

Denise A. Frost
DEPUTY OIL & GAS INSPECTOR

JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528

BJ542

SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

OCT 08 1999

PIT REMEDIATION AND CLOSURE REPORT

Blow - Risk - below
Tank Drain - OK
Sep - OK

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200
Address: 200 Amoco Court, Farmington, NM 87401
Facility or Well Name: JICARILLA CONTRACT 148-37
Location: Unit or Qtr/Qtr Sec C Sec 13 T 25N R 5W County RIO ARriba
Pit Type: Separator Dehydrator Other BLOW
Land Type: RANGE

Pit Location: Pit dimensions: length 45', width 45', depth 23'
(Attach diagram) Reference: wellhead X, other
Footage from reference: 126'
Direction from reference: 38 Degrees East of North X
X West South

Depth To Groundwater:

(Vertical distance from
contaminants to seasonal
high water elevation of
groundwater)

RECEIVED
AUG 24 1999

Less than 50 feet (20 points)
50 feet to 99 feet (10 points)
Greater than 100 feet (0 points) 0

Distance to an Ephemeral Stream

(Downgradient dry wash greater than
ten feet in width)

OIL CON. DIV.
DIST. 3

Less than 100 feet (10 points)
Greater than 100 feet (0 points) 0

Distance to Nearest Lake, Playa, or Watering Pond

(Downgradient lakes, playas and
livestock or wildlife watering ponds)

Less than 100 feet (10 points)
Greater than 100 feet (0 points) 0

Wellhead Protection Area:

(Less than 200 feet from a private
domestic water source, or: less than
1000 feet from all other water sources)

Yes (20 points)
No (0 points) 0

Distance To Surface Water:

(Horizontal distance to perennial
lakes, ponds, rivers, streams, creeks,
irrigation canals and ditches)

Less than 100 feet (20 points)
100 feet to 1000 feet (10 points)
Greater than 1000 feet (0 points) 0

RANKING SCORE (TOTAL POINTS): 0

Date Remediation Started: _____ Date Completed: 4/14/98

Remediation Method: Excavation ☒ Approx. cubic yards 1,725
(Check all appropriate Insitu Bioremediation _____
options) Landfarmed ☒
Other _____

Remediation Location: Onsite ☒ Offsite ☒ JICARILLA CONTRACT 148-4 (F-13-25-5)
(i.e. landfarmed onsite, JICARILLA CONTRACT 148-33 (H-15-25-5)
name and location of
offsite facility)

General Description of Remedial Action: Excavation. BOTTOM HALF MOSTLY BEDROCK,
THEREFORE NO TPH ANALYSIS WAS CONDUCTED.

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents

Closure Sampling: _____
(if multiple samples, attach sample results and diagram of sample locations and depths)

Sample depth 23' (PIT BOTTOM)

Sample date 4/14/98 Sample time 1115

Sample Results

| | | | | | |
|-----------------|-------|------------|----------------|-------|-------|
| Soil: Benzene | (ppm) | _____ | Water: Benzene | (ppb) | _____ |
| Total BTEX | (ppm) | _____ | Toluene | (ppb) | _____ |
| Field Headspace | (ppm) | <u>0.0</u> | Ethylbenzene | (ppb) | _____ |
| TPH | (ppm) | <u>NA</u> | Total Xylenes | (ppb) | _____ |

Groundwater Sample: Yes _____ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 4/14/98 PRINTED NAME Buddy D. Shaw
SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO _____ (REASON) _____

SIGNED: Kate C M... DATE: 4-28-98

| | | |
|----------------------|--|---|
| CLIENT: <u>AMOCO</u> | BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199 | LOCATION NO: <u>8JS42</u> C.D.C. NO: _____ |
|----------------------|--|---|

| | |
|---|-------------------------------|
| FIELD REPORT: CLOSURE VERIFICATION | PAGE No: <u>1</u> of <u>1</u> |
|---|-------------------------------|

| | |
|--|---|
| LOCATION: NAME: <u>JICA CONTR. 148</u> WELL #: <u>37</u> PIT: <u>BLOW</u> QUAD/UNIT: <u>C SEC: 13 TWP: 25N</u> RNG: <u>5W</u> PM: <u>NM</u> CNTY: <u>RA</u> ST: <u>NM</u> DTP/FOOTAGE: <u>NE/4 NW/4</u> CONTRACTOR: <u>P+S</u> | DATE STARTED: <u>4/14/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NU</u> |
|--|---|

| | |
|---|---|
| EXCAVATION APPROX. <u>45</u> FT. x <u>45</u> FT. x <u>23</u> FT. DEEP. | CUBIC YARDAGE: <u>1,725</u> |
| DISPOSAL FACILITY: <u>ON-SITE + JICA CONTR. 48-33</u> REMEDIATION METHOD: <u>LANDFARMED</u> | |
| LAND USE: <u>RANGE</u> | LEASE: <u>JICA 148</u> FORMATION: <u>OK</u> |

| | |
|---|--|
| FIELD NOTES & REMARKS: | PIT LOCATED APPROXIMATELY <u>126</u> FT. <u>N38W</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>2100'</u> NEAREST WATER SOURCE: <u>21000'</u> NEAREST SURFACE WATER: <u>21000'</u> NMOCB PANKING SCORE: <u>0</u> NMOCB TPH CLOSURE STD: <u>5000</u> PPM |
| COIL AND EXCAVATION DESCRIPTION: <div style="float: right; border: 1px solid black; padding: 5px; width: 200px;"> CHECK ONE: <input checked="" type="checkbox"/> PIT ABANDONED <input type="checkbox"/> STEEL TANK INSTALLED <input type="checkbox"/> FIBERGLASS TANK INSTALLED </div> | |

SOILS ARE DK. YELL. BROWN SAND PHASING INTO DUSKY RED CLAY THEN SHALE, NO DISCOLORATION OBSERVED IN SAND INTERVAL (SEE THICKNESS W/IN PIT PROFILE), CLAY IS SLIGHTLY PLASTIC TO HIGHLY PLASTIC, SLIGHTLY MOIST, FIRM TO VERY HARD, NO APPARENT HC ODOOR OBSERVED IN ANY OF OUR SAMPLES COLLECTED FROM SHALE. SHALE DUSKY RED IN COLOR, VERY HARD.

BEDROCK BOTTOM

SCALE

0 FT

CLOSED

FIELD 418.1 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------|-------------|---------|------------|-----------|----------|---------|-----------|
| 1115 | | | | | | | |
| | | | | | | | |
| | | | | | | | |

PIT PROFILE

PIT PERIMETER

OVM RESULTS

| SAMPLE ID | FIELD HEADSPACE PID (ppm) |
|-----------|---------------------------|
| 1 @ 18' | 0.0 |
| 2 @ 17' | 0.0 |
| 3 @ 17' | 0.0 |
| 4 @ 17' | 0.0 |
| 5 @ 23' | 0.0 |

LAB SAMPLES

| SAMPLE ID | ANALYSIS | TIME |
|-----------|----------|------|
| | | |
| | | |
| | | |
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PIT PROFILE

| | | |
|---------------|--------------------------------|--------------------------------|
| TRAVEL NOTES: | CALLOUT: <u>4/8/98 - AFTER</u> | ONSITE: <u>4/14/98 - MORN.</u> |
|---------------|--------------------------------|--------------------------------|

BJ542

PIT REMEDIATION AND CLOSURE REPORT

| | | |
|---|--|----------------------------------|
| Operator: AMOCO PRODUCTION COMPANY | | Telephone: (505) 326-9200 |
| Address: 200 Amoco Court, Farmington, NM 87401 | | |
| Facility or Well Name: JICARILLA CONTRACT 148-37 | | |
| Location: Unit or Qtr/Qtr Sec C Sec 13 T2S N R5W County RIO ARriba | | |
| Pit Type: Separator Dehydrator Other PRODUCTION TANK | | |
| Land Type: RANGE | | |

| | | |
|--|---|--|
| Pit Location: (Attach diagram) | Pit dimensions: length 30', width 22', depth 14' | |
| | Reference: wellhead X, other _____ | |
| | Footage from reference: 168' | |
| | Direction from reference: 19 Degrees X East North X West South | |

| | | | |
|---|-----------------------|-------------|----------|
| Depth To Groundwater: (Vertical distance from contaminants to seasonal high water elevation of groundwater) | Less than 50 feet | (20 points) | |
| | 50 feet to 99 feet | (10 points) | |
| | Greater than 100 feet | (0 points) | <u>0</u> |

| | | | |
|--|-----------------------|-------------|----------|
| Distance to an Ephemeral Stream (Downgradient dry wash greater than ten feet in width) | Less than 100 feet | (10 points) | |
| | Greater than 100 feet | (0 points) | <u>0</u> |

| | | | |
|---|-----------------------|-------------|----------|
| Distance to Nearest Lake, Playa, or Watering Pond (Downgradient lakes, playas and livestock or wildlife watering ponds) | Less than 100 feet | (10 points) | |
| | Greater than 100 feet | (0 points) | <u>0</u> |

| | | | |
|---|-----|-------------|----------|
| Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or: less than 1000 feet from all other water sources) | Yes | (20 points) | |
| | No | (0 points) | <u>0</u> |

| | | | |
|---|------------------------|-------------|----------|
| Distance To SurfaceWater: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches) | Less than 100 feet | (20 points) | |
| | 100 feet to 1000 feet | (10 points) | |
| | Greater than 1000 feet | (0 points) | <u>0</u> |

RANKING SCORE (TOTAL POINTS): 0

BJS42

PROD. TANK PIT

Date Remediation Started: _____

Date Completed: 4/17/98Remediation Method:
(check all appropriate sections)Excavation ☒Landfarmed ☒

Other _____

Approx. cubic yards 340

Insitu Bioremediation _____

Remediation Location:

Onsite ☒ Offsite _____(i.e. landfarmed onsite,
name and location of
offsite facility)General Description of Remedial Action: Excavation. BEDROCK BOTTOM. SPRAYED NORTH+ WEST SIDEWALLS w/ FERTILIZER.

Groundwater Encountered:

No ☒ Yes _____

Depth _____

Final Pit:

Closure Sampling:

(if multiple samples,
attach sample results
and diagram of sample
locations and depths)Sample location see Attached DocumentsSample depth 9' (NORTH SIDEWALL)Sample date 4/14/98 Sample time 1025

Sample Results

Soil: Benzene (ppm) 0.0095Total BTEX (ppm) 5.280Field Headspace (ppm) 292TPH (ppm) 70.1

Water: Benzene (ppb) _____

Toluene (ppb) _____

Ethylbenzene (ppb) _____

Total Xylenes (ppb) _____

Groundwater Sample:

Yes _____ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE

4/17/98

PRINTED NAME

Buddy D. Shaw

SIGNATURE

Buddy D. Shaw

AND TITLE

Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO _____ (REASON) _____

SIGNED:

Kate C. Mamm

DATE:

4-29-98

| | | |
|----------------------|--|---|
| CLIENT: <u>AMOCO</u> | BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199 | LOCATION NO: <u>BJS42</u> C.D.C. NO: <u>5742</u> |
|----------------------|--|---|

| | | |
|------------------------------------|--|-------------------------------|
| FIELD REPORT: CLOSURE VERIFICATION | | PAGE No: <u>1</u> of <u>1</u> |
|------------------------------------|--|-------------------------------|

| | |
|---|--|
| LOCATION: NAME: <u>JICA. CONTR. 148</u> WELL #: <u>37</u> PIT: <u>PROD.</u> | DATE STARTED: <u>4/14/98</u> DATE FINISHED: _____ |
| QUAD/UNIT: <u>C</u> SEC: <u>13</u> TWP: <u>25N</u> RNG: <u>5W</u> PM: <u>NM CNTY. RA ST. NM</u> | ENVIRONMENTAL SPECIALIST: <u>NV</u> |
| CTR/FOOTAGE: <u>NE 1/4 NW 1/4</u> CONTRACTOR: <u>P+S</u> | |

| | |
|--|--|
| EXCAVATION APPROX. <u>30</u> FT. x <u>22</u> FT. x <u>14</u> FT. DEEP. | CUBIC YARDAGE: <u>340</u> |
| DISPOSAL FACILITY: <u>ON-SITE</u> | REMEDIATION METHOD: <u>LANDFARMED</u> |
| LAND USE: <u>RANGE</u> | LEASE: <u>JICA. 148</u> FORMATION: <u>DK</u> |

| | |
|---------------------------------------|--|
| FIELD NOTES & REMARKS: | PIT LOCATED APPROXIMATELY <u>168</u> FT. <u>N 1/2 E</u> FROM WELLHEAD. |
| DEPTH TO GROUNDWATER: <u>>100'</u> | NEAREST WATER SOURCE: <u>>1000'</u> |
| NMOC RANKING SCORE: <u>0</u> | NMOC TPH CLOSURE STD: <u>5000</u> PPM |

CHECK ONE:
☒ PIT ABANDONED
☐ STEEL TANK INSTALLED
☐ FIBERGLASS TANK INSTALLED

SOILS RANGE FROM DK. YELL. BROWN SAND (APPROX. 0'-7') TO DUSKY RED CLAY (7'-12'), CLAY SLIGHTLY PLASTIC NEAR 7' TO HIGHLY PLASTIC, SLIGHTLY MOIST, FIRM TO VERY HARD, MINOR AMOUNT OF STRAINING (SMALL PATCH) OBSERVED IN NE CORNER OF EXCAVATION, STRONG HC ODOR IN NORTH & WEST SIDEWALL DUM SAMPLES.

BOTTOM - DUSKY RED SHALE, VERY HARD, NO APPARENT HC ODOR IN DUM SAMPLE.

BEDROCK BOTTOM

SCALE

0 FT

CLOSED

FIELD 418.1 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------|-------------|---------|------------|-----------|----------|---------|-----------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

PIT PERIMETER

OVM RESULTS

| SAMPLE ID | FIELD HEADSPACE PID (ppm) |
|-----------|---------------------------|
| 1 @ 9' | 292 |
| 2 @ 8' | 0.0 |
| 3 @ 8' | 0.0 |
| 4 @ 8' | 244.1 |
| 5 @ 14' | 0.0 |

LAB SAMPLES

| SAMPLE ID | ANALYSIS | TIME |
|-----------|---------------|------|
| 1 @ 9' | TPH / BTEX | 1025 |
| | (8015) (8021) | |

BOTH PASSED

PIT PROFILE

| | |
|------------------------------|---------------------------------|
| TRAVEL NOTES: | CALLOUT: <u>4/8/98 - AFTER.</u> |
| ONSITE: <u>4/14/98 MORN.</u> | |

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

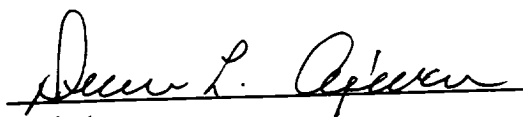
| | | | |
|----------------------|-----------------|---------------------|----------|
| Client: | Blagg / AMOCO | Project #: | 04034-10 |
| Sample ID: | 1 @ 9' | Date Reported: | 04-18-98 |
| Laboratory Number: | D104 | Date Sampled: | 04-14-98 |
| Chain of Custody No: | 5742 | Date Received: | 04-15-98 |
| Sample Matrix: | Soil | Date Extracted: | 04-15-98 |
| Preservative: | Cool | Date Analyzed: | 04-17-98 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

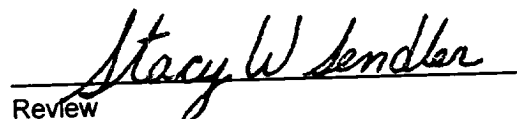
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | 6.3 | 0.2 |
| Diesel Range (C10 - C28) | 63.8 | 0.1 |
| Total Petroleum Hydrocarbons | 70.1 | 0.2 |

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: Jicarilla contract 148-37. Prod. Tank Pit.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

| | | | |
|--------------------|---------------|---------------------|----------|
| Client: | Blagg / AMOCO | Project #: | 04034-10 |
| Sample ID: | 1 @ 9' | Date Reported: | 04-17-98 |
| Laboratory Number: | D104 | Date Sampled: | 04-14-98 |
| Chain of Custody: | 5742 | Date Received: | 04-15-98 |
| Sample Matrix: | Soil | Date Analyzed: | 04-17-98 |
| Preservative: | Cool | Date Extracted: | 04-15-98 |
| Condition: | Cool & Intact | Analysis Requested: | BTEX |

| Parameter | Concentration (ug/Kg) | Det. Limit (ug/Kg) |
|--------------|--------------------------|--------------------------|
| Benzene | 9.5 | 8.8 |
| Toluene | 101 | 8.4 |
| Ethylbenzene | 684 | 7.6 |
| p,m-Xylene | 3,690 | 10.8 |
| o-Xylene | 795 | 5.2 |
| Total BTEX | 5,280 | |

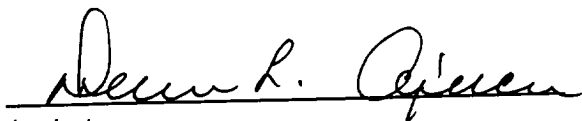
ND - Parameter not detected at the stated detection limit.

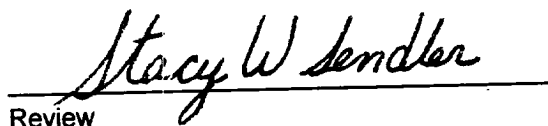
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|--------------------|------------------|
| | Trifluorotoluene | 101 % |
| | Bromofluorobenzene | 101 % |

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Jicarilla Contract 148-37. Prod. Tank Pit.


Analyst


Review

CHAIN OF CUSTODY RECORD

| Client/Project Name BURGESS/HANCO | | | Project Location PROD. TRUNK PT | | | ANALYSIS/PARAMETERS | | | | | |
|---|-------------|-------------|---|---------------|-------------------|---------------------|---|---|--|-----------------|--------------|
| Sampler: (Signature) <i>Michael Vitz</i> | | | Chain of Custody Tape No. TEARAWA CONTRACT 148-37 | | | | | | | | |
| Sample No./ Identification | Sample Date | Sample Time | Lab Number | Sample Matrix | No. of Containers | TPH (8015) | BTEX (8021) | Remarks | | | |
| ① & 9' | 4/14/98 | 1025 | D104 | SOIL | 1 | ✓ | ✓ | PRESERV. - COOL IF TPH < 5000 PPM, THEN RUN BTEX. | | | |
| | | | | | | | | | | | |
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| | | | | | | | | | | | |
| Relinquished by: (Signature) <i>Michael Vitz</i> | | | | | Date 4/15/98 | Time 0712 | Received by: (Signature) <i>Don L. Opersma</i> | | | Date 4.15.98 | Time 0212 |
| Relinquished by: (Signature) | | | | | | | Received by: (Signature) | | | | |
| Relinquished by: (Signature) | | | | | | | Received by: (Signature) | | | | |

ENVIROTECH INC.

5796 U.S. Highway 64-3014

Farmington, New Mexico 87401

(505) 632-0615

172
SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

| | | |
|---|--|----------------------------------|
| Operator: AMOCO PRODUCTION COMPANY | | Telephone: (505) 326-9200 |
| Address: 200 Amoco Court, Farmington, NM 87401 | | |
| Facility or Well Name: JICARILLA CONTRACT 148-37 | | |
| Location: Unit or Qtr/Qtr Sec C Sec 13 T25N R5W County RIO ARriba | | |
| Pit Type: Separator X Dehydrator Other | | |
| Land Type: RANGE | | |
| Pit Location: | | |
| (Attach diagram) | Pit dimensions: length 14', width 15', depth 11' | |
| | Reference: wellhead X, other | |
| | Footage from reference: 145' | |
| | Direction from reference: 46 Degrees X East of North X West South | |
| Depth To Groundwater: | | |
| (Vertical distance from contaminants to seasonal high water elevation of groundwater) | Less than 50 feet | (20 points) |
| | 50 feet to 99 feet | (10 points) |
| | Greater than 100 feet | (0 points) |
| | | |
| Distance to an Ephemeral Stream | | |
| (Downgradient dry wash greater than ten feet in width) | Less than 100 feet | (10 points) |
| | Greater than 100 feet | (0 points) |
| | | |
| Distance to Nearest Lake, Playa, or Watering Pond | | |
| (Downgradient lakes, playas and livestock or wildlife watering ponds) | Less than 100 feet | (10 points) |
| | Greater than 100 feet | (0 points) |
| | | |
| Wellhead Protection Area: | | |
| (Less than 200 feet from a private domestic water source, or: less than 1000 feet from all other water sources) | Yes | (20 points) |
| | No | (0 points) |
| | | |
| Distance To SurfaceWater: | | |
| (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches) | Less than 100 feet | (20 points) |
| | 100 feet to 1000 feet | (10 points) |
| | Greater than 1000 feet | (0 points) |
| | | |
| RANKING SCORE (TOTAL POINTS): | | |

8JS42

SEP. PIT

Date Remediation Started: _____ Date Completed: 4/15/98

Remediation Method: Excavation ☒ Approx. cubic yards 75
(check all appropriate sections) Landfarmed ☒ Insitu Bioremediation _____
Other _____

Remediation Location: Onsite ☒ Offsite ☒ JICARILLA CONTRACT 148-4 (F-13-Z-5)
(i.e. landfarmed onsite, name and location of offsite facility)

General Description of Remedial Action: Excavation, BEDROCK BOTTOM.

Groundwater Encountered: No ☒ Yes _____ Depth _____

Final Pit: Sample location see Attached Documents

Closure Sampling: (if multiple samples, attach sample results and diagram of sample locations and depths)

Sample depth 6' (NORTH SIDEWALK)

Sample date 4/14/98 Sample time 1045

Sample Results

| | | | |
|-----------------------|------------|----------------------|-------|
| Soil: Benzene (ppm) | _____ | Water: Benzene (ppb) | _____ |
| Total BTEX (ppm) | _____ | Toluene (ppb) | _____ |
| Field Headspace (ppm) | <u>0.0</u> | Ethylbenzene (ppb) | _____ |
| TPH (ppm) | <u>192</u> | Total Xylenes (ppb) | _____ |

Groundwater Sample: Yes _____ No ☒ (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 4/15/98 PRINTED NAME Buddy D. Shaw
SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE PIT CLOSURE INFORMATION, PIT CLOSURE IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO _____ (REASON) _____

SIGNED: Kee C. Mamm DATE: 4-29-98

| | | |
|----------------------|--|---|
| CLIENT: <u>AMOCO</u> | BLAGG ENGINEERING, INC. P.O. BOX 87, BLOOMFIELD, NM 87413 (505) 632-1199 | LOCATION NO: <u>8J5VZ</u> C.D.C. NO: _____ |
|----------------------|--|---|

| | |
|------------------------------------|-------------------------------|
| FIELD REPORT: CLOSURE VERIFICATION | PAGE No: <u>1</u> of <u>1</u> |
|------------------------------------|-------------------------------|

| | |
|---|---|
| LOCATION: NAME: <u>JICA CONTR. 148</u> WELL #: <u>37</u> PIT: <u>SEP</u> QUAD/UNIT: <u>C SEC: 13 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM</u> DIR/FOOTAGE: <u>NEL4 NW/4</u> CONTRACTOR: <u>PFS</u> | DATE STARTED: <u>4/14/98</u> DATE FINISHED: _____ ENVIRONMENTAL SPECIALIST: <u>NV</u> |
|---|---|

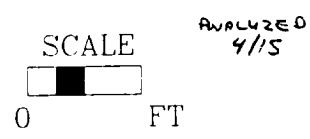
| | |
|---|--|
| EXCAVATION APPROX. <u>14</u> FT. x <u>15</u> FT. x <u>11</u> FT. DEEP. | CUBIC YARDAGE: <u>75</u> |
| DISPOSAL FACILITY: <u>ON-SITE & JICA CONTR. 148</u> REMEDIATION METHOD: <u>LANDFARMED</u> | |
| LAND USE: <u>RANGE</u> | LEASE: <u>JICA. 148</u> FORMATION: <u>OK</u> |

| | |
|------------------------|---|
| FIELD NOTES & REMARKS: | PIT LOCATED APPROXIMATELY <u>145</u> FT. <u>N46E</u> FROM WELLHEAD. DEPTH TO GROUNDWATER: <u>>100'</u> NEAREST WATER SOURCE: <u>>1000'</u> NEAREST SURFACE WATER: <u>>1000'</u> NMOC RANKING SCORE: <u>0</u> NMOC TPH CLOSURE STD: <u>5000</u> PPM SOIL AND EXCAVATION DESCRIPTION: |
|------------------------|---|

| | |
|-------------------------------------|---------------------------|
| CHECK ONE: | |
| <input checked="" type="checkbox"/> | PIT ABANDONED |
| <input type="checkbox"/> | STEEL TANK INSTALLED |
| <input type="checkbox"/> | FIBERGLASS TANK INSTALLED |

MOSTLY PLE ORANGE CLAY PHASING INTO SHALE @ APPROX. 6' TO 7' BELOW
 GRADE, CLAY - SLIGHTLY TO HIGHLY PLASTIC, SLIGHTLY MOIST, FIRM TO VERY HARD,
 NO APPARENT STAINING OR HC ODOR OBSERVED W/IN EXCAVATION, NO
 APPARENT HC ODOR IN ANY OF THE SIDEWALL DUM SAMPLES, UNCERTAIN
 OF STANDING WATER ORIGIN.
 BOTTOM - DUSKY RED SHALE, VERY HARD, UNABLE TO COLLECT SAMPLE
 DUE TO STANDING WATER OBSERVED W/IN EXCAVATION.

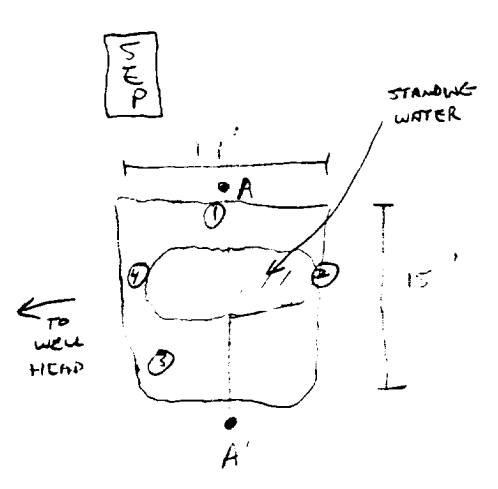
BEDROCK
BOTTOM



FIELD 4181 CALCULATIONS

| TIME | SAMPLE I.D. | LAB No: | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------|-------------|----------|------------|-----------|----------|---------|-----------|
| 1045 | DE 6' | TAH-1954 | 5 | 20 | 1:1 | 48 | 192 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

PIT PERIMETER



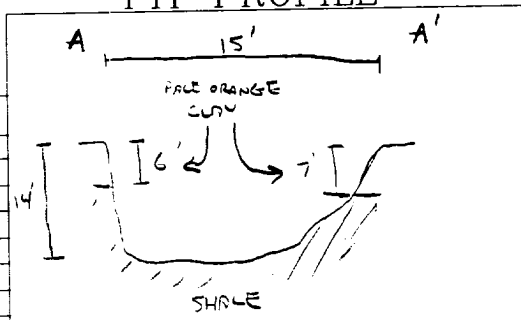
OVM
RESULTS

| SAMPLE ID | FIELD HEADSPACE PID (ppm) |
|-----------|---------------------------|
| 1 DE 6' | 0.0 |
| 2 DE 6' | 0.0 |
| 3 DE 6' | 0.0 |
| 4 DE 6' | 0.0 |
| 5 | |
| | |
| | |
| | |
| | |

LAB SAMPLES

| SAMPLE ID | ANALYSIS | TIME |
|-----------|----------|------|
| | | |
| | | |
| | | |
| | | |

PIT PROFILE



| | | |
|---------------|-------------------------------|------------------------------|
| TRAVEL NOTES: | CALLOUT: <u>4/8/98 AFTER.</u> | ONSITE: <u>4/14/98 MORN.</u> |
|---------------|-------------------------------|------------------------------|

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413

Phone: (505)632-1199 Fax: (505)632-3903

FIELD MODIFIED EPA METHOD 418.1 TOTAL PETROLEUM HYDROCARBONS

Client: AMOCO
Sample ID: 1 @ 6'
Project Location: Jicarilla Contract 148 - 37
Laboratory Number: TPH-1954

Project #:
Date Analyzed: 04-19-98
Date Reported: 04-19-98
Sample Matrix: Soil

| Parameter | Result, mg/kg | Detection Limit, mg/kg |
|---|---------------|---------------------------|
| Total Recoverable Petroleum Hydrocarbons | 190 | 20 |

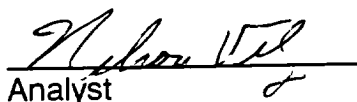
ND = Not Detectable at stated detection limits.

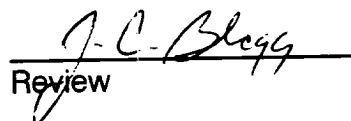
| QA/QC: | QA/QC Sample TPH mg/kg | Duplicate TPH mg/kg | % *Diff. |
|--------|---------------------------|------------------------|-------------|
| | 608 | 568 | 6.80 |

*Administrative Acceptance limits set at 30%.

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

Comments: Separator Pit - BJ542


Analyst


Review

BLAGG ENGINEERING, INC.

P.O. Box 87, Bloomfield, New Mexico 87413
Phone: (505)632-1199 Fax: (505)632-3903

Field TPH-Worksheet

Max Characters:

Client:

Sample ID:

Project Location:

Laboratory Number:

AMOCO

1 @ 6'

Jicarilla Contract 148 - 37

TPH-1954

Project #:

Date Analyzed:

Date Reported:

Sample Matrix:

04-19-98

04-19-98

Soil

Sample Weight: 5.00 grams
Volume Freon: 20.00 mL
Dilution Factor: 1 (unitless)
TPH Reading: 48 mg/kg

TPH Result: 192.0 mg/kg
Reported TPH Result: 190 mg/kg
Actual Detection Limit: 20.0 mg/kg
Reported Detection Limit: 20 mg/kg

| QA/QC: | Original TPH mg/kg | Duplicate TPH mg/kg | % Diff. |
|--------|-----------------------|------------------------|---------------|
| | ----- 608 | ----- 568 | ----- 6.80 |

Comments: *****Max Characters*****

Comments: Separator Pit - BJ542

JICARILLA APACHE TRIBE
ENVIRONMENTAL PROTECTION OFFICE
P.O. BOX 507
DULCE, NEW MEXICO 87528

83542
SUBMIT 1 COPY TO
NATURAL RESOURCE DEPT
AND OIL & GAS ADMINISTRATION

ON-SITE SOIL REMEDIATION REPORT

Operator: AMOCO PRODUCTION COMPANY Telephone: (505) 326-9200
Address: 200 Amoco Court, Farmington, NM 87401
Facility or Well Name: JICARILLA CONTRACT 148-37
Location: Unit or Qtr/Qtr Sec C Sec 13 T 25N R 5W County RO ARIZONA
Land Type: RANGE

Date Remediation Started: 4-14-96 Date Completed: 1/18/99
Remediation Method: Landfanned ☒ Approx. cubic yards 1000
Composted ☐
Other ☐

| | |
|--|---|
| <p>Distance To Groundwater: (pts.) <u>0</u> Distance to an Ephemeral Stream (pts.) <u>0</u> Distance to Nearest Lake, Playa, or Watering Pond (pts.) <u>0</u> Wellhead Protection Area: (pts.) <u>0</u> Distance To Surface Water: (pts.) <u>0</u> RANKING SCORE (TOTAL POINTS): <u>0</u></p> | <p style="text-align: center;">Final Closure Sampling:</p> <p>Sampling Date: <u>1-14-99</u> Time: <u>1000</u> Sample Results: (LF-2) Field Headspace (ppm) <u>20.7</u> (LF-2) TPH (ppm) <u>1775</u> Method <u>8015</u> Other <u>MULTIPLE SAMPLES - SEE ATTACHED FORM</u></p> |
|--|---|

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

DATE 1/18/99 PRINTED NAME Buddy D. Shaw
SIGNATURE Buddy D. Shaw AND TITLE Environmental Coordinator

AFTER REVIEW OF THE SOIL REMEDIATION INFORMATION, ON-SITE REMEDIATION IS APPROVED IN ACCORDANCE TO THE JICARILLA APACHE TRIBE PIT CLOSURE ORDINANCE.

APPROVED: YES ☒ NO ☐ (REASON) _____

SIGNED: K. C. M... DATE: 3-31-99

CLIENT: AMOCOBLAGG ENGINEERING, INC.
P.O. BOX 87, BLOOMFIELD, NM 87413
(505) 632-1199LOCATION NO: B5542C.O.C. NO: 6548

FIELD REPORT: LANDFARM/COMPOST PILE CLOSURE VERIFICATION

LOCATION: NAME: JICARILLA CONTRACT 148 WELL #: 37 PITS: SEP, BLOW, PROD
QUAD/UNIT: C SEC: 13 TWP: 25N RNG: 5W PM: NM CNTY: RA ST: NM
QTR/FOOTAGE: NE/4 NW/4 CONTRACTOR: P+SDATE STARTED: 1.14.99
DATE FINISHED: 1.18.99ENVIRONMENTAL
SPECIALIST: REP

SOIL REMEDIATION:

REMEDIATION SYSTEM: LANDFARMAPPROX. CUBIC YARDAGE: 1000LAND USE: RANGELIFT DEPTH (ft): 1.2

FIELD NOTES & REMARKS:

DEPTH TO GROUNDWATER: >100' NEAREST WATER SOURCE: >1000' NEAREST SURFACE WATER: >1000'NMOC D RANKING SCORE: 0 NMOC D TPH CLOSURE STD: 5000 PPM

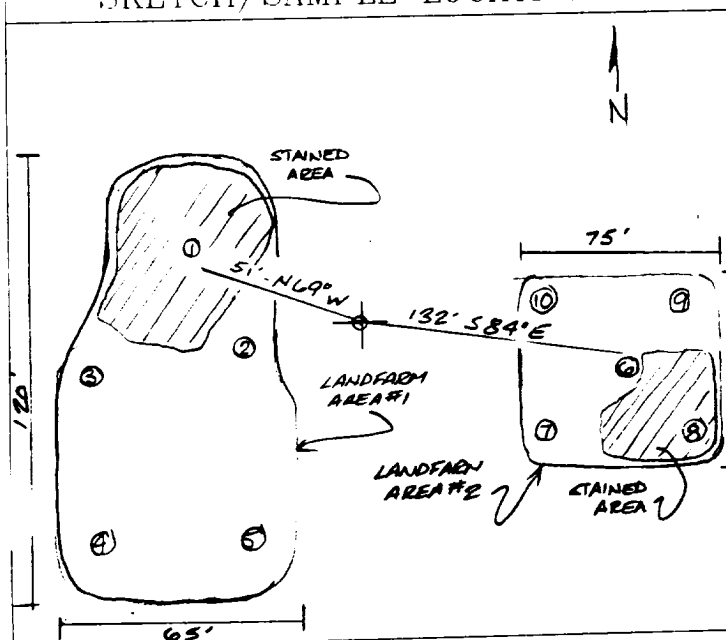
MODERATE YELLOWISH BROWN SAND, NON COHESIVE, SLIGHTLY MOIST, FIRM
LARGE AREAS OF STAINING OBSERVED IN BOTH LANDFARM AREAS (SEE SKETCH BELOW)
HC ODOR WAS DETECTED AT SAMPLING POINTS ① + ⑧. SAMPLING DEPTHS RANGE FROM
6"-18". TOOK A 5 FT. COMPOSITE SAMPLE FROM EACH LANDFARM AREA FOR LAB ANALYSIS

CLOSEDAPPROX. 530 C.Y. DEPOSED
TO 148-33APPROX. 590 C.Y. DEPOSED
TO 148-4.

FIELD 418.1 CALCULATIONS

| SAMP. TIME | SAMPLE I.D. | LAB No. | WEIGHT (g) | mL. FREON | DILUTION | READING | CALC. ppm |
|------------|-------------|---------|------------|-----------|----------|---------|-----------|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

SKETCH/SAMPLE LOCATIONS



OVM RESULTS

LAB SAMPLES

| SAMPLE ID | FIELD HEADSPACE PID (ppm) | SAMPLE ID | ANALYSIS | TIME | RESULTS |
|-----------|---------------------------|-----------|------------|------|---------|
| LF-1 | 7.7 | LF-1 | TPH (2015) | 1000 | 1570 |
| LF-2 | 20.7 | LF-2 | " " | 1030 | 1775 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

SCALE

0 FT

TRAVEL NOTES:

CALLOUT: N/AONSITE: 1.14.99

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

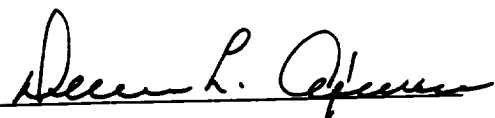
| | | | |
|----------------------|-----------------|---------------------|----------|
| Client: | Blagg / AMOCO | Project #: | 04034-10 |
| Sample ID: | LF - 1 | Date Reported: | 01-18-99 |
| Laboratory Number: | E525 | Date Sampled: | 01-14-99 |
| Chain of Custody No: | 6548 | Date Received: | 01-15-99 |
| Sample Matrix: | Soil | Date Extracted: | 01-15-99 |
| Preservative: | Cool | Date Analyzed: | 01-18-99 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

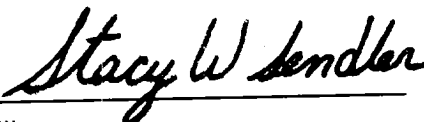
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | 21.0 | 0.2 |
| Diesel Range (C10 - C28) | 1,550 | 0.1 |
| Total Petroleum Hydrocarbons | 1,570 | 0.2 |

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: Jicarilla Contract 148 - 37 Landfarm. 5 Pt. Composite.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

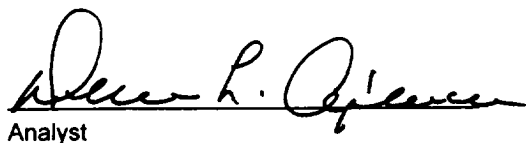
| | | | |
|----------------------|-----------------|---------------------|----------|
| Client: | Blagg / AMOCO | Project #: | 04034-10 |
| Sample ID: | LF - 2 | Date Reported: | 01-18-99 |
| Laboratory Number: | E526 | Date Sampled: | 01-14-99 |
| Chain of Custody No: | 6548 | Date Received: | 01-15-99 |
| Sample Matrix: | Soil | Date Extracted: | 01-15-99 |
| Preservative: | Cool | Date Analyzed: | 01-18-99 |
| Condition: | Cool and Intact | Analysis Requested: | 8015 TPH |

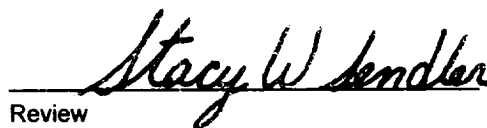
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------------|--------------------------|--------------------------|
| Gasoline Range (C5 - C10) | 75.3 | 0.2 |
| Diesel Range (C10 - C28) | 1,700 | 0.1 |
| Total Petroleum Hydrocarbons | 1,775 | 0.2 |

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: Jicarilla Contract 148 - 37 Landfarm. 5 Pt. Composite.


Analyst


Review

6548

| Client / Project Name | | | | Project Location | | | | ANALYSIS / PARAMETERS | | | | | | | |
|---|-------------|-------------|------------|---------------------------|-------------------|--------------------------|--------|-----------------------|--|---------|------|--|---------------------|---|-----|
| Black/Aldo | | | | SICARILLA CONTRACT 148-37 | | | | | | | | | | | |
| Sampler: | | | | Client No. | | | | Remarks | | | | | | | |
| REF | | | | 04034-10 | | | | | | | | | | | |
| Sample No./ Identification | Sample Date | Sample Time | Lab Number | Sample Matrix | No. of Containers | TPH | (8015) | | | | | | | | |
| LF-1 | 1.14.99 | 1000 | E525 | SOIL | 1 | ✓ | | | | | | | SPT. COMPOSITE | | |
| LF-2 | 1.14.99 | 1030 | E526 | SOIL | 1 | ✓ | | | | | | | SPT. COMPOSITE | | |
| | | | | | | | | | | | | | SAMPLE PRESERVE | | |
| | | | | | | | | | | | | | COOL | | |
| Relinquished by: (Signature) | | | | Date | Time | Received by: (Signature) | | | | Date | Time | | | | |
| [Signature] | | | | 1.15.99 | 0815 | [Signature] R. Ojeda | | | | 1.15.99 | 0815 | | | | |
| Relinquished by: (Signature) | | | | Received by: (Signature) | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | Received by: (Signature) | | | | | | | | | | | |
| 129 COCIS 6545-6551 | | | | | | | | | | | | | Sample Receipt | | |
| ENVIROTECH INC. | | | | | | | | | | | | | Y | N | N/A |
| 5796 U.S. Highway 64 Farmingington, New Mexico 87401 (505) 632-0615 | | | | | | | | | | | | | Received Intact | ✓ | |
| | | | | | | | | | | | | | Cool - Ice/Blue Ice | ✓ | |