# 3R - <u>356</u>

## GENERAL CORRESPONDENCE

## YEAR(S): 1996 ~ 1994

#### Contract Environmental Services, Inc. Post Office Box 505 Kirtland, NM 87417-0505 505/325-1198

and Weight and Andreas Constants

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October 31, 1996

New Mexico Oil Conservation Division Mr. William Olson 2040 S. Pacheco Santa Fe, NM 87505

RE: Groundwater Monitoring Wells at Snyder Oil Corporation's Landauer 1

Dear Mr. Olson:

Contract Environmental Services, Inc. (CES) is pleased to present the results of the groundwater sampling results at the Landauer 1 well site located in Unit H, Section 3, T31N, R13W of San Juan County, on behalf of Snyder Oil Corporation. There are three (3) monitor wells on this location, one (1) upgradient and two (2) down gradient. These monitor wells have been sampled two (2) times since they were installed just over one (1) year ago. This letter report contains a summary of this data.

Samples were analyzed using EPA Method 8020 for Aromatic Volatile Organics. This method has a detection limit of 0.2 ppb. A summary of the sampling results is given below in Table 1. Attached are analytical reports from the laboratory analyses.

| Monitor Well No. , Location<br>and Lab LD. | Benzene<br>(ppb) | Toluene<br>(ppb) | Ethylbenzene<br>(ppb) | Xylenes (total)<br>(ppb) |
|--|------------------|------------------|-----------------------|--------------------------|
| M.W.#1, Tank Battery, LAND-1800            | ND               | ND               | ND                    | 0.9                      |
| M.W.#2, Wellhead, LAND-1801                | ND               | ND               | ND                    | 0.3                      |
| M.W.#3, Separator, LAND-1802               | ND               | ND               | ND                    | 0.3                      |

Note: ND means non-detectable.

#### Table 1. Results of Monitor Well Sampling on October 8, 1996.

Due to an unusually dry spring and summer, this is the first time this year there has been sufficient water to allow sampling of the monitor wells. Low water conditions would not allow bailing the normal three-times the well volume prior to sampling. Sampling was done with a clean and decontaminated ball-and-check type PVC plastic bailer.

Results from last year's sampling are given below in Table 2. These analytical reports are also attached. To date, all of the monitor wells have passed the New Mexico Water Quality Control Commission's drinking water standards for benzene, toluene, ethylbenzene, and total xylenes on two different sampling intervals.

| Monitor Well No. , Location<br>and Lab L.D. | Benzene<br>(ppb) | Toluene<br>(ppb) | Ethylbenzene<br>(ppb) | Xylenes (total)<br>(ppb) |
|---|------------------|------------------|-----------------------|--------------------------|
| M.W.#1, Tank Battery, LAND-300              | ND               | 0.4              | ND                    | 0.9                      |
| M.W.#2, Wellhead, LAND-301                  | ND               | 0.4              | ND                    | 0.8                      |
| M.W.#3, Separator, LAND-302                 | ND               | 0.4              | ND                    | 0.5                      |

Note: ND means non-detectable.

Table 2. Results of Monitor Well Sampling on August 16, 1995.

It is our plan to abandon and plug these monitor wells at this time. The man-hole covers for each monitor well will be removed and the well casing cut off below the ground surface. The well casing will then be pumped full of bentonite-grout-cement mixture to seal it to the surface. The mixing ratio will be approximately one-third (1/3) each. The monitor well areas will be returned to the normal grade of the well pad. No further action is planned concerning groundwater at this location.

Contract Environmental Services, Inc. presents this plug and abandon plan for the Landauer 1 monitor wells on behalf of Snyder Oil Corporation for your approval. If you need any additional information, please do not hesitate to contact our offices at 505/325-1198, or stop by at 4200 Hawkins Road, Farmington.

Sincerely Shawn Adams

Attachments: Analytical Reports

Copies: Mr. Bill Liese, U.S. BLM Farmington Office Mr. Denny Foust, NMOCD Aztec Office



LAB: (505) 325-1556

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#### **AROMATIC VOLATILE ORGANICS**

| Attn:        | Shawn A     | dams            |                           |           | Date:      | 14-Oct-96 |
|--------------|-------------|-----------------|---------------------------|-----------|------------|-----------|
| Company:     | Contract    | Environmental - | Services, Inc.            |           | COC No.:   | 4309      |
| Address:     | P.O. Box    | 505             |                           |           | Sample No. | 12484     |
| City, State: | Kirtland, I | NM 87417        |                           |           | Job No.    | 2-1000    |
| Project Nan  | ne:         | Snyder Oil (    | Corporation - Landauer #1 |           |            |           |
| Project Loc  | ation:      | LAND-1800       | ; MW by 400bbl Tank       |           |            |           |
| Sampled by   | <i>!</i> :  | SA              | Date:                     | 8-Oct-96  | Time:      | 12:54     |
| Analyzed by  | y:          | DC              | Date:                     | 14-Oct-96 |            |           |
| Sample Ma    | trix:       | Liquid          |                           |           |            |           |

Laboratory Analysis

| Parameter    |       | Result | Unit of<br>Measure | Detection<br>Limit | Unit of<br>Measure |
|--------------|-------|--------|--------------------|--------------------|--------------------|
| Benzene      |       | < 0.2  | ug/L               | 0.2                | ug/L               |
| Toluene      |       | < 0.2  | ug/L               | 0.2                | ug/L               |
| Ethylbenzene |       | < 0.2  | ug/L               | 0.2                | ug/L               |
| m,p-Xylene   |       | 0.5    | ug/L               | 0.2                | ug/L               |
| o-Xylene     |       | 0.4    | ug/L               | 0.2                | ug/L               |
|              | TOTAL | 0.9    | ug/L               |                    |                    |

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Decc Date: 10/14/96

#### P.O. BOX 2606 • FARMINGTON, NM 87499 - Technology Blending Industry with the Environment -



LAB: (505) 325-1556

#### **AROMATIC VOLATILE ORGANICS**

|  | P.O. Box          | Environmental<br>505 | Services, Inc.   |                       | Date:<br>COC No.:<br>Sample No.<br>Job No. | 14-Oct-96<br><i>4309</i><br>12485<br>2-1000 |
|--|-------------------|----------------------|--|-----------------------|--|---|
| Project Nam<br>Project Loca<br>Sampled by<br>Analyzed by<br>Sample Mat | ntion:<br>:<br>/: | -                    | <i>Corporation - Landauer #1<br/>1; MW by Wellhead</i><br>Date:<br>Date: | 8-Oct-96<br>14-Oct-96 |  | 13:28                                       |

#### Laboratory Analysis

| Parameter    |       | Result | Unit of<br>Measure                    | Detection<br>Limit | Unit of<br>Measure |
|--------------|-------|--------|---------------------------------------|--------------------|--------------------|
|              |       |        | · · · · · · · · · · · · · · · · · · · |                    |                    |
| Benzene      |       | <0.2   | ug/L                                  | 0.2                | ug/L               |
| Toluene      |       | <0.2   | ug/L                                  | 0.2                | ug/L               |
| Ethylbenzene |       | < 0.2  | ug/L                                  | 0.2                | ug/L               |
| m,p-Xylene   |       | 0.3    | ug/L                                  | 0.2                | ug/L               |
| o-Xylene     |       | <0.2   | ug/L                                  | 0.2                | ug/L               |
|              | TOTAL | 0.3    | ug/L                                  |                    |                    |

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date: 10/14/16

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#### **AROMATIC VOLATILE ORGANICS**

| Attn:<br>Company:<br>Address:<br>City, State:                          | P.O. Box           | Environmental S<br>505 | Services, Inc.  |                       | Date:<br>COC No.:<br>Sample No.<br>Job No. | 14-Oct-96<br><i>4309</i><br>12486<br>2-1000 |
|--|--------------------|------------------------|---|-----------------------|--|---|
| Project Nam<br>Project Loca<br>Sampled by<br>Analyzed by<br>Sample Mat | ation:<br>/:<br>/: | -                      | orporation - Landauer #1<br>MW by Separator<br>Date:<br>Date: | 8-Oct-96<br>14-Oct-96 | Time:                                      | 14:05                                       |

Laboratory Analysis

|              |       |        | Unit of | Detection | Unit of |
|--------------|-------|--------|---------|-----------|---------|
| Parameter    |       | Result | Measure | Limit     | Measure |
| Benzene      |       | <0.2   | ug/L    | 0.2       | ug/L    |
| Toluene      |       | < 0.2  | ug/L    | 0.2       | ug/L    |
| Ethylbenzene |       | < 0.2  | ug/L    | 0.2       | ug/L    |
| m,p-Xylene   |       | 0.3    | ug/L    | 0.2       | ug/L    |
| o-Xylene     |       | <0.2   | ug/L    | 0.2       | ug/L    |
|              | TOTAL | 0.3    | ug/L    |           |         |

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Date: 10/H/46

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LAB: (505) 325-5667

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#### AROMATIC VOLATILE ORGANICS

| Company:<br>Address:   | Shawn Adams<br>Contract Environ<br>P.O. Box 505<br>Kirtland, NM 874 | Services, Inc. (<br>S  | Date:         18-Aug-95           COC No.:         3176           Sample No.         7792           Job No.         2-1000 |
|--|---|--|--|
| Project Nam<br>Project Loca<br>Sampled by:<br>Analyzed by<br>Type of Sam | tion: <i>LAN</i><br>SA<br>: DC                                      | Corporation - Landauer 1<br>Landauer MW1 Water<br>Date: 16-Aug-95 T<br>Date: 17-Aug-95 | Time: 10:48  |

#### Aromatic Volatile Organics

| Component              | Measured<br>Concentration ug/L | Detection Limit<br>Concentration ug/L |
|------------------------|--------------------------------|---------------------------------------|
| Benzene                | ND                             | 0.2                                   |
| Toluene                | 0.4                            | 0.2                                   |
| Ethylbenzene           | ND                             | 0.2                                   |
| m,p-Xylene             | 0.9                            | 0.2                                   |
| m,p-Xylene<br>o-Xylene | ND                             | 0.2                                   |
|                        | TOTAL 1.3 ug/L                 |                                       |

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

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Approved by: Daly Date: 8/18/95

#### P. O. BOX 2606 • FARMINGTON, NM 87499

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LAB: (505) 325-5667

#### AROMATIC VOLATILE ORGANICS

| Attn:<br>Company:                      | Shawn A<br>Contract | dams<br>Environmental S | Services, Inc.                                | Date:<br><i>COC No.:</i>     | 18-Aug-95<br><i>3176</i> |
|--|---------------------|-------------------------|---|------------------------------|--------------------------|
| Address:                               | P.O. Box            | 505                     |   | Sample No.                   | 7793                     |
| City, State:                           | Kirtland,           | NM 87417                |   | Job No.                      | 2-1000                   |
| Project Nan<br>Project Loc             |                     | -                       | orporation - Landauer 1<br>Landauer MW2 Water |                              |                          |
| Sampled by<br>Analyzed b<br>Type of Sa | y:<br>y:            | SA<br>DC<br>Water       | Date:<br>Date:                                | 16-Aug-95 Time:<br>17-Aug-95 | 11:11                    |

#### Aromatic Volatile Organics

| Component    | Measured<br>Concentration ug/L | Detection Limit<br>Concentration ug/L |
|--------------|--------------------------------|---------------------------------------|
| Benzene      | ND                             | 0.2                                   |
| Toluene      | 0.4                            | 0.2                                   |
| Ethylbenzene | ND                             | 0.2                                   |
| m,p-Xylene   | 0.8                            | 0.2                                   |
| o-Xylene     | ND                             | 0.2                                   |
|              | τοτ <i>ΑL</i> 1.2 μα/L         |                                       |

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Da 4 Date: 8/18/95

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LAB: (505) 325-5667

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#### AROMATIC VOLATILE ORGANICS

| Attn: Shawn Adams<br>Company: Contract Environmental Services, Inc.<br>Address: P.O. Box 505<br>City, State: Kirtland, NM 87417 |           |       | Date:<br>COC No.:<br>Sample No.<br>Job No.       | 18-Aug-95<br><i>3176</i><br>77 <i>94</i><br>2-1000 |       |
|---|-----------|-------|--|--|-------|
|   |           |       | Corporation - Landauer 1<br>2 Landauer MW3 Water |  |       |
| Sampled by  | <b>':</b> | SA    | Date:  | 16-Aug-95 Time:                                    | 11:30 |
| Analyzed by   | y:        | DC    | Date:  | 17-Aug-95  |       |
| Type of Sar   | nple:     | Water |  |  |       |

#### Aromatic Volatile Organics

| Component              | Measured<br>Concentration ug/L | Detection Limit<br>Concentration ug/L |  |
|------------------------|--------------------------------|---------------------------------------|--|
| Benzene                | ND                             | 0.2                                   |  |
| Toluene                | 0.4                            | 0.2                                   |  |
| Ethylbenzene           | ND                             | 0.2                                   |  |
| m,p-Xylene             | 0.5                            | 0.2                                   |  |
| m,p-Xylene<br>o-Xylene | ND                             | 0.2                                   |  |
|                        | TOTAL 0.9 ug/L                 |                                       |  |

ND - Not Detectable

Method - SW-846 EPA Method 8020 Aromatic Volatile Organics by Gas Chromatography

Approved by: Do 4 Date: 8/18/95

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#### P. O. BOX 2606 • FARMINGTON, NM 87499

- TECHNOLOGY BLENDING INDUSTRY WITH THE ENVIRONMENT -

oil CONSERTED A DIMERSION RECEIPTO 294 SEPTIA AN 8 50 Contract Environmental Services, Inc. Post Office Box 505 Kirtland, New Mexico 87417-0505 Phone (505) 325-1198

August 31, 1994

Energy, Minerals And Natural Resources Department Oil Conservation Division Mr. Bill Olsen Post Office Box 2088 Santa Fe, New Mexico 87504-2088

Dear Mr. Olsen:

Contract Environmental Services, Inc. (CES) is pleased to present the following well location earthen pits for closure on behalf of Snyder Oil Corporation (SOCO). The laboratory data has been summarized in the following Tables. Individual laboratory reports are available to the New Mexico Oil Conservation Division (NMOCD) upon request.

Table 1-1. List of wells having earthen pit(s) submitted for closure

| Well Name<br>********* | Location (S, T, R)     | County<br>************ | State<br>****** | Area<br>****** |
|------------------------|------------------------|------------------------|-----------------|----------------|
| Jackson 2E             | Section 18, T31N, R12W | San Juan               | NM              | La Plata       |
| Payne 1E               | Section 35, T31N, R13W | San Juan               | NM              | La Plata       |
| Landauer 1             | Section 3, T31N, R13W  | San Juan               | NM              | La Plata       |

Table 1-2. List of soil concentrations of Total Petroleum Hydrocarbons

| Well Name<br>********* | Ranking Score | Concentration (PPM) |
|------------------------|---------------|---------------------|
| Jackson 2E             | 1000          | 135                 |
| Payne 1E               | 1000          | 356                 |

Table 1-3. List of water concentrations of Benzene, Toluene, Ethylbenzene, Xylenes

| Well Name<br>********************* |              | Concentration *********** | ,        | ,        | E,<br>****** | X (PPB)<br>******* |
|------------------------------------|--------------|---------------------------|----------|----------|--------------|--------------------|
| Landauer 1                         | TP-1<br>TP-2 |                           | ND<br>ND | ND<br>ND | ND<br>ND     | 1.2<br>0.3         |

Following approval for closure, each of the above listed earthen pits will have the fencing taken down, the excavation backfilled using remediated soil and/or fill material, shaping to include slightly doming the pit area to prevent standing water, and reseeding using a native seed mixture.

Final reports are available for each of the well location earthen pits listed above. If additional information is required, please don't hesitate to contact our offices at (505) 325-1198 or stop by at 4200 Hawkins Road, Farmington.

Sincerely

Shawn A. Adams Contract Environmental Services, Inc.

## (E: DENNY FOUST, OCD AZTER BLANCH

<u>**District I**</u> PO. Box 1980, Hobbs, NM <u>**District II**</u> P.O. Drawer DD, Arcesia, NM 88211 <u>**District III**</u> 1000 Rio Brazos Rd, Azzee, NM 87410

State of New Mexico Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

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

ORIGINAL

### PIT REMEDIATION AND CLOSURE REPORT

| <b>Operator:</b> Snyder Oil Corporation  | <b>Telephone:</b> 505 - 632-8056  |  |  |  |
|--|---|--|--|--|
| Address: Post Office Box 2038, Farm  | ington, New Mexico 87499  |  |  |  |
| Facility Or: Landauer #1<br>Well Name  |   |  |  |  |
| Location: Unit or Qtr/Qtr SecHS  | sec 3 T 31 R 13 County San Juan   |  |  |  |
| Pit Type: Separator Dehydrator   | Other   |  |  |  |
| Land Type: BLM, State, Fee $\frac{X}{2}$   | _, Other  |  |  |  |
| Pit Location:       Pit dimensions:       length 10'       width 10'       depth 3'         (Attach diagram)       Reference:       wellhead X , other   |   |  |  |  |
| Footage from reference   |   |  |  |  |
| Direction from referen   | ce: <u>N</u> Degrees <u> </u>   |  |  |  |
|  | <u> </u>  |  |  |  |
| Depth To Ground Water:Less than 50 feet (20 points)(Vertical distance from50 feet to 99 feet (10 points)contaminants to seasonalGreater than 100 feet (0 Points)high water elevation of<br>ground water)20 |   |  |  |  |
| Wellhead Protection Area:<br>(Less than 200 feet from a private<br>domestic water source, or; less than<br>1000 feet from all other water sources)   | Yes (20 points)<br>No (0 points) 20   |  |  |  |
| Distance To Surface Water:<br>(Horizontal distance to perennial<br>lakes, ponds, rivers, streams, creeks,<br>irrigation canals and ditches)  | Less than 200 feet (20 points)<br>200 feet to 1000 feet (10 points)<br>Greater than 1000 feet (0 points) 20 |  |  |  |
|  | RANKING SCORE (TOTAL POINTS): 60  |  |  |  |

| Date Remediation Sta   | arted: N/A Dated Completed:  |
|--|--|
| Remediation Method:  | Excavation Approx. cubic yards   |
| (Check all appropriate<br>sections)  | Landfarmed Insitu Bioremediation   |
|  | Other N/A  |
|  |  |
| Remediation Location<br>(ie. landfarmed onsite,<br>name and location of<br>offsite facility) |  |
| General Description  | Of Remedial Action: <u>Investigation revealed no signif-</u>   |
| <u>icant_contaminati</u>   | ion to soils or groundwater. Additional investigation was  |
| performed at the   | request of Mr. Denny Foust NMOCD. No remediation required.   |
|  |  |
|  |  |
|  |  |
| Ground Water Encoun  | tered: No Yes X Depth 8'   |
|  | Sample location Test Pit 1 33' West of Wellhead  |
| Closure Sampling:<br>(if multiple samples,   | Test Pit 2 24' South of Wellhead   |
| attach sample results<br>and diagram of sample   |  |
|  | Sample depth TP-1 8' TP-2 8'   |
| locations and depths)  | Sample depth TP-1 8' TP-2 8'<br>Sample date 3/15/94 Sample time 10:30 and 11:45  |
|  | Sample date 3/15/94 Sample time 10:30 and 11:45  |
|  | Sample date <u>3/15/94</u> Sample time 10:30 and 11:45<br>Sample Results   |
|  | Sample date <u>3/15/94</u><br>Sample Results<br>Benzene(ppm) TP-1 ND Tp-2 ND   |
|  | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u>  |
|  | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u><br>Field headspace(ppm)  |
|  | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u>  |
| locations and depths)  | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u><br>Field headspace(ppm)  |
| locations and depths)<br>Ground Water Sample   | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u><br>Field headspace(ppm)<br>TPH<br>Field headspace(ppm)<br>TPH<br>AT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST |
| locations and depths)<br>Ground Water Sample<br>I HEREBY CERTIFY TH                          | Sample date <u>3/15/94</u><br>Sample time <u>10:30 and</u> 11:45<br>Sample Results<br>Benzene(ppm) <u>TP-1 ND Tp-2 ND</u><br>Total BTEX(ppm) <u>TP-1 1.2 TP-2 0.3</u><br>Field headspace(ppm)<br><u>TPH</u><br>  |

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Inter: Mountain Laboratories, Inc.

#### VOLATILE AROMATIC HYDROCARBONS

#### Snyder Oil Corporation

Project ID: Sample ID: Lab ID: Sample Matrix: Condition: Water Investigation SOCO-005 A 4943 water Cool/Intact

| Report Date:    | 03/28/94   |
|-----------------|------------|
| Date Sampled:   | 03/15/94   |
| Date Received:  | 03/16/94   |
| Date Extracted: | NA         |
| Date Analyzed:  | . 03/27/94 |
|                 |            |

| Target Analyte | Concentration<br>(ppb) | Detection Limit<br>(ppb) |
|----------------|------------------------|--------------------------|
| Benzene        | ND                     | 0.2                      |
| Toluene        | ND                     | 0.2                      |
| Ethylbenzene   | ND                     | 0.2                      |
| m,p-Xylenes    | 0.3                    | 0.2                      |
| o-Xylene       | ND                     | 0.2                      |

ND - Analyte not detected at the stated detection limit.

| Quality Control: | Surrogate          | Percent Recovery | Acceptance Limits |
|------------------|--------------------|------------------|-------------------|
| •                | Toluene-d8         | 95.0             | 88 -110%          |
|                  | Bromofluorobenzene | 94.3             | 86 -115%          |

Reference: Method 5030, Purge and Trap; Method 8020, Aromatic Volatile Organics; Test Methods for Evaluating Solid Wastes, SW-846, United States Environmental Protection Agency, September 1986.

Comments:

Analyst

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Review

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### VOLATILE AROMATIC HYDROCARBONS

#### **Snyder Oil Corporation**

Project ID: Water Investigation Report Date: 03/28/94 Sample ID: SOCO-004 A Date Sampled: 03/15/94 Lab ID: 4942 Date Received: 03/16/94 Sample Matrix: Water Date Extracted: NA Condition: Cool/Intact Date Analyzed: 03/27/94

| Target Analyte | Concentration<br>(ppb) | Detection Limit<br>(ppb) |
|----------------|------------------------|--------------------------|
| Benzene        | ND                     | 0.2                      |
| Toluene        | ND .                   | 0.2                      |
| Ethylbenzene   | ND                     | 0.2                      |
| m,p-Xylenes    | 0.8                    | 0.2                      |
| o-Xylene       | 0.4                    | <sup>.</sup> 0.2         |

ND - Analyte not detected at the stated detection limit.

| Quality Control: | <u>Surrogate</u>                            | Percent Recovery                                       | <u>Acceptance Limits</u>                                     |
|------------------|---|--|--|
|                  | Toluene-d8                                  | 100.2  | 88 -110%   |
|                  | Bromofluorobenzene                          | 98.0   | 86 -115%   |
| Reference:       | Method 5030, Purge a Methods for Evaluating | nd Trap; Method 8020, Aro<br>g Solid Wastes, SW-846, U | matic Volatile Organics; Test<br>Inited States Environmental |

Protection Agency, September 1986.

Comments:

Analyst

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Review

| 1. I        | `<br>\ [    |                                  |  |             |              |           |       |           |        |              |        |            |      |             |        | $\left\{ \right\}$ | •      | )            |                  |                             |                             |  |                      | ]   |  |
|-------------|-------------|----------------------------------|--|-------------|--------------|-----------|-------|-----------|--------|--------------|--------|------------|------|-------------|--------|--------------------|--------|--------------|------------------|-----------------------------|-----------------------------|--|----------------------|-----|--|
| ~           |             | ATORY<br>ICATION                 | rdradr<br>Identif                        |             |              | X         | X     |           |        |              |        |            |      |             |        |                    | $\neg$ | $\backslash$ |                  |                             |                             |  | 4+20)                |     |  |
| οīΝ         |             | SX                               | RANCE, etc.)                             | ONLY TR.    | - <i>μ</i> - | ONLY TP-  | -J7-  | ancy TP-  | -dL    | 5-01         | 1-0-3  | 1-01       | TP-1 | 70-3        | 2-012  |                    |        |              |                  |                             | RECEIVED BY (SICNATURD)     | analyci's                              | 55.4.2 D. 423        |     |  |
| UTD.        |             | REMARKS                          | (PHYSICAL APPEARANCE, etc.)              | A + B       | PRES         | 0+0       | PRES  | 1+8       | FRES   | A+3          | PRES   | = .4+8     | らいこく | F A + S     | PRES   |                    |        |              |                  | V                           |                             | - vateco                               | Sitranoci            |     |  |
| UTS,        |             | етнор                            | 14)<br>(14)                              | Composite   | Her          | Cempesite | 1761  | Conpisite | 171    | (c.m.Psire   | HCL    | Composite  | HCL  | COM, Pusint | HLL    |                    |        |              |                  |                             | DATE                        | B TEX 4                                | 210                  |     |  |
| CONSULTAUTS | RECORD      | SAMP                             | 005.1178                                 |             | X X          | X<br>X    | X     | XX        | ×<br>× | ×            | X<br>X | ×××        | ××   | XX          | X<br>X |                    |        |              |                  | (SIGNATURE)                 | (SICNATURE)                 | REMARKS                                |                      | 747 |  |
| ولامك       | CUSTODY REC |                                  | 25 25 25 25 25 25 25 25 25 25 25 25 25 2 |             |              |           |       |           |        |              |        |            |      |             |        |                    |        |              | $\sum_{i=1}^{i}$ | RELINQUISHED BY (SIGNATURE) | RELINQUISHED BY (SICNATURE) |  | SI RPPING TEMP. (-F) |     |  |
|             |             | EKS<br>OF                        |  | >           |              | <u> </u>  |       |           | ~      | ~            | ~      | \          | ~    | ·~          | ~      | \<br>              |        | <br>         |                  |                             |                             | ATURI)                                 |                      |     |  |
| BUCHANAN    | CHAIN OF    | l'an                             | SAMPLE LOCATION                          | Toursha die | r,           | 11 11     | 11 11 | 11 11     | 11 11  | 11 11        | 11 11  | ANDAVER #1 | " "  | 11 11       | 11 11  |                    |        |              |                  | RECEIVED BY (SIGNATURE)     | RECEIVED BY (SICK/LURE)     | RECEIVED FOR LABORATORY BY (SIGNATURE) |                      |     |  |
| Et          |             | miteriteund                      | 8AB                                      |             | +            | ×         | X     | Ń         | X      | $\mathbf{x}$ | X      | 17<br>  X  |      | X           | X      |                    | ľ<br>T |              |                  |                             | ZIC 17<br>TIME              | TIME                                   |                      |     |  |
| Bu          |             | 1 T                              | TIME OMP.                                | 10:20 0     | 120121       | 10,30     | 16,30 | 10:53     | 25,01  | 11:45        | 5,11   | 2:20       | 7,20 | 7,32        | 1:32   |                    |        |              |                  | ~                           | DATE DATE                   | DATE                                   |                      |     |  |
| •           |             | PROJECT NAME                     | DATE T                                   | 3/1<6       |              | $\pm$     |       |           |        |              |        | <u> </u>   | 1    | +           |        | ++                 |        |              | $\vdash$         |                             | <u>}</u>                    |  |                      |     |  |
|             |             | 108 NO.<br>5000 - 003<br>SAMPLER | LE ATION                                 |             | 2 8          | ) Ù       |       | . 4       | S.     | 4            | , X    | 7          | : «  | 2 4         |        |                    |        |              |                  | RELINGUISHED BY SICHATURD   | RELINQUISHED BY (SCNATURE)  | RELINQUISHED BY (SIGNATURE)            |                      |     |  |

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District I P.O. Box 1980, Hobbs, NM District II P.O. Drawer DD, Arcesia, NM 88211 District III 1000 Rio Brazos Rd, Azzec, NM 87410

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State of New Mexico Energy, Minerals and Natural Resources Department

> OIL CONSERVATION DIVISION P.O. Box 2088 Santa Fe, New Mexico 87504-2088

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

ORIGINAL

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#### PIT REMEDIATION AND CLOSURE REPORT

| <b>Operator:</b> Snyder Oil Corporation  | <b>Telephone:</b> 505 - 632-8056   |
|--|--|
|  |  |
| Address: Post Office Box 2038, Farmin  | Igton, New Mexico 87499  |
| Facility Or: Jackson #2E<br>Well Name  |  |
| Location: Unit or Qtr/Qtr Sec Sec Sec  | ec 18 T 31 R 12 County San Juan  |
| Pit Type: Separator Dehydrator C   | ther   |
| Land Type: BLM, State, Fee _X_   | , Other  |
| (Attach diagram)   | 10', width 10', depth 3'   |
| Footage from reference:  | 60'  |
| Direction from referenc  | e: <u>N</u> Degrees 170° East North<br>of<br>West South  |
| Depth To Ground Water:<br>(Vertical distance from<br>contaminants to seasonal<br>high water elevation of<br>ground water)                          | Less than 50 feet (20 points)<br>50 feet to 99 feet (10 points)<br>Greater than 100 feet (0 Points)      |
| Wellhead Protection Area:<br>(Less than 200 feet from a private<br>domestic water source, or; less than<br>1000 feet from all other water sources) | Yes (20 points)<br>No (0 points) <u>O</u>  |
| <b>Distance To Surface Water:</b><br>(Horizontal distance to perennial<br>lakes, ponds, rivers, streams, creeks,<br>irrigation canals and ditches) | Less than 200 feet (20 points)<br>200 feet to 1000 feet (10 points)<br>Greater than 1000 feet (0 points) |
|  | RANKING SCORE (TOTAL POINTS):  |

| Date Remediation St  | arted: N/A Dated Completed:   |
|--|---|
| Remediation Method:  | Excavation Approx. cubic yards  |
| (Check all appropriate<br>sections)  | Landfarmed Insitu Bioremediation  |
|  | Other Pit contents stirred to 10' depth   |
|  |   |
| Remediation Location<br>(ie. landfarmed onsite,<br>name and location of<br>offsite facility) |   |
| General Description  | Of Remedial Action: Pit contents removed, tested with   |
| PID meter, clear   | ance sample taken, pit contents returned and stirred to   |
| be certain to ad   | d aeration.   |
|  |   |
|  |   |
|  |   |
| Ground Water Encoun  | tered: No X Yes Depth   |
| Final Pit:<br>Closure Sampling:<br>(if multiple samples,                                     | Sample location Bottom center of earthen pit  |
| attach sample results<br>and diagram of sample   | Sample depth 10'  |
| locations and depths)  | Sample date 6/10/94 Sample time 2:13P   |
|  |   |
|  | Sample Results  |
|  | Sample Results<br>Benzene(ppm)  |
|  |   |
| -  | Benzene(ppm)<br>Total BTEX(ppm)   |
| -  | Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)   |
| Ground Water Sample  | Benzene(ppm)<br>Total BTEX(ppm)   |
| I HEREBY CERTIFY TH<br>OF MY KNOWLEDGE AND   | Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)<br>TPH<br>TPH<br>Yes No _X_ (If yes, attach sample results)<br>WAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST<br>DELIEF |
| I HEREBY CERTIFY TH  | Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)<br>TPH<br>TPH<br>Yes No _X_ (If yes, attach sample results)<br>WAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST<br>DELIEF |

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District I P O. Box 1980, Hobbs, NM District II P.O. Drawer DD, Artesia, NM 88211 District III 1000 Rio Brazos Rd, Azzec, NM 87410

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State of New Mexico Energy, Minerals and Natural Resources Department

> OIL CONSERVATION DIVISION P.O. Box 2088 Santa Fe, New Mexico 87504-2088

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11111

ORIGINAL

PIT REMEDIATION AND CLOSURE REPORT

| <b>Operator:</b> Sn   | yder Oil Corporation  | <b>Telephone:</b> 505 . 632-   | 8056     |
|---|---|--|----------|
| Address: Po   | st Office Box 2038, Farmi   | ngton, New Mexico 87499  |          |
| Facility Or:<br>Well Name   | Payne #1E   |  |          |
| Location: Unit  | or Qtr/Qtr Sec P Se   | c 35 T 31 R 13 County San Juan   |          |
| Pit Type: Sepa  | rator Dehydrator O  | ther   |          |
| Land Type: BL   | M, State, Fee <u>×</u>  | , Other  |          |
| Pit Location:<br>(Attach diagram)   |   | <u>25'</u> , width <u>15'</u> , depth <u>3'</u><br>, other   |          |
|   | Footage from reference:   | 56'  |          |
|   | Direction from referenc   | e: <u>N</u> Degrees <u>28°</u> East North<br>of  |          |
|   |   | West South   |          |
| Depth To Groun<br>(Vertical distance<br>contaminants to s<br>high water elevat<br>ground water) | seasonal  | Less than 50 feet (20 points)<br>50 feet to 99 feet (10 points)<br>Greater than 100 feet (0 Points)      |          |
| domestic water so   | ection Area:<br>eet from a private<br>burce, or; less than<br>ll other water sources) | Yes (20 points)<br>No (0 points)   |          |
| () <b>`</b>   | ance to perennial<br>vers, streams, creeks,   | Less than 200 feet (20 points)<br>200 feet to 1000 feet (10 points)<br>Greater than 1000 feet (0 points) | <u>^</u> |
|   |   | RANKING SCORE (TOTAL POINTS):  | 0        |

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| Date Remediation St   | arted: June 8, 1994 Dated Completed: N/A   |
|---|--|
| Remediation Method:   | Excavation X Approx. cubic yards 42  |
| (Check all appropriate sections)  | Landfarmed $X$ Insitu Bioremediation   |
|   | Other  |
|   |  |
| Remediation Locatio<br>(ie. landfarmed onsite,<br>name and location of<br>offsite facility)   |  |
| General Description   | Of Remedial Action: Pit contents removed, sandstone  |
| surface scraped   | 2' beyond pit bottom, clearance sample taken, pit contents   |
| spread to north   | and east of earthen pit, allowed to volatilize, clearance  |
| sample taken of   | soil farm. Bedrock encountered (Sandstone).  |
|   |  |
|   |  |
| Ground Water Encoun   | tered: No X Yes Depth  |
|   |  |
| Final Pit:<br>Closure Sampling:<br>(if multiple samples,  | Sample locationBottom center of south end of pit   |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample location Bottom center of south end of pit<br>Sample depth6'  |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results  | Sample depth   |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth   |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth   |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth <u>6'</u><br>Sample date <u>6/13/94</u> Sample time <u>2:07P</u><br>Sample Results  |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth<br>Sample dateSample time2:07P<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)   |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth<br>Sample dateSample time<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)  |
| <b>Closure Sampling:</b><br>(if multiple samples,<br>attach sample results<br>and diagram of sample   | Sample depth<br>Sample dateSample time2:07P<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)   |
| Closure Sampling:<br>(if multiple samples,<br>attach sample results<br>and diagram of sample<br>locations and depths)   | Sample depth<br>Sample dateSample time<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)  |
| Closure Sampling:<br>(if multiple samples,<br>attach sample results<br>and diagram of sample<br>locations and depths)<br>Ground Water Sample                        | Sample depth<br>Sample date<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)<br>TPH<br>Yes No X (If yes, attach sample results)<br>AT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST   |
| Closure Sampling:<br>(if multiple samples,<br>attach sample results<br>and diagram of sample<br>locations and depths)<br>Ground Water Sample<br>I HEREBY CERTIFY TH | Sample depth6'<br>Sample date6/13/94 Sample time2:07P<br>Sample Results<br>Benzene(ppm)<br>Total BTEX(ppm)<br>Field headspace(ppm)<br>TPH356<br>: Yes NO X (If yes, attach sample results)<br>AT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST<br>BELLIEF |

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