:3014 lexico 87401 615
L.	SEP PIT			Sample Matrix	2015				Date Time Rec	x 060 448/2		Rec	ENVIROTECH INC. 5796 U.S. Highway 64-3014 Farmington, New Mexico 87401 (505) 632-0615
	Project Location	Chain of Custody Table No.		Lab Numbor	7333					V			
	0)			Sample	0915								
	07186	-	100	Sample Date	5/2/94					000			
	Client/Project Name		Sampler (Signature)	Sample No / C	(S) (2)				Relinquished by: (Signature)	20012	Relinquished by: (Signature)	Relinquished by: (Signature)	

PO Box 1980, Hobbs, NM

DISTRICT IT

PO Prawer DD, Arless, NM 85211

TICT III

1000 Rio Brazos Rd, Azzec, NM 87410

District T State of New Mexico P O Box 1980, Hobbs, NM Energy, Minerals and Natural Resources Department

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

PIT REMEDIATION AND CLOSURE REPORT

والمتعالية		
Operator: Amoco Pr	oduction Company	Telephone: (505) - 326-9200
Address: 200 Amoc	o Court, Farmington, N	ew Mexico 87401
Facility Or: S	ERK GC 81	
Location: Unit or Qtm/Qtm	sec Sec Sec	> TZAN R 9W COUNTY SAN JUEN
Pit Type: Separator	Dehydrator Othe	PREMIONED COMPRESSOR
Land Type: BLM, St	ate, Fee, (other Com. AGMT.
(Attach diagram) Referen Footage	ce: wellhead $\underline{\times}$, from reference: $\underline{}$	other 102 TO Degrees X East North X of West South
		west South
Depth To Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	5.	ess than 50 feet (20 points) D feet to 99 feet (10 points) reater than 100 feet (0 Points)
Wellhead Protection Ar (Less than 200 feet from a domestic water source, or; 1000 feet from all other wa	private less than	Yes (20 points) No (0 points)
stance To Surface Wa (Horizontal distance to pe lakes, ponds, rivers, stre irrigation canals and ditc	rennial 2 ams, creeks, G	ess than 200 feet (20 points) 00 feet to 1000 feet (10 points) reater than 1000 feet (0 points)
	R	ANKING SCORE (TOTAL POINTS):

	en e		C D Q 1
Date Remediation St		te Completed:_	
Remediation Method:	Excavation \times Approx.	cubic yards	50 (35)
(Check all appropriate sections)	Landfarmed X Insitu 1	Bioremediation	
	Other		
* * * * * * * * * * * * * * * * * * *	A CONTRACTOR OF THE STATE OF TH	A STATE OF THE STA	The second secon
Mamadiahian G	n: Onsite X Offsite	en markan en	The transfer of the second of
Remediation Location (ie. landfarmed onsite)			•
name and location of offsite facility)			
General Description	of Remedial Action: EXCA	WATION. G	DRXX FEETING
Resition	RISK ASSESSED 9NV	make marks. The subspice and market are a first confidence of the subspice and the subspice	O ZILLER
DUINT.			
			TOTAL CONTROL OF THE PROPERTY
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	en generalista (h. 1865). 18 an - Pagella Maria, en 18 an - Pagella Maria, en 18 an 18 18 an - Pagella Maria, en 18 an 1	The Company of the Co	1 - January Mary Comment
Ground Water Encoun	ntered: No X Yes	Depth	
, , ,	and the contract of the contra	y and the property of the control o	and the same of th
pinel nin	Sample location REFER To		SHEET
Final Pit: Closure Sampling:	Sample location REFER TO		TJJHZ "COTTA
Closure Sampling: (if multiple samples, attach sample results	Sample location REFER TO		SHEET GOTTA
Closure Sampling: (if multiple samples,	Sample location REFER TO	CLOSURE VERIFIC	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99		
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO	CLOSURE VERIFIC	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99	CLOSURE VERIFIC	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results	CLOSURE VERIFIC	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm)	CLOSURE VERIFIC	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm)	Sample time	20 0° 1 1 2
Closure Sampling: (if multiple samples, attach sample results and diagram of sample	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm)	Sample time	20 01
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm)	Sample time	
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sampl	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm) TPH 1900 PPm e: Yes No (If yes	Sample time 323	e results)
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sampl I HEREBY CERTIFY T	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm) TPH 1900 ppm e: Yes No (If yes	Sample time 323	e results)
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sampl I HEREBY CERTIFY TOF MY KNOWLEDGE AN	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm) TPH 1900 PPm e: Yes No (If yes D BELIEF	Sample time 323 TRUE AND COMPLI	e results)
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sampl I HEREBY CERTIFY T	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm) TPH 1900 PPm e: Yes No (If yes D BELIEF	Sample time 323 TRUE AND COMPLI	e results)
Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths) Ground Water Sampl I HEREBY CERTIFY TOF MY KNOWLEDGE AN	Sample location REFER TO Sample depth 6 Sample date S-2-99 Sample Results Benzene(ppm) Total BTEX(ppm) Field headspace(ppm) TPH 1900 PPm e: Yes No (If yes printed name) PRINTED NAME	Sample time 323 TRUE AND COMPLI	e results)

COST.

	CLIENT: AMOCO ENVIROTECH Inc.	PIT NO C4982
	5796 US HWY. 64, FARMINGTON, NM 87401 (505) 632-0615	C.O.C. NO: 3557
	FIELD REPORT: CLOSURE VERIFICATION	JOB No: 92140 PAGE No: 1 of 1
	LOCATION: LEASE: GERK GC WELL #: 81 PIT: ABRINO. COMPR.	DATE STARTED: <u>5/2/94</u> DATE FINISHED: <u>5/2/94</u>
	UNIT: G SEC: 30 TWP: 29N RNG: 9W BM: NM CNTY: SAN TUBAST: NM CONTRACTOR: P. VELASQUEZ	ENVIRONMENTAL NV
-	SOIL REMEDIATION: EXCAVATION APPROX. 13 FT. x 14 FT. x	6 FT. DEEP.
	DISPOSAL FACILITY: LANDFARMED ON-SITE	
-	LAND USE: RANGE	
	FIELD NOTES & REMARKS: PIT LOCATED APPROXIMATELY 102 FEET N depth to groundwater: $^{(00)}$ nearest surface water: $^{(00)}$ nearest water	SOURCE: >1000
	NMOCD RANKING SCORE: 10 NMOCD TPH CLOSURE STD (000 PPM	
	SOIL AND EXCAVATION DESCRIPTION: ALL OUT SAMPLES COMPOSED OF SHE	RLY ROCK MATTERS
MEAD	SAMPLE FIELD HEADSPACE (D) PHD (ppm) DC? 46 9 DC? 15.7 DC21 15.	PROFILE -13' S
	TRAVEL NOTES: CALLOUT: 4/29/94 - FR? ONSITE: 5/2/94 -	المور

Well Name:
Well Site location:
Pit Type:
Producing Formation:
Pit Category:
Horizonal Distance to Surface Water:
Vicinity Groundwater Depth:

Gerk GC B #1
Unit G, Sec. 30, T29N, R9W
Compressor Pit
Basin Dakota
Vulnerable
> 1000 ft.
< 100 ft.

RISK ASSESSMENT

Pit remediation activities were terminated when trackhoe encountered shale/sandstone bedrock at 6 feet below grade.

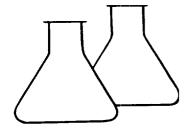
No past or future threat to surface water or groundwater is likely based on the following considerations:

- 1. Past production fluids were contained locally by a relatively shallow shale/sandstone bedrock located 6 feet below grade. Groundwater levels located on or close to the well pad are estimated to be at a much greater depth below sandstone bedrock.
- 2. Topographic information does not indicate off site lateral fluid migration near the earthen pit.
- Daily discharge into the earthen pit has been terminated (double sidewall steel tank installed).
 Prior discharge into the pit is believed to be under 5 barrels per day.
- 4. Field headspace readings (OVM/PID) on Basin Dakota type locations do not reflect direct correlation to total BTEX per USEPA Method 8020 concentrations. Listed below are several typical AMOCO Basin Dakota pit soil analyses comparing headspace to Benzene and total BTEX results.

LOCATION	HEADSPACE (ppm)	BENZENE (ppm)	TOTAL BTEX (ppm)
Frost, Jack B 1E	1100	0.011	5.889
Berger A1	482	0.084	0.681
Mudge Com B 1E	684	0.017	16.438
L.C. Kelly #5	1235	0.643	13.908

The comparisons listed above demonstrates that headspace testing is not an accurate measurement to Benzene or total BTEX concentrations when above standards for Basin Dakota type pits.

Based upon the information given, we conclude that the subsurface lateral impact from the earthen pit is very limited and that the shale/sandstone bottom creates enough of a impermeable barrier as to subdue impact to groundwater below it (please refer to AMOCO's report "Post Excavation Pit Closure Investigation Summary, July, 1995", with cover letter dated November 30, 1995). AMOCO therefore request pit closure approval on this location.



ENVIROTECH LABS

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

EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client: Sample ID: Laboratory Number: Sample Matrix: Preservative:	Amoco 5 @ 6' 7334 Soil Cool	Date Analyzed: Date Reported:	92140 05-02-94 05-03-94 05-03-94
Condition:	Cool & Intact	Analysis Needed:	TPH

Parameter	Concentration (mg/kg)	Det. Limit (mg/kg)
Total Petroleum Hydrocarbons	1,900	10.0

ND = Parameter not detected at the stated detection limit. N/A = Not applicable

Method 418.1, Petroleum Hydrocarbons, Total Method:

Recoverable, Chemical Analysis of Water and Waste, USEPA Storet No.4551, 1978

Comments: Gerk GC Bl Abandoned Compressor C4982

C4987		Remarks							Date Time			Nan juan repro Form 578-81
Q	ANALYSIS/PARAMETERS							,	L'agree			
ODY RECOR	Ja		No. O Contain HQT	>					Received by: (Signature)	Received by: (Signature)	Received by: (Signature)	CH INC. ay 64-3014 lexico 87401 615
CHAIN OF CUSTODY RECORD	ABANDONED CONTRESSOR		Sample Matrix	2015				:	Time 4 0725		- R	ENVIROTECH INC. 5796 U.S. Highway 64:3014 Farmington, New Mexico 87401 (505) 632-0615
CHV	Project Location ABRAN 6ERK GC	Chain of Custody Tape No.	Lab Number	7334					5/2/7			
			Sample Time	0/0/								
	04186	Z.	Sample	8/2/34					Ved	0		
	Client/Project Name	Sampler: (Signature)	Sample No./ Identification	(5) @ b'					Relinquished by: (Signature)	Relinquished by: (Signature)	Relinquished by: (Signature)	

	TATELLIA INC	C4978
	INEERING, INC. DOMFIELD, NM 87413	LOCATION NO: <u>C4981</u>
	632-1199	C.O.C. NO: 5570
FIELD REPORT: LANDFARM/COM	POST PILE CLOSURE	VERIFICATION
LOCATION: NAME: GERK &C B WELL #:		DATE STARTED: 11 20 97
QUAD/UNIT: (G) SEC: 30 TWP: 29N RNG: 9W		ENVIRONMENTAL SPECIALIST: NV/EP
SOIL REMEDIATION:		
REMEDIATION SYSTEM: LANDFARM	APPROX. CUBIC Y	ARDAGE: 825
LAND USE: ZANGE	LIFT DEPTH (ft):	
FIELD NOTES & REMARKS:		
DEPTH TO GROUNDWATER: 1/00/ NEAREST WATER SOURCE	E: NEAREST SURFAC	E WATER: >1000
NMOCI RANKING SCORE: 12 NMOCI TPH CLOSURE S'		
SOIL IS DRY LIGHT GRAY CLAY W/SILTY SA NO STAIN OR H.C. GOOR TOOK STY COMPO		EERTAIN
IF AREA SAMPLE IS ACTURE LANDFAM		
FIFL D. 4:	8.1 CALCULATIONS	
SAMP, TIME SAMPLE I.D. LAB No: WEIGH		IG CALC. ppm
SKETCH/SAMPLE LOCATIONS		
(3)		
	OVM RESULTS	LAB SAMPLES
© 12 PM.H.	SAMPLE FIELD HEADSPACE SAMPLE (D) FID (ppm)	ANALYSIS TIME RESULTS
М.н.	LF-1 0.0 LF-1	8015 1120 ND
WELL PROD.		
HEAD.		
	CCALE	
SEP PIT EP	SCALE	
	0 FT	
TRAVEL NOTES: CALLOUT: N/A	ONSITE: 11.2097	1126



EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Client:	Blagg / AMOCO	Project #:	04034-10
Sample ID:	LF - 1	Date Reported:	11-25-97
Laboratory Number:	C545	Date Sampled:	11-20-97
Chain of Custody No:	5570	Date Received:	11-21-97
Sample Matrix:	Soil	Date Extracted:	11-21-97
Preservative:	Cool	Date Analyzed:	11-24-97
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References:

Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste,

SW-846, USEPA, December 1996.

Comments:

Gerk GC B #1 Landfarm. 5 Pt. Composite.

Dew L. Cejewan Analyst Stacy W Sendler

		C	CHAIN OF CUSTOUT RECOR	OUT RECORD	
Client/Project Name		Project Location	LANDFRIAM	AVA: YS	ANALYSIS/PARAMETERS
DINGG / AMOCO		हरीय ह	GC 8#1	אַרוּ	O TANAME I ENO
Sampler: (Signature) /		у Та			Remarks
Ellowan		04034-10	10	of iners H	
Sample	Sample	l ab Nimber		No. Contai	2
Identification Date	Time	Lab Number	Matrix	i i	PRESERV, - COOL
LF-1 1/20/97	1120	C545	5012	< _	5 PT. Camposite
				Sample received	cools interest
					3
Relinquished by: (Signature)			Date Time	Received by: (Signature)	Date Time
Call tours.		1	11/20/97 0747	Mehon Vel	1210 (18/12/N
Relinquished by: (Signature)			11/21/2 0904	Received Ay: (Signature)	100 Calcal
Relinquished by: (Signature)				Received by: (Signature)	
Ref Cex's 5564-> 5574	557	1	ENVIROTECH INC.	CH INC.	
			5796 U.S. Highway 64-3014 Farmington, New Mexico 87401 (505) 632-0615	way 64-3014 Mexico 87401 2-0615	
			(505) 63	2100-5	